Product Risk Analysis Workshop

Chris Schotanus

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The theory of Product Risk Analysis

Workshop

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Risk & Requirement Based Testing

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Risk & Requirement Based Testing

Risk and requirements analysis are <u>two</u>, <u>independent</u> activities

- Risk analysis:
  - Identified by “all” stakeholders
  - Analysis byond defined features and functions
- Requirements analysis
  - Functional
  - Non-functional

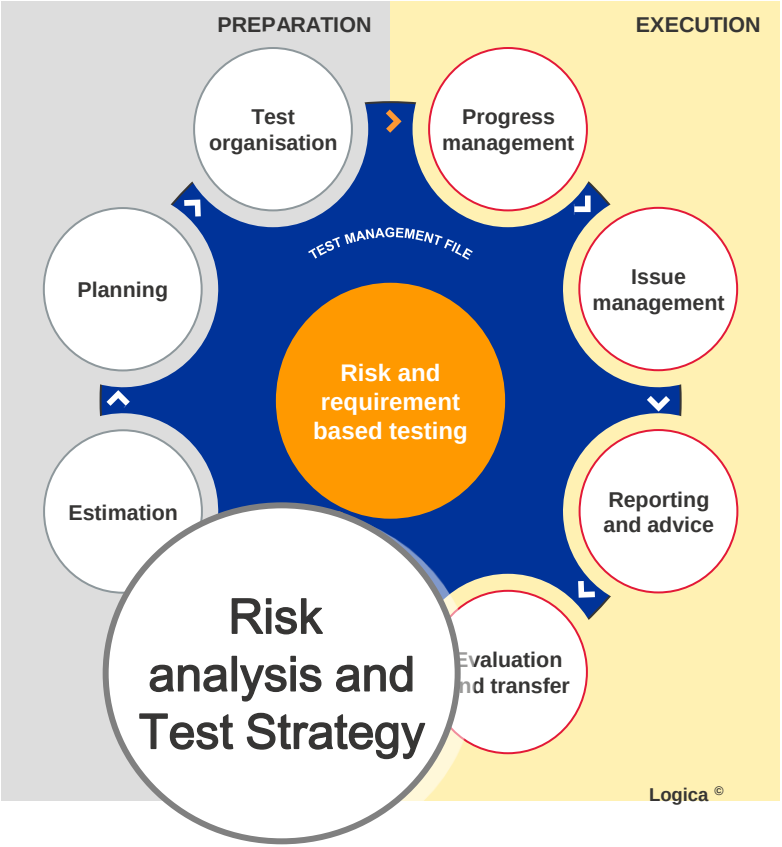
- Risk & Requirements Matching leads to a set of requirements that
  - Have a functional priority
  - Are linked to product risks and
  - Have a risk priority

Risk Analysis

Project Risks?

Product Risks?

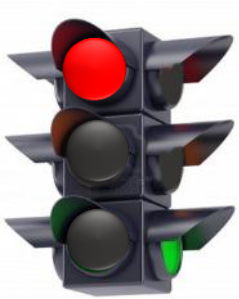
Risk Analysis!



Project versus product risks

Project versus product risks

Project versus product risks



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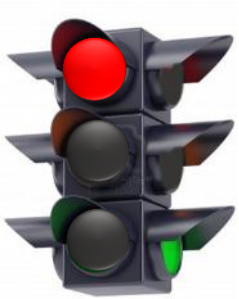
Project versus product risks



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Project versus product risks

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Project Risk versus Product Risk

Project risks	Project overrun in time & budget Lack of system standards Insufficient resources Unclear requirements Incomplete documentation	mitigation measures in the test plan

Product risks	Unsatisfactory quality Incorrect functionality Not user-friendly Difficult to maintain Low efficiency Difficult to install	Test strategy based on product risks

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Risk Prioritization

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Relative Priority

Compare:

Mobile phone backlight malfunction

versus

Space shuttle fuel system malfunction

MoSCoW: an example

MoSCoW: an example

If this goes wrong it will have ...

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MoSCoW: an example

If this goes wrong it will have ...

…financial consequences for our customers.

MoSCoW: an example

If this goes wrong it will have ...

…financial consequences for our customers.

All customers

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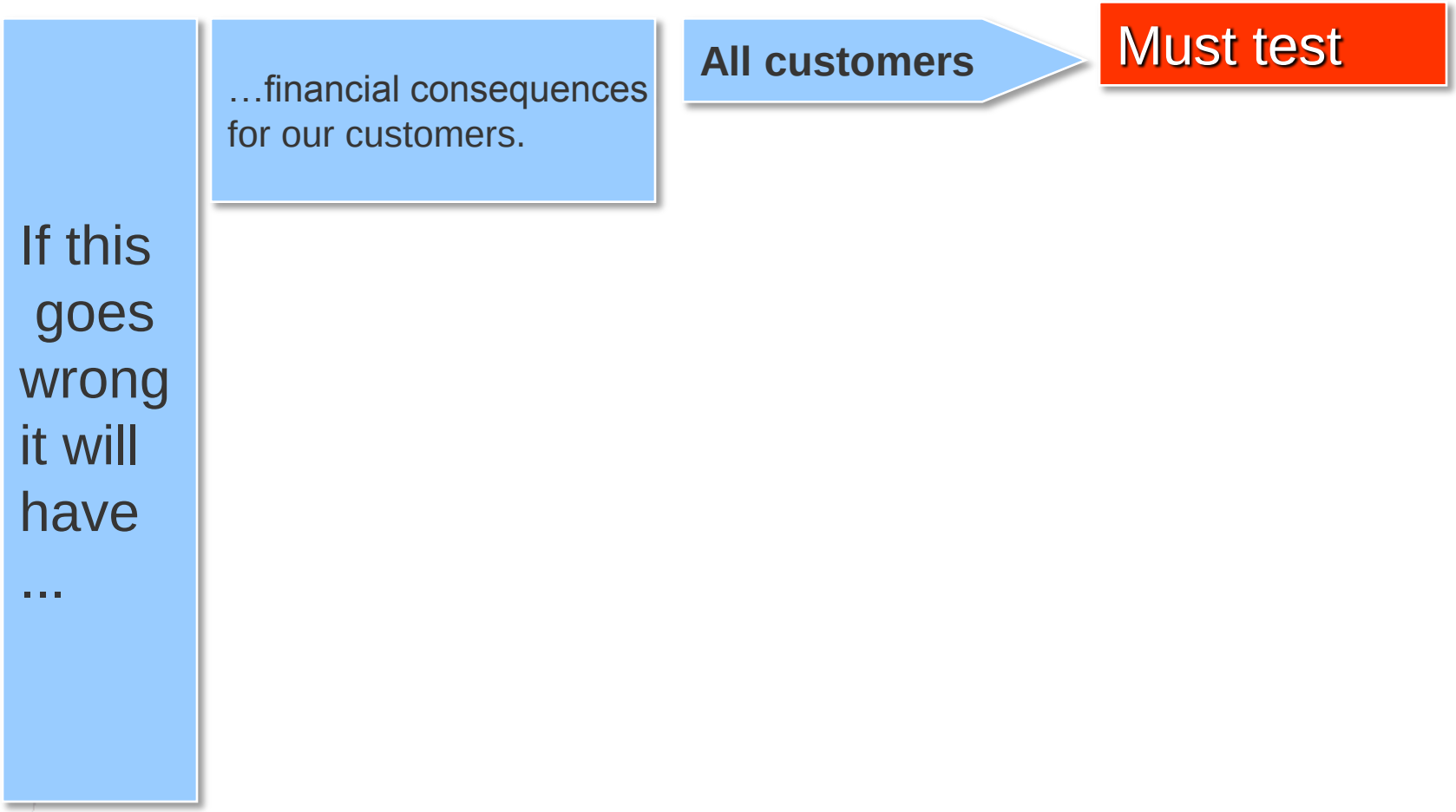
MoSCoW: an example



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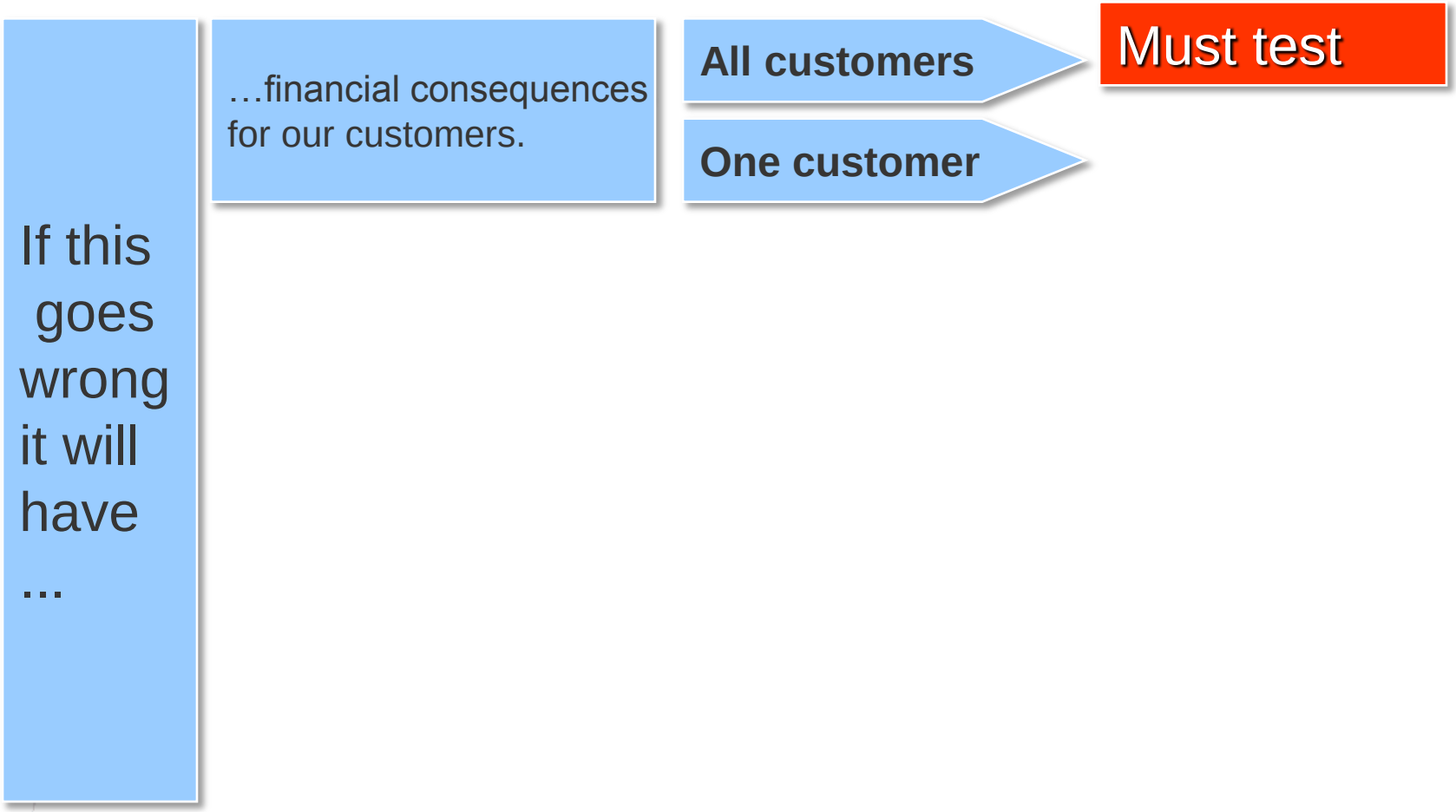

