

Requirements and the Business Case

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We hear a lot, and you have read a lot in this column, about the necessity of finding the right requirements. But how do you know which requirements are the right ones? How do you choose which requirements to spend time on and which ones to put in the waiting room? And how can you determine whether you're missing any of the "right" requirements? The answer to all these questions lies in having a well-understood reason for doing the project along with quantified expectations of its costs and benefits. We often refer to this collection of knowledge as the *business case*.



Why bother?

Suppose someone gives you US\$100 and tells you to go shopping, buy whatever you think will be necessary for dinner, and return in an hour. You're in the mood for a picnic, so you go to an upmarket department store and you buy smoked salmon, strawberries, salad, spicy Toulouse sausages, French bread, olive oil, a new linen shirt, and a bottle of champagne. You've spent your budget within the allowed time, and you've bought things that you consider necessary. But when you go back to the person who invested the money, they tell you that your purchases aren't suitable. You should have bought more vegetables and some steak and red wine and cheese, and didn't you realize it's a formal dinner party, and why did you buy the shirt?

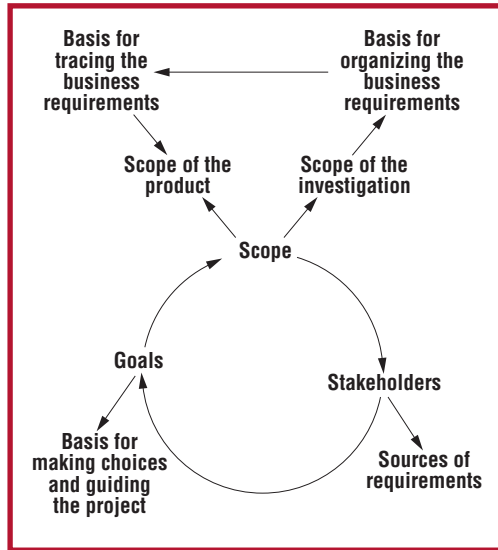
This scenario is silly because you wouldn't let yourself get into this situation. Before you went shopping, you would have asked what sorts of purchases the person making the investment would consider suitable. You would have spent some time conversing to find out what sort of dinner was planned and to get a guide for making your choices.

But if this is a silly scenario, how come it happens so often with software development projects?

For example, I know of a project where the customer gave the team a deadline for when the new software must be operational along with a budget. The team asked for details regarding the expected business benefits and the project's functional scope. The answer was something like, "We need to improve our inventory control; please build a system to do that." The team asked specifically what benefits the business was expecting to get from this new software, but apart from some vague statements about improvements, nobody seemed to know. So, they worked hard on finding what they thought were relevant requirements, built the software, and kept working on it until the time was up. Predictably, when they installed the software, the businesspeople said that it hadn't fulfilled their expectations, then generated many different requirements.

A business case provides a mechanism for justifying and guiding a project. The business case is the basis for deciding the most profitable investment of effort. It's the *project driver*. You can't answer questions such as, "Which requirements are most relevant for the desired benefits?" and

Figure 1. The SGS (scope, goals, stakeholders) model, the basis for the business case.



“Which design decisions contribute the most value?” without a defined business case.

Where should it come from?

Not surprisingly, the business case’s source should be the business. The person who decides to invest in the project is the person responsible for quantifying the expected costs and benefits. Regardless of whether your project is to improve an inventory control system, invent a new motorcar, build a new voting system, or modify an insurance claims system, the person responsible for deciding to invest in the project must be able to quantify how he or she will monitor that investment’s success. The requirements analysts and designers use the business case as their guide to discovering relevant requirements and making the most advantageous design decisions.

To be an effective guide, the business case should communicate the following information to the project team:

- The investment’s goals
- The amount of the investment (time and money)
- The expected or desired business benefits
- The stakeholders who are the source of the requirements
- The investigation’s scope
- Expectations on the desired product’s scope

I said that the business case knowledge should come from the business, but many businesspeople don’t have the necessary analytical skills to produce a well-specified business case.

With the best will in the world, the business case is often either too vague or too incomplete (or even nonexistent) for the requirements analysts to work out what it means.

Take stock of the business case

Considering the serious risk of defining requirements without a well-defined business case, it makes sense to have a way to flush out the problems early. Before you define any detailed requirements, gather whatever information you have about the business case and do a stock take to identify what you know along with any areas of uncertainty.

In essence, you need to discover the *scope* of the problem, the *goals* for the project, and the relevant *stakeholders*. This SGS model is the basis for analyzing the business case. As Figure 1 shows, investigating any one of these three aspects leads to questions about the others. For example, if you discover that one goal is to be able to decrease the stock held in the warehouse by *x* percent, then your investigation’s scope must include the warehouse. In turn, you need to know who can give you information about these particular requirements. And you need to determine specifically which work done in the warehouse you will need to investigate.

So, when you’re doing an SGS analysis of the business case, you need detailed answers to the following questions:

- What is the project goal and what are the measures of success in terms of business benefits?
- What is the scope of the investigation? Can you draw a simple context model to summarize and constrain this scope?
- What is the intended product’s expected scope? You should ask this question early to uncover expectations and constraints that might otherwise be hidden until later.
- Who are the stakeholders who know the business requirements? Can you define the role, the necessary knowledge, and the specific person or persons who will provide that knowledge?

When you ask these questions at the beginning of the project, you test everyone’s understanding of the business case. You bring the areas of uncertainty to the surface, making it possible for the businesspeople to understand the questions and provide answers.

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Connection to requirements

Once you've answered the questions just mentioned, you have a well-defined business case that provides the basis for discovering the relevant requirements and steering the project. Part of your business case is a well-defined scope of investigation. It doesn't matter what techniques you use to define the scope, but it does matter that you define the inputs and outputs that mark its boundaries. Then you can use this as the guide to doing your investigation and managing and communicating your progress.

The benefit of doing a thorough business case analysis is that you drive out many misunderstandings, you expose uncertainty, and you encourage people to change their minds before you invest a lot of time in defining detailed requirements. You also use the business case as a way to create and maintain a feedback loop between the businesspeople, the requirements analysts, and the designers. When-

ever there's a change in the project's scope or goals, you can trace its effect on the business case and negotiate the best way of responding to the change. Whenever you have to make a choice about the implementation, you can compare alternatives based on their relative contribution to the business case.

More than anything else, a well-defined business case gives people an objective way of communicating across organizational boundaries. ☞

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