

CHAPTER TWO

Stakeholders

The two most important parts of a computing system are the users and their data, in that order.
Neville Holmes

Requirement Elements	Discovery Contexts	Stakeholders	Goals	Context, Interfaces, Scope	Scenarios	Qualities and Constraints	Rationale and Assumptions	Definitions	Measurements	Priorities
	Introduction									
	From Individuals									
	From Groups									
	From Things									
	Trade-Offs									
	Putting it all Together									

Answering the questions:

- Who has a valid interest in this product or service?
 - How do you engage with and manage those people?
 - Which requirements come from which stakeholders?
- ... so you know who you need to deal with on the project.

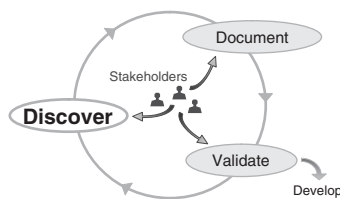
2.1 Summary

This chapter looks in turn at what stakeholders are, how to discover the stakeholders on your project, how to engage with them and how to manage them to ensure success.

Stakeholders are far more diverse than simply ‘developers’ and ‘users’. A better understanding of stakeholders as beneficiaries, operators, interfacing and negative stakeholders, regulators and others, contributes to more effective discovery of requirements.

The chapter ends with a look ahead (to the rest of the book) at how you will work with stakeholders to discover requirements of different kinds.

2.2 Discovering Stakeholders



Requirements ultimately begin and end with people – stakeholders. Constructing an onion model (Alexander 2005) [1] is a good way to start to understand and document the stakeholder structure of your project (Figure 2.1). Another starting point may be an organisation chart, as long as you don’t overlook stakeholders outside the organisation.

The rings of the ‘onion’ are centred on the product or service itself (as it is planned to be), not on the project and its team of developers.

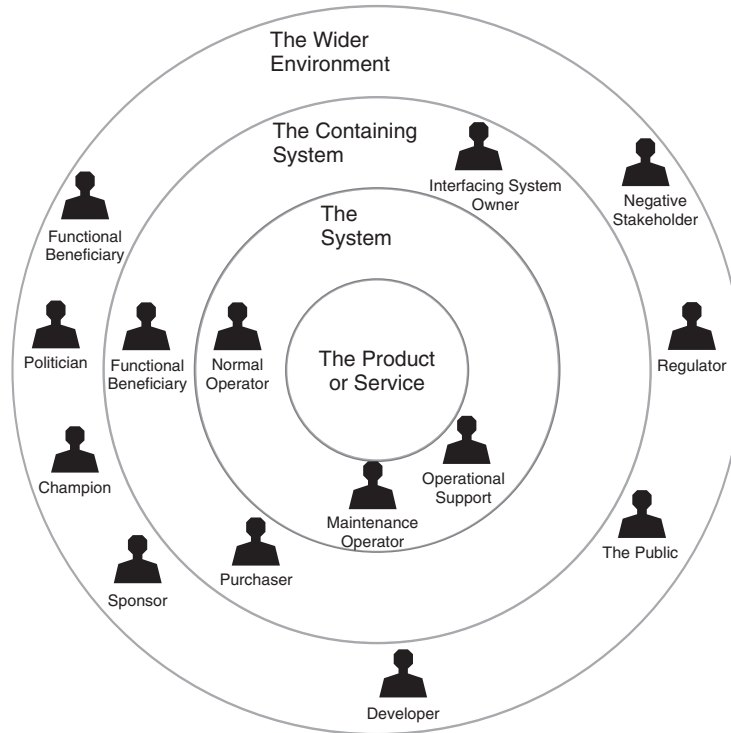


Figure 2.1: 'Onion' model of stakeholders in a typical system.

Developers: Inside or Outside the System?

Developers are very close to the product while it is under development but may have little to do with it once it is in service unless they 'wear two hats' by also having a specific operational role, such as maintenance or helpdesk (operational support). If the onion is drawn for the product when it is in service, the developer therefore appears in 'the wider environment'; the maintenance operator appears as part of 'the system'.

You could draw a *different* onion model for the product under development, in which case your system will be 'the development system' (your software factory, for instance). In that case, the developer will be inside, and operators outside. To a degree, we use onion models to counteract the tendency to marginalise operators and other stakeholders, so we tend not to focus too much on the development environment at this point.

Table 2.1: Operational roles within ‘the system’.

Generic role	Work done by role	Example
Normal operator	Interacts with the product to deliver results (to functional beneficiaries)	Tram driver drives the tram
Maintenance operator	Services and repairs the product (i.e. carries out both planned and unplanned maintenance)	Mechanic services the tram
Support operator	Provides help and co-ordination to keep the other operators productive	Roster co-ordinator allocates drivers to trams each day

2.2.1 Operational Stakeholders within ‘The System’

The innermost ring of the onion (around its solid centre) is ‘the system’. This means the people, procedures and products that together deliver results to the world outside. Notice that ‘the system’ is not the same as a product, a service, a computer or a piece of software, though it may contain any of those things.

The people who form part of the system around a product or service are the operational stakeholders: they take part in day-to-day operations.

Typical systems contain several operational roles¹ (Table 2.1). In a complex system, such as a warship or a manufacturing plant, there may be hundreds of different operational roles.

2.2.2 Stakeholders in the Containing System and Wider Environment

Beneficiaries: Who’s it for?