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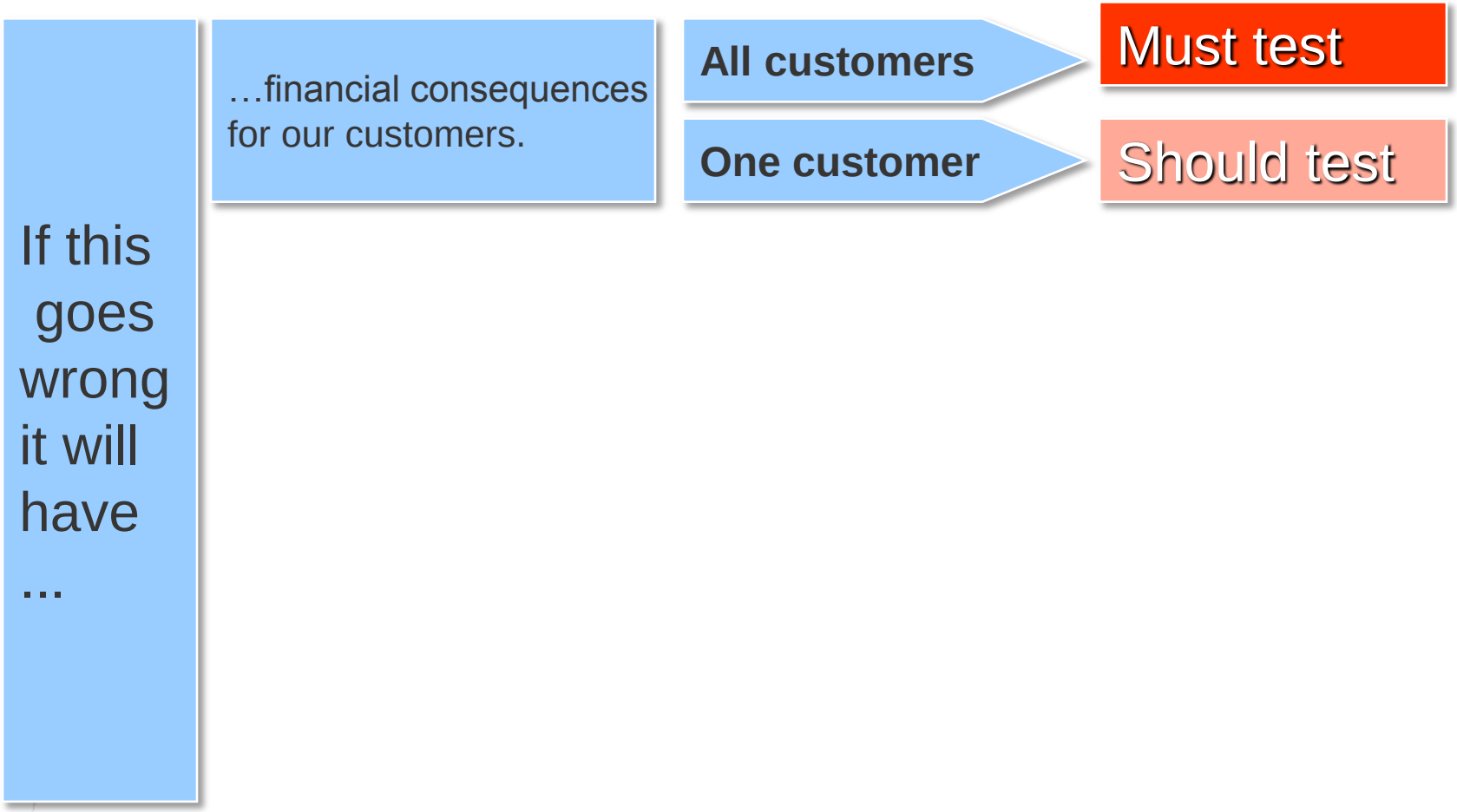

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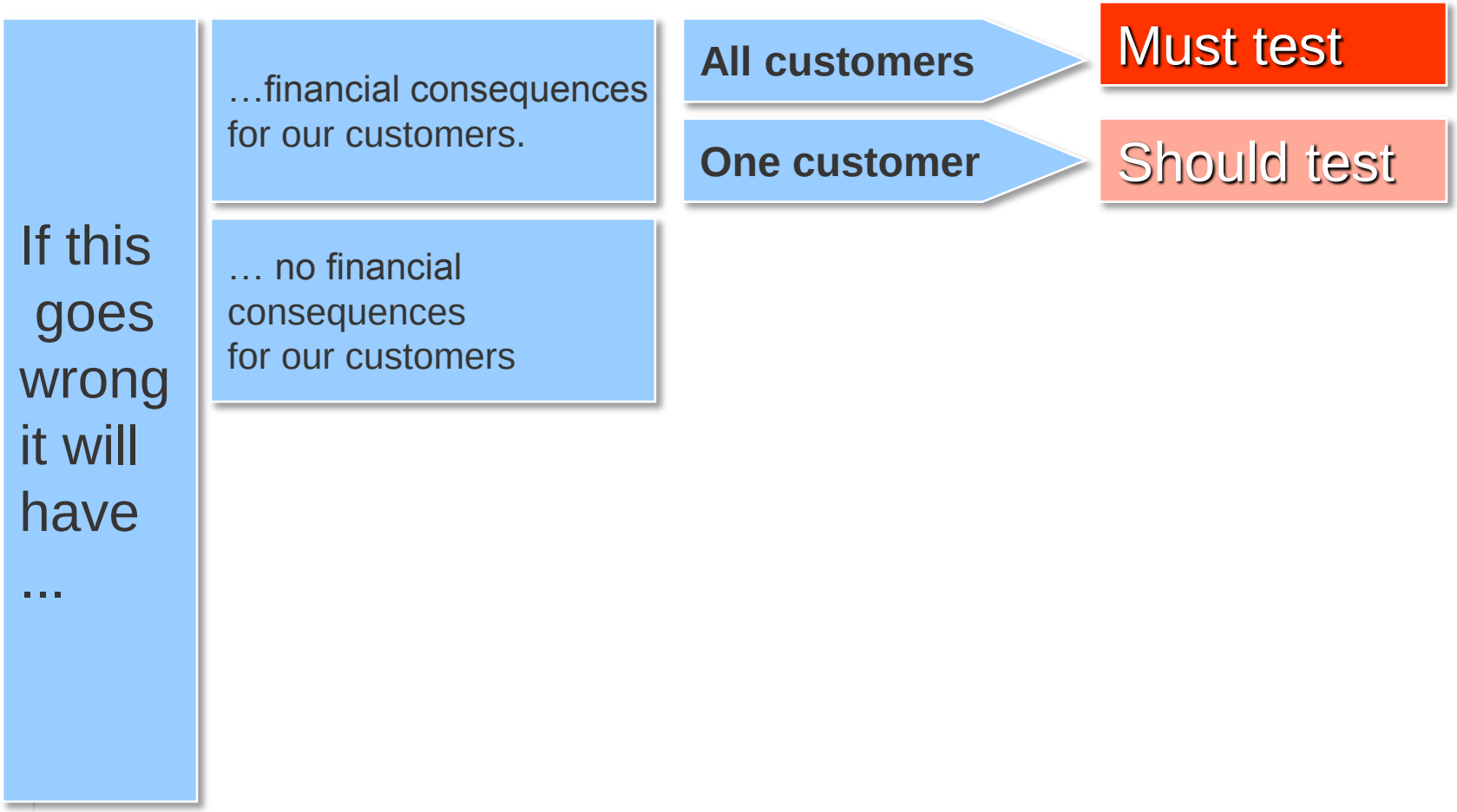

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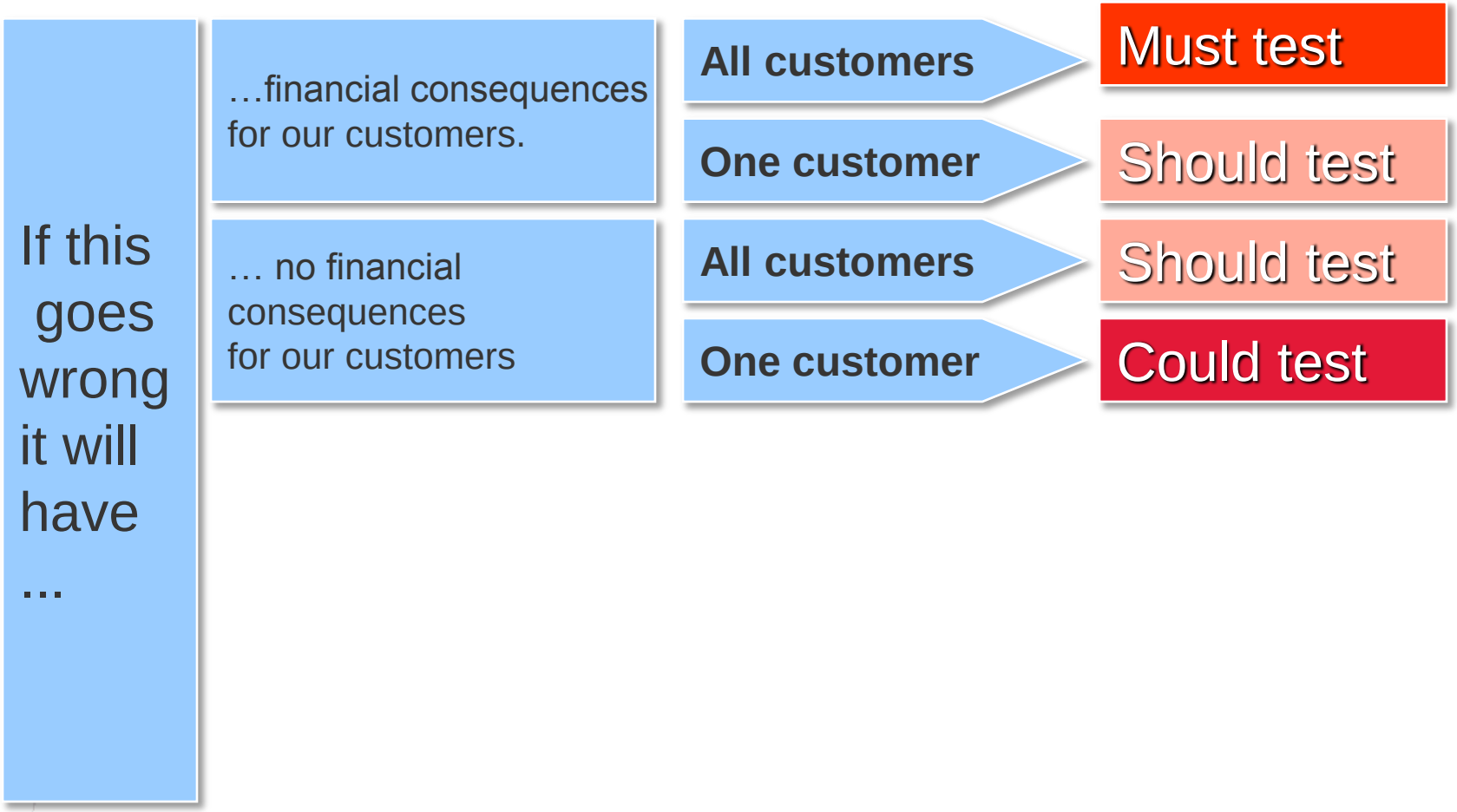

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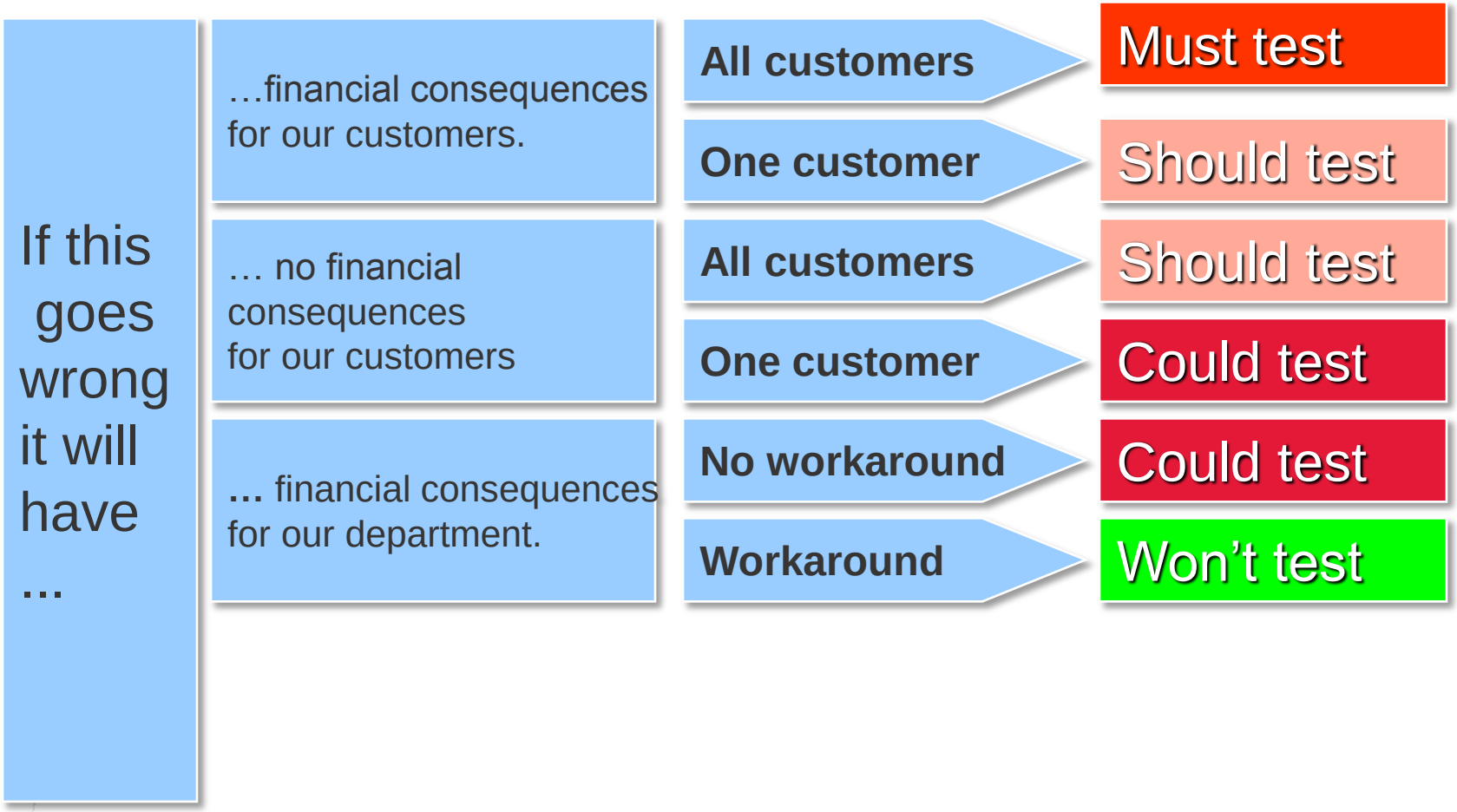

