Aspects of the Stakeholder Concept and their Implications for Information Systems Development

Athanasia Pouloudi

Department of Information Systems and Computing, Brunel University
Uxbridge UB8 3PH, United Kingdom
E-mail: Nancy.Pouloudi@brunel.ac.uk

Abstract

This paper considers the use of the stakeholder concept in the information systems literature and compares it with current concerns in the strategic management literature, where the concept originates. In information systems, the notion of stakeholder has been used in many different ways, which, however, tend to reflect a primarily descriptive or instrumental perspective. The paper reviews these approaches and argues for a more thorough understanding of the stakeholder concept as information systems development has become more complex. In particular, the case for a more holistic view of stakeholders in information systems is made, reflecting the current multi-faceted concerns of information systems development. This holistic view, more evident in some recent approaches to the study of information systems stakeholders, is expected to contribute not only in addressing organizational and cultural issues of information systems projects, but also to encourage a more ethical approach to information systems development.

1. Introduction

The term *stakeholder* has a relatively recent history. Freeman [31], traces its origins back to 1963, when it was introduced to define "those groups without whose support the organization would cease to exist" (p. 31). References to stakeholders, Freeman argues, have been made since in the areas of corporate planning, systems theory, corporate social responsibility and organization theory. Borrowing from these areas, the concept of stakeholder has been used in the 1980s to define distinct approaches to strategic management (e.g., [31],[61],[63]). These have been later compared or integrated with other strategic management approaches and frameworks to assist managers in improving their organization's strategic position (e.g., [26], [28], [38], [64], [89]). It is noteworthy that there has been an important shift in the use of the stakeholder concept in the 1990s,

which is more visible in the work following Freeman's approach, that can be broadly described as placing more emphasis on the social responsibility element of the stakeholder concept. As a result, the concept becomes central in business ethics debates and arguments (e.g., [6], [12], [14], [32], [70], [80], [89]).

The purpose of this paper is to review different uses of the stakeholder concept in the strategic management literature and explore how these have influenced the notion and its use in the information systems field. The next section sets the scene with an overview of the definitions of the term stakeholder. Section three focuses on stakeholder theories of management and, following Donaldson and Preston's [22] framework, depicts the evolution in the use of the stakeholder concept and distinguishes between instrumental and normative approaches. The section concludes with a discussion of some recent developments in the use of the stakeholder concept. These are particularly interesting for informing the application of stakeholder analysis in the increasingly inter-organizational information systems context. Section four looks at how the stakeholder concept has been applied in the information systems field. It is argued that an instrumental aspect seems to be the more dominant as stakeholder approaches have been applied to assist both strategic information systems planning and information systems development, aiming to contribute to a better management of information systems projects. These are not, however, the only uses of the stakeholder concept in information systems. The ethical use of the term, for example, is one recent development and one of the ways in which the use of the concept in the information systems literature faces issues similar to those addressed in the strategic management literature. The last part of the paper concentrates on three of the most recent efforts to use the stakeholder concept in the information systems field. These involve efforts to integrate stakeholder analysis with soft systems methodology and with actor network theory and to identify and analyze stakeholder perspectives in an interorganizational context. These approaches present

opportunities and problems that imply that further theoretical and practical work in stakeholder theory is required.

2. Definitions: who is a stakeholder?

'Stakeholder' has become an increasingly popular term in the management vocabulary, "almost a cliché" [88] (p. 25). It is also currently used in a variety of other contexts where notions of management and different interests are important, including operational research, political economy and, of course, information systems research. 'Stakeholding' has also penetrated the political discourse and has become an increasingly fashionable term in British political debates, "although there is scant agreement about what the term actually means" [21] (p. 3).

This variety in the usage of the stakeholder concept is interesting to the extent that it explains how different meanings may now be assigned implicitly or explicitly to stakeholders, making it difficult to disentangle what the concept actually means in a given context. This problem has been evident even in earlier management literature although rarely acknowledged (cf. [22]), with many researchers defining stakeholders differently, often reflecting their own perspectives, as they deal with different types of stakeholders or different aspects of their roles. For example, stakeholders have been defined as differently as "groups of constituents who have a legitimate claim on the firm" [41], "participants in corporate affairs" [1], those that "will be directly impacted by the decisions" [34], those who "hold a stake" about the decisions made by an organization [26], [85]. A consequence of the variance in stakeholder definitions is that the term is not self-evident. Thus, the practice of many management writers who avoid defining their use of the term can be problematic for the interpretation and application of their work.

Perhaps the most widely referenced stakeholder definition has been proposed by Freeman [31]:

> A stakeholder in an organization is (by definition) any group or individual who can affect or is affected by the achievement of the organization's objectives. (p.46)

This definition has certain implications for our understanding of stakeholders. First, it marks *a double line of influence* between the organization and a stakeholder. An organization reacts to environmental influences, which means that the position of stakeholders is affected by the decisions taken by the organization in question. At the same time, the stakeholders are not passive environmental elements but act according to their interests and use their power to influence the organization in the direction they desire. Thus, Freeman insists on the word 'or' between the two directions of influence, i.e., between the organization

and the stakeholders. He argues that this allows for the inclusion of future stakeholders – those that are presently only affected by the organization may later be in a position to have their own effects on it. It also allows for the inclusion of important groups, which have a one-direction link with the organization.

Freeman's definition also connotes that stakeholders need to be considered from both the internal and external organizational environment. This differs from most views of information systems stakeholders, which, as we will see in section 3, usually identify stakeholders as groups internal to the organization. Yet, Freeman's definition still considers stakeholders from the perspective of the organization under study. This organizational/managerial perspective can create a false sense of simple one-to-one relations which does not represent realistically the complexity of the organizational environment [64]. While this is sometimes necessary for examining the role of the different players in detail, it may be misleading, especially in the case of interorganizational links (or interorganizational systems), where a complex network of stakeholder interrelations should be considered. Thus, the examination of separate dual links between an organization and its stakeholders may be a useful starting point for the analysis, but this would then need to be followed by a more integrated appreciation of stakeholder relations.

Finally, following from this definition, both individuals and groups (individuals with similar interests, formal and informal groups, organizations) can 'count' as stakeholders. This may create problems of deciding on the appropriate level at which stakeholders will be identified and studied, particularly in cases where groups and sub-groups may have diverse and conflicting interests. This inherent complexity in the notion of stakeholder presents a challenge for stakeholder analysis. At the same time it implies that different stakeholder groups will need to be identified in different contexts, a principle that makes stakeholder analysis responsive to the particularities of each research environment.

