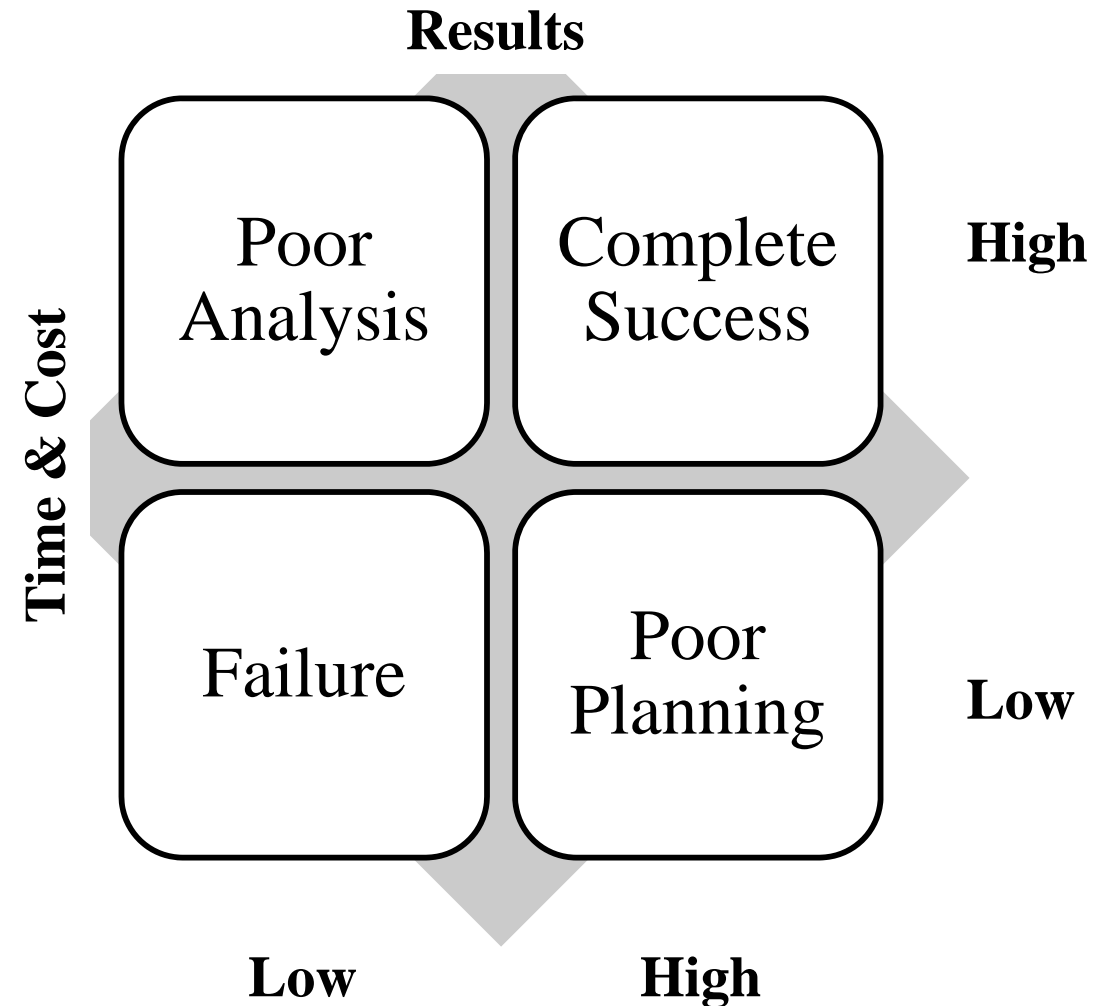# IT PROJECT RISK ANALYSIS

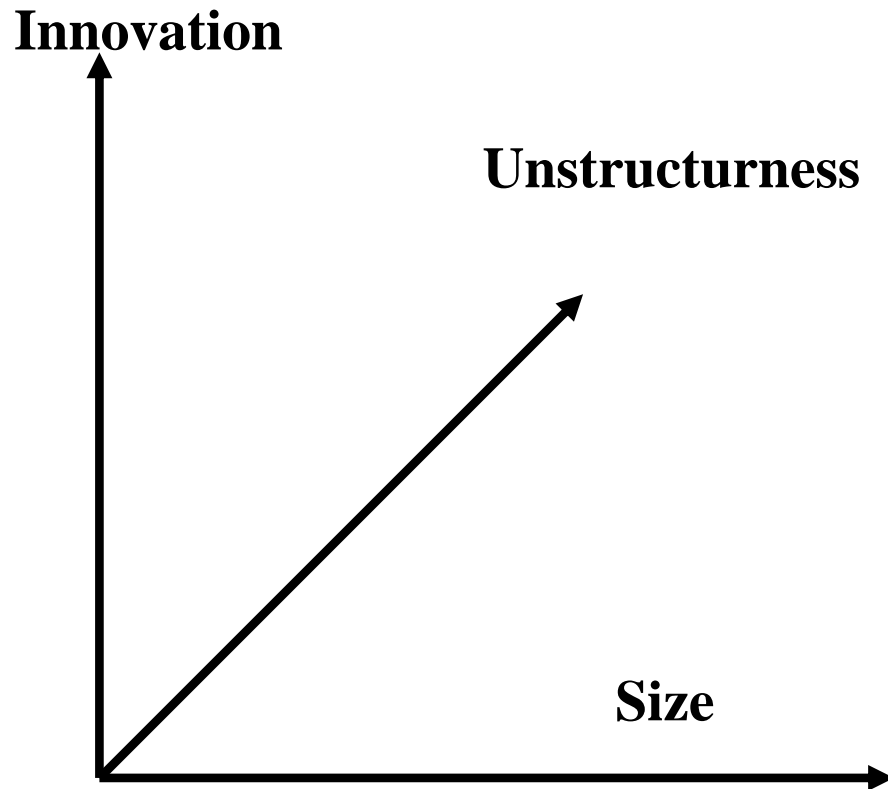## PROJECT RISK
ORGANIZATIONAL IMPACT
ASSIGNEMENT

What is risk in IT projects ?

- Most large innovative IT projects miscarry
- $R = 1 - (S)$
  - R = risk
  - S = Success = Actual performance % against the promise
- Project promise concerns
  - Results: system and business process perform as promised
    - The success can be expressed as the % of successfully tested functions
    - Successufl test includes