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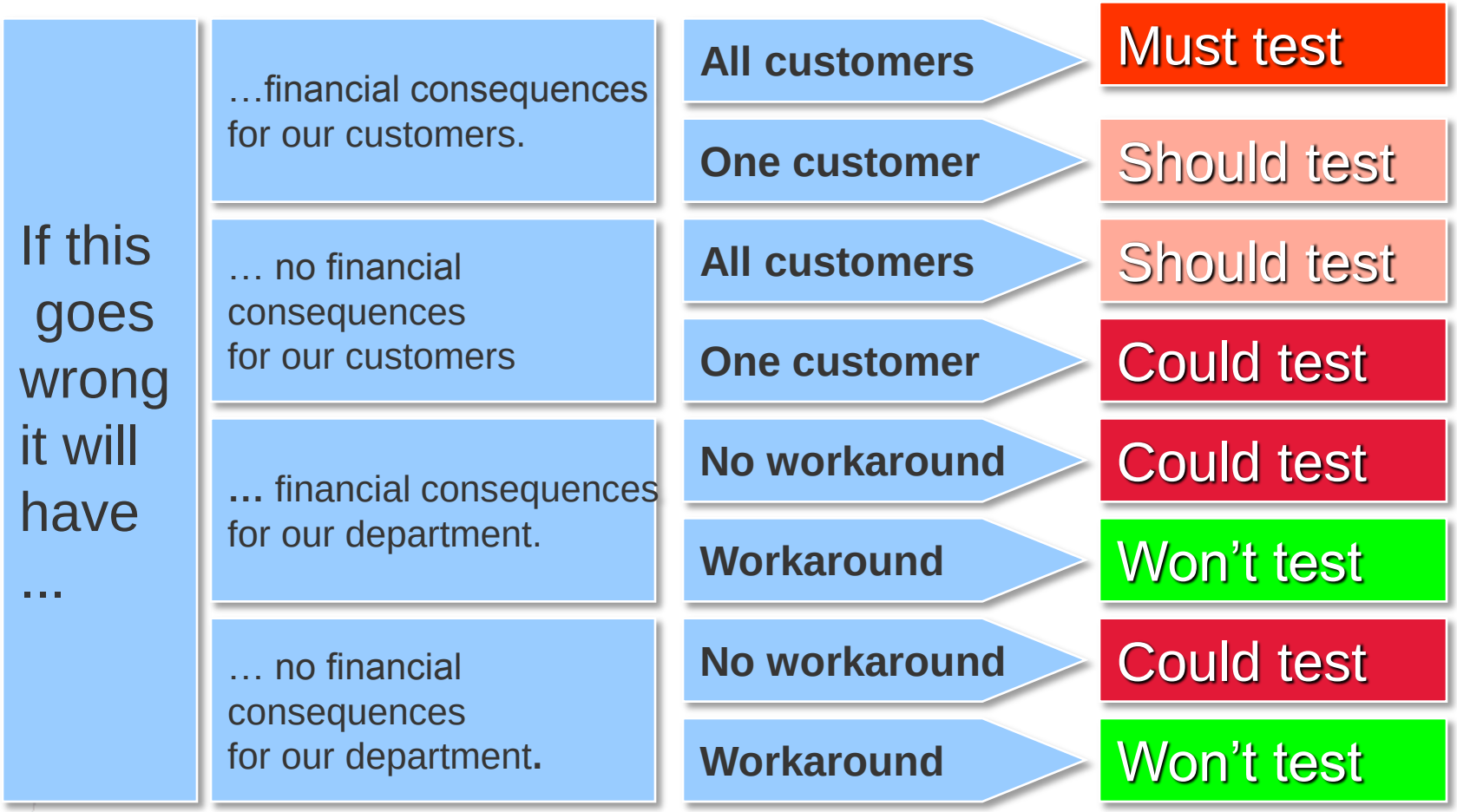

Stakeholder analysis

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Stakeholders

A stakeholder is a person or organization that has a legitimate interest in a product or service

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Stakeholders

A stakeholder is a person or organization that has a legitimate interest in a product or service

Who is responsible?

Who has a problem when things go wrong?

Who needs the system for normal operations?

Who will use the system?

Who sets regulatory rules?

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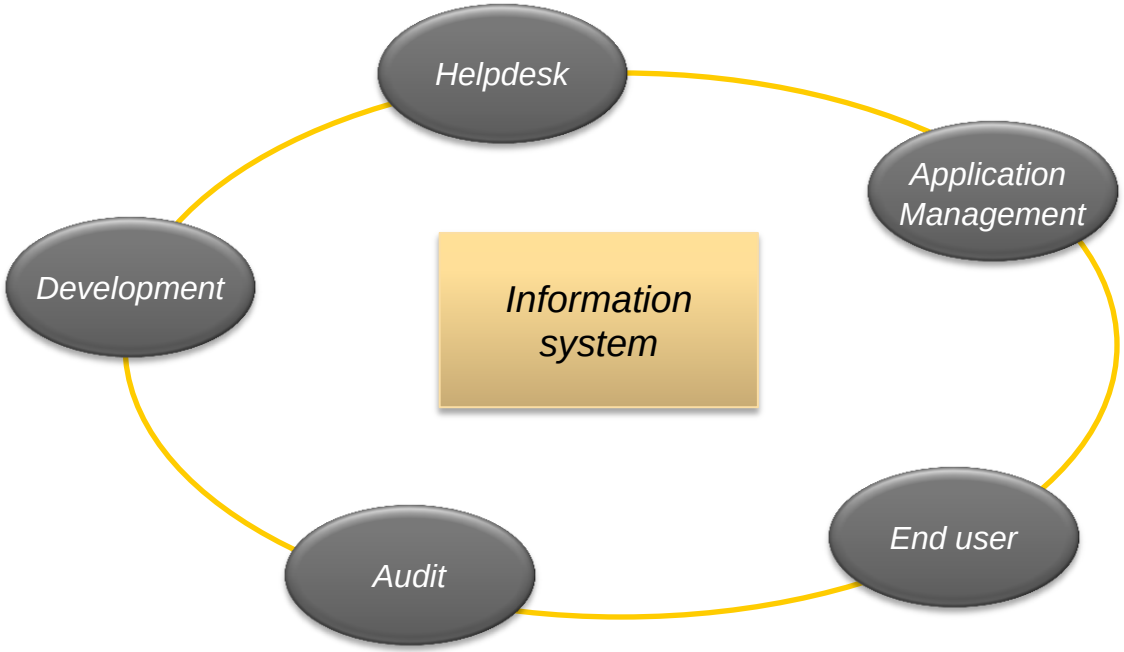
Stakeholders - Examples

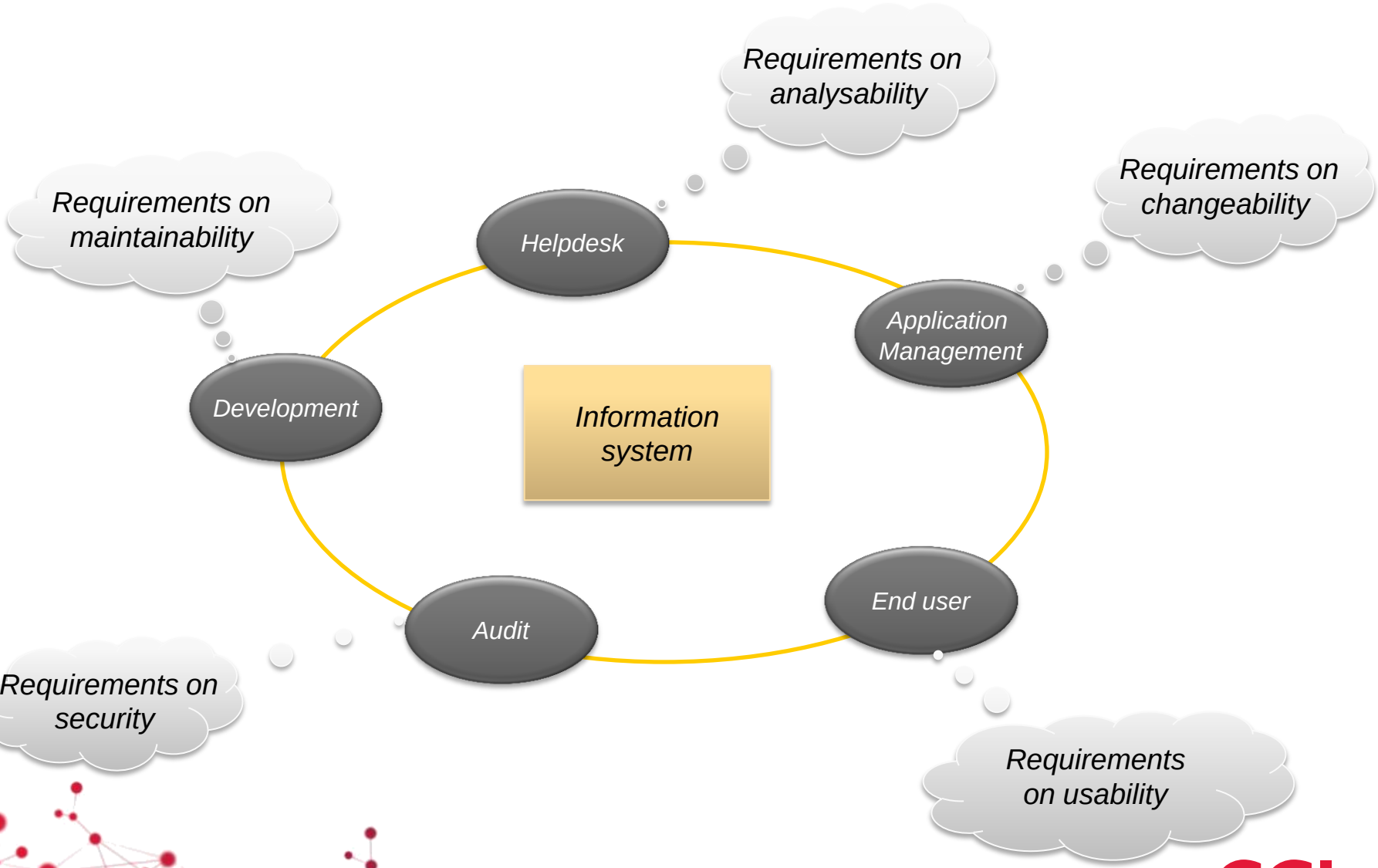
- Legal authorities like AFM, DNB, ECB,
  Represented by Compliance & Legal department
- Helpdesk
- Operations
- Application Management
- (End-) users
- Marketing
- System development
- Testers

