

Business Requirements

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Objectives

- To create **informal** business requirements **analysis models**.
- To create an **executive summary** document.



Contents

- I. Business Objectives Model
- II. Context Diagram
- III. Ecosystem Map
- IV. Evaluator Pitch
- V. Executive Summary



References

1. Karl Wiegers and Joy Beatty (2013). Software Requirements. Microsoft Press.
2. Alan R. Hevner et al. (2004). Design Science in Information Systems Research.
3. Suzanne Robertson and James Robertson (2012). Mastering the Requirements Process. Addison Wesley Professional.
4. Michael Keeling (2017). Design It. From Programmer to Software Architect. Pragmatic Bookshelf.
5. Joy Beatty and Anthony Chen (2012). Visual Models for Software Requirements. Microsoft Press.



Business Requirements [1]

- “**Business requirements**” refers to a set of information that, in the aggregate, describes a need that leads to one or more projects to deliver a solution and the desired ultimate **business outcomes**.
- The business requirements set **the context** for, and enable the **measurement of, the benefits** the business hopes to achieve from undertaking a project.
- Business requirements might come from funding sponsors, **corporate executives, marketing managers**, or product visionaries.



Where to Start?



Clients



Users



Stakeholders

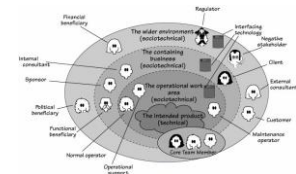
Project Blastoff Meeting [3]

- **Blastoff** is also known as "project initiation," "**kickoff**," "charter," "project launch," and many other things.
- The blastoff meeting prepares the project and ensures its **feasibility** before launching the detailed requirements effort.



Stakeholders

- The **client** **pays** for the **development** of the product.
- The **customers** **buy** the product.
- When we talk about **users**, we mean the people who will ultimately **operate** your product.



Domains of Interest

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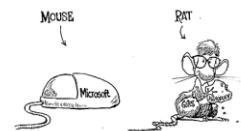
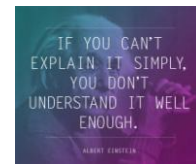
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- "**Roads** freeze in winter, and **icy conditions** cause road accidents that **kill people**. We **need** to be able to predict when ice will form on a road so we can **schedule a de-icing truck** to treat the road in time. We **expect** a new system to provide more accurate **predictions** of icy conditions. This will lead to more timely de-icing treatment than at present, which will **reduce road accidents**. We also **want** to **eliminate** indiscriminate treatment of roads, which wastes de-icing compounds and causes environmental damage."
- Pay attention to the **subjects**.
- Four **domains**: Roads, Weather, Scheduling, Trucking.



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Terminologies



Problem-Definition [2]



- Formally, a **problem** can be defined as **the differences** between **a goal state** and **the current state** of a system.
- **Problem solving** can be defined as a search process using actions to reduce or eliminate the differences.

❖ PAIN

❖ FEAR

❖ HAPPINESS

1. WE CANNOT...

2. IT'S DIFFICULT...

3. IT COSTS TOO MUCH...

What exactly is the problem we're aiming to solve???



Example

- Did you know that having health insurance when you can afford is *the law*?
- If you can afford health insurance, but choose not to get it for 2016, you may be required to *pay a fee* —sometimes called the “penalty,” “fine,” or “individual mandate” — when you file your 2016 federal income taxes.

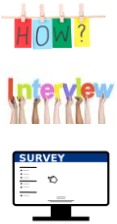
	Annual Income*	Potential Penalty
	\$35,000	- \$675
	\$45,000	- \$1,125

*Assumes single household.

- Welcome to XYZ, the only place to apply for financial assistance to help *reduce your costs*.

Problem Relevance

- The relevance* of any design-science research effort is with respect to a constituent community.
- For IS researchers, that *constituent community* is
 - the practitioners who plan, manage, design, implement, operate, and evaluate information systems and
 - those who plan, manage, design, implement, operate, and evaluate the technologies that enable their development and implementation.
- To be relevant to this community, research *must* address
 - the problems faced and
 - the opportunities afforded by the interaction of people, organizations, and information technology.



Business Opportunity

- For a *corporate information system*, describe
 - the business problem that is being solved or
 - the process being improved, as well as the environment in which the system will be used.
- For a *commercial product*, describe
 - the business opportunity that exists and
 - the market in which the product will be competing.
- This section could
 - include a *comparative evaluation* of existing products, indicating why the proposed product is attractive and the advantages it provides.
 - Describe the problems that *cannot currently be solved* without the envisioned solution.



Examples [3]

- Reduce *costs (time)*
- Improve *customer service*
- Improve *communication*
- Improve *decision making*
- Create or *strengthen relationships* with customers, or partners
- Improve *processes*
- Improve *reporting* capabilities
- Support new *legal* requirements
- Bring more *pleasure*
- Create a *new* product or service. Is this product valuable?



Be measurable

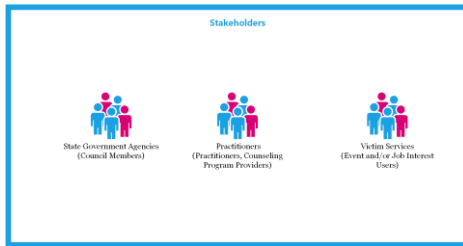


Stakeholders [4]

- Stakeholders* usually, but not always, have a business interest in the software.
- They might *pay* for the software or directly *profit* from it.