3. Stakeholder theories of management: descriptive, instrumental and normative aspects

One way to summarize the use of the stakeholder concept in the management literature and, more generally, stakeholder theories is by reference to the framework suggested by Donaldson and Preston [22]. Following from the realization that stakeholder theory has been and can be used in a number of ways, they identify a descriptive, an instrumental and a normative aspect of stakeholder theory that can help understand and classify the different facets of stakeholder theory. They argue that:

1. Stakeholder theory is **descriptive** in the sense that "it describes the corporation as a constellation of cooperative and competitive interests possessing intrinsic value" (p. 66).

2. Stakeholder theory is **instrumental** because "it establishes a framework for examining the connections, if any, between the practice of stakeholder management and the achievement of various corporate performance goals" (pp. 66-67).

3. Finally, "the fundamental basis" of stakeholder theory is **normative** and involves acceptance of the following ideas: "stakeholders are persons or groups with legitimate interests in procedural and /or substantive aspects of corporate activity" and "the interests of all stakeholders are of intrinsic value" (p. 67).

Donaldson and Preston justify their claim that the normative aspect is at the *core* of stakeholder theory (this point is also supported by Freeman [32]) by exemplifying how the justifications for favoring stakeholder theory over other management theories ultimately rely upon normative

arguments. Thus, they suggest that the three aspects can be viewed as nested circles (see Figure 1).

It is also worth noting that often the three aspects are intertwined and mutually supportive. By exploring each aspect and their interrelations, Donaldson and Preston hope to create awareness about the diversity of theoretical approaches and thus promote a rigorous thinking and analysis of the stakeholder concept.

What their analysis neglects, however, is that the justifications for the use of descriptive, instrumental as well as normative stakeholder theories carry a normative claim, one that reflects the 'value' of each approach. This is a different notion of *normative* to that used by Donaldson and Preston. It is, however, an important characteristic that underlies their analysis and one that can account for the multiple approaches to stakeholder analysis (if these are based on different normative claims).
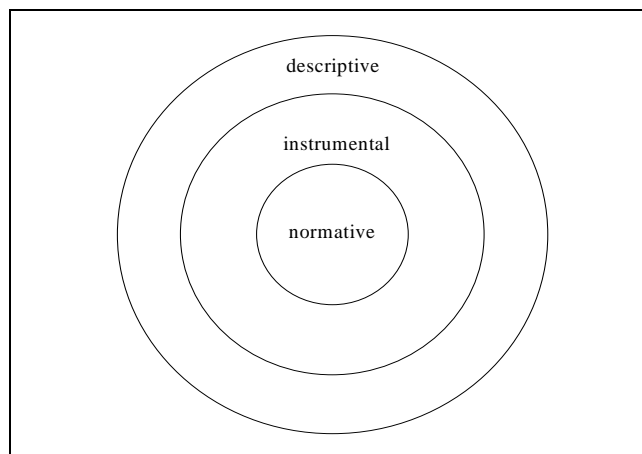

Figure 1 - Aspects of stakeholder theory (Donaldson and Preston, 1995)

In the next sections I review the evolution of instrumental and normative uses of the stakeholder concept in strategic management, by looking into some representative work in the area. A separate review of descriptive uses is omitted because 'purely' descriptive approaches are of interest within the particular research context that they describe. In that respect, it is also difficult to record any general trends in the descriptive use of the stakeholder concept. Furthermore, descriptive approaches typically serve an instrumental research purpose and as a result their descriptive and instrumental aspects may be inseparable.

3.1. Instrumental uses of the stakeholder concept

As mentioned earlier, the most influential instrumental uses of the stakeholder concept in the management literature have been developed in the early 1980s. One of the most widely referenced approaches is the work of Ian Mitroff and Richard Mason. One of their principal suggestions is that emphasis should be placed on the assumptions that managers make. This is based on the premise that these define, to an extent, the direction and, hence, the result of strategic decision making. More specifically, they suggest a method called SAST (Strategic Assumption Surfacing and Testing), which primarily aims at assisting decision makers in the problem formulation stage of the planning and

decision making process [61]. The concept of stakeholders is central in this method, since managerial assumptions are presented in relation to a broad set of stakeholders.

The other most influential approach to stakeholder analysis in strategic management is that proposed by Edward Freeman, whose definition of stakeholders was reviewed previously. Freeman [31] uses the concept of stakeholders primarily as a tool for examining the external organizational environment and explores how an organization can manage multiple stakeholder relationships. This approach is expected to assist managers in direction setting, strategic programming and the implementation and control of the suggested strategic directions.

The instrumental aspect of both approaches, that is, *the use of stakeholder analysis to improve strategic decision making*, is elaborated further in later work by Mitroff and colleagues as well as by Freeman and colleagues. (It is noteworthy that despite the similarities of the two approaches there is hardly any work on stakeholders that references them both.) The characteristic of what we could call 'second generation' instrumental stakeholder analysis is *an attempt to integrate and evaluate the stakeholder approach with other strategic management frameworks.*

Thus, Mitroff and Linstone [64] adopt the 'unbounded systems thinking' approach, that recognizes the complexity and interconnections of business problems, 'messes' in Ackoff's terms [1], and seeks to manage them. In practice, they suggest the use of multiple perspectives: technical, organizational, personal. Each perspective approaches business problems differently and thus contributes to a more comprehensive view of their complexity. They see an organization as "the entire set of relationships it has with itself and its stakeholders" (p. 142) and use stakeholder analysis in order to unveil assumptions made about the behavior of an organization's stakeholders.

Similarly, in *A Logic for Strategy,* a book co-authored by Freeman [38]. the authors critically review and compare different frameworks used in management theory at the time for strategy formulation. The authors claim that none of these frameworks alone is adequate to deal comprehensively with strategy issues. Also, because the frameworks are based on different assumptions and representing different perspectives, they cannot be readily combined in a more integrated approach. Nonetheless, "different conceptions of strategy can help managers sort problems into different contexts" (p.155). In particular, the authors distinguish the Stakeholder Management Framework, which is based on Freeman's [31] approach to strategic management, which they claim is the only one of the frameworks they analyze that urges managers to be constantly alert to external change.