…

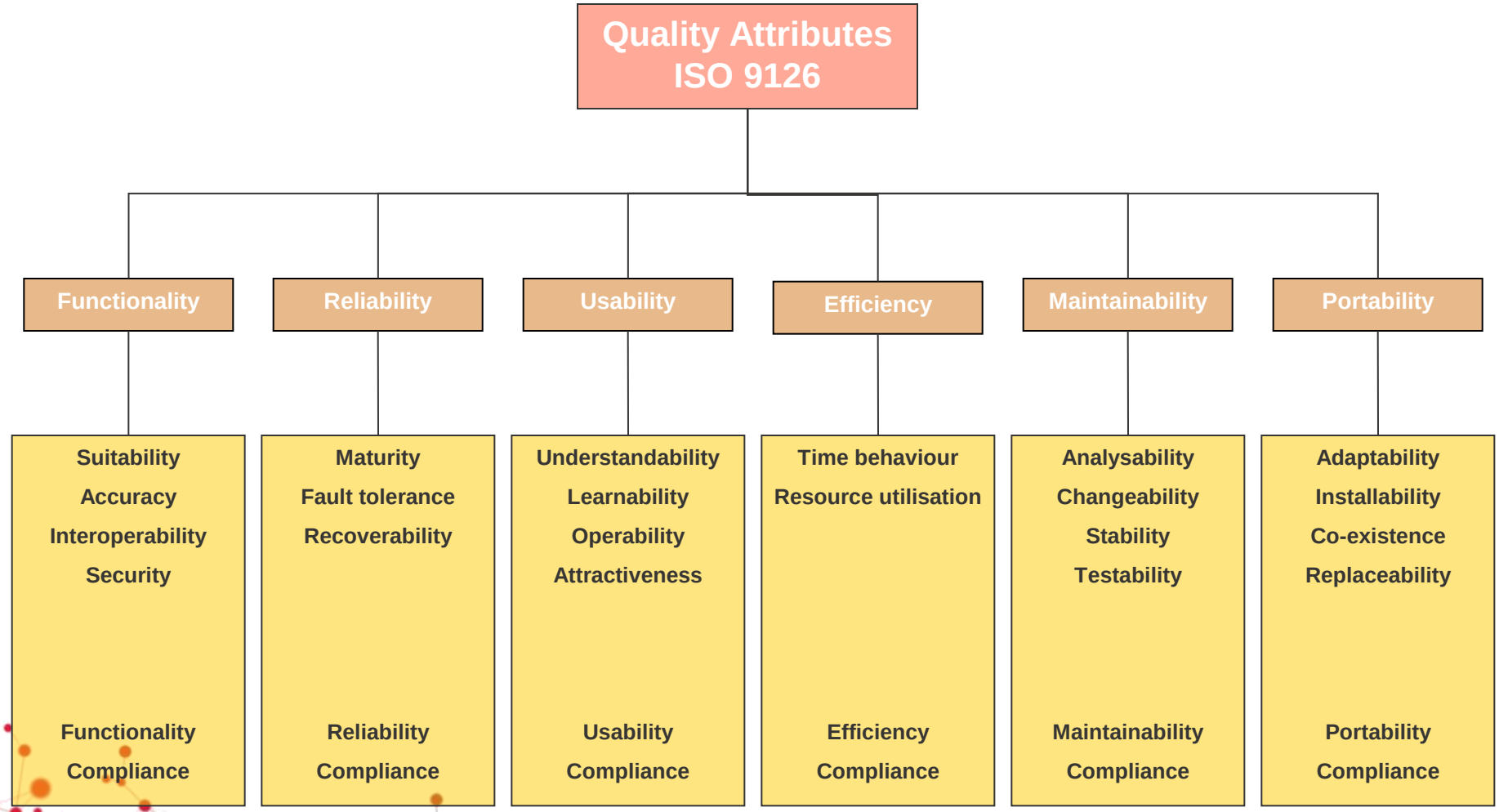
Stakeholders & Quality Attributes



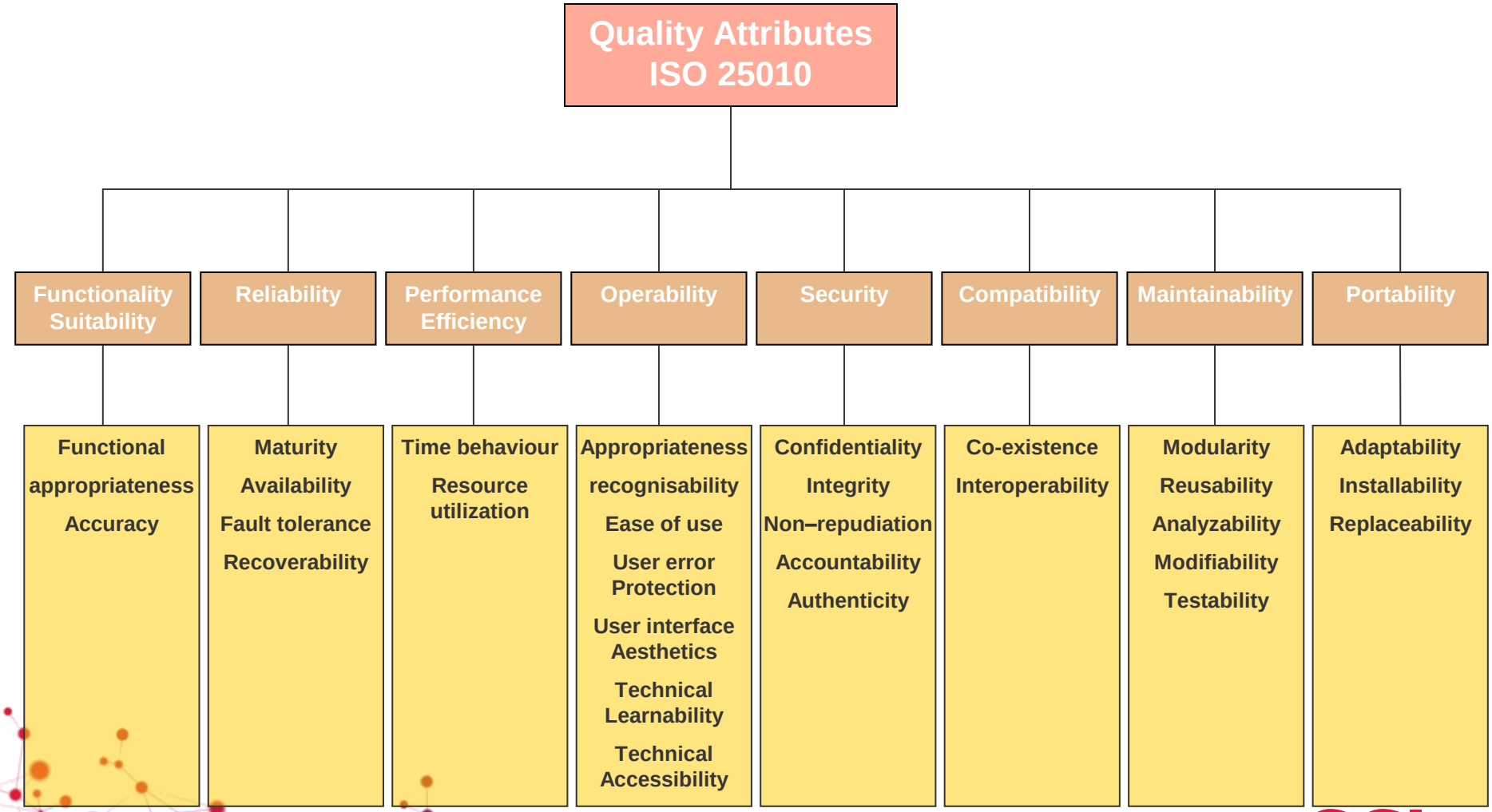
Stakeholders & Quality Attributes



Quality Attributes ISO9126



Quality Attributes ISO 25010



The Product Risk Analysis Workshop

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The domain and the question

- Financial organization selling mortgages
- Direct writer and via independent intermediates

- New mortgage proposal system

- Company Policy
  - Raise of market share
  - Low cost, high quality
  - Turnover up 10%
  - Operational excellence

The question is:
what are the risks related to an IT system used within the mortgage domain

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Stakeholder analysis

Stakeholders

Stakeholder	Responsibility
Marketing & Sales	Defines and sells mortgages
Application management	Functional/technical management of the system
Legal	Represent the legal authorities
System development	Develop and maintain the system
Tester	Test the system
Operations	Keeps the system up and running
Client Relations	Represents the end-user community

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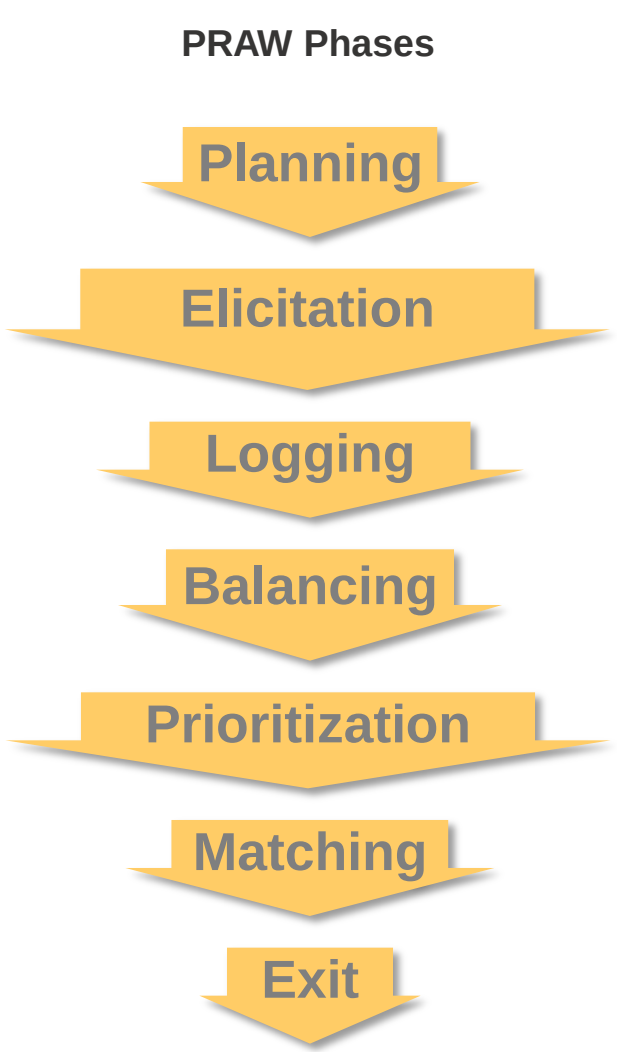
PRAW Planning

Determine the type of PRA
In case of a PRAW:

- Plan the workshop
  - Requirements experts
  - Stakeholders
  - Scribe
- Collect documentation
  - High level definition study
  - Business Requirements Specification*)
  - Checklists and Rule sets
    - Customize to fit application type

*) *Is used during matching phase, not before!*



Risk Elicitation

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Brown Paper Session

A Brown Paper Session is a session where experiences, needs and ideas from different points of view are brought together (on large sheets of brown paper).

“Copafijth” aspects

COPAFIJTH is a Dutch acronym that indicates all aspect of an organisation

- Communicatie (Communication)
- Organisatie (Organisation)
- Personeel (Staff)
- Administratieve Organisatie (Administrative Organisation)
- Financieel (Financial)
- Informatie (Information)
- Juridisch (Legal)
- Techniek (Technical)
- Huisvesting (Housing/logistics)

This list will support the risk elicitation process

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Risk Balancing

Assignation of priorities

dinsdag 1 oktober

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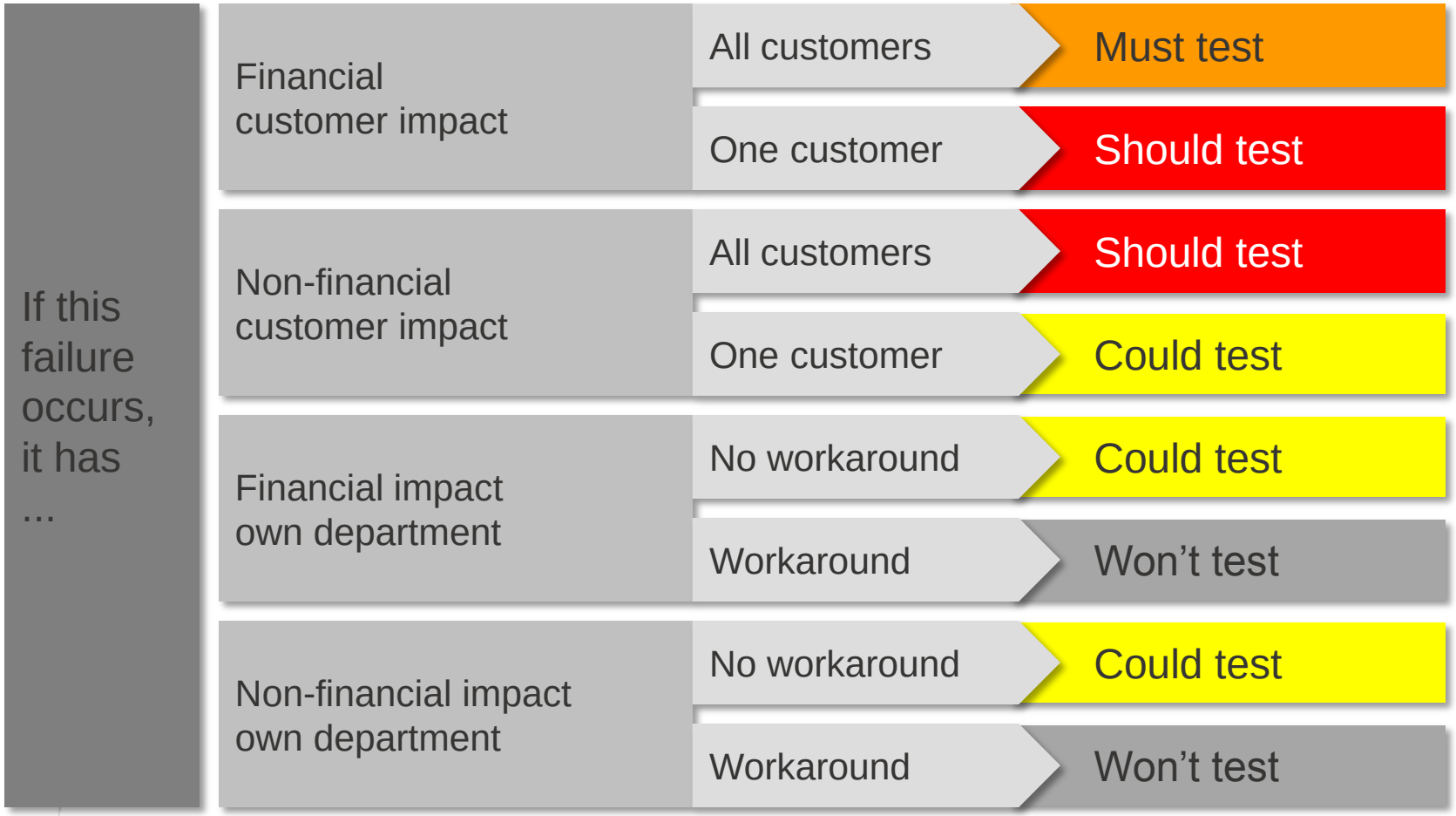
MoSCoW: an example