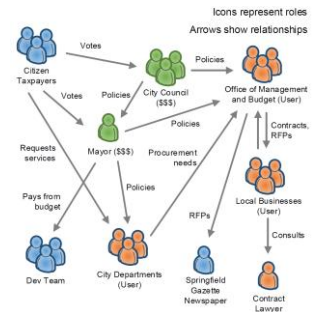


Example



Stakeholder Map

- A **stakeholder map** is a **network diagram** showing all the people involved with or affected by the proposed software system.
- Stakeholder maps are ideal for visualizing **relationships** and **interactions** among people.
- They also give you a snapshot of **what motivates** different stakeholders.



Discover the Business Goals

Who wants it	What they want
Individuals	Increase wealth, power, reputation, personal enjoyment, or knowledge
Organizations	Increase revenue, maximize profits, grow the business, become a market leader, improve stability, enter a new market, beat a competitor
Employees	Interesting and meaningful work, increase knowledge, help users, become recognized as an expert
Development Team	Improve specific quality attributes, reduce costs, add new features, implement a standard, improve time-to-market
Nations, governments	Security, civic welfare, social responsibility, legal compliance



Goals



- Goals: **What** do you **want** to achieve?
- [Oxford Dictionary] **Something** that you **hope** to achieve.
- The **project goal** is the highest-level **requirement**.
- All of the **detailed requirements** must make a **positive contribution** toward reaching that goal.



Goal Settings

- Purpose:** To accurately forecast road freezing times and schedule de-icing treatment.
- Advantage:** To reduce road accidents by eliminating icy road conditions.
- (Optional) Measurement:** Accidents attributed to ice shall be no more than 15 percent of the total number of accidents during winter.
- Vague purpose:** To improve the way we do business.



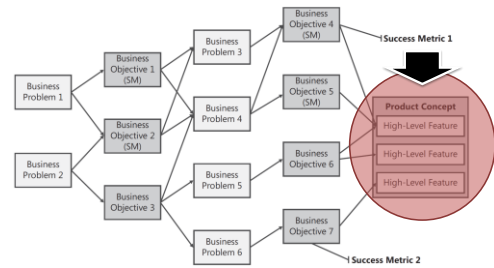
SMART Goals (aka Objectives)

A **SMART goal** is a well-defined target that gives you clarity, direction, motivation, and focus.



- What? Why? Who? Where? Which?
- How much? How many? How will I know when it is accomplished?
- Which steps? How can the goal be accomplished?
- Does this seem worthwhile?
- When? What can I do 6 months from now? What can I do 6 weeks from now? What can I do today?

Business Objectives Model [5]



Goals and Product Concept



Example



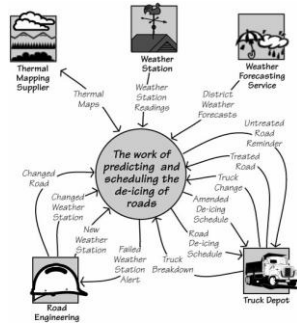
Setting the Scope [3]

- **The scope** you are interested in is the scope of the work for which the product is to be used.
- **Work** here means the business activity for which the user needs the product.
- Setting **the scope** of the work means you determine what work you are about to study, what other pieces of work surround it, and what flows of information make up the connections.
- When you set the scope, you are deciding **how much** of the work you will study and what you will not study. **But how?** – See context diagram & ecosystem map!

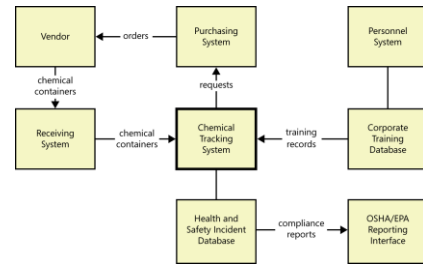


Context Diagram

- The **work context diagram** identifies the scope of the work that we intend to study.
- It shows the work as a **single**, as-yet uninvestigated process, surrounded by the adjacent systems.
- The work context shows where the **responsibilities of the work** and the responsibilities of the adjacent systems start and end.
- First understand the work, then decide **which product** best supports that work.



Ecosystem Map [1]



Elevator Pitch



Elevator Pitch sentence structure:
 FOR (target customer), WHO HAS (customer need), (product name) IS A (market category) THAT (one key benefit).
 UNLIKE (competition), THE PRODUCT (unique differentiator).

Example

- For [construction managers]
- who [need to track what type of work is being done on the construction site],
- the [CSWP*]
- is a [safety work permit system],
- that [creates, tracks, and audits safety work permits].
- Unlike [the current paper-based system]
- our product [is web based and can be accessed any time from anywhere].

*CSWP: Construction Safety Work Permit

Executive Summary

- Market/Target audience (the **customers**, the users, the stakeholders)
- Pain points**/problems/needs/happiness
- The solution, the context diagram, the elevator pitch, **the goals, the business cases**
- The **budget**, the **timing**.
- The reasons to solve the problems (predicted **benefits, revenue and incomes**)
- Customer **discovery**
 - Where? – universities, hospitals, streets
 - How? – survey, demo, trial version
 - What to survey? – personal information, pains/needs/happiness, reasons, comments
- Competitors/Weakness/Differentiators
- Risks/Strengths/Opportunities/Grand vision

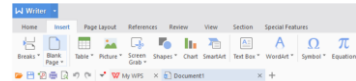




Tools



<http://office.microsoft.com/en-us/>



<https://www.wps.com/wps-office-personal>

Thank You & See You Again