Although the stakeholder concept has not been central for most strategic management writers, it is a term that has been adopted and used in different ways. For example, Richardson and Richardson [77] use the stakeholder concept as an element integrated in the business planning process. They recognize that the identification and manipulation of important organizational stakeholders is one of the critical contemporary planning problems in organizations. Other authors have used stakeholder analysis in combination with other approaches to strategy formulation and decision making. Eden and van der Heijden [26], for example, support the combination of stakeholder analysis with scenario planning. More specifically, they argue that stakeholder analysis can complement scenario planning by prompting managers to investigate possible reactions of the stakeholders to the organization's strategy. Eden [24] also suggests the use of stakeholder analysis to consider potential strategic coalitions. The variety of instrumental approaches to the use of the stakeholder concept, as it builds on the contributions of Mason and Mitroff [61] and Freeman [31] is summarized in Table 1.

3.2. Normative uses of the stakeholder concept

A rather different approach to stakeholder analysis is represented by those management writers, who use the approach not only to assist the organization to survive and succeed, but also because it is morally 'right' to consider a broad range of stakeholders. In this approach corporate social performance and responsibility become center stage (e.g., [16], [19], [80], [89]). According to the defenders of this approach, management decisions should not be exclusively based on the requirements of either the managers, or the stockholders, or the customers. Instead, they argue, an ethical organization should take into account the interests of other stakeholders who are affected by these decisions. This is in contrast with an earlier view by Friedman [33] who argued that the sole objective of the corporation is to make profit to the benefit of its stockholders. In his view, the priorities of managers should lie with their fiduciary duties to the stockholders.

In order to convince managers of the benefits of 'ethical stakeholding' its proponents argue that the ethical management of stakeholder relations makes also good business sense; the long-term interests of stakeholders and shareholders are compatible [75]. An organization that acts ethically will be trusted by its stakeholders, and therefore is expected to establish co-operative relations easily. These conditions of mutual trust and co-operation between an organization and its stakeholders are expected to reduce contracting costs, resulting in more efficient transactions, granting the organization with competitive advantage [46], [75]. In short, it is believed that ethics and business are not mutually exclusive [32].

Table 1 Overview of instrumental uses of the stakeholder concept in the strategic management literature

Main contributions (early 1980s)	Example "second generation" instrumental stakeholder analysis approaches – refinement and integration of strategic frameworks
Reveal & question managerial assumptions about stakeholders to assist planning & decision making (SAST method) [61]	Combine SAST with multiple perspectives approach to deal with complex organizational problems [64] Stakeholder analysis as an element integrated in the business planning process [77]
Use stakeholders to examine the external organizational environment, to assist strategic planning and control [31]	Different conceptions of strategy (including stakeholder analysis) can help managers in problem solving activity in different contexts [38] Stakeholder analysis can complement scenario planning so that the organization can investigate reactions of the stakeholders to the organizational strategy [26] Use stakeholder analysis to consider potential strategic coalitions [24]

It is clear that these views represent a shift in the use of the stakeholder concept in the area of management from the process of stakeholder analysis to the ethical underpinning and more general justification of stakeholder theories. The framework of Donaldson and Preston [22], discussed earlier in this section, can be used to interpret this shift in at least two different ways. On the one hand, by accepting their argument of a normative core, the shift of attention towards the more normative aspect of the theory can be explained as a result of the central role of ethics in stakeholder theory.

On the other hand, this shift can be considered as a change only in the rhetoric used in stakeholder theory, whereas it remains fundamentally instrumental. This latter view can be witnessed in the instrumental arguments used to support the normative approach presented above. Such an instrumental rhetoric can be traced back to Freeman's book [31] where he argued that "to be an effective strategist you must deal with those groups that can affect you, while to be responsive (and effective in the long run) you must deal with those groups that you can affect" (p. 46). This reasoning also pertains in more recent uses of stakeholder theory where performance is viewed as the fundamental measure of organizational well-being (e.g., [19]).

Thus, it is not surprising that the notion of a normative 'core' of stakeholder theory has been criticized. Goodpaster [39] is one of the better known critics, to the extent that most of the contemporary advocates of the normative core of stakeholder theory have attempted to contradict what he called 'the stakeholder paradox'. This paradox is the result of contradictory duties of the managers to various stakeholders that can result in "business without ethics" if the shareholders' interests are given priority and "ethics without business" if other stakeholders' interests are served at the expense of profits. Goodpaster argues that the use of

stakeholder analysis does not necessarily imply ethical behavior. On the contrary, he argues, stakeholders approaches are neutral so that their ethical application is contingent on the managers' behavior. For some, this argument implies that an instrumental profit/performance-related motivation underpins much of the normative rhetoric, rather than the other way round (e.g., [88]).

Ultimately, the norms and values that characterize each organization (be they the values of individual decision makers or those distilled from the broader organizational culture) will affect, in my view, whether and how the concept of stakeholder will be used. In this sense, there is a normative core to the use of the stakeholder concept; whether this will result in managers becoming sensitive to stakeholders' interests because it is morally right or because it is sensible is unlikely to be determined in an *a priori* theoretical manner. Still, the normative debate is interesting because the stakeholder concept provides an opportunity to follow an ethical as well as effective management approach.

While the normative core of stakeholder theory is questioned, attention has been drawn in recent stakeholder research to the preconditions that are necessary for the realization of the normative potential of stakeholder theory. For example, Phillips [70] discusses some problems with the application of ethical stakeholding (lack of a coherent justification framework; problems of identifying who is and who is not a stakeholder in the moral sense) and proposes the use of a principle of fairness. Burton and Dunn [14] argue that stakeholder theory lacks moral grounding and suggest the use of feminist ethics, which can provide such grounding by focusing on relations between stakeholders and notions of 'care'. This approach, they argue, can also assist managers to resolve problems of conflicting responsibilities to stakeholders: decision making should

ensure that the most vulnerable stakeholders are not harmed and those stakeholders with whom the organization maintains the closest relations are given preference. Calton and Kurland [15], based on a similar "affirmative post-modern epistemology" (p. 164), advocate enabling participation and giving 'voice' (cf. [43]) to stakeholders.

A key point in Calton and Kurland's thesis for promoting a postmodern praxis of organizational discourse and in order to "reinforce the normative promise of stakeholder theory" (p. 163) is to do away with the managerial character of the theory (which Donaldson and Preston [22] emphasize). Some implications of 'decentering' stakeholder theory from management correspond to the characteristics that a modern stakeholder theory is trying to achieve and which have been outlined previously. More specifically, responsibility is shared by all parties and all parties seek win-win solutions to conflict situations: "Stakeholders engage in interactive dialogue for the purposes of achieving shared goals and mutual growth" [15] (p. 170).

