

# Information elicitation for SOFTWARE PROJECTS

Tips + Case study

**beal**projects

# Where information elicitation fits in the requirements process



- ❑ Elicit information about business goals, stakeholders, business logic, processes, rules, needs, problems and opportunities, project objectives, success criteria

- ❑ Identify valuable functionality
- ❑ Identify non-functional requirements (e.g., performance, usability, security)
- ❑ Document and verify requirements
- ❑ Add detail to requirements
- ❑ Create requirements models
- ❑ Negotiate trade-offs among requirements
- ❑ Prioritize requirements
- ❑ Review requirements with stakeholders

# Information elicitation checklist

- ❑ Identify any documentation that you can use as an initial source of information. For example:
  - ❑ Documentation about existing systems that will be replaced or integrated with.
  - ❑ Change requests, defect and issues lists, user complaint logs.
  - ❑ Descriptions and reviews of competitive software products and product materials.
  - ❑ Sales and marketing materials.
  - ❑ Regulations, guidelines, and laws from governmental agencies and regulatory bodies.
- ❑ Identify the relevant stakeholders that will be your sources of information. For example, people who:
  - ❑ Affect or are affected by the system.
  - ❑ Directly or indirectly interact with the system.
  - ❑ Have knowledge relevant to the problem or solution space.
- ❑ Write a brief profile for each stakeholder, including:
  - ❑ Role (e.g., project sponsor, end-user, provider).
  - ❑ Responsibilities as they relate to the project.
  - ❑ Any known interests (if known - e.g., needs, expected outcomes for the project: improved team productivity, cost avoidance, etc.).
  - ❑ Personality or behavioral style (if available: motivations, communication style, etc.).

# Information elicitation checklist (cont.)

- ❑ Identify appropriate elicitation techniques to use in the project (see next slides).
- ❑ Prepare the instruments (meeting agenda, core set of interview questions, survey, list of existing documents, people to contact) that will make your information elicitation more effective and efficient.
- ❑ Prepare an “elevator pitch” to get buy-in from each stakeholder, focusing on his/her main interests and concerns.
- ❑ Notify the stakeholders and allow them time to prepare for any elicitation activities, providing information (agenda, questions, time they’ll have to complete a survey, etc.) in advance to set the context.
- ❑ Arrange for logistics (e.g., meeting room, food, projector, whiteboard, online survey tool, clearance for shadowing an employee) as appropriate.
- ❑ Use the selected elicitation techniques to gather information about business goals, stakeholders, business logic, process, rules, business and user needs, problems and opportunities, project risks, objectives, and success criteria.
- ❑ Document the information collected during the elicitation process to be analyzed and used as a reference for the specification and documentation of the solution requirements.



# Information elicitation techniques

# INTERVIEW

## WHEN IT MAY BE APPROPRIATE TO USE

- ❑ You want to understand individual motivations that business stakeholders may be reluctant to share in a larger setting.
- ❑ You want to gain detailed understanding of user workflow or data needs.
- ❑ There are political, geographical, or scheduling barriers to gathering stakeholders at the same time and place.

## WHEN TO AVOID

- ❑ The project's scope is still unclear and the purpose of the workshop is to refine user requirements..

## EXAMPLE OF POTENTIAL BENEFIT OF USING THIS TECHNIQUE

Avoid having busy stakeholders sit through a long workshop to flesh out workflow details by addressing those details in individual interviews

# REQUIREMENTS WORKSHOP

## WHEN IT MAY BE APPROPRIATE TO USE

- ❑ Stakeholders are willing to get together in a room to define scope and/or create, refine and prioritize requirements.

## WHEN TO AVOID

- ❑ The event is supposed to be a detailed requirements workshop but the project's objective or scope is still unclear.

## EXAMPLES OF POTENTIAL BENEFITS OF USING THIS TECHNIQUE

Surface conflicting requirements, develop common understanding of what needs to be built, reach closure on high-level requirements.

# SURVEY

## WHEN IT MAY BE APPROPRIATE TO USE

- ❑ You want to have more users to confirm learnings obtained from a smaller sample regarding problem statement, success criteria, priority ranking, etc.

## WHEN TO AVOID

- ❑ You can't identify a discrete goal for the survey (e.g., "confirm we have prioritized the highest value features for the next release").

## EXAMPLE OF POTENTIAL BENEFIT OF USING THIS TECHNIQUE

Validate across a larger group the learnings from interviews or requirements workshops.