      - Functional test
      - Performance test
  - Time & Cost: the project is on time and on budget
    - The time success can be expressed as the 1- %delay (finish)
    - The budget success can be expressed as the 1- % budget overrun

Results

Poor Analysis	Complete Success
Failure	Poor Planning

Time & Cost

High

Low

Low   **High**

An approach to evaluate risk

Innovation

Unstructurness

Size
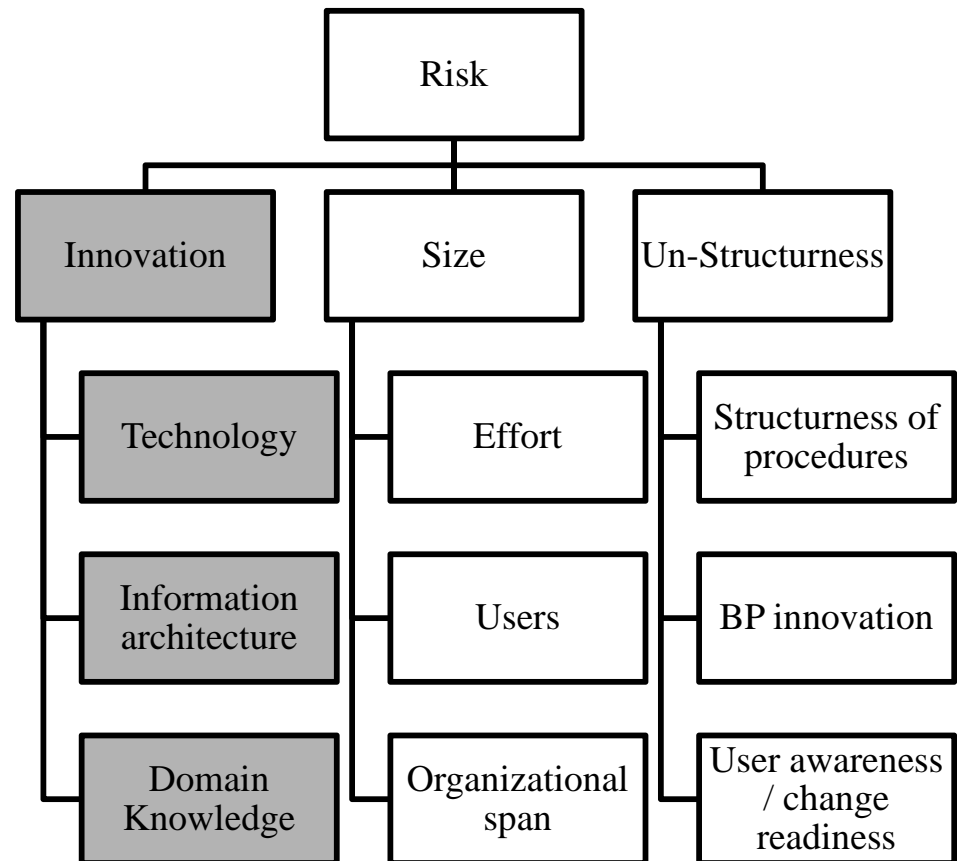
- RISK =100*[1- (Expected risk – Target Risk) / Target Risk]