Their thesis points to another evolution of thought in stakeholder theory. More specifically, recent management research is less concerned about who the stakeholders (and the different types of stakeholders) are; also, the study of their role and relations is reconsidered. The organization is still the focal point, but rather than trying to alter the behavior of the organization *vis-à-vis* the stakeholders so as to improve the organization's strategic position, an argument that these *stakeholders have not only rights but also obligations towards the organization* is now put forward [7], [14]. In other words, relations with stakeholders are seen as multilateral and there is an increasing emphasis on co-operation and collaboration (e.g., [30], [46]). This reflects a more general trend in the management literature, that is concerned with the formation of business alliances in order to achieve 'collaborative advantage' (e.g., [47]). This trend is not accidental but reflects the emergence 'new organizational forms' [79] (e.g., virtual companies, networked organizations etc.) and the globalization of markets. Table 2 summarizes the normative debate in the literature and some of the ways in which recent normative discourse responds to or moves beyond these normative arguments.

Table 2 The normative debate on stakeholder approaches in the management literature

Examples of normative claims: "Stakeholder analysis is an ethical approach to business"	Examples of criticisms of business ethics approaches and normative arguments	Recent normative stakeholder discourse; addressing the criticisms and suggesting theoretical grounding to stakeholder approaches
The long-term interests of stakeholders and shareholders are compatible [75] Mutual trust and co-operation will result in more efficient transactions, hence competitive advantage [46], [75] Ethics and business are not mutually exclusive [32] There is a normative core to stakeholder theory [22]	The objective of the corporation is to make profit to the benefit of its stockholders; the priorities of managers lie with their fiduciary duties to the stockholders [33] The stakeholder paradox: business without ethics or ethics without business depending on the priorities [39] There is deliberate ambiguity in normative claims [88]	Use feminist ethics to provide moral grounding to stakeholder theory [14] Enable participation and give voice to stakeholders; 'Decenter' stakeholder theory from management [15] Stakeholders have rights but also responsibilities towards the organization (stakeholder relations are multilateral) [7], [14] Use the principle of fairness to cater for problems of ethical stakeholding [70]

If we consider these suggestions within the context of contemporary global, networked organizations and in the era where 'stakeholder capitalism' and a 'stakeholder society' have been commended, we may conclude that the stakeholder literature is starting to focus on concerns similar to those of the interorganizational literature: the stakeholder literature needs to place more attention on interorganizational co-operation but interorganizational relations also need to study the effect of those participating, affecting or being affected from these relations, in other words, the stakeholders. The next section looks at the current discourse on stakeholders in the information systems literature and comments on how the concerns in this literature reflect the managerial perspective.

4. Information systems stakeholders

Although the use of the term stakeholder in the information systems field is recent, the need to involve certain types of stakeholders in information systems decision making has been emphasized in the literature for some time. Mumford (e.g., [65]) has been one of the pioneers in supporting the involvement of end users as a factor of effective information systems development and implementation, using implicitly the stakeholder concept in this area. Since it became apparent that successful implementation of information systems in organizations does not only depend on technical aspects (e.g., [57]), both in practice and in theory, end users and managers have been increasingly included in the information systems development process in order to improve the chances of successful system implementation.

Certainly, the participation of non systems specialists increased gradually. Initially, projects for the development of small information systems only involved a small project team. Later, as systems development provides systems that are more fundamental to the organization (i.e. support a number of functions and departments), the number of participants increases, mainly to eliminate resistance to systems implementation. As more organization-wide or interorganizational information systems are developed, which usually involve strategic decisions, a yet wider range of stakeholders needs to be involved. In these systems the attention may shift again away from end-users and focus on those parties that are external to the organization but can become involved in decision making at a managerial or strategic level [74].

However, most references to stakeholders in the information systems literature refer primarily to individuals or groups within the organization. This is unlike the stakeholder literature in strategic management and reflects the communication problems and conflict generated by the 'culture gap' (e.g., [40]) between systems developers and users as well as because of their different objectives and agendas. It is true that since there are few 'hybrid' agents that are both knowledgeable about information systems and responsible or accountable for decision making, there may be distinctly different perspectives about the implementation of information systems within an organization [78].

Apart from the emphasis of most information systems literature on internal stakeholders to the organization, another particularity in relation to the business literature is the reference to different stakeholder types. Thus, information systems suppliers and user groups may appear as important stakeholders because information systems are at the center of attention. Failure to consider such stakeholders may have important implications for two reasons. First, the exchange of information between stakeholders (which in many cases is electronically supported) is a fundamental expression of their interrelations. Therefore, in order to understand these relations better, a study of the organizational and interorganizational environment needs to take information systems and consequently their stakeholders into account. A second point to consider is that many contemporary information systems have strategic implications for their user organizations; it is therefore misleading to focus only on those stakeholders that participate or are otherwise directly involved in information systems development and use.

It is worth noting that, similar to the management literature, there is some confusion in information systems research about the notion of stakeholders. Again, some researchers do not offer a specific definition (e.g., [8], [25], [35], [54]), whereas others include substantially different ranges of groups in their definition. For example, Boddy and Buchanan [11] argue that "organizations can be viewed as comprising different 'stakeholder' groups whose interests in promoting or resisting change, or apathy to innovation, may be explained by identifying their respective perceived interests and by examining how they will be affected by new technology" (p.11). They go on to define their readers as stakeholders: "all those who have a practical concern for the effective application of new technologies, and who are in a position to take or to influence decisions about why and how they are used" (p. 12). Willcocks and Mason [87] define the stakeholders of a computer system as the "people who will be affected in a significant way by, or have material interests in the nature and running of the new computerized system" (p.79). This definition resembles that of Freeman [31]. Lyytinen [55] references the definition used by Mason and Mitroff [61] whereas more recently Ahn and Skudlark [2] offer their own, information systems specific yet broad stakeholder definition: "the stakeholders are a group of people sharing a pool of values that define what the desirable features of an information system are and how they should be obtained" (p. 3).

