White Paper

Methods of Business Requirements Validation

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All companies conduct projects to improve their processes or products, or to develop new ones. These projects can situate in any part of the company including HR, Finance, Facility Services, any business units and IT departments. One of the common elements of all these projects is a set of business requirements, which is supposed to be realized as the outcome of the project. When I say 'project', I mean any organized work that includes initiatives, programs, services, product development and alike.

We have a specialty and a role called Business Analyst (BA). This role is supposed to manage and execute requirements elicitation and analysis as well as to communicate analysis and requirement review results to those who have to implement them. We have special education programs and certifications where Business Analysts are trained on methods of gathering and analyzing requirements. Actually, I have never seen specifications for different training for a Business Analyst in the business domain versus technology but it is a minor obstacle in the context of this white paper.

Beside business requirements (BR), there is one more common element across all types of projects – it is a statement of business needs called 'project objectives and goals' (POG). Ideally, BR should be in sync with the POG but the methods of requirements elicitation that are taught to Business Analysts do not guarantee such an integrity. The synchronization between them is addressed as an intangible task associated with the Business Analyst's skills, experience and creativity.

Often, there is a gap between business requirements and project objectives and goals. This is why business requirements always need to be challenged before accepted.

Not everything should be formalized and automated – it is correct. However, some points in the requirement gathering and analysis are so sensitive that if not controlled and managed can lead to a serious waste of resources – funds, time, efforts – and even implementation mistakes. This may be much more costly than debates around requirements. Unfortunately, existing practice in IT treats business and its documents as almost untouchable; an IT person has to be courageous enough in order to express a doubt about a particular business requirement.

This white paper introduces two methods that I used in my architectural practice to validate business requirements. None of the numerous teams of Business Analysis I worked with before knew them and I think they would be useful to many Solution Architects and Business Analysts. These methods assume that regardless of the business or IT domain, those who gather requirements may accidentally leave a gap between the POG and BR. Both methods are aimed at closing or minimizing this gap.

Elicitation Cause-Pyramid Method

The Story

A BA is given a set of project objectives and tasked with eliciting business requirements. The BA has identified business and technology stakeholders, reviewed reference materials and is ready to conduct interviews with the stakeholders. The BA has to choose an interview style whether it is:

a) collecting everything that the stakeholder wants the projects to deliver
b) preparing a questionnaire and collecting answers to the pre-defined questions
c) forming questions on the fly based on the flow of the conversation.

The BA believes that only requirements relating to the POG should be gathered and documented.

Outcomes

After requirements are verified, they have to be documented in a form of a list of traceable statements.

The Method Actions

The POG is the driver and criteria of requirements. Each objective or goal of the project forms the Level 1 of the Cause-Pyramid shown as a concrete example in *Figure 1*. The project objectives usually reflect the business needs. Before the requirements are gathered, the POG is reviewed and approved by stakeholders from the business architecture or functionality perspectives regardless of the details of possible implementation. The POG usually includes enumeration of the results that should be achieved in the project. For simplicity, we assume that there is just one goal or objective defined.

Level 2 has to contain an answer to the question: what is needed that can immediately deliver the objective? In other words, Level 2 interprets the statement in Level 1 as a task, and has to identify what is needed (at a high level) to deliver the solution for this task. The responsibility of the person gathering requirements is to find and review all related subjects for Level 2. This may include several gathering and reviewing sessions with different stakeholders that were not identified originally because their domains were not recognized at a glance as POG related. Thus, Level 2 may contain several subjects.

In the next step (Level 3), the BA determines what is required to address each subject/task specified in Level 2. Then the process continues for lower and lower levels. This process is known as a process of the business task decomposition.