# OBSERVATION

## WHEN IT MAY BE APPROPRIATE TO USE

- ❑ It's easy to get real-time access to users in their work environment.

## WHEN TO AVOID

- ❑ Activities users will be performing with the new system have little correlation with what they do now.

## EXAMPLE OF POTENTIAL BENEFIT OF USING THIS TECHNIQUE

Develop in-depth understanding of how users will use the solution in their work context. Uncover details that may be overlooked when users explain their tasks because they are so deeply ingrained in their routine that they do it without thinking.



Validating business goals,  
project objectives, and  
success criteria

- ❑ DON'T ask “what is the business goal behind this project?” or “what are the project objectives?” (most people won't have a prepared answer).
- ❑ Clarify business goal asking **what problem the company is trying to address** and **what are the consequences of doing nothing**.
- ❑ Clarify project objective asking about its **tangible results**: “If this project is completed successfully, what will be different? What will users be able to do then that they can't do now?”
- ❑ Analyze the answers you get from various stakeholders, and write down your own interpretation of business goals, project objectives, and success criteria.
- ❑ Socialize your interpretation with the project sponsor and other stakeholders. Get their feedback, and iterate until you have achieved clarity and consensus around what the project is supposed to accomplish.

# Examples of business goals, project objectives, and success criteria

A business goal describes an outcome that the organization is trying to achieve.

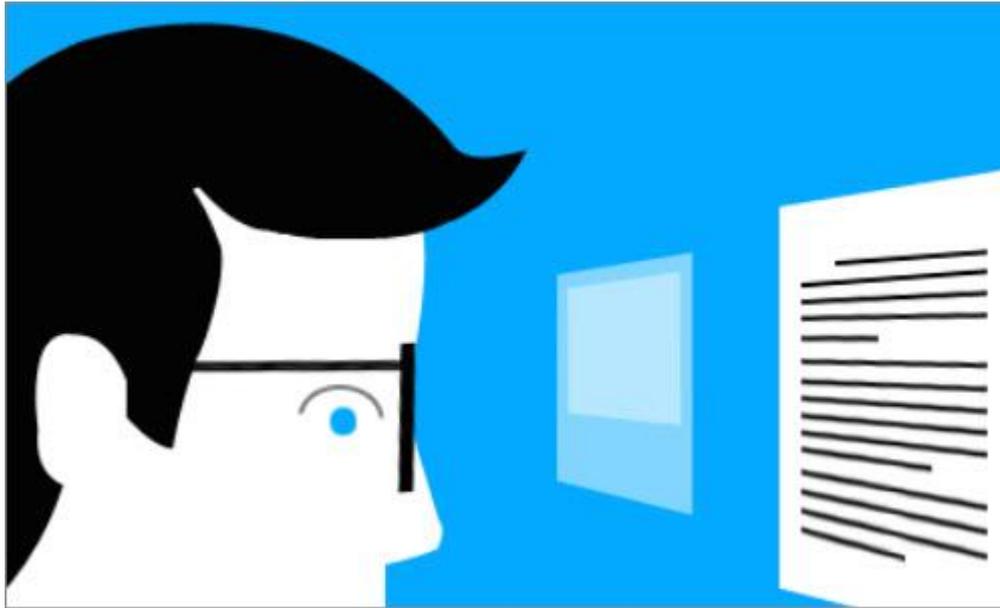
Your project may be one of many initiatives contributing to the same overall business goal.

Business goal	Project objective	Project success criteria
Increase webstore conversion rate.	Enable tracking of conversion rate in all relevant webstore pages so that the effectiveness of the strategies used to improve conversion can be tested.	<ol style="list-style-type: none"><li>1) All relevant webstore pages instrumented with tracking software.</li><li>2) Daily conversion rate metrics accurately captured and available for review.</li></ol>
Comply with government regulation.	Adapt the company's product catalog system so that products containing hazardous substances as defined by the RoHS (Restriction of Hazardous Materials) Directive are kept out of it.	<ol style="list-style-type: none"><li>1) All products violating RoHS are kept out of the company's product catalog.</li></ol>
Improve response time to customer support tickets.	Implement a new support ticket system that streamlines the support process with time-saving tools like ticket views, triggers, and automations.	<ol style="list-style-type: none"><li>1) New support ticket system implemented on time and on budget.</li><li>2) Average number of steps required to close a support ticket reduced from 5 to 3.</li></ol>