In addition to these different perceptions of stakeholder groups there are examples of implicit references to the concept of stakeholder. For example, Lederer and Mendelow [53] look at the 'environment' of an information systems department and argue that this includes the host organization's environment as well as "everything within the organization that lies beyond the borders of the IS department". Also, Checkland in the soft systems methodology [17], [18] implicitly points to the need for stakeholder identification and the importance of highlighting different stakeholder perspectives, mainly by using the 'CATWOE' (customer, actor, transformation process, *Weltanschauung*, system owner, environmental constraints) elements. This approach has the advantage that it can be used to provide a holistic representation of information systems, be they part of a given organization or interorganizational, by giving a root definition of the broader "human activity system". However, it is limited from a stakeholder analysis perspective as it focuses on particular types of stakeholders and therefore fails to present and manage the broad range of stakeholders and their interrelations in a way that stakeholder analysis approaches may do.

Before reviewing existing approaches to stakeholder analysis in the information systems literature it is therefore necessary to clarify how the notion of interorganizational systems stakeholders is understood in this paper. It is evident from the divergence of definitions that are currently in use in both the management and information systems literature that the meaning of 'stakeholder' is not straightforward and needs to be explicitly defined. Besides, several of the definitions used in the information systems field are inadequate to entail the plethora of stakeholders entangled in the development and use of an interorganizational information system. This is a result of the continuing trend to see information systems development stakeholders separately from the big organizational (or interorganizational) picture, despite the appeal in the literature for integrating information systems to the broader context. The first step for reconsidering interorganizational systems stakeholders is to revise the stakeholder definition, in order to reflect the broad range of stakeholders that need to be considered. To that end, and based on Freeman's [31] definition of stakeholders, the following definition for interorganizational systems stakeholders is suggested:

> A stakeholder of an interorganizational system is any individual, group, organization or institution who can affect or be affected by the interorganizational system under study.

In the use of this definition it is important to take into account two points. First, a crude distinction between users and developers does no longer represent organizational reality; microcomputers and end-user computing and more recently outsourcing have blurred the once clear-cut user-developer divide. Similarly, managers and employees as distinct organizational stakeholder groups may not necessarily make sense; restructuring and reorganizing strategies that result in a redefinition of roles and responsibilities in the organization (e.g., empowerment, business process re-engineering) mean that such generic stakeholders types and those groups usually defined as information systems stakeholders may be unsuitable for a comprehensive stakeholder overview within a particular organizational or interorganizational context.

Second, the distinction made in the literature between business strategy stakeholders (which with the exception of managers and employees have usually been considered as bodies external to the organization) and information systems stakeholders (which have usually been limited to those involved directly in the development and use of the information systems) is useful to the extent that it highlights the particularities of information systems development. However, it may be misleading if it fails to provide a broad perspective on who have -implicitly or explicitly- a stake for information systems implementation. Moreover, as information systems have become an integral part of most organizational life, the business literature can benefit from considering information systems stakeholders, that is those stakeholders that traditional management stakeholder approaches would overlook. This is particularly true in interorganizational relations that are supported or reliant on the use of information technology and the electronic exchange of information.

The following section provides an overview of current uses of the stakeholder concept in information systems research. These are worth reviewing separately from the management literature, not only because information systems stakeholders have often been defined differently but primarily because they have been used to serve different instrumental purposes to those of managerial stakeholder approaches. Furthermore, the information systems literature on stakeholders reflects influences from both the areas of strategic management (from where the notion of the information system stakeholder originates) and from information systems development and information systems strategy formulation that are worth highlighting.

4.1. Use of the stakeholder concept in information systems research

Most of the stakeholder theory used in the information systems to-date does not go beyond a descriptive or instrumental application of the concept. There is hardly evidence of a normative element or of a theoretical discussion concerning stakeholder theory. The information systems literature thus concentrates on how stakeholder

analysis can support information systems planning and strategy formulation or how it can support the successful development or implementation of information systems. This section reviews stakeholder analysis approaches within each of these general trends.

Stakeholder analysis to assist information systems planning and strategy formulation

One of the most common instrumental approaches to stakeholder analysis in the information systems field addresses one of the key issues of information systems practice [13], [37], [40], [49], that is the development of an information systems strategy and its alignment to business strategy.

Lacity and Hirschheim [50] argue that a major obstacle for the alignment of information systems and business strategies are the conflicting expectations and perceptions of information systems that different organizational stakeholders have. Senior management is mostly concerned with cost whereas users are mostly concerned with service. Information systems managers are 'caught in the middle' of a hostile environment and find that they need to justify the compromises made to these groups. This may induce them to make a selective, political and often misleading use of benchmarking. The authors propose a framework for understanding the misalignment of information systems strategies which they believe can be used by (internal) stakeholders to understand their differences and agree to "a

common strategy for the portfolio of IS activities" (p. 184). The use of such an interpretive approach allows for a thorough review of the different perspectives of these stakeholders and hence for a better understanding and explanation of their behavior.

A similar approach is that of Ruohonen [78] who also identifies three key stakeholder groups (top management, user management and information systems management groups) internal to the organization. His view is that strategic information systems planning should take into account the dynamics of these groups as well as the intra-group and the inter-group relations. While Ruohonen argues that his research follows a social relativism paradigm, his stakeholders coincide with key actors of information systems development as defined from a functionalist perspective (cf. [42] p.1203).

Within this type of stakeholder approaches we can also classify the writings of Galliers [35], [36] who does not however describe in detail who the stakeholders are or how their views can be elicited and employed to the benefit of the organization. Benjamin and Levinson [8] are more specific. They suggest a 7-step stakeholder analysis approach (see Table 3) that will support the management of change enabled by information technology. They expect these steps –which they do not analyze any further– to help the organization determine whether the change is feasible and what change strategy would have better results.

Table 3 Stakeholder analysis (Benjamin and Levinson, 1993, p. 31)

Step 1	Identify a vision or objective
Step 2	Describe a number of future states in terms of goals understandable by the stakeholder group
Step 3	Break the goals down into the process, technology, and organization and culture steps necessary to balance the organizational equilibrium
Step 4	Identify the stakeholder groups whose commitment is necessary to achieve each goal
Step 5	For each type of stakeholder, describe the needed changes, perceived benefits, and expected kinds of resistance
Step 6	Analyze the effort required to gain the necessary commitment from the stakeholder group
Step 7	Develop action plans for those stakeholder groups that are not committed enough

The claim underlying the instrumental approaches reviewed in this section is that organizations are expected to benefit in their strategic planning and use of information systems if they take into account their stakeholders. This argument could also be reversed; as the use of information technology becomes more integrated to the business and consequently more strategic, organizations need to recognize and respond to the broad range of information systems stakeholders [23].