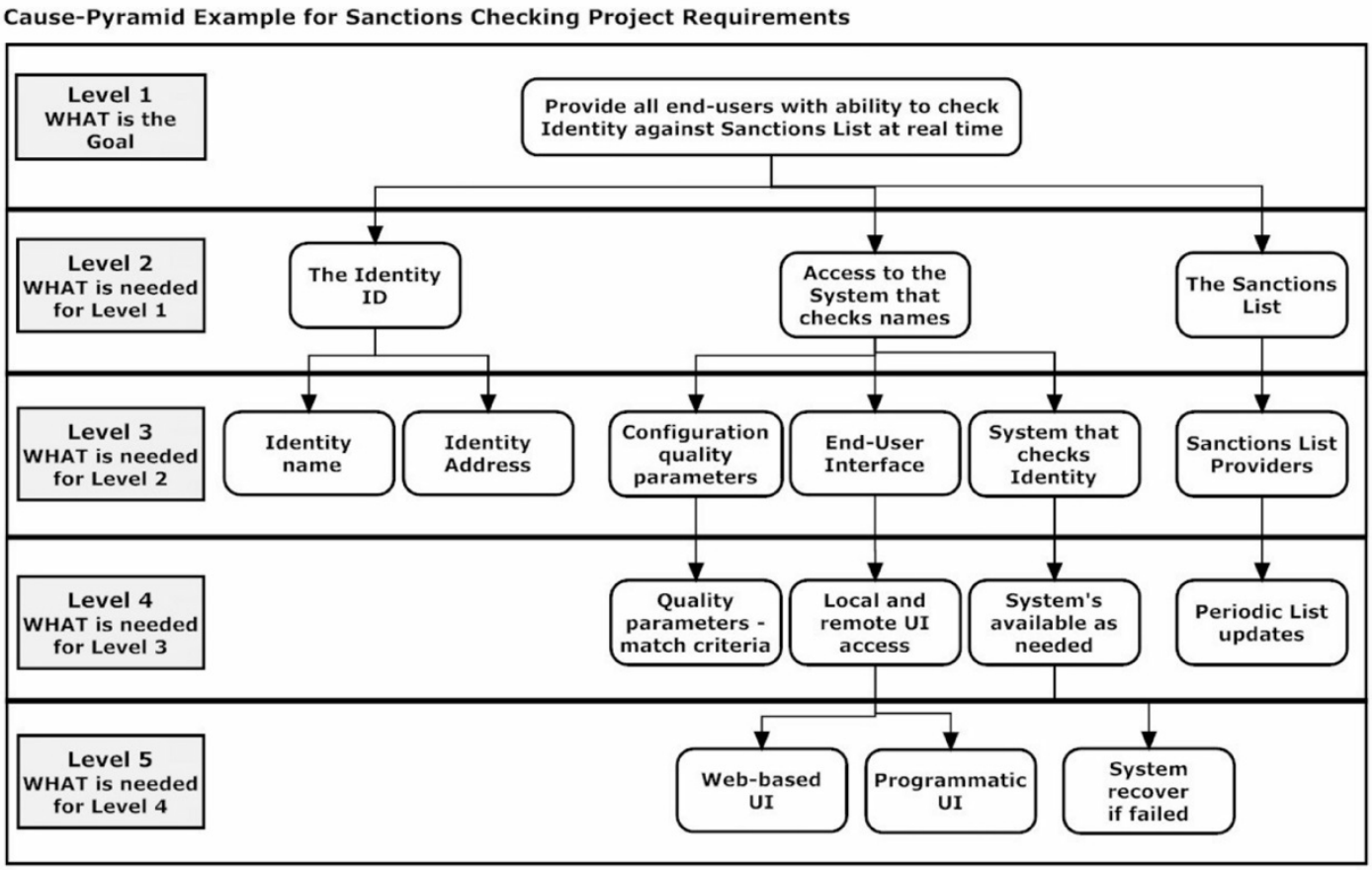

Figure 1. A Cause-Pyramid example [1]

The process stops when no more business subjects/tasks can be identified at a low level, and the task of implementation has to step onto the scene.

When we gather requirements by strictly matching identified tasks (driven by the POG), we can avoid a lot of stakeholder's "wishes" and "desires" that do not necessarily fit with a project's objectives but are expressed in order to have this stuff done somehow. In business workshops or reviews, when a Business Analyst is presented with a new business need, the only thing to be done is to verify whether this need fits with the major business goal, objectives and the Cause-Pyramid as the verification instrument. If the fit is not found, the Business Analyst has to inform related stakeholders and suggest that if they want this need to be considered in the project, they have to change the project objectives or goal.

Pros and Cons

The Cause-Pyramid method allows you to select requirements at the time of their gathering and filter off anything that does not fit with the project's objectives. This will save a great deal of time and effort later on for expensive specialists such as Architects, Project Steering Committee members and the project management team.

At the same time, the method can trigger a change in the project objectives or goal, which is not easy to handle. However, such change is less likely to happen because changing the project objectives is usually a prerogative of higher management, and it does not happen "by-the-way". In such cases, the requirement in question will be examined with special attention from the senior stakeholders before confirmed as a requirement. If it does happen, this means that a serious gap had been found and a new objective has to be included. That is, the requirements should be re-validated and the Cause-Pyramid has to be re-written.

Gather only those requirements that fit with the project objectives. Look deeper and wider; you do not know what might impact the objectives. All other requirements are for other projects.

Requirement Validity Assessment Method

In BABOOK - Business Analysis Body of Knowledge - version 2.0, the term 'risk' appears only twice [2]; in the previous version 1.6, the BAs were taught about addressing the risk to the project: "Business Analyst reviews each requirement … to identify the risk associated with each requirement"[3]. These risks are very important for the project management because BR and project resources are not always in balance. So, we will talk about different categories of risks.

The Story and Assumptions

A Business Analyst is given a set of elicited business requirements and the POG for a project. The requirements have been gathered from many interested parties and documented “as is”. The task is to work with an Architect to estimate a complexity of the requirements. Nonetheless, before applying any of the complexity estimation methods, the BA decides to validate the requirements.

The Requirement Validity Assessment method, which the BA has chosen to apply, suggests that each of the collected business requirements should be challenged against the POG.

Outcomes

After requirements are validated, they have to be documented for prioritization and estimation of complexity.

The Method Actions

In the first step, all business requirements are grouped, if possible. Each group contains requirements that address similar issues. This will help to analyze them later on.

