# SMW⁺ - a Semantic Wiki for reducing the risk of failed projects

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Project failure is a common business problem

- *1 out of 3 project are considered a failure.[1]*

- *1 out of 3 companies are unable to make 50% of their projects a success.[1]*

- *Cost of project failure across the European Union was estimated €142 billion in 2004.[2]*
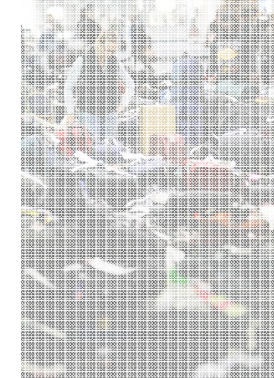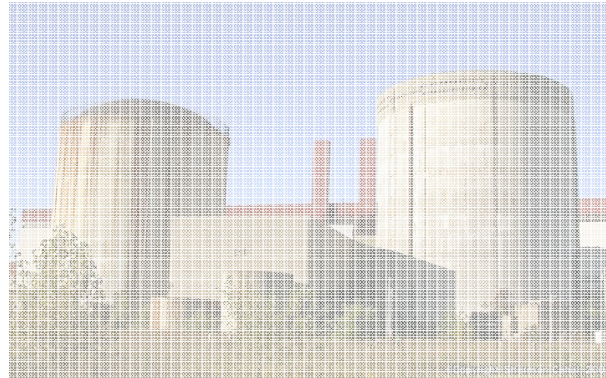
1. Project management study conducted by the German Project Management Association and PA Consulting Group (2006, http://www.gpm-ipma.de/docs/showsite.php?menu=0101050203)
2. "A study in project failure" (2004, http://www.bcs.org/server.php?show=ConWebDoc.19584)

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Warship "Vasa" (1625)

Ordered by Swedish king Gustavus Adolphus in 1625.

It sank during the maiden voyage since the ship's structure was not laid out to carry the weight of the cannons.

Nils Stödberg

Reason for failure:

Intransparent processes: knowledge about project processes and artifacts is not preserved and distributed amongst team members due to unsuitable tools.

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Marble Hill nuclear plant, Indiana (USA)

Construction started in 1977 and was finally forced by court order to halt in 1979.
Engineers blew the whistle on their company which told them to cover up construction defects.

Reason for failure:

Team members behave independently instead agreeing on rules, values and shared methods; the team enters performance stage late (if ever).

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Heathrow Airport Terminal 5 (2008)

After inauguration by Elizabeth II. operations
of T5 lead to 10 days of chaos.
Insufficiently integrated computer systems
caused 500 cancelled flights and 28.000 bags
failed to travel with their owners.

Reason for failure:

Missing responsibility awareness: project team
is unable to meet a unique set of technical
requirements in time and budget.

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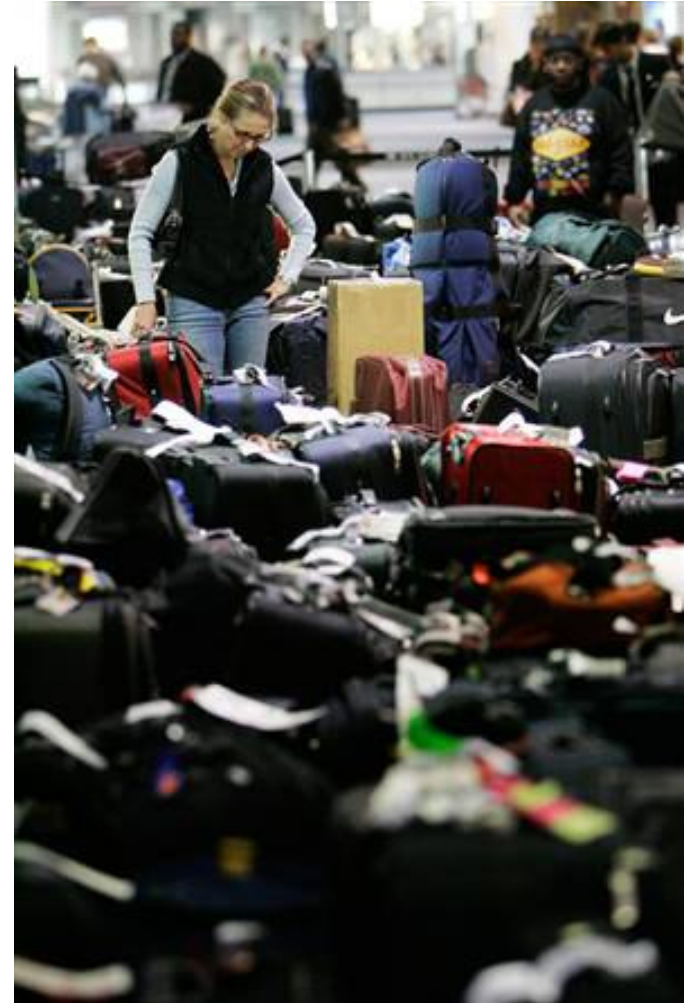
Project failure is mostly caused by a poor start phase[1]