Report Back
Your experiences

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The result

The result of a product risk analysis is an agreed and complete list of product risks and their related priorities

The result

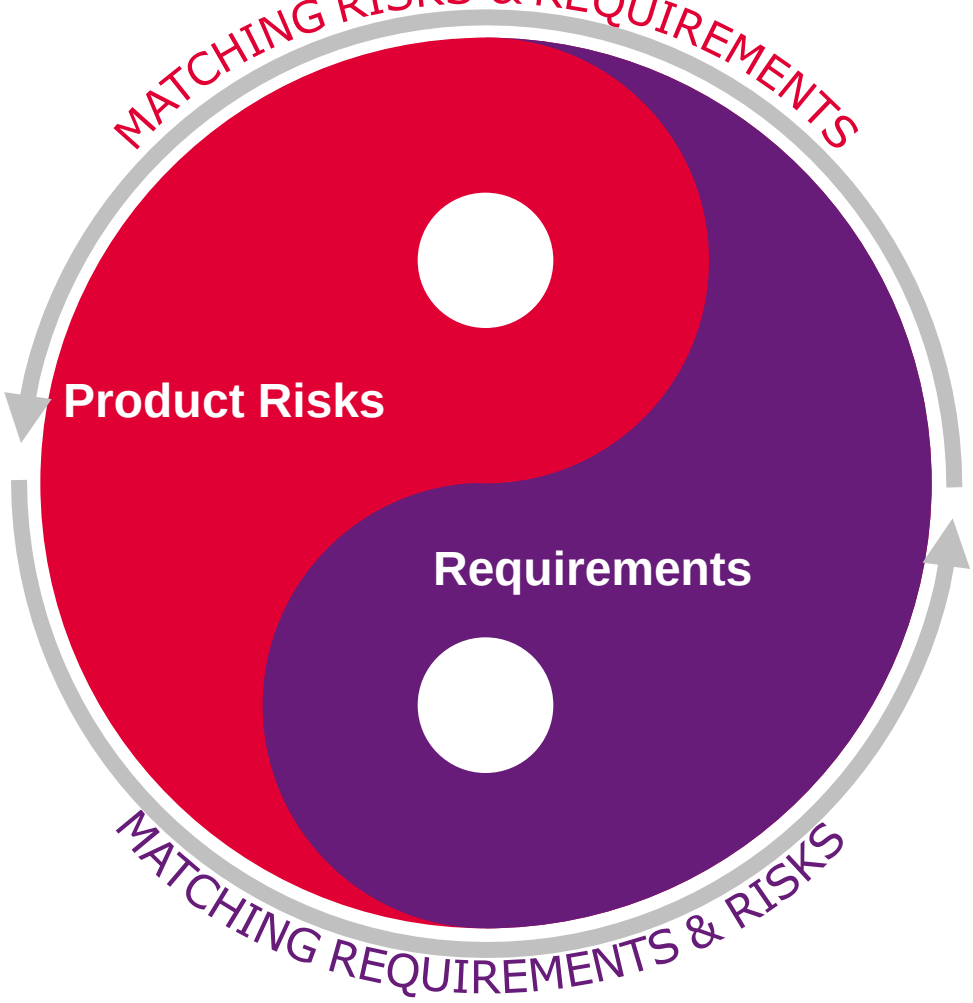
The result of a product risk analysis is an agreed and complete list of product risks and their related priorities

But what's the use?

First advandtage: Risk & Requirement Matching

Risk, no requirement:

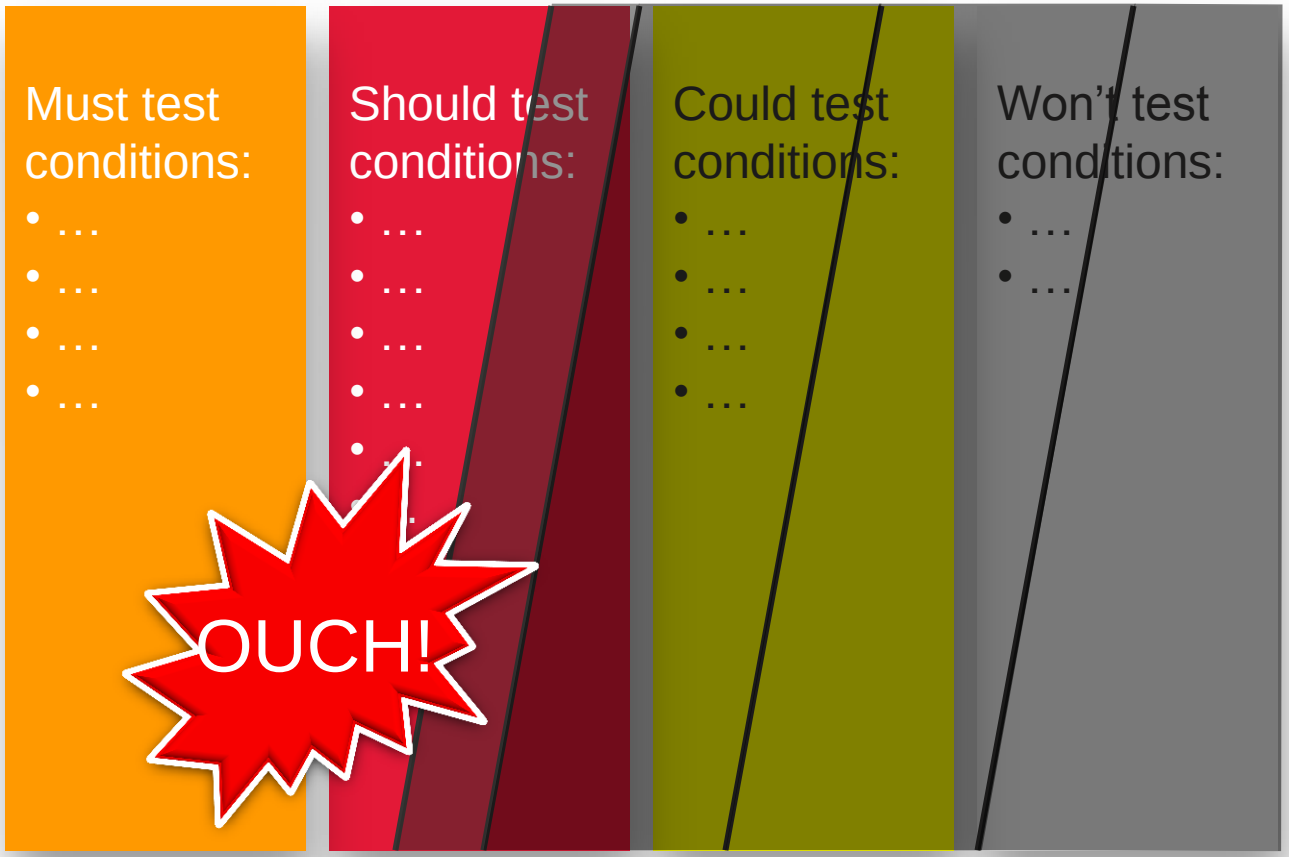
- Add requirement
- Leave out risk



Requirement, no risk:

- Add risk and test
- Leave out requirement

Second advantage: Strategic Test Slicing Method (STSM)



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Priorities in the test management process

Priorities in the test management process

Number of test cases within available budget

Priorities in the test management process

Planning and sequence

Number of test cases within available budget

Priorities in the test management process

Planning and sequence

Number of test cases within available budget

Status in budget and quality

Priorities in the test management process

Planning and sequence

Number of test cases within available budget

Status in budget and quality

Which defect will be solved and which is postponed?

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Priorities in the test management process

Planning and sequence

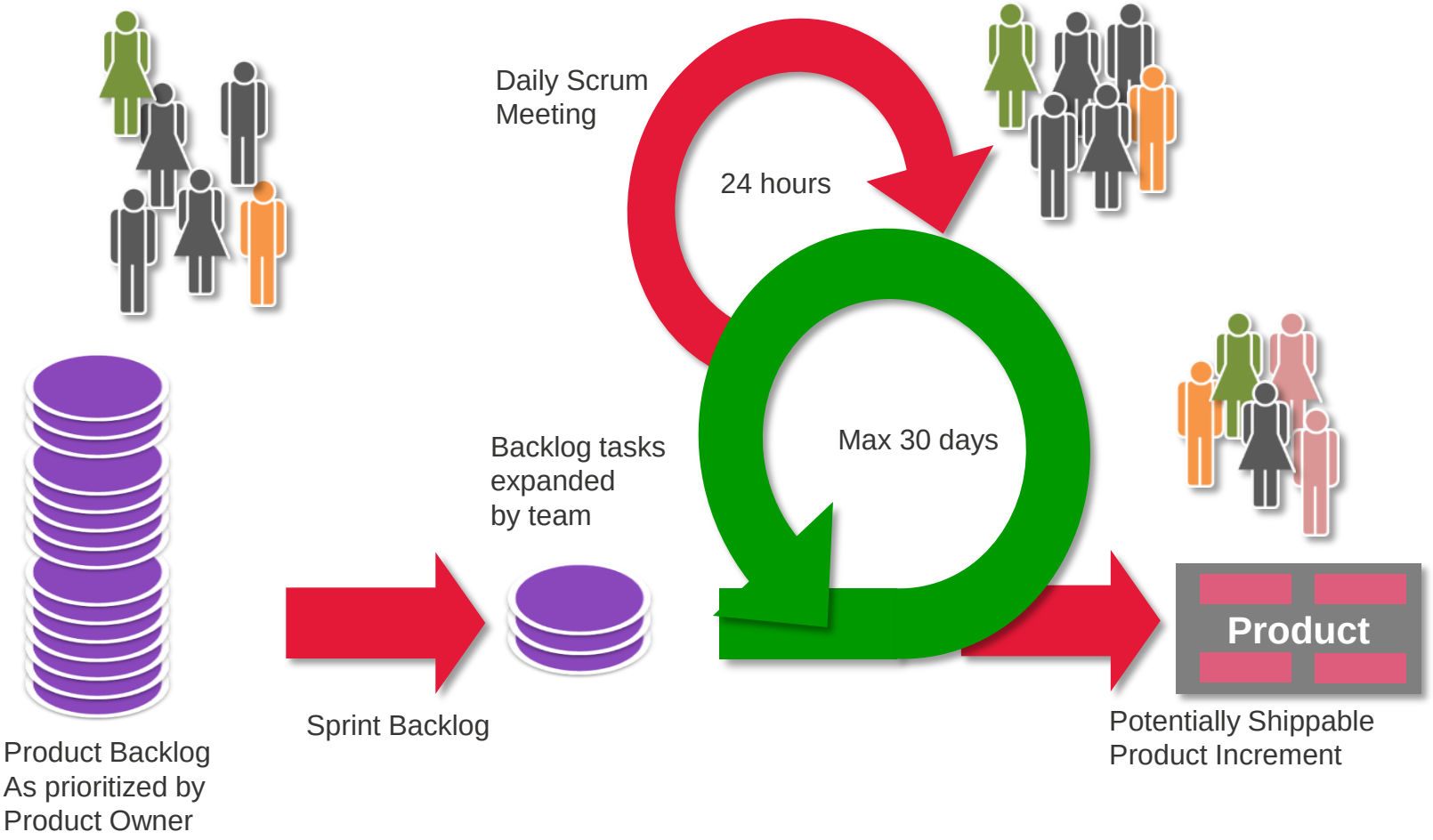
Number of test cases within available budget

Status in budget and quality

Which defect will be solved and which is postponed?

Are all risks mitigated: can we deploy?

Risk priorities in the development process



Source: Adapted from *Agile Software Development with Scrum* by Ken Schwaber and Mike Beedle.