# Documenting requirements

# Six simple steps to improve the quality of your requirements

- ❑ **Frame the problem.** Who is it for, and why are we building it?
- ❑ **Map the big picture.** What problem is the company trying to solve?
- ❑ **Explore.** Go deep and talk to different types of users and stakeholders to understand the various perspectives.
- ❑ **Slice out a release strategy.** You'll probably have identified more things to build than there's time and resources for. Focus on the *business goal*, *project objective*, and *success criteria*. Slice away everything that isn't critical so you can minimize output and maximize outcome.
- ❑ **Use storytelling with words and pictures** to build shared understanding.
- ❑ **Use a three-tier approach** to defining requirements: 1) high-level steps; 2) finer activities per user role; 3) detailed requirements or acceptance criteria.



Case study

# The project

**Stated objective:** Replace the customer support system used by a global software company to enable:

- Intelligent routing to customer support queues or team members based on rules (e.g., language, geographic region, skill level required, etc.).
- Full visibility for agent supervisors of the tickets in the queue and metrics such as average time to resolution.
- Escalation workflow.

# Applying our framework

## Stakeholder identification:

- project sponsor (VP of Global Customer Support)
- IT team responsible for integrating the solution with other internal systems (e.g., email notification for escalation alerts, order fulfillment system).
- customer support agents (distributed team)
- agent supervisors (distributed team)
- 3rd party vendor responsible for implementing the solution

# Clarifying business goals and project objectives

## Findings from interview with project sponsor

→ What prompted you to start this initiative?

*We sell products and services that require technical support, and the support customers receive may be the only personal experience they can use to gauge their satisfaction and intention to renew their contract. The number of customers dissatisfied with the time it takes to resolve their support tickets has been growing at an alarming rate.*

→ If nothing is done to address this problem, what are the consequences for the business?

*Customer satisfaction directly affects our revenue and retention rate, so our bottom line can be seriously affected.*

# Clarifying business goals and project objectives

## Findings from interviews with project sponsor and a sample of agent supervisors

- Pretend this project has been completed to your satisfaction. What will be different from how things work today?
  - ◆ *Supervisors will have full visibility into their team's queue and the ability to reassign tickets to another team when it can help balance the workload and reduce customer waiting time.*
  - ◆ *Intelligent routing rules will eliminate the time wasted by agents trying to figure out who on the team should be working on a ticket based on its complexity level, customer language, etc.*
  - ◆ *An escalation workflow will allow managers to be alerted when a ticket is stuck on a specific state for too long, minimizing the risk of a customer waiting an excessive period to be assisted.*

# Clarifying business goals and project objectives

Analyzing the interview results led the analyst to propose the following statements:

Business goal	Project objective	Project success criteria
<p>Improve customer satisfaction in support of revenue and retention goals.</p>	<p>Reduce the average and maximum time to resolution of customer support requests in support of the goal of improving customer satisfaction.</p>	<p>Key functionality present in the legacy system (e.g., route tickets, link incidents, identify tasks, send notifications) is preserved in the new solution.</p> <p>Supervisors have full visibility into their team's workload, and can reassign tickets to a different team to balance the workload and attempt to reduce waiting time.</p> <p>Intelligent routing automatically assigns tickets to specific teams and individual agents based on skills required, customer priority, and waiting time to eliminate back and forth between agents.</p> <p>Escalation workflows keep supervisors informed of tickets that have been stuck on a specific state for too long.</p>