- Risk parameters :
  - Target risks : p.e.
    - Core project : 70
    - Support project : 50
  - Risk highest values: .
    - Core project : 85
    - Support project : 60

- Risk dimensions
  - Size: up to 30
  - Innovation: up to 35
  - Unstructurness: up to 35

Project Scoring: Innovation: up to 35

- **Technology (OS, Platforms, etc)**
  - Low: 1
  - Average: 5
  - High: 15
- **Information / Execution architecture**
  - Low (Tested and mature) : 1
  - Average (New but tested in several projects): 5
  - High (New solution and not really tested by other projects): 10
- **Domain / technology experience of IT professionals**
  - High (several projects): 1
  - Average (engagement in one project) : 3
  - Limited: 10

```
                        ┌──────────────┐
                        │     Risk     │
                        └──────────────┘
          ┌──────────────────┼──────────────────┐
    ┌────────────┐     ┌────────────┐     ┌────────────────┐
    │ Innovation │     │    Size    │     │ Un-Structurness│
    └────────────┘     └────────────┘     └────────────────┘
          │                  │                    │
    ┌────────────┐     ┌────────────┐     ┌────────────────┐
    │ Technology │     │   Effort   │     │ Structurness of│
    └────────────┘     └────────────┘     │   procedures   │
          │                  │            └────────────────┘
    ┌────────────┐     ┌────────────┐     ┌────────────────┐
    │ Information│     │   Users    │     │  BP innovation │
    │architecture│     └────────────┘     └────────────────┘
    └────────────┘           │                    │
    ┌────────────┐     ┌────────────┐     ┌────────────────┐
    │   Domain   │     │Organizational│   │ User awareness │
    │ Knowledge  │     │    span    │     │    / change    │
    └────────────┘     └────────────┘     │   readiness    │
                                          └────────────────┘
```