Risk Matrix

Must Test ShouldTest WouldTest

Product risk / Requirement	PR 01	PR 02	PR 03	PR 04	PR 05	PR 06	PR 07	PR 08	PR 09
REQ 01	•						•	•	•
REQ 02	•					•	•		
REQ 03		•							
REQ 04		•	•						
REQ 05				•					•
REQ 06					•		•		
REQ 07	•					•			
REQ 08				•					•
REQ 09			•					•	
REQ 10	•	•	•						
REQ 11							•		
REQ 12						•			
REQ 13		•						•	•
REQ 14				•				•	•
REQ 15	•								•

Would Have

Should Have

Must Have

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REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		?		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
REQ 12						?			
REQ 13		?						?	?
REQ 14				?				?	?
REQ 15	?								?

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Must Test | ShouldTest | WouldTest

Requirement \ Product risk	PR 01	PR 02	PR 03	PR 04	PR 05	PR 06	PR 07	PR 08	PR 09
REQ 01	?						?	?	?
REQ 02	?					?	?		
REQ 03		?							
REQ 04									
REQ 05									?
REQ 06							?		
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REQ 08									?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
REQ 12						?			
REQ 13		?						?	?
REQ 14				?				?	?
REQ 15	?								?

Requirement \ Product risk	PR X	PR X	PR X
REQ X	H	M	M
REQ X	H	M	L
REQ X	M	M	L

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REQ 11							?		
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REQ 13		?						?	?
REQ 14				?				?	?
REQ 15	?								?

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REQ 02	M					?	?		
REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		?		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
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REQ 14				?				?	?
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REQ 02	M					M	?		
REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		?		
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REQ 11							?		
REQ 12						?			
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REQ 14				?				?	?
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REQ 02	M					M	H		
REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		?		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
REQ 12						?			
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REQ 14				?				?	?
REQ 15	?								?

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REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		?		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
REQ 12						?			
REQ 13		?						?	?
REQ 14				?				?	?
REQ 15	?								?

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REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		H		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							?		
REQ 12						?			
REQ 13		?						?	?
REQ 14				?				?	?
REQ 15	?								?

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REQ 01	?						H	?	?
REQ 02	M					M	H		
REQ 03		?							
REQ 04		?	?						
REQ 05				?					?
REQ 06					?		H		
REQ 07	?					?			
REQ 08				?					?
REQ 09			?					?	
REQ 10	?	?	?						
REQ 11							H		
REQ 12						?			
REQ 13		?						?	?
REQ 14				?				?	?
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REQ 03		M							
REQ 04		M	M						
REQ 05				H					M
REQ 06					M		H		
REQ 07	M					M			
REQ 08				H					L
REQ 09			M					L	
REQ 10	M	M	M						
REQ 11							H		
REQ 12						L			
REQ 13		M						L	L
REQ 14								L	L
REQ 15	M								L

Would Have

Should Have

Must Have

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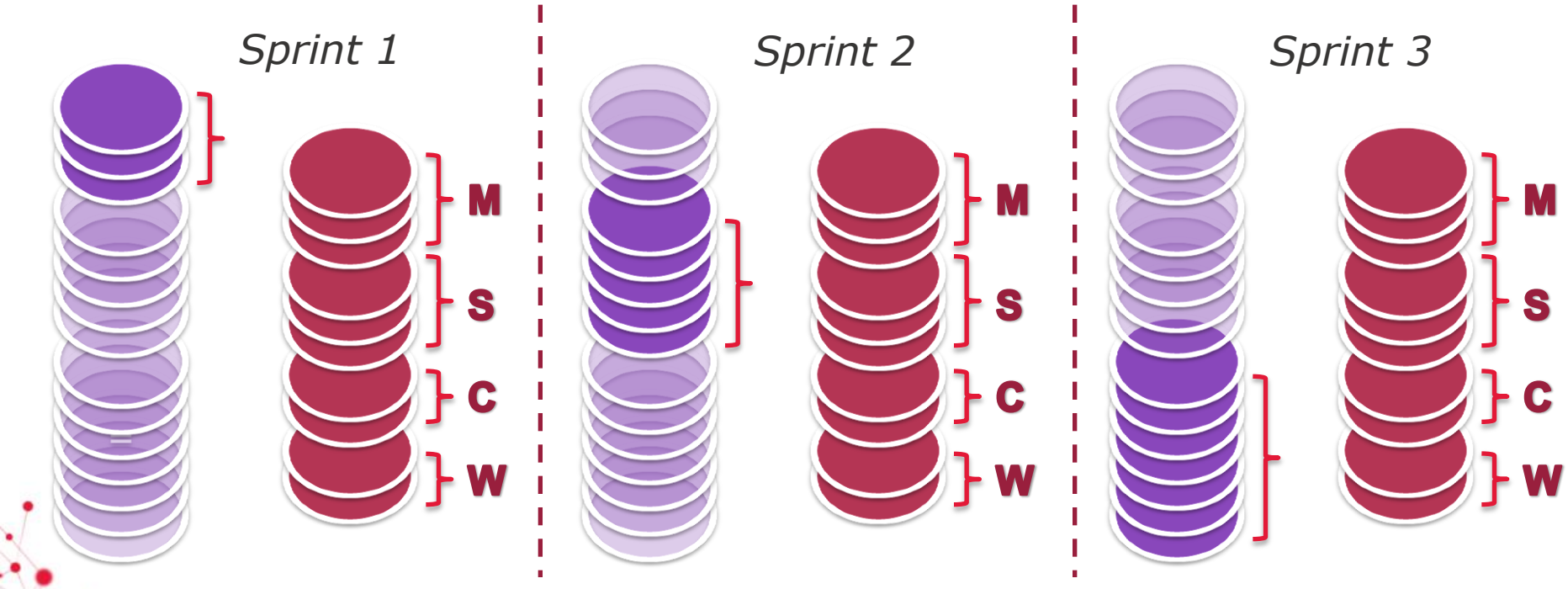
Selecting from the product backlog

During the planning poker session the risk priorities are taken into account

- Risks relate to story points
- Combining user stories efficiently



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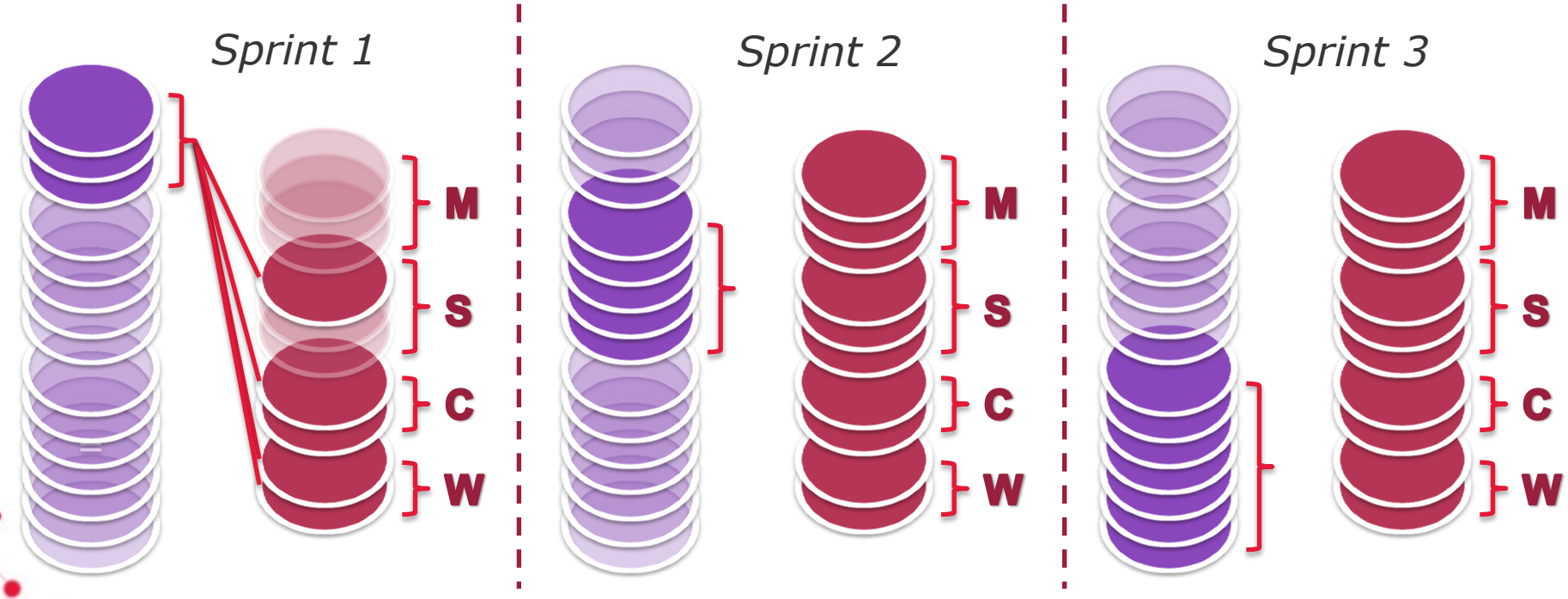

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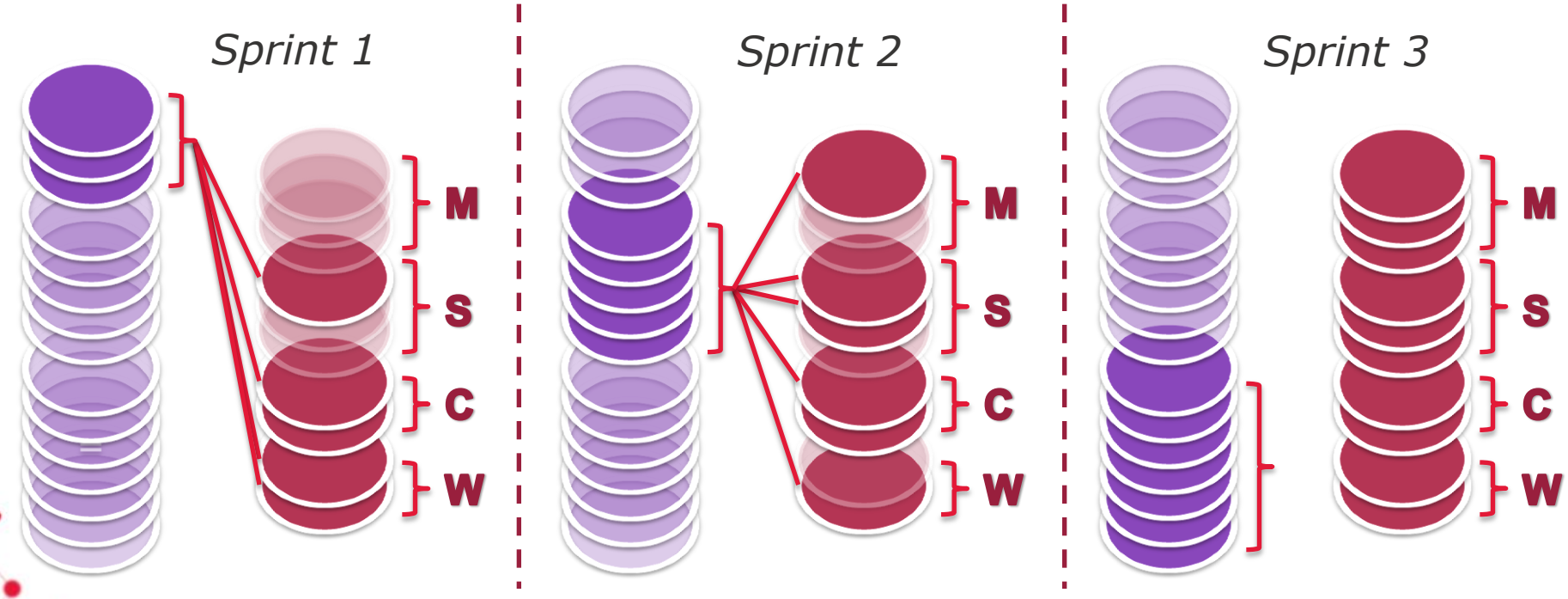