Stakeholder analysis to assist information systems development and implementation

The other most common use of the stakeholder concept in the information systems literature is to facilitate information systems development. Indeed, methodologies such as Multiview [4], acknowledge the existence of stakeholders and of multiple perspectives and advise

systems developers to take them into account in order to improve systems acceptance. There are also more specific studies of successful information systems development parameters, such as the study of commitment [67], who implicitly refer to the attitudes and expectations of different information systems stakeholders.

One of the most thorough investigations of the stakeholder concept in information systems research that associates information systems stakeholders with implementation failure has been made in early work by Lyytinen and Hirschheim [55], [56]. They argue that failure is contingent on the capability of an information system to meet the expectations of different stakeholders (an information system may be considered successful by some stakeholders but a failure by others). The authors take a broad view of information systems and criticize the popular restriction of information systems stakeholders to those internal to the organization:

> In the literature, IS stakeholders fall into three main groups: users, management, and IS professionals. Unfortunately, this classification is much too coarse and, in most cases, inadequate, as it conveys the role prescriptions associated with the design of an IS. It does not reveal the actors' actual interests with regard to IS; instead, it focuses on intended and observable aspects, ignores conflicts inside these three groups (cf. [29], [48], [57]), and provides a much too simplistic view of the IS and how it affects an organization's members' interests [56] (p. 262).

To be fair, some of the work reviewed previously have taken into account these criticisms and explores actual interests of stakeholders vis-à-vis an information system (e.g., [50]) or acknowledge intra-group conflict (e.g., [78]). Still, a more comprehensive view of stakeholders (both internal and external) is called for, particularly when broader information systems phenomena such as failures or interorganizational systems implementations are studied.

Ahn and Skudlark [2] review conflict resolution in a case of an information system implementation by reference to conflicting stakeholder interests. However, their study is not necessarily identifiable as a stakeholder approach because there is little emphasis on the identification of the stakeholders and the elicitation of their perspectives. These are almost taken as given and the main proposition of the paper is the use of a decision analytic approach to manage and resolve the conflict situation that had emerged. Consequently, the notion of stakeholders is in the end restricted to those actively involved in the conflict; other stakeholders are represented implicitly through the conflicting parties. The problem is that in many cases of information systems implementation the stakeholders and their different perspectives are not immediately identifiable. Also, the stakeholders who are involved in the conflict are not necessarily representative of all stakeholder groups.

The use of stakeholder analysis has also been proposed for the benefit of those developing information systems or providing information services in an organization. Such a descriptive stakeholders approach is used by Bento [9] who looks at information centers and argues that are two stakeholder groups that the professionals of these centers need to take into account: computing specialists from information systems departments and users. The reason is that each of these stakeholders evaluates the information center from a different perspective, using different criteria. The survival of an information center may therefore be contingent on its ability to balance the conflicting needs of these two sets of stakeholders.

The instrumental uses of the stakeholder concept reviewed in this section can be summarized in the claim that information systems development and implementation requires and benefits from the study of multiple and possibly conflicting stakeholder viewpoints. It is appropriate to note at this point that such descriptive and instrumental approaches are not necessarily distinct from those reviewed previously prompting stakeholder analysis for information systems strategy formulation. For example, the overview of a domain in stakeholder terms may be useful to both those who are in a position to determine the information systems strategy in this domain (or for particular stakeholders of the domain) and to those who plan the development or implementation of a specific system.

Ethical notions of stakeholding in information systems

Whilst the stakeholder management literature concentrates on debating the normative use of the stakeholder concept, the information systems literature has remained focused on the instrumental aspect of stakeholder theory. There are hardly any examples of an effort to frame ethical concerns within a stakeholder approach. It is interesting to note that Mason who (together with Mitroff) has been a pioneer in the use of the stakeholder concept in strategic management and who has been 'absent' from the business ethics debate (where Freeman and colleagues play the leading role) is a pioneer in information systems ethics debates ([59], [60]; he also chaired a panel on "How do the ethics of IT differ across cultures" in the International Conference on Information Systems (ICIS) in 1995). In this respect we could argue that he also represents the trend to move towards more normative applications of the stakeholder concept even though he does not necessarily make his propositions in terms of a stakeholder theory debate.

One case where ethical concerns have been explicitly related to the stakeholder concept is in a recent paper by Rackley, Betts and Webb [76]. They review the conflicts of loyalty that a computer professional may face when clients, users and stakeholders are affected differently by a system and suggest, like Burton and Dunn [14] and other business ethicists, that the fundamental obligation of professionals is "to minimize harm to others" (p. 361). They argue that this is particularly important in Computing because of the great impact many contemporary computer systems have. In the same conference, stakeholder analysis has been used to define the stakeholders' perceptions on the privacy of medical records in the UK and illustrated a complex picture within which ethical decisions have to be made [73] – also [72].

Although ethical applications of the stakeholder concept are scarce in the information systems literature, it is worth noting that there is an increasing concern with ethics issues in information systems research more generally. Eloquent examples are the organization of the EthiComp and CEPE (Computer Ethics Philosophical Enquiry) Conferences which have been established recently to provide a forum for the discussion of ethical issues related to the development, dissemination and use of computer systems. Computing and information systems journals are also hosting more papers on ethical issues in the 1990s than they did previously. For example, a search in the Communications of the ACM digital library (www.acm.org) on 'ethics' was unsuccessful for the 1980s but returned several 'hits' on recent references [3], [20], [45], [59], [66], [84]. On the professional front too, the British Computer Society has very recently proposed the establishment of a special interest group to look at ethical behavior in the use of information systems (Computing, 26 February 1998).

Table 4 The use of the stakeholder concept in information systems research

Examples of instrumental uses		Examples of normative uses
Stakeholder analysis can be used to assist IS planning and strategy formulation	**Stakeholder analysis can be used to assist IS development and implementation**	• **It is ethical to consider stakeholders** • **Stakeholder analysis can be used to study ethical issues**
Organizations need to consider IS stakeholders [23] Dynamics of key stakeholder groups need to be addressed [78] Misalignment of IS strategies can be addressed by considering the stakeholder agendas [50]	Failure is contingent on the capability of an IS to meet different stakeholder expectations [55], [56] Information centers need to consider key stakeholders when developing IS [9] Management of conflicting stakeholder interests is important for IS implementation [2]	Obligations of IS professionals towards stakeholders: to minimize harm to others [76] Ethical decisions regarding the privacy of medical information are made in a context of complex stakeholder relations [44], [72]

Thus, there are indications of a positive and indeed inviting climate for investigating the ethical implications of the stakeholder concept in information systems research. The strategic management literature illustrates that the normative aspect of stakeholder theory is fundamental. As a result, it merits further in depth study. In the case of interorganizational systems, which may have a broader scope and hence broader ethical implications, it is particularly worth studying these through a stakeholder prism at both a practical, context-dependent level and at a more general, theoretical level. Indeed, the need to increasingly address ethical issues in the information systems literature signifies that this has been an inadequately researched area. In my view, this interesting phenomenon for information systems research relates to the shifting concerns in this area. More specifically, information systems researchers shift their focus away from technical to organizational and interorganizational issues (or argue for a more integrated study of technical and non-technical issues [83], [86] as discussed in the next section). As these changes occur, the researchers' perceptions of information systems mature and consequently allow and prompt a broader view of their implications. Within this broader, richer picture social and ethical issues emerge as important. The use of a stakeholder analysis approach can facilitate their discussion as such issues may be more important for some 'latent' [62] stakeholder groups.