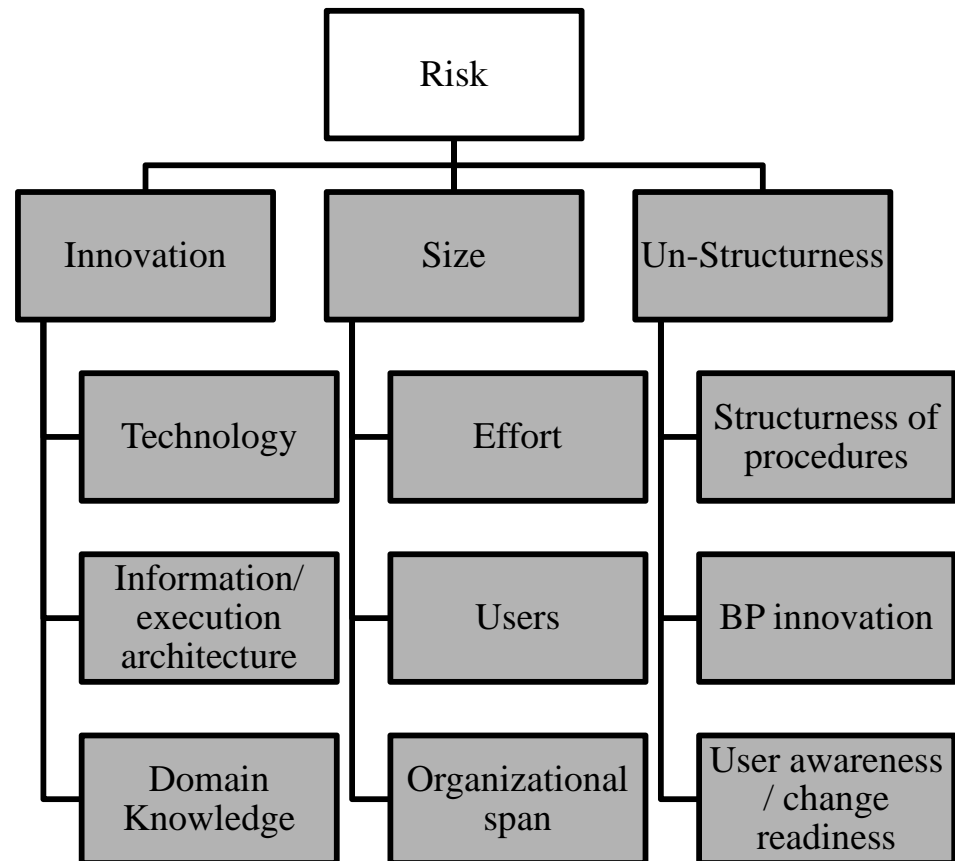# Risk Scoring: Size: up to 30

- **Project effort (Full Time Equivalent)**
  - Low: less than 2 FTEs: 1
  - Average: 2 to 10 FTEs: 2
  - Large: 10 to 30 FTEs: 4
  - Very Large: over 30 FTEs : 10
- **Number of end users**
  - Low: less than 10 : 1
  - Average: 10 to 50 : 3
  - Large : 50 to 200: 5
  - Very Larege : over 200 : 10
- **Organizational span**
  - Low: 1 business process / 1 function : 1
  - Average: 1 business process across several functions : 3
  - Very large : 1 business process across different organizations or with the involvment of the customers: 10
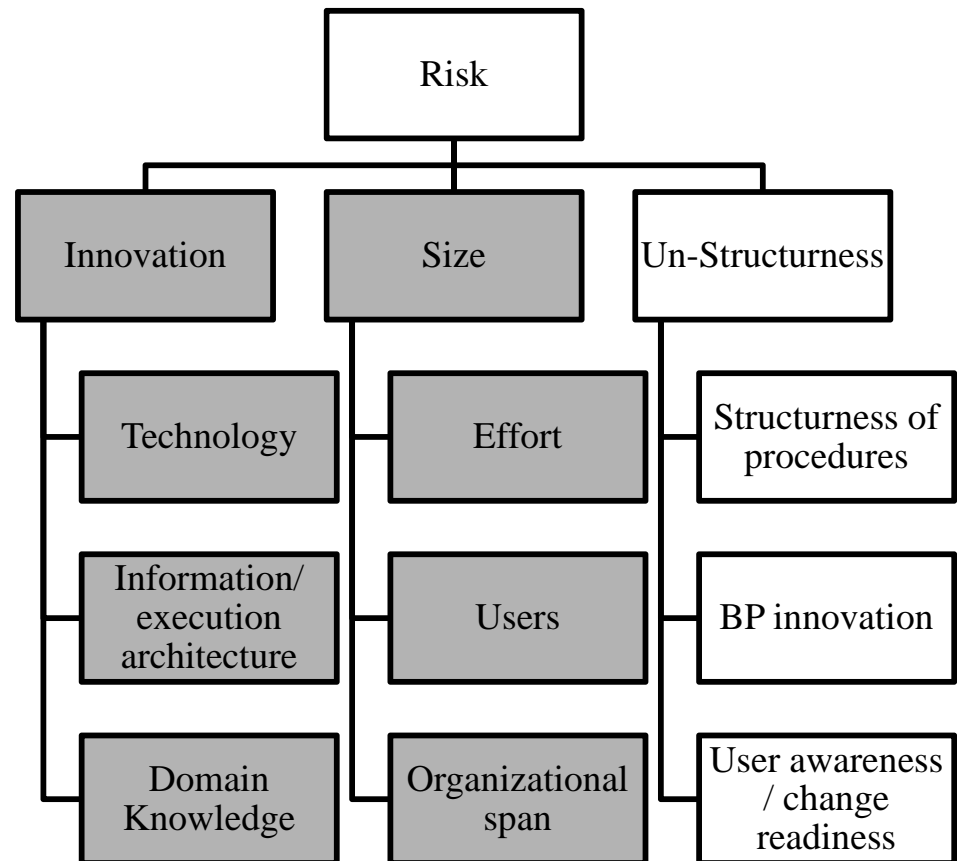
# Risk Scoring : Unstructurness: up to 35