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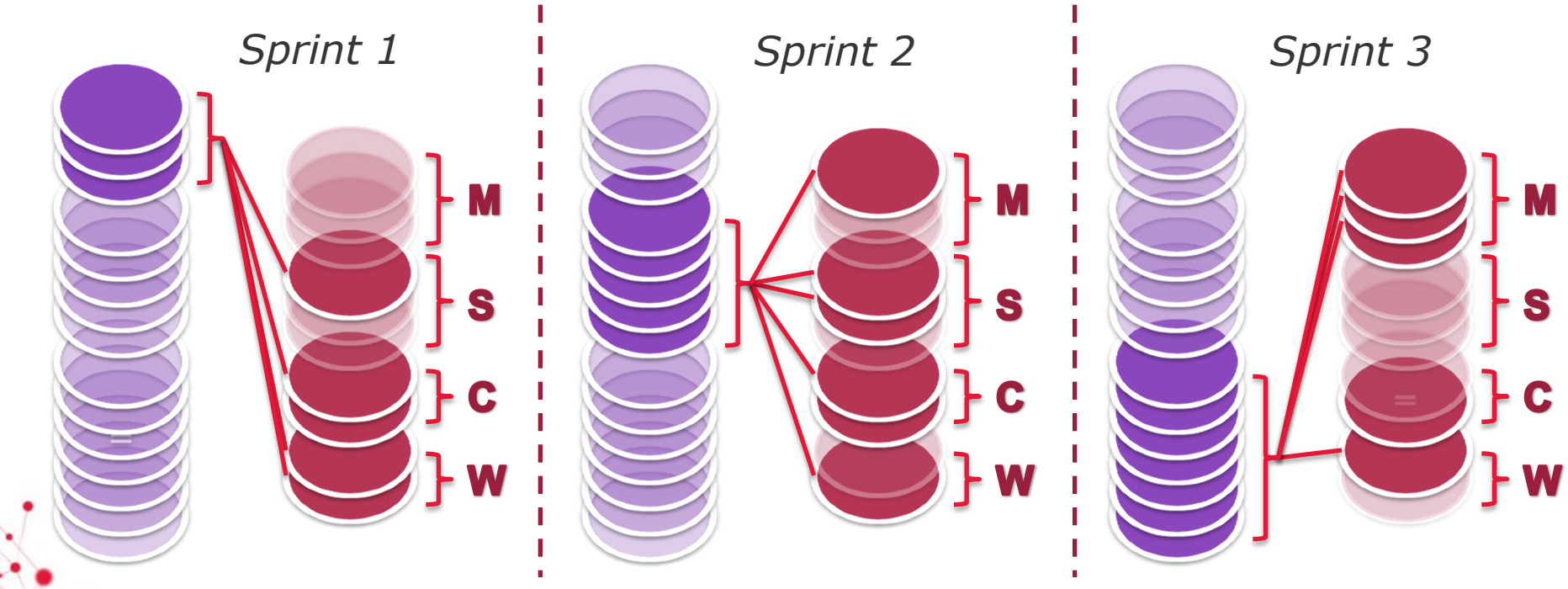

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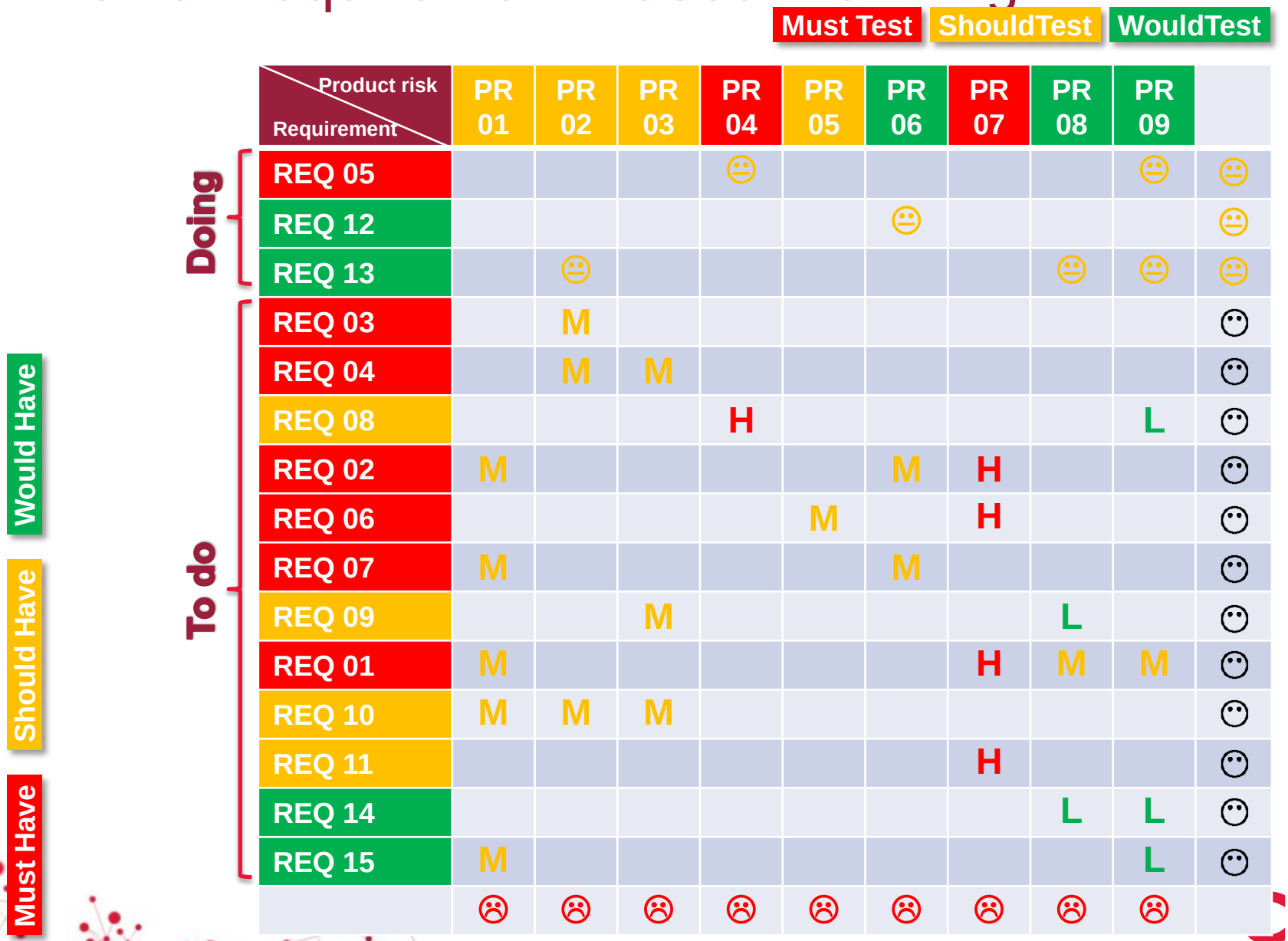
Risk & Requirement Based Planning



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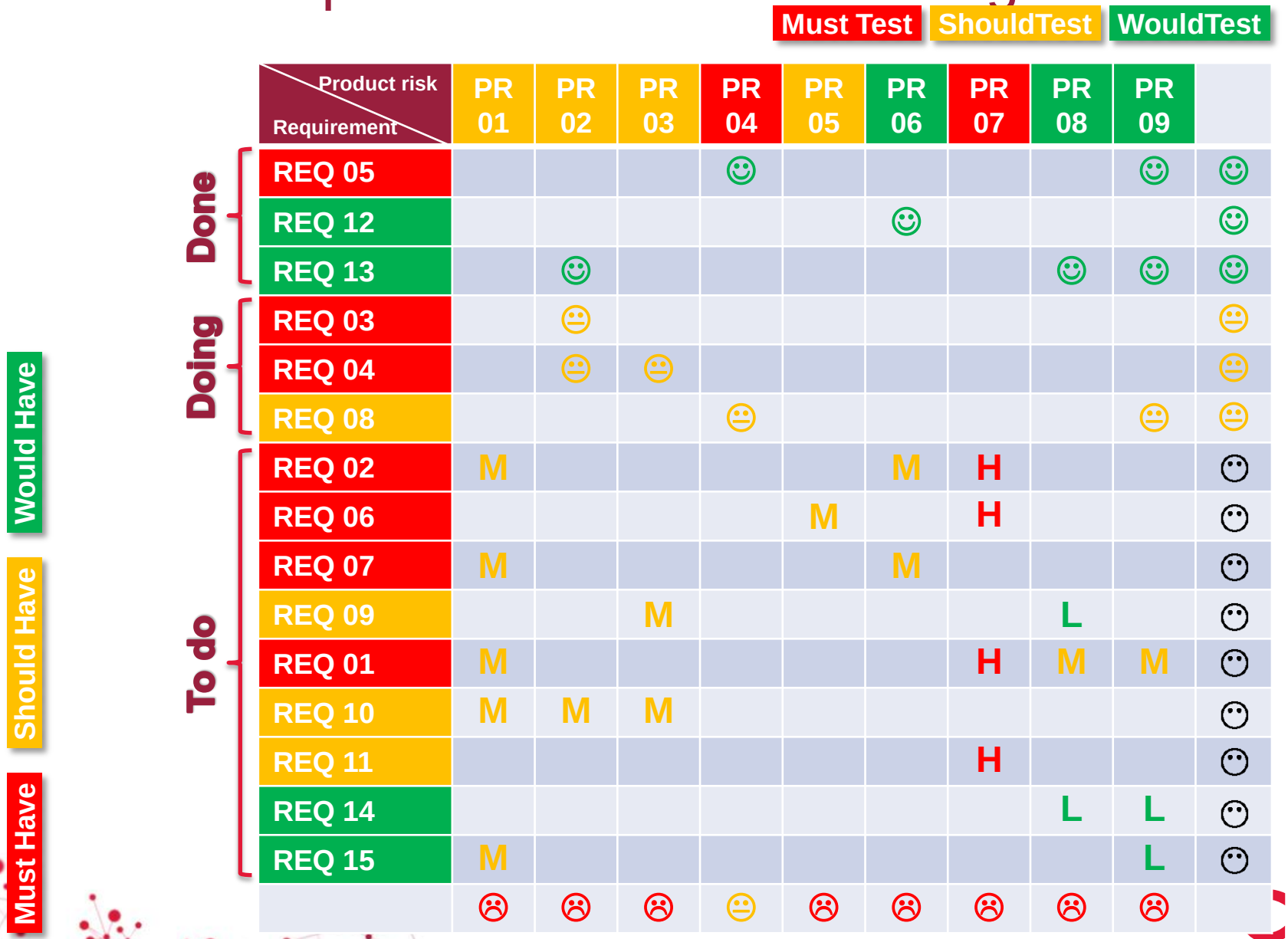

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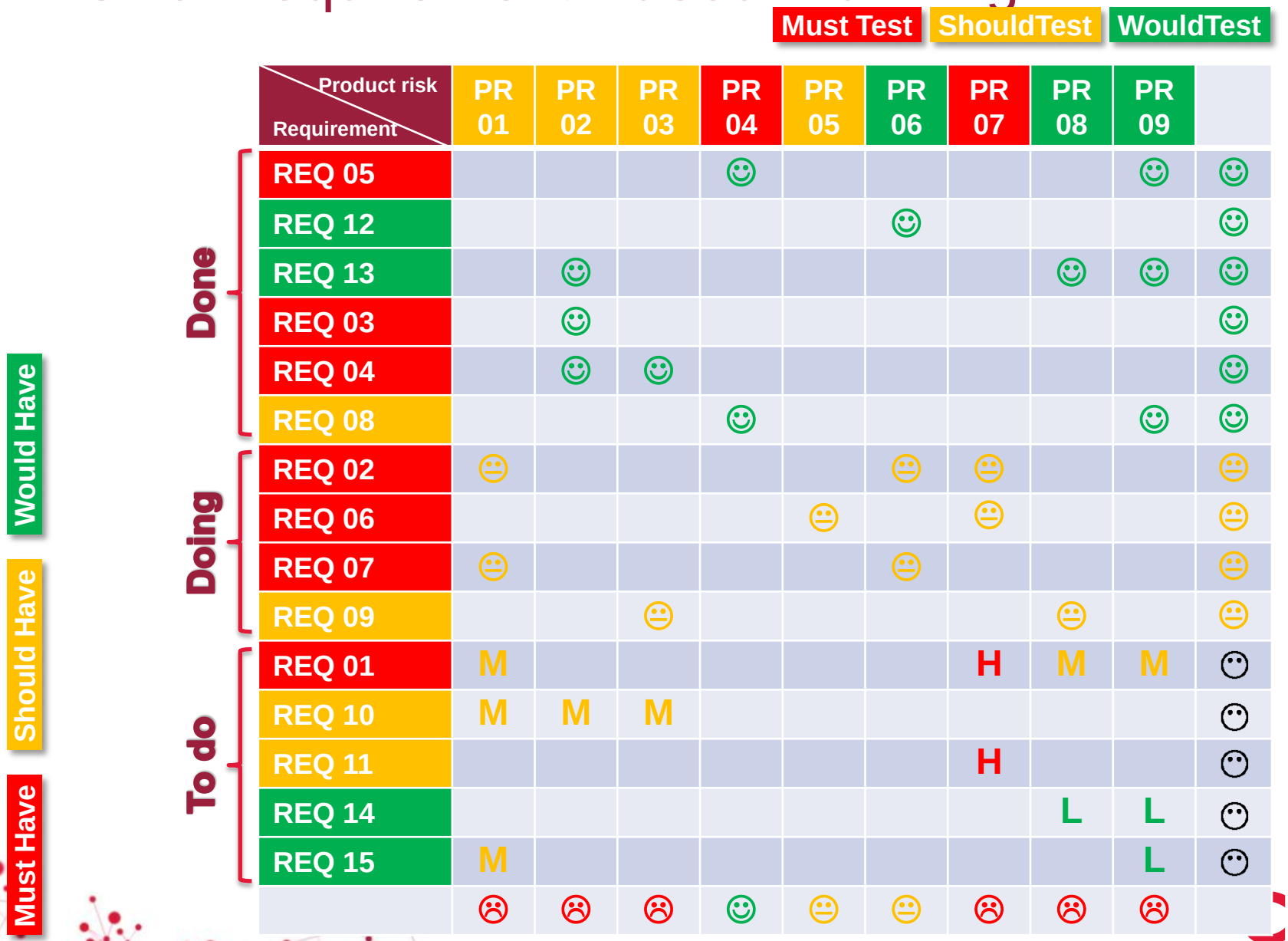