56%	**poor project start**
32%	**soft factors**
15%	**technical reasons**

50%　　　　100%
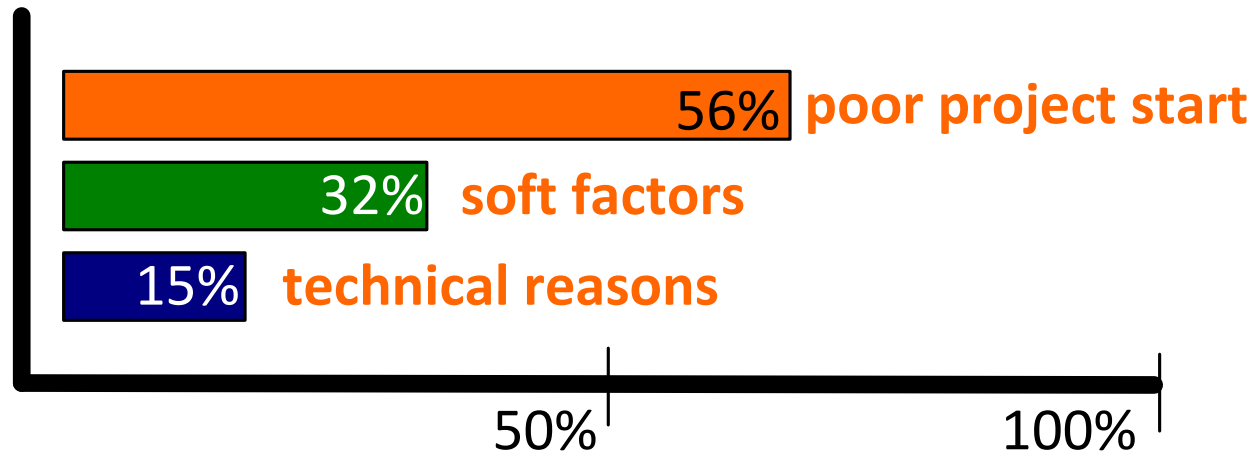
The project start phase determines basic parameters for the subsequent execution phase:

- Hierarchy of project goals,
- Determination of project environment, stakeholders and communication plan,
- Methods to lift project team from forming phase into performance stage,
- Project organisation, methods and tools,
- Technical design and risk inventory and
- Work breakdown structure, cost plan and time plan

1. Study conducted by the German Project Management Association and PA Consulting Group (2006, http://www.gpm-ipma.de/docs/showsite.php?menu=0101050203)

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What makes the start phase such critical?
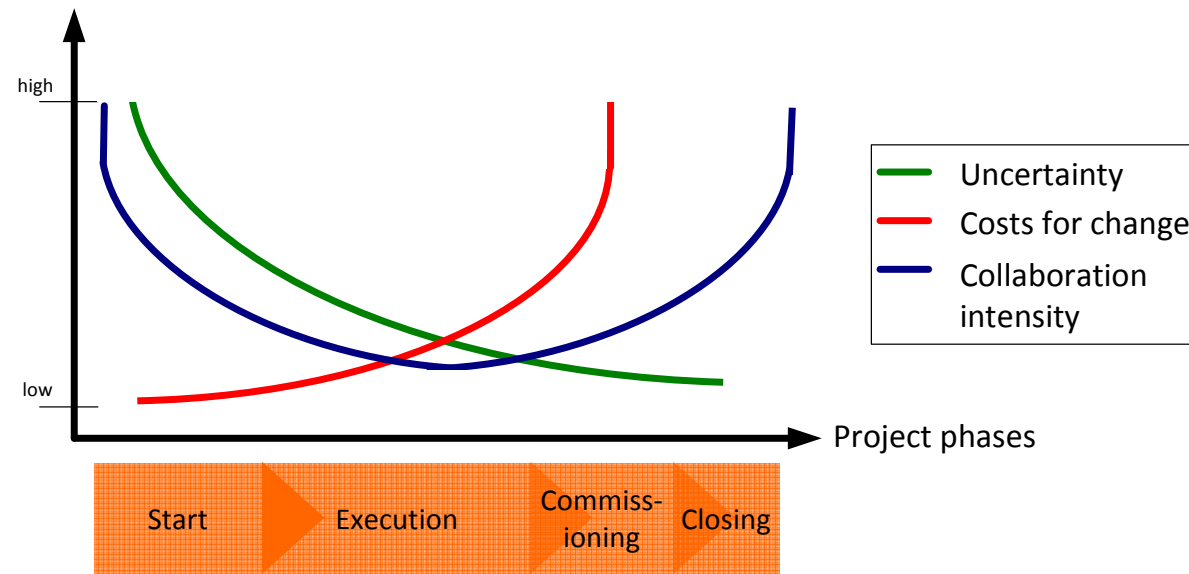
The project start phase is a challenge because:

- the project team is not yet in performing stage,

- the team suffers highest uncertainty about project goals, parameters stakeholders,

- the team members must collaborate intensively to reduce uncertainty and

- wrongly determined project parameters will cause high change costs in later phases.