The man who pays the piper calls the tune.
Traditional English Proverb

Where the onion model in Figure 2.1 gives a product-centric view, Figure 2.2 offers an alternative, project-centric view, which may seem more familiar. This is because projects have traditionally thought of the world as consisting of two groups: themselves and ‘users’, by which they meant everybody else. Figure 2.2, which was created to help people in a transport organisation think about their stakeholders, goes a little further, distinguishing beneficiaries—people who are intended to benefit in some way—from the others.

¹You may hear the term ‘actors’, which is what the Unified Modeling Language (UML) calls operational roles. Note that if there is an ‘intelligent’ software system at the far end of an interface, UML considers that an actor as well. Essentially, UML is interested only in actively interacting roles, not in stakeholders in general. Interfaces are described in Chapter 4.

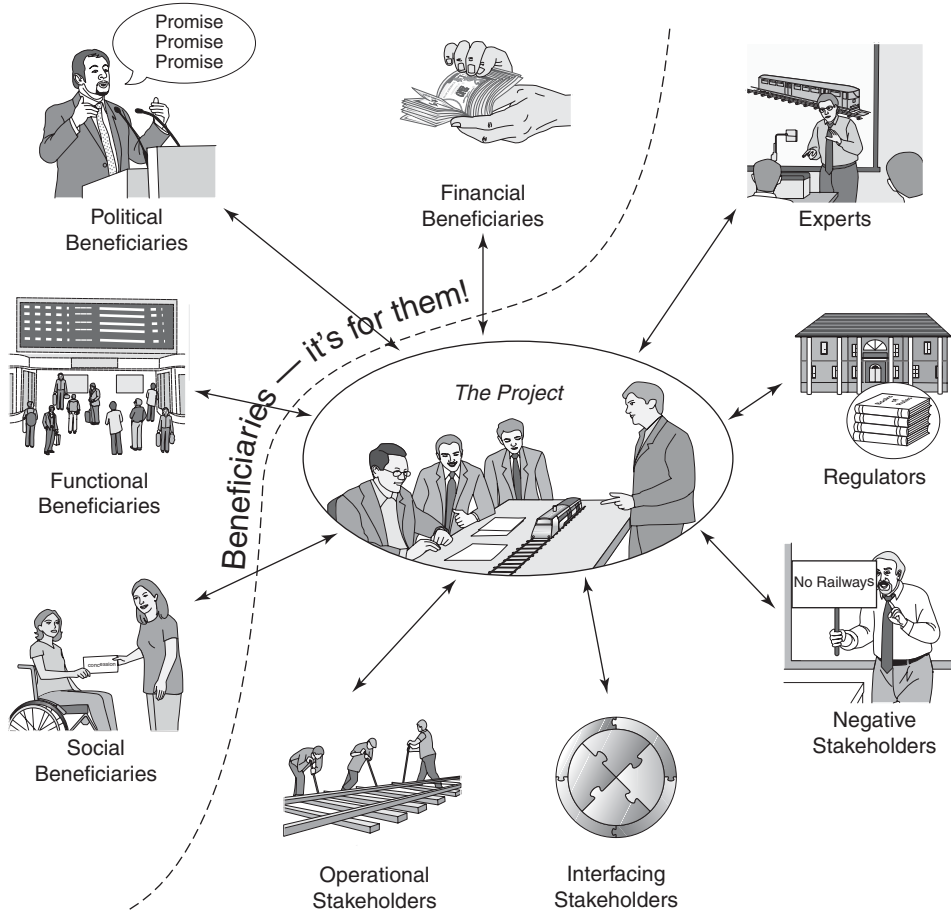


Figure 2.2: Beneficiaries and other stakeholders in a transport project.

A system, such as a tram, for example, forms part of some larger system or context. Systems are created to provide services or results to their beneficiaries. Beneficiaries include several very different kinds of stakeholder, but by no means all of them.

For example, the driver of a tram is not driving it for his own enjoyment. The intended beneficiaries of the tram service are the passengers, who pay to be carried along the tram's route. In fact, the service is for them.

You can answer the question 'Why are we operating this service?' by studying the benefits that it provides. Those benefits are not only to the passengers: the tram company, its directors and its shareholders benefit financially (as of course does the driver, in a small way).

We can call the passengers 'functional beneficiaries', and the shareholders (who are arguably further from the product, i.e. in the 'wider environment' ring), 'financial beneficiaries'. Projects also often bring political gains to people

whose careers benefit from a project's success. Such people may be career politicians, or may be political with a small 'p', within the corridors of your organisation.

Regulators

One role that is of crucial importance to services or products for the public is that of the regulator. There are regulators of financial correctness, of food, of medicines, of the radio spectrum, of broadcasting, of aviation, of railways, of manufacturing - in fact, of nearly everything.

Many products are subject to multiple regulators. Software is in nearly everything, so it is regulated in multiple ways (see box, 'Statutes, Regulations, Standards').

Statutes, Regulations, Standards

In some countries, such as the UK, regulation takes several forms:

- primary legislation in the form of **statute laws** passed by Parliament: for instance, the Financial Services Authority (FSA) was created by statute law;
- secondary legislation in the form of official **regulations** issued by government departments or other regulatory bodies, such as the FSA, under authority given to them by Parliament; these are often much closer than statutes to the level at which projects work;
- **international standards** imposed by bodies such as the International Standards Organisation (ISO);
- **national standards** imposed by general standards bodies such as the British Standards Institution (BSI), or specialist professional bodies such as the Institution of Engineering and Technology (IET);
- **industry 'best practice' and 'guidance'**, which are often essentially mandatory within an industry, especially where safety is concerned; businesses may comply with these voluntarily, to give their offerings a mark of quality and hence seek a competitive advantage, or may be obliged to comply by regulation.