- Degree of structurness of procedures and business rules :
    - High (input, output, event and business rules are set by law or public regulation): 1
    - Average (best practice) : 5
    - Low (design freedom, competitive advantage) : 15
- Business process innovation (% of change in elementary activities):
    - Low: less than 10% : 1
    - Average : 11% to 50% : 3
    - High : over il 50% : 10
- IT awareness / change readiness of users:
    - High : 1
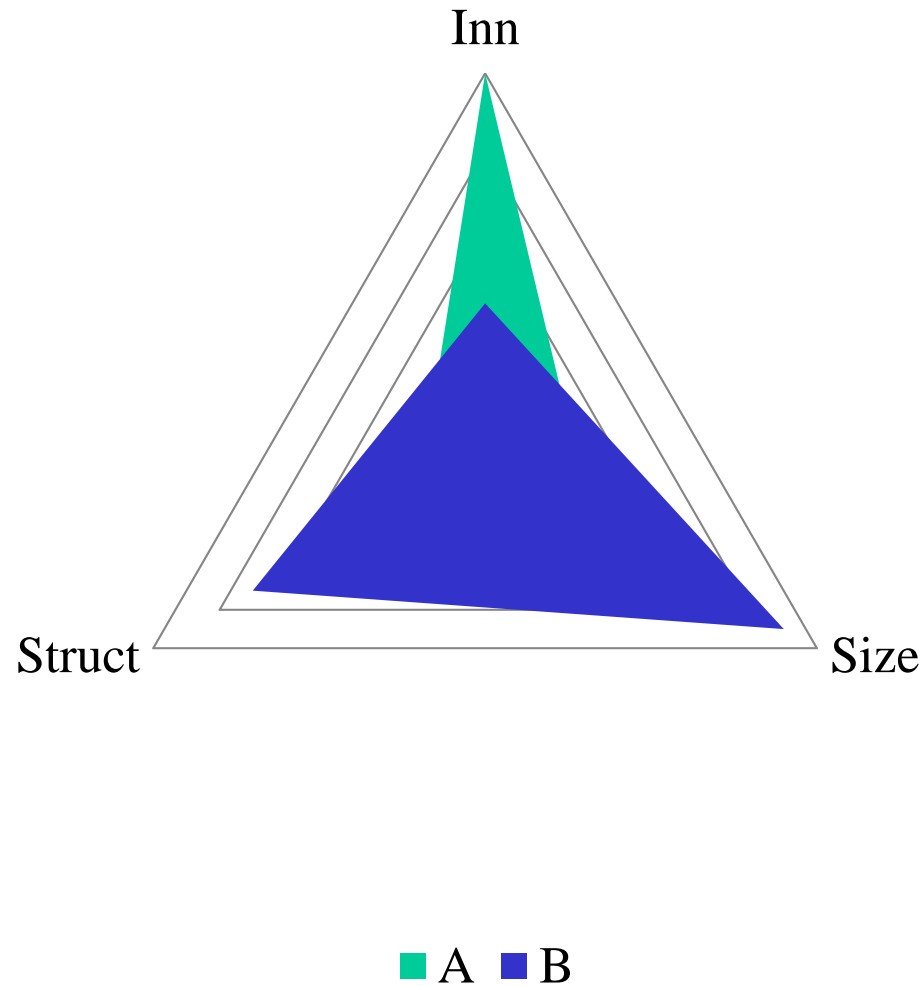   - Average : 3
    - Low to nul: 10

Risk

Innovation | Size | Un-Structurness

Technology | Effort | Structurness of procedures

Information/ execution architecture | Users | BP innovation

Domain Knowledge | Organizational span | User awareness / change readiness

Risk profile : grid

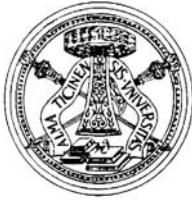| PROJECT	UNSTRUCTUR-NESS	INNOVATION	SIZE	RISK
1	L	L	H	LOW
2	L	L	L	VERY LOW
3	L	H	H	HIGH
4	L	H	L	AVERAGE
5	H	L	L	AV-LOW
6	H	L	L	LOW
7	H	H	H	VERY HIGH
8	H	H	L	HIGH
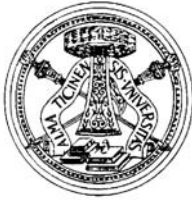
Risk profile: radar