The different ways in which the stakeholder concept has been used, instrumentally or normatively in information systems research is summarized in Table 4 which gives examples of representative trends in the literature.

4.2 Recent developments and challenges in the study of information systems stakeholders

This section describes recent approaches to the study of stakeholder analysis in information systems research. The first combines stakeholder analysis with soft systems methodology whereas the second applies ideas from actor network theory in the use of information systems stakeholders. The third focuses on the identification and analysis of interorganisational systems stakeholders. These approaches are particularly important because they reach beyond an instrumental perspective and address the stakeholder concept at a more fundamental level. The following paragraphs present how the approaches have been combined and discuss their implications for the current understanding and treatment of information systems stakeholders.

Stakeholder analysis and soft systems methodology

One of the most obvious strengths of stakeholder analysis is its descriptive power, the possibility to create a 'rich picture' of those who affect or are affected by an information system has been recognized. The idea of building a rich picture to understand the context of information systems development is certainly not new; its most sophisticated use in the field has been proposed in Soft Systems Methodology (SSM) [17], [18]. Lyytinen (1988) has been the first to recognize the similarity and propose the integration of the two approaches. His work has been followed up more recently by research carried out by Vidgen and colleagues [82], [90]. The integration of the two approaches is based first on the fact that both methods prompt an investigation of different perspectives or worldviews (W*eltanschauungen*). Second, it is expected that the two approaches can complement one another. For example, soft systems methodology has been criticized for not providing adequate guidance for the identification of the actors involved in a problem situation [55], [90] and for assuming primarily one problem owner and one problem solver [55]. Thus, the rich picture can serve as a starting point for stakeholder identification [82] which a stakeholder analysis approach can use to build a broader 'stakeholder map'.

Vidgen, however, also identifies problems in the use of stakeholder analysis and soft systems methodology in information systems development. The first concern is that neither approach explicitly addresses the role of information technology and its impact on organizational work (cf. [68]), including its informating [91] capability. The second concern is that there is little practical guidance for the elicitation of information system requirements from real world stakeholders [82] (p. 25). In order to overcome these shortcomings Vidgen argues for a

combination of what he calls 'systemic stakeholder analysis' with an analysis of the current situation, requirements capture methods and future analysis.

Why would stakeholder analysis need to be combined with other approaches? Clearly, every approach has strengths and weakness. It is expected that appropriate combinations (e.g., where the approaches are based on similar ontological and epistemological assumptions and are complementary) will benefit the researcher's or practitioner's understanding and ability to cope with the problem situation at hand. In the case of stakeholder analysis, however, it should be noted that some of the problems that Vidgen identifies may depend on the premises that the particular stakeholder analysis approach is based. This an area where information systems research has not paid adequate attention.

To illustrate the point, let us consider a substantial difference between soft systems methodology and stakeholder analysis which makes their combination useful. Soft systems methodology focuses on answering the question 'what is the problem?' – in the present time. Stakeholder analysis, however, can potentially be used to examine both how the particular problem situation came about and how the stakeholders perceive alternative futures to this situation. At the moment the stakeholder literature recognizes that stakeholders and their perceptions change over time; yet the potential of stakeholder analysis for a better understanding of the long-term changes in perceptions and their implications remains a challenge for information systems research in this area.

Stakeholder analysis and actor network theory

Vidgen's work is probably more challenging for rejecting the separation between technical and social characteristics [83], following actor network theory (e.g., [51]). In particular, he argues for the consideration of *non-human stakeholders* as equally important ("symmetrical") to human:

> [S]takeholders are any human or non-human organization unit that can affect as well as be affected by a human or non-human organization unit's policy or policies (p. 255).

The inclusion of non-human stakeholders in a stakeholder analysis approach has several problems. First of all, it is not at all clear how non-human stakeholders will be identified. Problems of description for non-human stakeholders can become more complex considering that a non-human stakeholder may or may not be treated as a 'black box' ("when many elements are made to act as one" –[51] p. 131). Furthermore, the notions of 'voice'

and 'interest' are problematic for non-human stakeholders. Vidgen and McMaster [83] themselves come face to face with the difficulties of treating human and non-human stakeholders symmetrically:

> Interests have been analyzed in one dimension as we felt uncomfortable about assigning anthropomorphic properties to non-human resources, especially from an individual perspective. Rather, we consider that it is the interest of the *potential representatives* of non-human resources that we should be concerned with. (p. 261) [original emphasis]

I do not subscribe to the symmetrical treatment of humans and non-humans or the treatment of non-humans as *stakeholders*, although it is interesting and indeed necessary to consider the way in which non-humans – including organizational and interorganizational information systems– "inscribe, represent, and speak for" [86] (p. 476) the interests of stakeholders.

Another important point is that actor network theory researchers usually focus on (one) specific non human stakeholder and follow its evolution, its networks, its relations with other human or non-human actors/actants. This may be appropriate for *studies with hindsight* (e.g., [52]), where the success or failure of a particular artefact is studied and has indeed provided new insights in addressing the sociology of technology. However, this approach is unlikely to be useful in cases where a technology (e.g., an interorganizational system) is still evolving and where the role of various human and non-human stakeholders cannot be anticipated *a priori*.

Finally, it should be noted that actor network theory has been treated controversially. Walsham [86] gives a detailed overview of the characteristics and critics of the theory from an information systems perspective. One of the critiques that he presents is its *amoral stance*. This is particularly interesting for stakeholder analysis because it reflects on the normative debate in stakeholder analysis, prompting the researcher to explicitly consider the moral implications of a stakeholder analysis approach. Thus, the use of actor network theory and other recent developments indicates that there is a controversy in the use of the stakeholder concept and poses challenging research issues in the study of information systems stakeholders.