As if all that were not enough, companies often impose their own **company standards** on their projects, e.g. imposing a software development process.

Projects, in turn, often write their own **procedures**, for example, describing how to structure requirements and use cases in their chosen requirements tool.

Standards and regulations can be seen as **reusable sets of requirements** that are shared between all systems in a domain. Some are voluntary ‘best practice’ or ‘guidance’ (see box, ‘Statutes, Regulations, Standards’); some are essentially mandatory. More is said on requirements reuse in Chapter 13.

Standards and regulations form a significant percentage of all requirements. This shows, incidentally, that not all requirements come from ‘users’.

Interfacing Roles

Almost every system has significant interfaces to other systems, services or businesses (whether existing or future). For example, many devices such as laptop computers and mobile phones have a Bluetooth² short-range radio interface, allowing them to exchange data with other Bluetooth-compatible devices.

Chapter 4, which looks at context, interfaces and scope, describes how you can analyse interfaces to identify requirements on your system. Effectively, your freedom of design is constrained by your interfaces, especially if they are already fully specified.

Identifying the systems or services that you need to interface to is obviously a vital step towards creating the right requirements and the right product. The project or organisation responsible for the other end of each interface is an important stakeholder in your project.

Negative Stakeholders

Generally, your project should aim to satisfy most of your stakeholders – but that does not necessarily include negative stakeholders.

Negative stakeholders range in attitude from peaceful opposition to active hostility. They may threaten or cause harm to a project, intentionally or incidentally. Your competitors may not wish your project to succeed, but they will generally stay within the law in their opposition to it.

Peaceful and lawful opposition can include, for example, writing letters to the government and collecting signatures to oppose the construction of a road, airport, shopping centre or power station that threatens to destroy assets valued by the stakeholders. Such assets can be of any kind, for example, historic buildings, the natural environment and wildlife, and existing jobs and businesses, as well as more abstract things such as leisure, safety, peace and quiet, and privacy. As a result, negative reactions to a project can be extremely diverse.

Security threats also come in many shapes: from thieves, vandals, hackers, disgruntled employees, criminal gangs using viruses and malware, terrorists

²Bluetooth is currently an industry standard under the control of a Special Interest Group (SIG), a trade association. Many industry standards eventually become International Standards.

and military enemies. Thieves and hackers may be opportunistic, rather than intentionally hostile. The others are, presumably hostile by intention.

For military systems, the enemy is a key stakeholder. He may use any means to confuse, disrupt, deceive or destroy. Countering these threats leads to many of the requirements on military equipment, for qualities such as data integrity, confidentiality and survivability (see Chapter 6, Qualities and Constraints). New threats, such as electronic and cyber-warfare, are increasingly important concerns.

You might imagine that software projects do not face the risk of opposition. However, the public are becoming concerned about data protection for reasons of privacy and financial security. Online advertising techniques such as stealthy data collection have recently created a storm of protest on the web. Viruses are able to attack smartphones and PDAs as well as computers. Negative stakeholders for software can include the public, bloggers, campaign groups, hackers, virus writers and probably many others.

Sponsor and Champion

Without a sponsor your project will be shortlived.

Suzanne Robertson [2]

In both commercial companies and public service, money is generally in shorter supply than ideas for how to spend it. Therefore, departments usually compete for resources. Any project that receives funding may be watched jealously for signs of weakness so that it may be killed off and its funds appropriated for something else.

The Champion has to be someone with enough power in the organisation to protect the project against 'political' threats (i.e. from negative stakeholders within the organisation). Mere technical success is no guarantee of safety. An effective Champion does not have to be technical, and is typically not involved in the day-to-day running of the project.

Sponsor and Champion

- The sponsor provides development funding for a project.
- The champion provides 'political' support for a project.
- The two roles can be combined but are often separate.

The Champion could be the department head who sponsors the project, but it's equally likely that the sponsor is another organisation or another part of

the development organisation. For example, an automobile maker could have a new secret project to develop a fuel cell car for the luxury urban market. This might be sponsored by international marketing as part of their roadmap for a future product line, but championed by the director of technology in board meetings.

Worked Example: Stakeholders in a Tram Service

The agency planning a new tram service must carefully consider possible opposition from residents, pressure groups (such as wildlife organisations), businesses and local government. All of these could be either beneficiaries or negative stakeholders. The direction they choose depends both on their own attitudes and on the preparation, skill and tact of the project's management, including its handling of requirements.

Figure 2.3 illustrates a typical geographic situation for a tram project. The City Tram is to relieve traffic congestion by providing a reduced journey time from A to B. With closely spaced stops at places such as C, D, E, F, G, H, and an interchange with the railway at B, it should encourage economic growth in the city. A stop at D provides access to public transport for residents of the district north of the park, and could encourage further expansion of the tram service to the north.

