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The Role of Stakeholders in Requirements Elicitation

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Introduction

- In requirements engineering, stakeholders own the problem and are the people from whom we first elicit requirements and then from whom we obtain the input necessary during requirements analysis and negotiation.
- Their input to the system lifecycle is crucial—careful selection of appropriate stakeholders is therefore fundamental to the success of the project.

Stakeholder Definition

- Originally applied to the ‘stake’ holder—money is held in escrow and paid out to the winning party or parties.
- The stakeholder is therefore a trusted third party, independent of the wager without a stake in the event.
- In the 1980s, Mason and Mitroff used the term to refer to any person or thing that can affect or is affected by the matter under consideration (whether a venture, process, project, system, organization or decision).
- They were keen to differentiate a ‘stakeholder’ from a ‘shareholder’ or stockholder’ who had a vested interest and therefore would act in accordance with that interest (presumably at the expense of other interests).

Stakeholder Definition

- Since the 1980s use of the term has become such that:
  - rather than being a trusted, independent human in a particular type of (gambling) event, stakeholders are seen to be present in any event;
  - they may or may not have a vested interest;
  - they are not necessarily trusted to the extent that they may even have a negative or malicious intent; and,
  - finally, may not even be human since organizations, entities, regulations, and even environmental aspects (including animals as well as inanimate objects) are now often considered to be stakeholders.

Definition of a Stakeholder

- Strictly speaking, a stakeholder could be defined as someone who has a stake in the project—that is, *someone who is affected by the system in some way, or can affect the system in some way*.
- This definition is commonly used in requirements engineering:

… anyone who has an interest in the system or in its possessing qualities that meet particular needs (Young)

… any group, individual, organisation that is affected by or can affect the project (Young).

… users, the development team, investors, sponsors, authorities, customers, and even the developers of third party software, are stakeholders (Bittner and Spence)

Not a Useful Definition

- The identification of stakeholders cannot involve simply listing those who have, or perceive themselves to have, a stake in the project—in most systems this is not a useful definition since it is often difficult to find someone who is not affected by the system in some way.
- Even in a simple system such as an ATM network for a bank, there may be millions of stakeholders by such a definition.
- This is also true in committee-based organisations such as public service organisations, where the number of potential stakeholders is enormous.

Not a Useful Definition

- We cannot progress with such a definition of the people from whom we elicit requirements.
  - We cannot have the time to engage with everyone who will have an involvement with the new system.
  - It assumes that anyone affected is a source of requirements—our competitors will be affected, but their requirements will be at odds with ours.
  - It would mean that we would therefore be at the mercy of anyone who wants to contribute requirements, whether they are useful or not.
  - The new system not affect stakeholders equally and they should not therefore have equal rights in expressing requirements.

Not a Useful Definition

- The first step of identifying stakeholders is therefore much more complicated than simply listing all those who could be considered to have a stake in the new system.
- We must restrict ourselves to the owners of the problem and of the solution presented by the new system.
- While we must take into account anyone who is affected by the new system when we are considering requirements, they are not necessarily our stakeholders.

A Better Definition

- More usefully, a stakeholder is defined as:

…someone who has a right to influence the outcome of the system.

- A stakeholder is therefore an owner of the problem, not just someone involved in or with it.
- Note that, a stakeholder is also invariably affected by the system.
- Still, this definition does not assist us to identify our stakeholders automatically. If a stakeholder has a right to influence the requirements, we need to identify what or who gives them that right.

A Better Definition

- We therefore need to examine candidate stakeholders more carefully. For example:
  - Do all stakeholders have equal rights?
  - Who decides which stakeholders have higher priority?
  - What do we do if stakeholders do not agree?
  - If a group is considered to be a stakeholder, how is a spokesperson to be elected/nominated?
  - How do we discount requirements collected from a stakeholder who is clearly confused and whose contributions are unenlightening?
- These issues are addressed by the formal process proposed here.

Identifying Stakeholders

- *Identify business owner*
- *Identify all candidate stakeholders (anyone affected by the system or able to affect it)*
- *Evaluate candidates and select stakeholders (individuals or groups of stakeholders by type)*—evaluate each to determine whether they are a genuine stakeholder, an actor within the system, or the source of a constraint.
- *Understand roles, responsibilities, and interrelationships of stakeholders and stakeholder groups*—an essential precursor to prioritisation of stakeholders.
- …

Identifying Stakeholders

- …
- *Identify a stakeholder representative (an individual) for each stakeholder group*—it is from these representatives that we elicit requirements. Since their input to the system lifecycle is crucial, careful selection of appropriate representatives is very important.
- *Prioritise stakeholders*—it is almost impossible to progress with a large number of stakeholders, each of whom has equal rights to the others—two conflicting requirements of equal priority cannot be traded off effectively.
- …

Identifying Stakeholders

- *Develop stakeholder management strategies*—while there are some technical difficulties with requirements engineering, it is fundamentally a process dominated and driven by humans (and their preconceptions, prejudices, and agendas)—it is often less concerned with what we can do and more concerned with what we want to do. These 'soft' aspects must be accommodated and managed if the system development is to succeed.
- *Prepare Stakeholder Management Plan (SMP).* These issues are documented in the Stakeholder Management Plan.

Example—Building Your House

- *Business owner:* You and your partner would be the business owners (assuming that the mortgage is in joint names).

Example—Building Your House

- *Identify candidate stakeholders:*
  - You & your partner.
  - Your children.
  - In-laws who may visit and may stay occasionally.
  - Friends who may visit and may stay occasionally.
  - The bank holding the mortgage.
  - Local government.
  - Neighbours.
  - The architect and draughtspersons.
  - The builder and subcontractors.
  - The tree.

Example—Building Your House

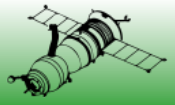
- *Evaluate candidates and select stakeholders:*
  - *You &your partner.* Business owners / stakeholders.
  - *Your children.* Limited stakeholders.
  - *In-laws who may visit and may stay occasionally.* Not.
  - *Friends who may visit and may stay occasionally.* Not.
  - *The bank holding the mortgage.* Constraint.
  - *Local government.* Constraints.
  - *Neighbours.* Constraints.
  - *The architect and draughtspersons.* Constraints.
  - *The builder and subcontractors.* Constraints.
  - *The tree.* Constraint.

Example—Building Your House

- *Roles, responsibilities, and interrelationships.* You and your partner are the only genuine stakeholders. You may wish (even if only for appearances) to make the children stakeholders.
- *Stakeholder representatives.* You and your partner will no doubt jointly share the role as chief stakeholder. Children may be represented by one child or they may represent themselves.
- *Prioritise stakeholders.* You and your partner will be Category 1 stakeholders. The children would be (may each be) Category 2 stakeholders with limited rights as defined at the beginning of the project.

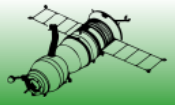
Conclusions

- Careful selection of appropriate stakeholders is fundamental to the success of the project and, in particular, to the success of the requirements elicitation process.
- The traditional definition of a stakeholder—someone who is affected by the system in some way, or can affect the system in some way—is not useful in being able to identify those who should contribute to the requirements engineering process.


Conclusions

- More usefully, a stakeholder is defined as someone who has a right to influence the outcome of the system, rather than someone who is simply affected by the system.
- A stakeholder is therefore an owner of the problem, not just someone involved in or with it.
- This paper has proposed a formal method for the identification of stakeholders and has provided a simple example to illustrate each of the steps.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