# Clarifying business goals and project objectives

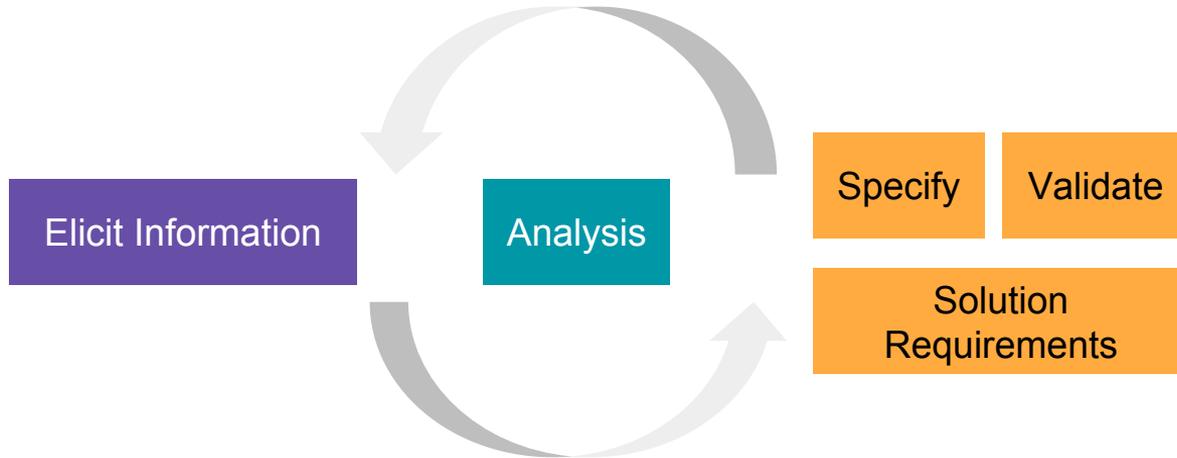
Analyzing the interview results led the analyst to propose the following statements:

Business goal	Project objective	Project success criteria
<p>Improve customer satisfaction in support of revenue and retention</p> <p>It's important to call out not just "what will be different", but what may need to be preserved from the legacy system.</p>	<p>Reduce the average and maximum time to resolution of customer support requests in support of the goal of</p>	<p>Key functionality present in the legacy system (e.g., route tickets, link incidents, identify tasks, send notifications) is preserved in the new solution.</p> <p>Supervisors have full visibility into their team's workload, and can reassign tickets to a different team to balance the workload and attempt to reduce waiting time.</p> <p>Intelligent routing automatically assigns tickets to specific teams and individual agents based on skills required, customer priority, and waiting time to eliminate back and forth between agents.</p> <p>Escalation workflows keep supervisors informed of tickets that have been stuck on a specific state for too long.</p>

# Moving into analysis and requirements specification

After getting consensus from project sponsor and agent supervisors about the business goal and project objectives & success criteria, the business analyst was in a position to start the analysis and specification process.

Subsequent rounds of interviews and observation included supervisors, agents, vendor representatives, IT staff as necessary to flesh out specific aspects of the solution.



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## Actions

### **Actions each type of user needs to be able to take**

*E.g., as an agent, I must be able to return to the queue tickets I haven't finished by the end of my shift, so that another agent can pick up where I left off rather than keep the customer waiting until the next day.*

## Rules

### **Business rules that the solution will need to enforce**

*E.g., an agent can only have up to 5 tickets in the open state assigned to him at any given time.*

## Data

### **Data the solution will need to provide**

*E.g., as a supervisor, I want to be able to access a report showing the individual performance of each of my agents and my team's average and maximum time to resolution of support tickets for a specified period of time.*

## Quality

### **Quality attributes the solution must satisfy**

*E.g., the solution needs to be available 24x265 with 99.99% uptime (downtime of about 50 minutes/year).*

At all times, the project success criteria was kept front and center throughout the requirements discovery process.

### Success criteria

- Key functionality present in the legacy system (e.g., route tickets, link incidents, identify tasks, send notifications) is preserved in the new solution.
- Supervisors have full visibility into their team's workload, and can reassign tickets to a different team to balance the workload and attempt to reduce waiting time.
- Intelligent routing automatically assigns tickets to specific teams and individual agents based on skills required, customer priority, and waiting time to eliminate back and forth between agents.
- Escalation workflows keep supervisors informed of tickets that have been stuck on a specific state for too long.

Analysis and validation helped ensure that only legacy features that would continue to add value were kept as requirements for the new solution.



**Example:** The legacy system had a red indicator that was displayed on the agent's screen when a ticket had been in his queue for more than a specified amount of time. Because in the new solution all aging tickets would be automatically escalated to a supervisor, preserving the red indicator would not add any business value, and the feature was excluded from the solution requirements.



Largely because of the discipline applied to information elicitation, the solution was successfully deployed, with the project stakeholders agreeing that all the success criteria had been met.

A previous attempt to execute the project had failed the year before. The project sponsor was the first to admit that the main difference between the failed and successful projects was that the former had missed a critical first step: **getting to the real business goal** and clarifying the project's objectives and success criteria before starting to define the solution's functional requirements and quality attributes.

Become an expert in asking the right questions and never miss a critical requirement ever again.



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