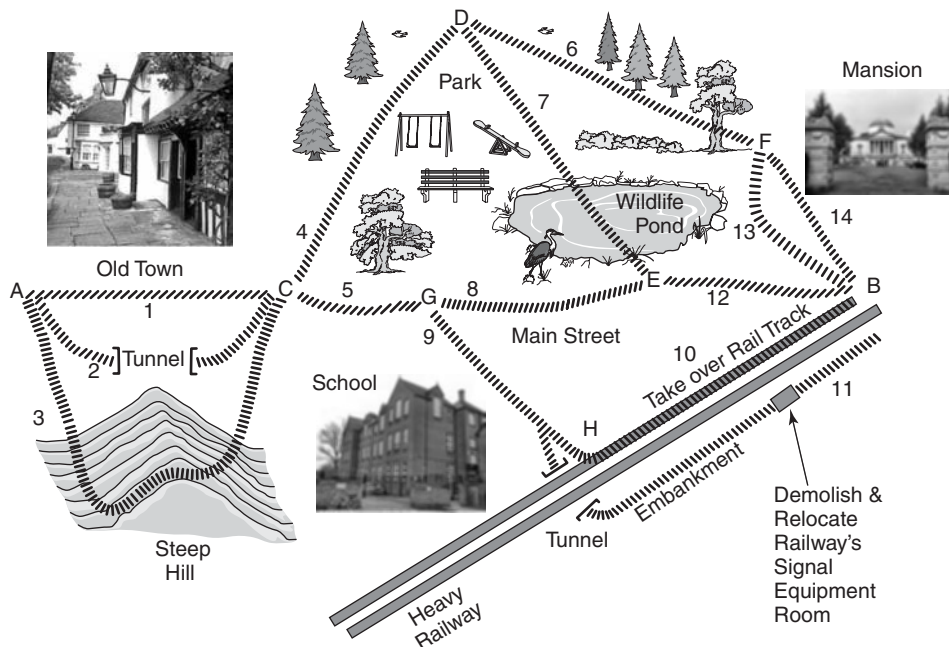


Figure 2.3: Tram routes: a problem in stakeholder geography.

The tram is likely to be supported by local businesses and by the developers of a new shopping mall on Main Street. Bus and heavy rail are also likely to provide support, as long as the interfaces to those services are well thought out.

However, there are obstacles. Between A and C is the old town, with an attractive townscape. A route through here could upset the town council (local government), who are otherwise likely to be in favour because of the commercial benefits a tram could bring. Local governments are powerful stakeholders, with authority over local planning issues.

To the south is a steep hill, which could cause operational difficulties for the tram in wet or icy weather. A central route is imaginable but would require a costly tunnel through the hill. Apart from the cost, a tunnel makes escape in case of fire much more difficult, so another powerful stakeholder, the railway safety authority, could cause difficulties here.

Between C and F is the town park, with scenic views, much-loved mature trees and a wildlife pond. Near F is The Mansion, a Grade I historic building protected both by law and by local and national conservation bodies; all are powerful stakeholders.

If the tram was to exit the park at E, it would avoid The Mansion but harm the wildlife pond. A partial alternative is to route the tram in a longer semicircular arc between F and B so as to avoid the street immediately in front of The Mansion.

The park could be avoided by a route through G, south of the park, but the route from G to E is along busy Main Street, threatening to worsen the traffic congestion rather than alleviating it.

An alternative to Main Street is the route southeast from G to the heavy railway at H; unfortunately, this crosses the school playground and could cause strong local opposition to the tram. From H to B, the tram could run on one of the existing railway tracks if the railway company can be persuaded to give it up, or it could run on top of the embankment south of the railway line. However, the embankment route would demand a tunnel to cross the railway, as well as the demolition and re-siting of the railway's signal equipment room, which the railway company opposes. The tunnel would raise buildability issues, as access to the railway is limited, and closures would have to be planned for nights and weekends.

The problem facing the tram project team, therefore, is to choose the best route (set of route segments linking A and B) by trading-off the constraints just described. You can see at once that each group of stakeholders (the Historic Building Society, the school's parent teacher association, the Old Town Preservation Society, the Wildlife Trust, the railway, etc) has an interest in at least one route segment, and could easily become actively hostile to the project. This kind of project has very many stakeholders (it is common to find hundreds of interested parties) and their management is a large part of the work of a successful transport project.

2.3 Identifying Stakeholders

There are several ways of finding out who your stakeholders are, i.e. who should be involved or consulted on your project:

- by asking your sponsor or client;
- by examining what is and what isn't shown on an organisation chart;
- with a template such as the 'onion model';
- by comparison with similar projects;
- by analysing the context of the project.

Naturally, as interviewing proceeds, you can always ask people: 'And who else should we talk to about that?'

2.3.1 From your Sponsor or Client

A natural place to start is your sponsor. Ask them who the other stakeholders are. Meet those people and ask them the same question, and so on. This would be an ideal approach but for one thing: project people may only lead you to people they know, within a tight group. This, is perhaps, a particular danger within a large organisation, where roles outside may be overlooked.

2.3.2 With a Template such as the Onion Model

The onion model or an equivalent list of typical project stakeholders can help to counteract closed-group thinking.

If you think graphically, take a copy of an onion model like the one shown in Figure 2.1.

- For each icon on the diagram, ask: 'Does our project have stakeholders with this role?'
- If the answer is yes, label that icon with the name of the role; be specific where the basic model is generic.
- Then, for each role you have identified, ask: 'Who interacts with this role?' or 'Who has an influence on this role?'
- Add new icons if necessary, and label them with their roles.
- Draw arrows between the role icons, and label these for each interaction or influence.

If you find it more helpful to use text, use the stakeholder roles listed in Figure 2.4 to identify people you need to contact, and follow this up with action.

Figure 2.4 shows a sample of typical, generic roles. Your organisation's classification may differ, as roles overlap, are lumped together or are further fragmented. In your area, people may use different names for some roles. Individual stakeholders may hold two or more roles, sometimes in surprising combinations. Expect to find a special situation on every project.