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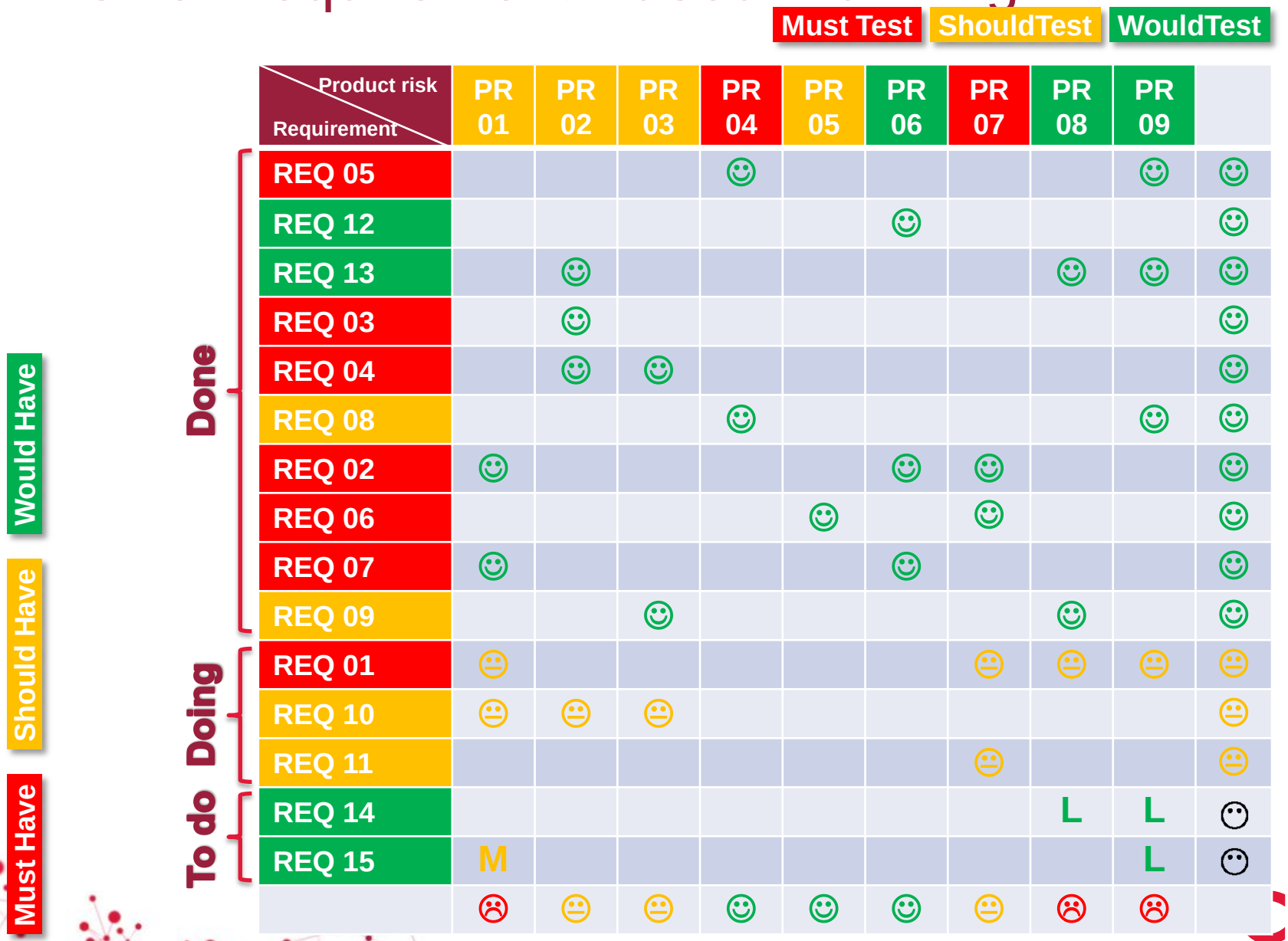

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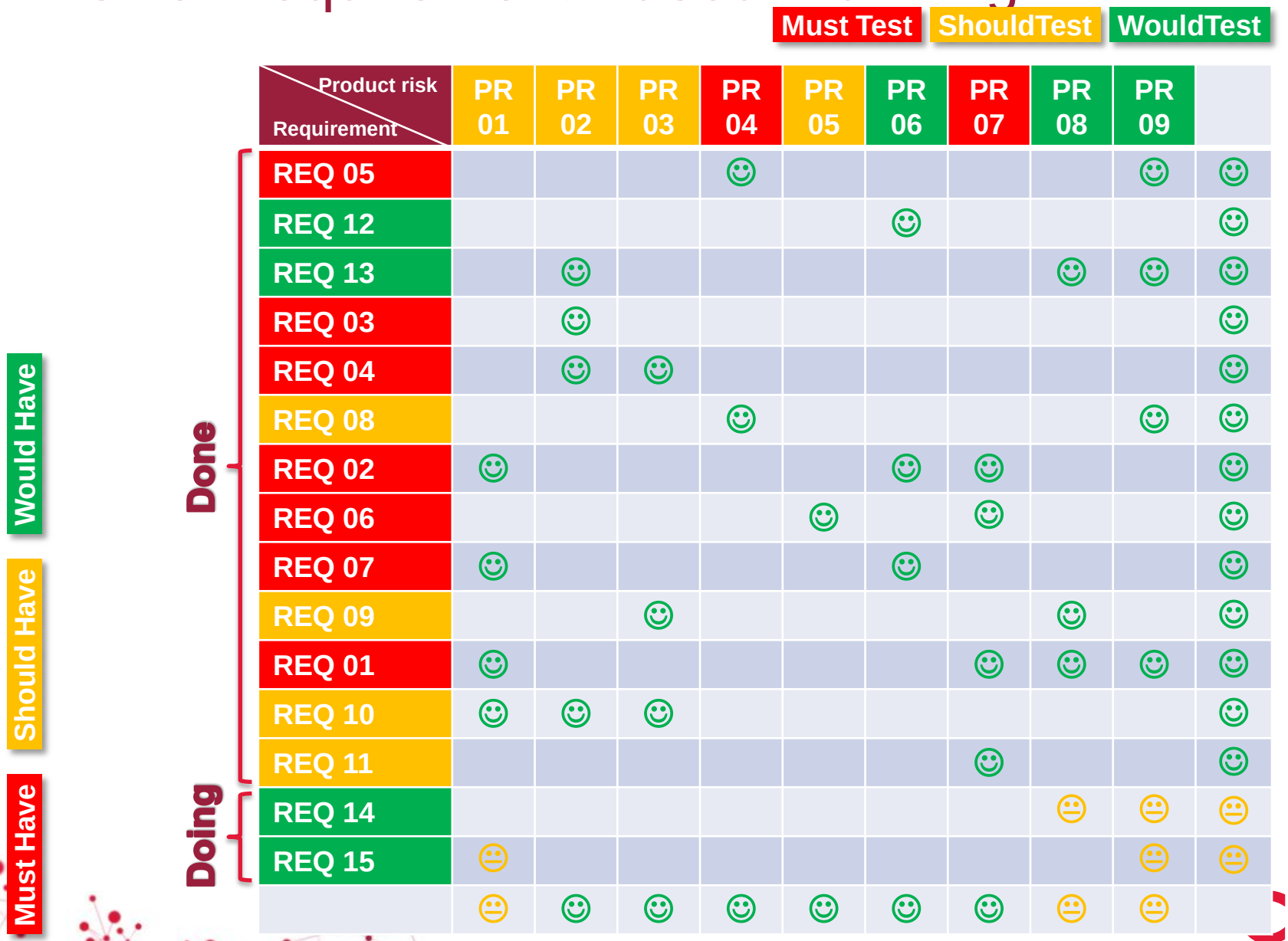


Risk & Requirement Based Reporting

Product risk / Requirement	
REQ 05	☺
REQ 12	☺
REQ 13	☺
REQ 03	☺
REQ 04	☺
REQ 08	☺
REQ 02	☺
REQ 06	☺
REQ 07	☺
REQ 09	☺
REQ 01	☺
REQ 10	☺
REQ 11	☺
REQ 14	😐
REQ 15	😐

Product risk / Requirement	PR 01	PR 02	PR 03	PR 04	PR 05	PR 06	PR 07	PR 08	PR 09	
	😐	☺	☺	☺	☺	☺	☺	😐	😐	

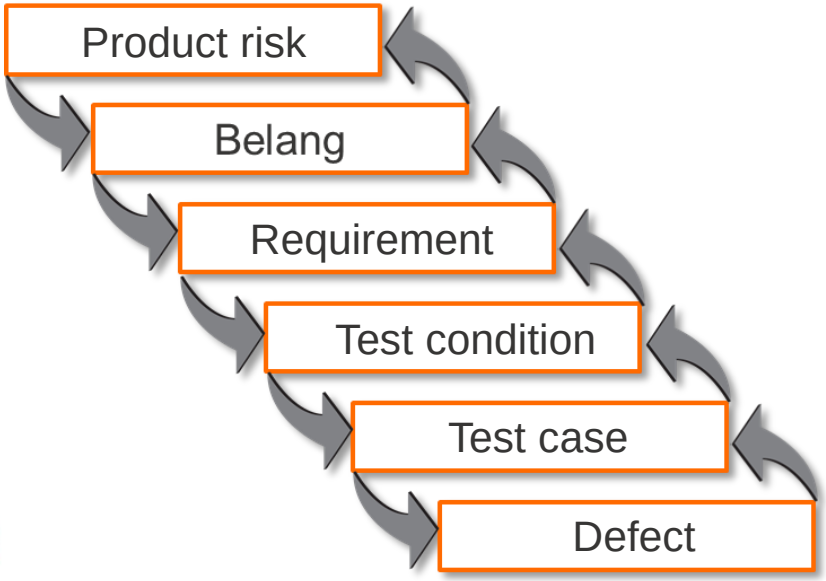
So, when do we use the PRA?

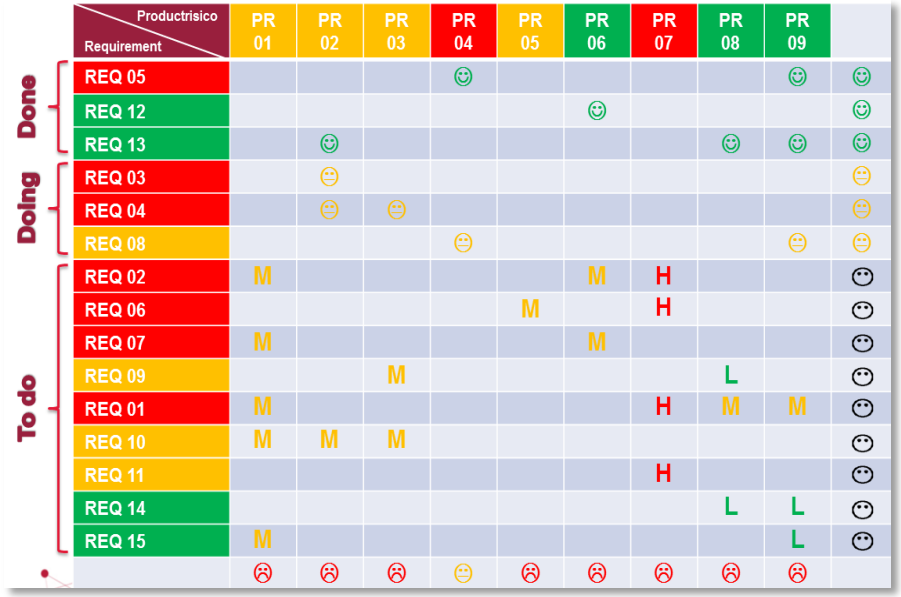
During the test process

- Planning/estimation
- Traceability
- Reporting
- Go/No-go decision

Within the (agile) development proces

- Planning/estimation
- Rankschikking of the backlog
- Progress
- Rapportage





Evaluation