- Examples of projects
  - New architecture for all existing business systems
  - New application on a new technology
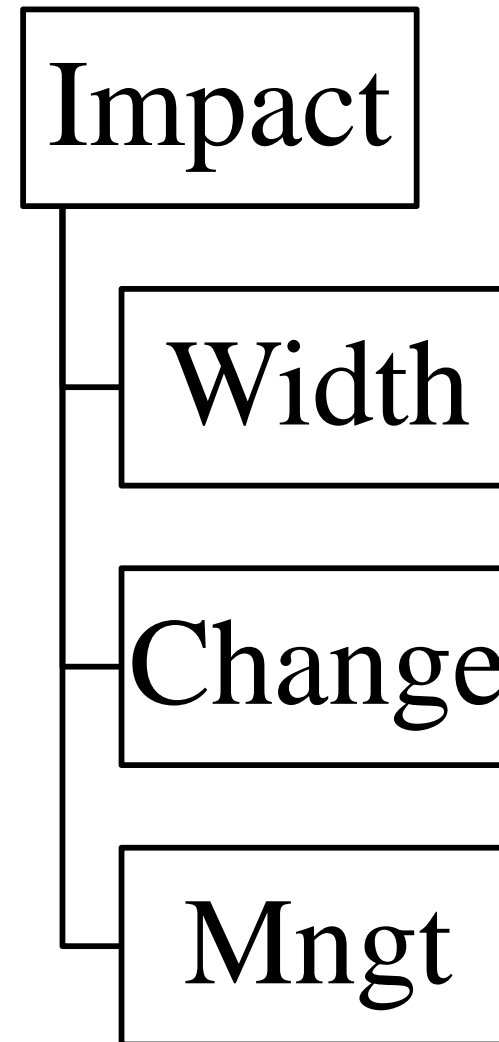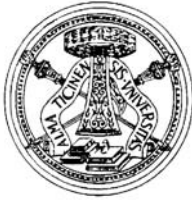 - New system for a new business
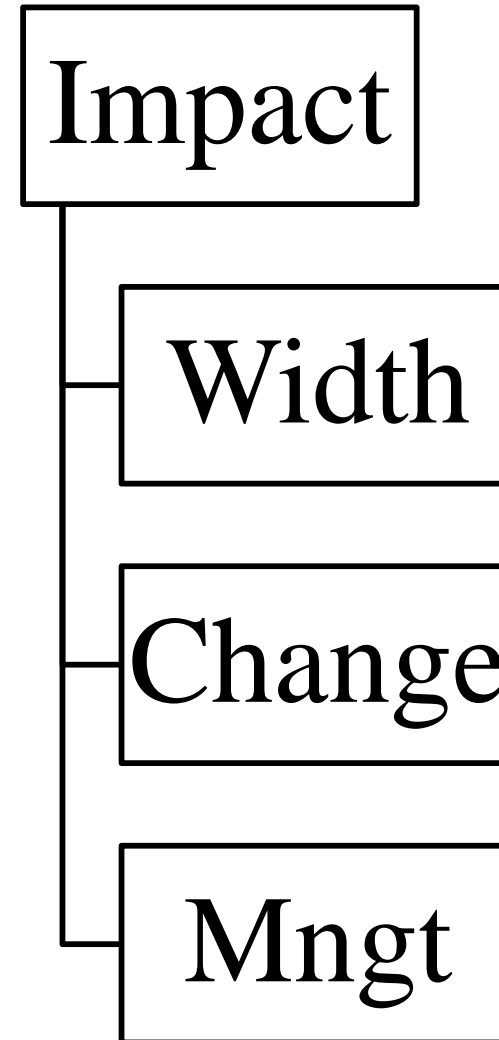 - Etc.

Inn

Struct

Size

A B

Organization Impact

- $I_{ORG} = 100*[1- \text{(Expected Impact}- \text{Target Impact)} / \text{Target Impact]}$

- Target Impact:
  - 70 = Average
  - 30 = Low

- Impact/ risk variables
  - Width
  - Change speed
  - Management Preparation

Impact
Width
Change
Mngt

Organization Impact : scoring

- Change Width: 0 to 50 (0 to 10 for each variable)
  - Activities
  - Structure
  - Skill
  - Reward and control
  - IT support
- Change Speed : 0 to 30 as a sum of the variables (The lower tha speed the lower the risk)
  - Time period between the project start and organization change
  - Project duration
- Management preparation: 0 to 20

Impact

Width

Change

Mngt

ASSIGNMENT

```
Project Risk ──┬── Risk scoring of the project ──┬── Pilot
               │                                  │
               ├── Explanation of the score       ├── Split
               │   given  (at least 2 pages)       │
               │                                  ├── Downgrade objectives
               └── Risk mitigation actions         │
                   (3 pages with examples)         │
                                                  │
Organizational Risk ──┬── Risk scoring ──────────┼── Manage risk in the project
                      │                          │
                      ├── Explanation of the      └── Other
                      │   score given  (at least 2 pages)
                      │
                      └── Risk Mitigation Actions
```