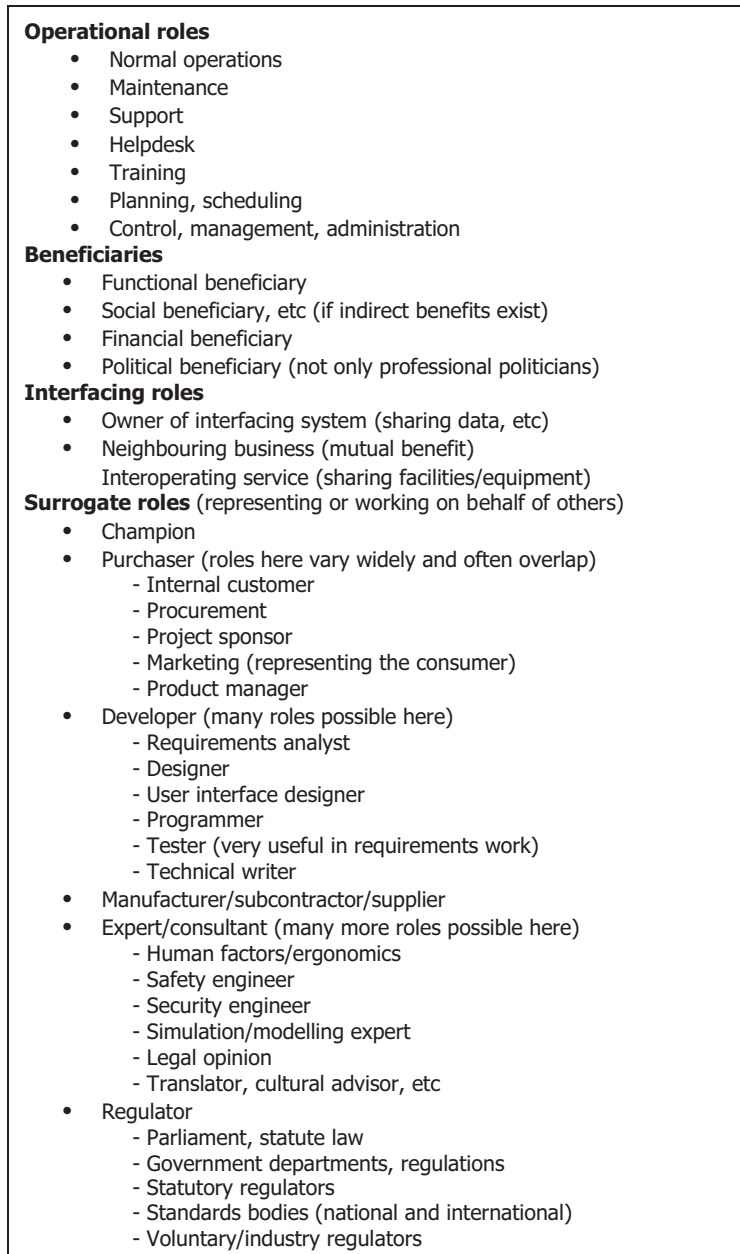


Figure 2.4: Template: possible stakeholder roles on projects.

Hybrid roles

- User (= Normal Operator + Functional Beneficiary)
- Consumer (= Mass-market Purchaser + User)
- Service Provider (= Operational Support + Maintenance + Helpdesk, and sometimes Developer, Subcontractor, Manufacturer)
- Risk and Revenue-Sharing Partner (= Developer + Manufacturer + Financial Beneficiary), etc

Negative/hostile roles

- Vandal, graffiti artist
- Thief
- Hacker, virus writer
- Competitor
- Industrial espionage (via malware, etc)
- Fraudster
- Disgruntled employee
- Trades union
- Political opponent
- The public, residents' association, etc
- Activist, environmental pressure group, etc
- Military enemy, terrorist

Figure 2.4: *(Continued)***Surrogate Roles**

You will find stakeholder roles much easier to unpick once you understand one common situation: many roles, including every kind of paid work, are surrogates, i.e. on behalf of somebody else.

For example: a company director represents the shareholders; a politician represents the public; a lawyer represents a plaintiff; a requirements engineer represents a project's stakeholders; a user interface designer represents a product's human operators.

The breadth of this list of examples indicates that surrogacy is the usual case on development projects. The old dogma, 'Go and get the requirements from the users directly', is well-intentioned, but wrong for several reasons:

- There isn't one uniform group of people who use a product.
- You don't know what using the product will be like until you've designed it!
- 'The users don't know what they want until you show it to them.' Products create requirements, as much as the other way round.
- You often can't talk to users directly but you must deal with surrogates, including yourself and your project colleagues.

Surrogacy is valuable because it enables a project to deal with a manageable number of people, and because it means that external parties are represented. This is necessary for several reasons:

- Large and complex projects can take many years, making it impossible to talk to ‘the users’. If the aircraft carrier that is being planned today will not sail for another 25 years, many of its crew will not yet have been born. The future military and political environment cannot be fully known either. Planners and modellers are expert in working out the range of likely future ‘worlds’.
- Government and its appointed regulators represent the law and the public – the voice of the people. It isn’t possible to speak to millions of people, but the officially-appointed regulator is empowered to speak for them.
- A mass-market product like a car or music player will have millions of users. Their opinions can be surveyed, or a sample can be involved (e.g. to comment on a prototype). Marketing and product management professionals have specific expertise in identifying and predicting what the consuming public want.