Stakeholder analysis and interorganisational systems

Stakeholder issues become more complex as information systems increasingly transcend organizational boundaries. Although many researchers acknowledge the need to explore the perspectives of the participants in interorganisational systems and their interrelations in detail, there is little evidence of a systematic attempt to apply the concepts of stakeholder analysis in this context. Pouloudi [71] argues for the use of stakeholder analysis as part of an interpretive research methodology. A number of principles of stakeholder behavior are proposed and used to guide the identification and analysis of interorganisational systems stakeholders in a given context (Table 5). It is argued that an interpretive stakeholder identification should be dynamic, context-dependent and iterative. The stakeholder analysis process should not be independent of stakeholder identification since stakeholders have views on who are other stakeholders. A broader range of stakeholders can give more diverse and hence richer accounts of an interorganisational context, especially if the researcher focuses on collecting a variety of perceptions and also explores the changes of these perceptions over time.

Table 5 Propositions for stakeholder identification and analysis

Principles of stakeholder behaviour	Implications for stakeholder identification and analysis
1. The set and number of stakeholders are context and time dependent	• stakeholder map should reflect the context • stakeholder map should be reviewed over time
2. Stakeholders cannot be viewed in isolation	• consider how stakeholders are 'linked'
3. A stakeholder's role may change over time	• adopt a long-term perspective: study how perceptions change
4. Stakeholders may have multiple roles	
5. Different stakeholders may have different perspectives and wishes	• there are different versions of the stakeholder map to be drawn
6. The viewpoints and wishes of stakeholders may change over time	• these different versions of the stakeholder map should be reviewed over time
7. Stakeholders may be unable to serve their interests or realize their wishes	• need to consider political issues (as well as technical, economic or other)

Such an approach addresses the different aspects of the stakeholder concept and shows their interrelation without being tied to a managerial perspective. Indeed, in the first instance, these variable perceptions provide a *descriptive* perspective on the stakeholders. Following up the issues highlighted by the stakeholders, however, the research can move on to a more in-depth and informed (by both previous research and empirical investigations) discussion of *instrumental* and *normative* perspectives of stakeholder analysis. At the same time this approach examines the notion of stakeholding in an interorganisational systems context. In so doing, it moves beyond the emphasis of most information systems development and strategic information planning research on internal stakeholders. It also encourages the identification of a broader set of stakeholders that influence and are affected by the interorganisational systems under study.

The contribution to a definition of stakeholder analysis in information systems research is a common theme that underlies the three recent approaches to the study of stakeholder phenomena described in this section. It is important that these approaches examine carefully the way in which the stakeholder concept is employed and also that they offer methodological guidance for dealing with information systems stakeholders. Such approaches are valuable because they allow practitioners and researchers alike to put the wealth of the existing stakeholder analysis approaches in perspective. In the practice of project management, in particular, they can be used as valuable tools that guide and alert the project manager to the opportunities and difficulties that the management of stakeholder relations entails.

5 Summary and conclusions

The notion of stakeholder is not new in information systems research. Although the actual use of the term is relatively recent it does not signify a revolution or a 'paradigm shift' in our thinking of information systems development and implementation. It represents a progression from developer- and user- centered problems to organization-wide and interorganizational information systems problems. It is also a sign of maturity of information systems research as it reflects a shift towards approaches that can afford a more holistic representation of the parties involved in the more complex systems currently developed.

Starting with an overview of the stakeholder concept, this paper has reviewed descriptive, instrumental and normative aspects of stakeholder theory in the strategic management literature. This has been useful for considering the origins of most information systems stakeholder approaches but also for highlighting recent trends in the study of stakeholders. Some of these trends match current information systems concerns. Thus, recent stakeholder approaches emphasize an ethical, normative dimension that can be beneficial for the study of increasingly important ethical information systems issues (e.g., [5], [27], [81]). Also, recent stakeholder approaches question the managerial perspective and call for further attention to multilateral stakeholder relationships. These proposals become particularly relevant at a time when information systems research is becoming more critical of technology use and where interorganizational systems are increasingly adopted.

However, these trends in the strategic management stakeholder analysis approaches are not reflected in the current information systems stakeholder literature. The latter is dominated by instrumental perspectives, arguing for the value of stakeholder analysis in assisting information systems planning and strategy formulation as well as information systems development and implementation. Very few approaches propose an ethical use of the stakeholder concept and discuss in depth the assumptions made by stakeholder approaches in information systems. Consequently, despite the mosaic of stakeholder approaches, the needs and opportunities for the study of interorganizational systems using the stakeholder concept cannot be accommodated. Existing literature on interorganizational systems stakeholders is scarce and inadequate as it primarily reflects a descriptive/instrumental perspective. Yet, the contribution of a stakeholder analysis approach in the study of interorganizational systems can be extensive and multifaceted.

In particular, stakeholder analysis is expected to play an important role in unveiling and understanding the evolution of different worldviews about an interorganizational system and its future development and use (descriptive value). Also, it can be useful as a mechanism to expose conflict between stakeholders (as they try to promote their own interests) which can in turn assist stakeholders in understanding different viewpoints, seeking coalitions or managing conflict and different stakeholder expectations. This instrumental view affects both the development of interorganizational systems and the formation of an interorganizational systems strategy. The latter is extremely important as the strategic importance of interorganizational systems is praised but, because of the more holistic perspective adopted can provide a more balanced view of an interorganizational system's implications. At a more fundamental level, stakeholder analysis can be used to address ethical considerations, which are likely to be more complex at an interorganizational level where there is a greater array of different perspectives. Such ethical considerations or issues of professional conduct have often created problems in information systems development (e.g., [10], [69]).

The main purpose of this paper has been to investigate different perspectives of the stakeholder concept that have been discussed in the literature. By putting these in perspective and discussing their shortcomings, this paper has made the case for a more thorough understanding of the stakeholder concept. It has been argued that stakeholder analysis can offer multiple and mutually supportive approaches to the study and practice of information systems development, particularly if descriptive, instrumental and normative aspects are taken into account and stakeholders are not restricted to the actors within the organizational or interorganizational environment. Such stakeholder analysis approaches can contribute to the management of information systems projects in practice because they provide a mechanism to consider organizational and political issues –identified often as main culprits of project failures– from multiple perspectives.

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