

Software Project Management

Lesson 3 – Risk Management

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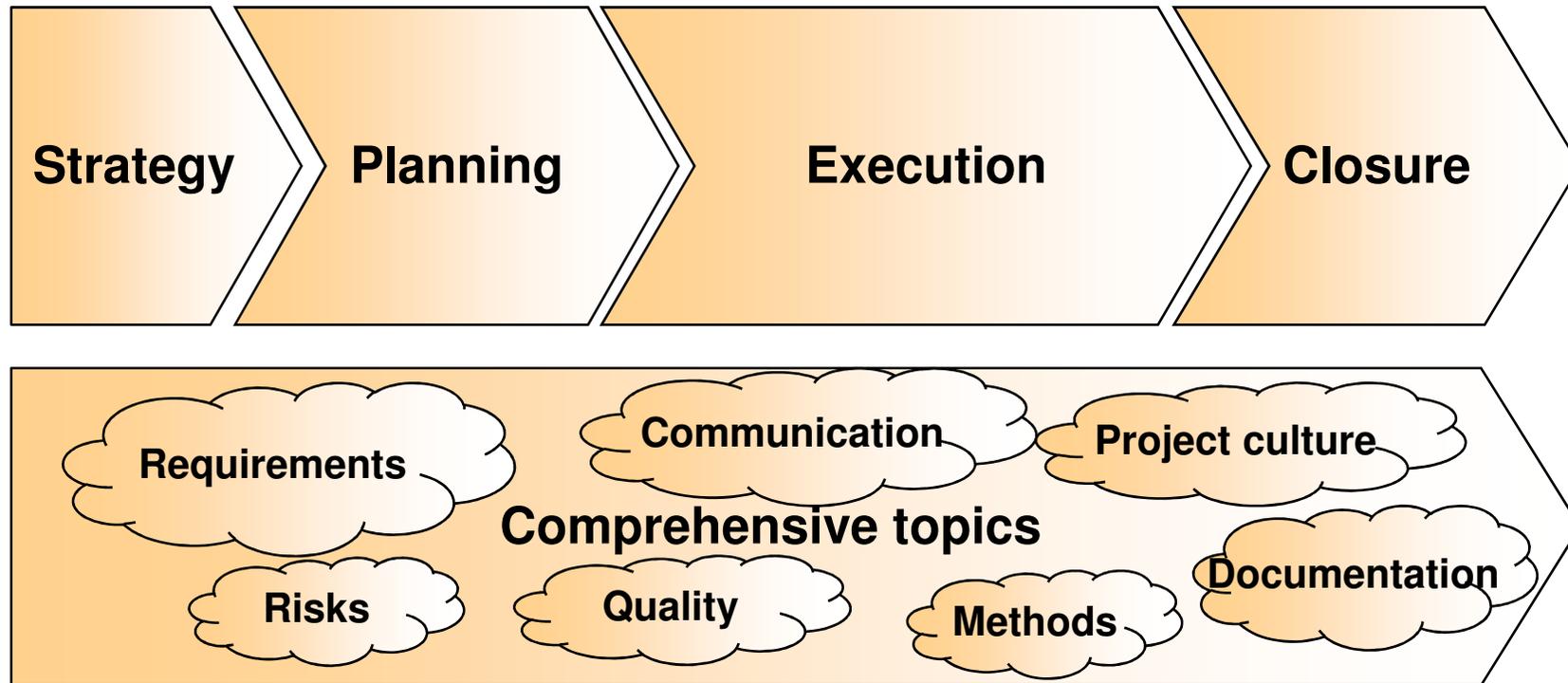


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Introduction



Introduction





Introduction

- The worst risks are the risks you don't know
- A simple risk management is often sufficient
... even better than no risk management
- Complex risk management is often required in
 - financial projects
 - health industry



Definitions

- DIN 69901 describes risk management as "exclusion, avoidance, or mitigation of project risks". It is the part of the project analysis that deals with project risks [DIN].
- Scope:
 - Identification of risks
 - Evaluation of risks
 - Taking actions to manage risks



Definitions

The ISTQB differs [IST15]

- Project risks
 - A risk related to management and control of the (test) project, e.g. lack of staffing, strict deadlines, changing requirements, etc.
- Product Risks
 - A risk directly related to the test object.
- Risk based testing
 - An approach to testing to reduce the level of product risks and inform stakeholders of their status, starting in the initial stages of a project.
It involves the identification of product risks and the use of risk levels to guide the test process.



Definitions

- Project risks – examples
 - Organizational factors:
 - Skill, training and staff shortages
 - Personnel issues
 - Political issues
 - Technical issues
 - Problems in defining the right requirements.
 - Test environment not ready on time.
 - Low quality of the design, code, configuration data, test data and tests.
 - Supplier issues
 - Failure of a third party
 - Contractual issues



Definitions

- Product risks – examples
 - The potential that the software / hardware could cause harm to an individual or company.
 - Software that does not perform its intended functions.
 - Poor software characteristics
Functionality, reliability, usability and performance.
 - Poor data integrity and quality
Data migration issues, data conversion problems, data transport problems, violation of data standards.
- Product risks are used to decide where to start testing and where to test more

Goal / objective



- 1st goal: Avoiding project crisis and providing risks
- Basis: Project scenarios based on environmental analysis
 - Goal scenario
 - Best Case
 - Worst Case
- Planning activities and creating alternative project plans

Goal / objective



- 2nd goal: Managing risks
- Keep in mind:
 - Most critical are the unknown risks! That's why:
 - Everyone must be able to inform about risks easily
- Handling risks: Activities to
 - decrease the probability of the incidence of the risk
 - reduce the estimated damage (impact) of the risk



Calculating risks

- Proposal how to quantify risks
 - Probability of incidence
 - 3 = high
 - 2 = possible
 - 1 = low
 - Impact on project if risk occurs
 - 3 = very critical
 - 2 = critical
 - 1 = less critical
 - Risk = Probability of incidence * Estimated impact
 - Possible values:
 - 9 and 6 = high risks
 - 4 and 3 = medium risks
 - 2 and 1 = low risks

Calculating risks – Example



Id	Risk description				Quantification			Mitigation	
	Risk identification	Potential cause	Contact person	Date	Probability	Possible impact	Risk	Status	Actions
R001	Example of a Risk with low probability, but possible critical impact	Source 1	Uwe	22-Jan-16	1	3	3	in progress	2016-01-22 [Uwe] Meeting planned to discuss proceeding
R002	Example of a Risk with high probability	Source 2	Daud	22-Jan-16	3	2	6	in progress	2016-01-22 [Uwe] Meeting planned to discuss proceeding

Abbr.	Explanation	Values
Id	Identity	
Quantification:		
Probability	Probability of incidence	1 = low 2 = possible 3 = high
Possible impact	Estimated impact	1 = noncritical 2 = critical 3 = very critical
Risk	= Probability * Possible impact	6 or 9 = high risk 4 or 3 = medium risk 2 or 1 = low risk



Proceeding

- When should you do risk management?
 - Start as soon as possible
 - Repeat continuously, for example
 - once a month
 - regularly at the end of project meetings
- Hint: Top 10 risks
Focus on the top 10 highest risks



Sources

- [AG16] Daud Alam, Uwe Gühl: Projektmanagement für die Praxis, Springer, 2016 (in German)
- [DIN] Deutsches Institut für Normung e.V.: DIN 69901 Projektmanagement; Projektmanagementsysteme
- [IST15] International Software Testing Qualifications Board (ISTQB): Standard Glossary of Terms Used in Software Testing, Version 3.01, March 26th, 2015, <http://www.istqb.org/downloads/glossary.html>