Surrogacy is dangerous because people can be wrong about the needs and wishes of the people they claim to represent. (That is why old timers tell you to go and talk to ‘the users’.)

- Marketing and product management have to live with conflicting interests; they represent the views of the market to the company, but also serve the company.

The best surrogacy efficiently condenses many vague feelings and intentions into a clear, representative statement. You will have to use surrogates on your project – you are one yourself. Your task in discovering other people’s requirements is to serve those people as faithfully as possible. A measure of scepticism and self-knowledge is needed.

2.3.3 By Comparison with Similar Projects

If you have access to people who have experience of similar projects, ask them for their list of stakeholders, or get them to look for gaps in your list.

2.3.4 By Analysing Context

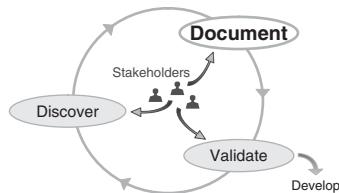
Another approach is to explore the context (see Chapter 4) of your project. For example, if your context is geographical (as with the tram service), then

searching a map of the area immediately around your tram route may reveal neighbouring businesses and services. Or again, if your context is an existing technical or service domain (e.g. hospitals), then analysing the roles and responsibilities in that domain (nurses, physicians, radiology . . .) is likely to be productive.

Tips for Discovering Stakeholders

- Listen for names of people and organisations when you are starting on a project.
- Find out about the roles and organisations that people mention.
- Sketch an onion model in your notebook; add names and organisations to it; draw in relationships when you discover them.
- Use the template (Figure 2.4) to help identify missed roles.
- Once you have started analysing context, check your context knowledge against your stakeholder list.

2.4 Managing Your Stakeholders



Answering the question:

If there are so many people playing so many different roles in the project, how do we manage them all?

2.4.1 Engaging with Stakeholders

People are usually happy to have their views and opinions heard (see Chapters 11 and 12). The key to engaging with people on a project is simply to be open, honest and friendly, not to take sides, and to follow up each person's questions or suggestions appropriately. It also means taking great care with people's feelings. You need to keep track of your dealings with stakeholders, to analyse influences on your project, and to prioritise your activities accordingly. Managing stakeholders is more than discovering and documenting them – it's an ongoing negotiation.

Table 2.2: Basic stakeholder management list.

Role	Name/ organisation	Contact details	Actions to be taken by project	Agreement status	Associated issues
Interfacing	Old Town Bus Company (OTBC)	Jane Brown (Business Planning) 151 Main Street Tel 0123–4567	Negotiate position of bus/tram interchange near School Street	Preliminary; contact made	Effect of tram on bus passengers (increase or decrease)
Political	Anytown Council	Alderman Joe Bloggs (Transport Planning) The Town Hall 1 The Square Tel 0123–4121	Agree outline approach	Council likely to give permission	Elections in September
...

2.4.2 Keeping Track of Stakeholders

Stakeholders are the people who have influence on your project. That means you need to keep them happy. So, it's vital that you pay attention to them. At the very least, you need to know who they are, what they want, and whether they have agreed to the requirements. Table 2.2 illustrates a simple way of keeping track of your stakeholders.

Keep in mind that each stakeholder group (and individual stakeholders within groups) have different expectations. An important strategy is to keep stakeholders informed as the project proceeds. It is rarely possible to meet everyone's expectations. By providing periodic project status updates, you can manage people's expectations and improve the likelihood of project success.

2.4.3 Analysing Influences

Figure 2.5 illustrates a simple analysis of influences for a video game development project. Influences are drawn as an overlay of labelled arrows between stakeholders on an onion model.

This is an informal diagram, and the only rules are to draw whatever is useful for your project. (A mathematical analysis of influences is possible, but is unlikely to be either feasible or cost effective on industrial projects, as it requires extensive data collection.) In the diagram, a different colour or style of line is used for each kind of influence.

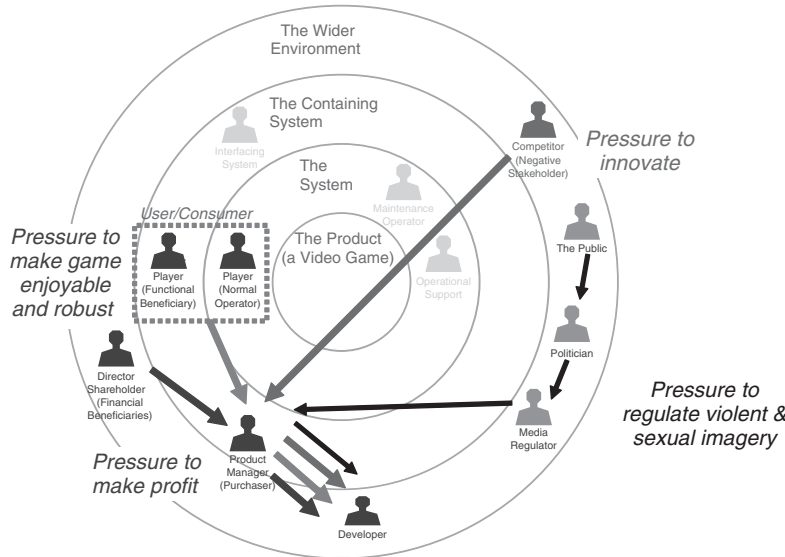


Figure 2.5: Analysing stakeholder influences on product development.