Collaboration and knowledge formalisation challenge
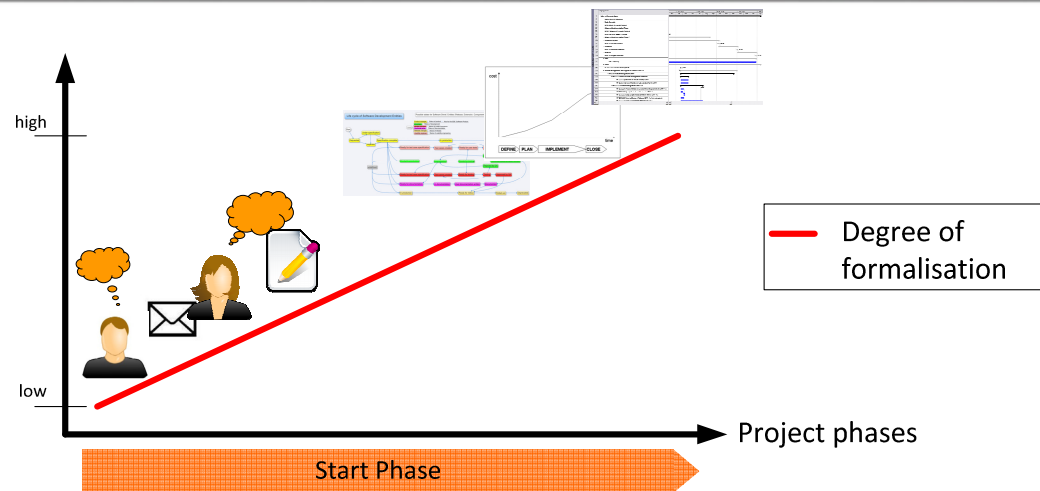
The start phase requires a Semantic Wiki supporting collaboration and incremental knowledge formalisation:

- Collection of initial project artifacts

  Wikis are the perfect tool to collect and publish documents, write ups, emails etc

- Accel consensus process in team

  The Wiki-paradigm enables users to actively participate in a (community) consensus process.

- Knowledge formalisation

  Users tag data sitting in texts, transform data into process artifacts and process data within the Wiki.

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A project team is in charge of identifying the risk inventory for a new software integration project.

Steps:

- **Collect informal knowledge:** each team member enters an informal assessment of risks and attaches documents/images to it.

- **Formalize knowledge:** each team member tags the data contained in the informal assessment and, thus, makes it machine processible.

- **Automatically process the formalized knowledge:** the project manager query the Wiki for the individual risk assessments to generate a consolidated view.

- **Re-use formalized knowledge:** provide the team with a consolidated view onto the current risk inventory.

- **Embed formalized knowledge into MS Office software:** query the Wiki from within MS Excel to embed data into project reports.

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Capture informal risk assessments

Enter text/media/docs into the Wiki using a WYSIWYG editor.

Formalize data contained in the assessment

Tag the data about this risk using the annotation mode.

Query the data using the community-generated data model.

Query the Wiki for risk assessments

Inspect the query results.

Provide the team with the current risk inventory

Embed the query into any article and present data tabular or graphically

Embed the risk inventory into excel work sheets with the MS Excel bridge

SMW⁺ reduces the risk of a poor project start

SMW⁺ is an open source semantic enterprise wiki that lets you create and share knowledge with your team.

SMW+ combines a wiki's social authoring approach with proven semantic technology. Project teams which need a flexible tool to acquire and share knowledge in critical project phases benefit from using SMW⁺:

- **Transparent processes:**   *easy authoring and tagging of articles leverages sharing process knowledge amongst individuals.*

- **Boost consensus:**   *SMW+ makes knowledge transparent and helps teams to generate a consensus.*

- **Responsibility awareness:**   *knowledge is explicitly assigned to individuals and is reusable for team mates.*

- **Open up knowledge:**   *powerful search engine and query builder reveals knowledge for the benefit of all team mates.*

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We are advertising streamlined applications for the following user groups:

- **Knowledge managers:**
    - *Ready-to-use as knowledge management portal*
    - *Leverages the expertise of people across your organization*
    - *Easy to learn API - allows adapting templates and forms within minutes to the needs of your enterprise*
    - *Web service connector tabs data residing in legacy systems*

- **Project managers:**
    - *Ready-to-use as project management portal for a team*
    - *Blend project data and informal content to capture hard facts about projects and knowledge contained in unstructured content*
    - *Flexible metadata - gives your team the freedom and responsibility to organize project knowledge as they are needing it*

- **Terminologists:**
    - *instantly supports terminology management with the standardized SKOS meta data model*
    - *saves ramp up time by providing interfaces to take in existing vocabularies and taxonomies*
    - *gives individuals web-based access to the terminology repository to get precise advise*

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„**We selected a European team – led by ontoprise GmbH – because that's where the best expertise is in web-scale social semantics"**

Mark Greaves, Vulcan Inc.

Enterprise Semantic MediaWiki

- > 9.000 Downloads of SMW$^+$ since October 2007

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