In the second step, every requirement is challenged. The challenging formula is: *“What might be a business risk or harm for achieving the POG if particular requirement would not be realized?”*

In other words, if a particular requirement is discarded, will the project meet the POG and/or how the POG will be compromised. If the answer to the aforementioned question is found for one requirement, it is easier to find the answers for all other requirements in the same group.

It is recommended to accompany each individual requirement by an approximation of a business value that might be created if the requirement is realized. This will help to justify a necessity of the particular requirement. Also, a request for an anticipated business value has an additional effect – the authors of requirements usually concern with what their colleagues would be able to see and whether the requirements are serious enough (i.e. have strong values). Those authors validate their statements by themselves (self-control). This validation reduces the number of requirements in the first place.

Pros and Cons

Based on the results of the challenge, requirements may be categorized, for example, into ‘severe’, ‘dangerous’, ‘minor’ or ‘no risk’ to the POG. These categories become the foundation for setting the requirement priorities; the latter may be expressed, for example, in the form of known MoSCoW [4] classification. For instance, a requirement that is categorized as ‘severe’ means that the POG cannot be met without this requirement realized and its priority should be set to “must have” regardless of how related author or stakeholder marked it initially.

Surprisingly to many managers and even Business Analysts, several requirements that the stakeholders considered as ‘must have’ appeared as ‘no risk’ in the analysis, i.e. they were irrelevant to the project goal. Consequently, the number of business requirements can be reduced several times, which improves both quality and time to market of the project outcome.

Meanwhile, the Requirement Validity Assessment method is laborious and requires strong relationship management with the requirement authors. Many people who used to provide business requirements to IT would resist placing measurable business values next to them due to a public ‘visibility’ problem or because of cascading the business problems to IT instead of solving them within the business realm. The analysis of the usefulness of the requirement may include several meetings and workshops with the stakeholders and requirement authors. The Business Analysts have to be ready for tough discussions in those meetings.

Every business requirement is supposed to create new business value when implemented. This value should be objective. Subjective requirements should have the lowest priority.

A Real World Example

A financial company in the UK had offices in several different countries. British FSA - financial regulator – issued a policy that demanded financial institutions to check if their clients and partners were not mentioned in the government’s Sanctions Lists of suspected terrorists. All financial operations with listed parties had to be investigated.

To become compliant with the FSA, the company decided to implement a system that would automatically verify all company’s clients, suppliers and partners periodically. Governments of some other countries, where the company operated, also issued their Sanctions Lists and the company needed to be compliant with all these lists to keep its business face in the clear. So, certain employees from all local and foreign offices were requested to specify their requirements to the system that would impact their daily work by checking their customers. More than 200 requirements were collected from around the world.

The estimate of implementation of all these requirements exceeded initial funds allocated to this compliance task about 12 times. Obviously, it was unacceptable.

The BA and the project Architect applied the Requirement Validity Assessment method. The number of requirements was reduced to 60. The implementation estimate appeared only 3 times higher than the initial funding but the solution now covered 2 times more systems than it was considered originally. It was found that many requirements related to ideas of how to use the new system within existing business processes and how to change the systems in use, i.e. assumed a certain implementation model instead of defining requirements for the new system. When real compliance requirements were selected, the solution, which realized them, actually modified the business processes but used existing systems with no changes. Some of those who provided requirements were not competent enough to address implementation aspects but required them.

Conclusion

This white paper describes two methods for validating business requirements before they are accepted for realization. One method helps to collect only those requirements that fit with the project objectives and goal. This method helps the collectors to uncover dependencies on the business domains, which were not considered initially. Another method allows filtering collected business requirements based on their business values and impact on the project objectives and goals.

Both methods are defined step-by-step and their pros and cons are discussed. These methods are not widely known to Business Analysts and Architects and might require additional work. But these extra efforts are very well compensated by the reduced cost and time to market the project outcome.

Both methods are recommended for the use in business-for-business and technology-for-business projects for companies of any type and size. The methods share a common goal – select only those requirements that are fit for purpose of the project objectives.

Resources

This White Paper uses some ideas and materials from the Michael Poulin's pre-copyrighted book "Architects Know What Managers Don't", ISBN 978-0-9575199-0-9, BuTechCon Ltd., 2013

[1] Michael Poulin, "Architects Know What Managers Don't". BuTechCon Ltd. April, 2013. ISBN-10: 0957519907 ISBN-13: 978-0957519909

[2] A Guide to the Business Analysis Body of Knowledge(R) (BABOK(R) Guide). International Institute of Business Analysis. March, 2009. ISBN-10: 0981129218 ISBN-13: 978-0981129211

[3] Version 1.6 Business Analysis Body of Knowledge http://freepdfdb.com/pdf/version-16-b-u-sin-es-s-a-n-alysis-b-o-d-y-o-f-k-n-o-w-led-g-e-10519930.html

[4] Duncan Haughey, " MoSCoW Method". ProjectSmart.co.uk http://www.projectsmart.co.uk/moscow-method.html

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