There are strong competing pressures on the maker of a video game:

- The consumer audience is savvy and aware of the market, and shares opinions freely on the Internet. In other words, reputations can be made or broken rapidly. Game players want new games to be exciting, scary, varied, emotionally intense, involving, realistic and action-packed. This all means development work and cost, on artistic design, music, game structure, interactions and so on.
- Competitors exert strong pressure to innovate or perish; the short period during which a game is new is its only opportunity to sell profitably.
- The public, through pressure on politicians, create media regulation of violent and offensive imagery.
- Meanwhile, the company's financial beneficiaries demand profit.
- The product manager, who is effectively the purchaser (the internal customer, representing the mass-market consumers), is responsible for integrating all these conflicting requirements into an effective specification, and transmitting these to the developers. This is requirements creation at the sharp end.

2.4.4 Prioritising Stakeholders

Projects often prioritise their stakeholder management activities by the relative power of the stakeholders. This is pragmatic, as long as you do not neglect less powerful stakeholders. One tried and tested approach is to make a matrix

of stakeholders against the kind of influence they have on the project: whether positive or negative, powerful or weak (politically), as in Table 2.3.

A Consumer is Not a Typical Stakeholder

Figure 2.5 illustrates the roles of ‘user’ or ‘consumer’. These are not basic stakeholder roles like operator, regulator or functional beneficiary at all.

Instead, a player both operates a video game and benefits from it functionally (by enjoying the game). This hybrid role is called ‘user’. Where the same person purchases the (mass-market) product, the role is a triple hybrid. Sometimes there is also a maintenance role involved.

Such all-in-one roles are not typical of stakeholder roles in general. Your personal experience of being a mass-market product consumer is not a good guide to understanding stakeholders in general.

As with any kind of risk register, the influence matrix is only of value if someone uses it to manage the project. On a project where influences matter, you should have a stakeholder manager who ensures that the requirements are understood and agreed, at least by the most powerful stakeholders. This role is closely related both to project management and to requirements management, so the task cannot be done in isolation.

Table 2.3: Influence matrix.

Stakeholder	Negative		Positive	
	Strong	Weak	Weak	Strong
Old Town Residents' Association		At the moment, the OTRA is undecided. With careful integration, could become positive.		
Anytown Council				Currently very keen. Could change at local council elections in May.
Mansion Preservation Society		Opposed to any route within 100m of Mansion; otherwise in favour.		
...				

2.4.5 Involving Stakeholders

You may need to choose your development approach to ensure that stakeholders are sufficiently involved in your project.

For example, you could choose a staged approach in which you carry out a feasibility study and obtain detailed feedback from stakeholders. You may then build a demonstrator, again obtaining feedback, before launching the main development process. The choice of life cycle depends on the nature of your project, the technological risk it entails and the stakeholder situation.

If you know of any negative or hostile stakeholder groups, you have an especially urgent task to make peace with them, or at least to defuse their negative feelings. Find out what they are concerned about; make sure they are properly informed, and set right any misconceptions they may have; and show that the project is professional and fair. If at all possible, take time to negotiate an agreed way forward with them.

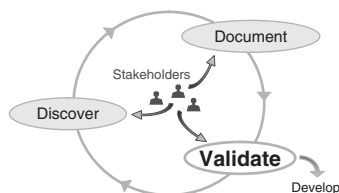
2.4.6 The Integrated Project Team

Where you are developing a product for use by a specific group of people – say, a healthcare team, engineers in the army or air traffic controllers – then the product is far more likely to be accepted if some representatives of that group form part of the development team.

An Integrated Project Team (IPT) includes people with all the skills and knowledge needed for the project to succeed. That may mean business analysts familiar with the domain, designers, programmers, human factors specialists, testers, and representatives of all the operational roles working with the product.

Creating an IPT sounds costly, but it need not be. IPT members do not have to be full time, as long as they are available often enough for communication to be easy and effective. Having operational stakeholders around to comment on a document or prototype as soon as it is made, and to suggest small changes that can be implemented in a few minutes, is far better (and, in the long run, cheaper) than relying on document deliveries and formal review comments.

2.5 Validating Your List of Stakeholders



Stakeholder groups are often fluid. People change their minds; companies are formed, merged or taken over; pressure groups become active and disappear.

For instance, in the context of the tram example, during an economic boom, property developers are very keen on new civic schemes such as shopping centres, and consequently (or in return for permission to build) they may be active supporters of transport schemes; they rapidly disappear, however, when times become harder.

Expect, therefore, to have to check and update your stakeholder knowledge regularly to keep your list ‘complete’:

- Make it a regular action on your project to check the stakeholder list.
- Regularly review actions on the stakeholder list and ensure they are taken.
- Update the stakeholder list to include people and organisations who have recently communicated with the project or who have been mentioned in project reports.
- Use the influence matrix to track changes to stakeholder positions.

2.5.1 Things To Check the Stakeholder Analysis Against

- Neighbours mentioned in the context model (Chapter 4).
- People mentioned in interviews (Chapter 11).

2.6 The Bare Minimum of Stakeholder Analysis

- Identify who could ‘stop the show’ on your project.
- Find out what those people want, and negotiate as necessary.

2.7 Next Steps: Requirements from Stakeholders

Answering the questions:

- OK, so we know who our stakeholders are: how does that help us?
- What do we do next?

Your stakeholders will lead you to many of your requirements, other than those you can discover for yourself by, for example, the analysis of existing systems or mathematical modelling.

How you’ll create the requirements is the subject of the rest of this book. In general terms, Table 2.4 shows which stakeholders you will be most likely to work with to create each kind of requirement.

Table 2.4: Operational roles within ‘the system’.

Stakeholder role	Type of requirement	Discovery technique
Normal operators (possibly in many different roles)	Scenarios (Chapter 5) Usability (Chapter 6)	Interview (Chapter 10) Apprenticing (Chapter 10) Observation (Chapter 10) Workshops (Chapter 11) Data modelling (Chapter 8) Prototyping (Chapter 12) Archaeology (Chapter 12)
Interfacing	Interface definitions (Chapter 4)	
Maintenance	Maintenance functions/scenarios (Chapter 5) Diagnostics, built-in test	
Support	Support functions	
Functional beneficiary	Product functions/scenarios (Chapter 5) Performance targets (Chapter 9)	
Financial beneficiary	Mission, objective (Chapter 3)	Interview (Chapter 10) Read policy documents
Regulator	Regulations, laws, standards, guidance Responses to safety case, compliance statements, etc	Legal advice on regulations, etc Negotiate compliance
Experts, specialists in disciplines	Safety, security, reliability, usability, etc (Chapter 6) Constraints (Chapter 6)	Analysis, simulation, modelling, standards
Manufacturer	Producibility	Interview (Chapter 10) Workshop (Chapter 11) Prototyping (Chapter 12)
Marketing (surrogate, on behalf of mass-market customers)	Mass market (consumer) Preferences by group (age, income, etc)	Market survey, Field trials Observation (Chapter 10) Prototyping (Chapter 12) Analogous products (Chapter 12) Competitor analysis
Product manager, purchaser	Priorities Programme, schedule Budget (cost)	Prioritisation (Chapter 13) Trade-offs (Chapter 14)
The public	(Lack of negative impact)	Public meetings, Focus groups, Consultation, Roadshows

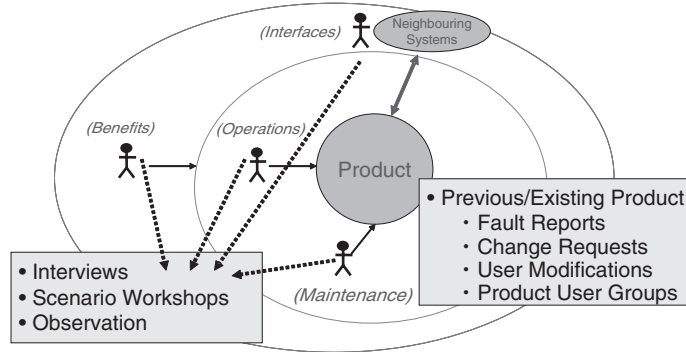


Figure 2.6: Requirements from operational stakeholders.

You will use a range of techniques described in Part I, such as goal and scenario modelling (see Chapters 3 and 5), to discover intended benefits and operational scenarios (Figure 2.6). You may also do some ‘product archaeology’ to discover possible requirements from fault reports and the like on the existing product.

You will similarly use a range of techniques and sources appropriate to your project to discover requirements with your non-operational stakeholders (Figure 2.7).

In each case, you should validate your findings with your stakeholders.

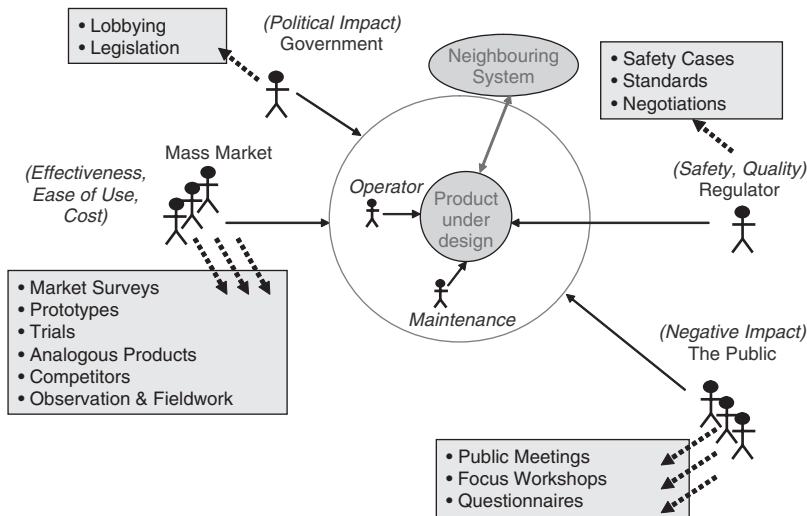


Figure 2.7: Requirements from non-operational stakeholders.

2.8 Exercise

You are a product manager for a machine tool company. The directors have asked you to develop a new cutting machine to cut cloth for fashionable dresses of all sizes and patterns. The machine will be sold to clothing makers around the world:

- a. Who are your key stakeholders?
- b. How will you analyse and validate your stakeholder list?

2.9 Further Reading

1. Alexander, I. (2005) A Taxonomy of Stakeholders: Human Roles in System Development, *International Journal of Technology and Human Interaction*, 1(1), 23–59.
Ian's paper on stakeholders is an academic analysis of stakeholder roles in a development project. It goes into more detail on each type of stakeholder than is possible here.
2. Robertson, S. and Robertson, J. (2004) *Requirements-Led Project Management: Discovering David's Slingshot*, Boston: Addison-Wesley.
Chapter 3, on project sociology, in the Robertsons' excellent book provides several different points of view on project stakeholders, including Belbin's team roles, Ian's onion model, and looking for the knowledge on different areas, such as security.