TD 02
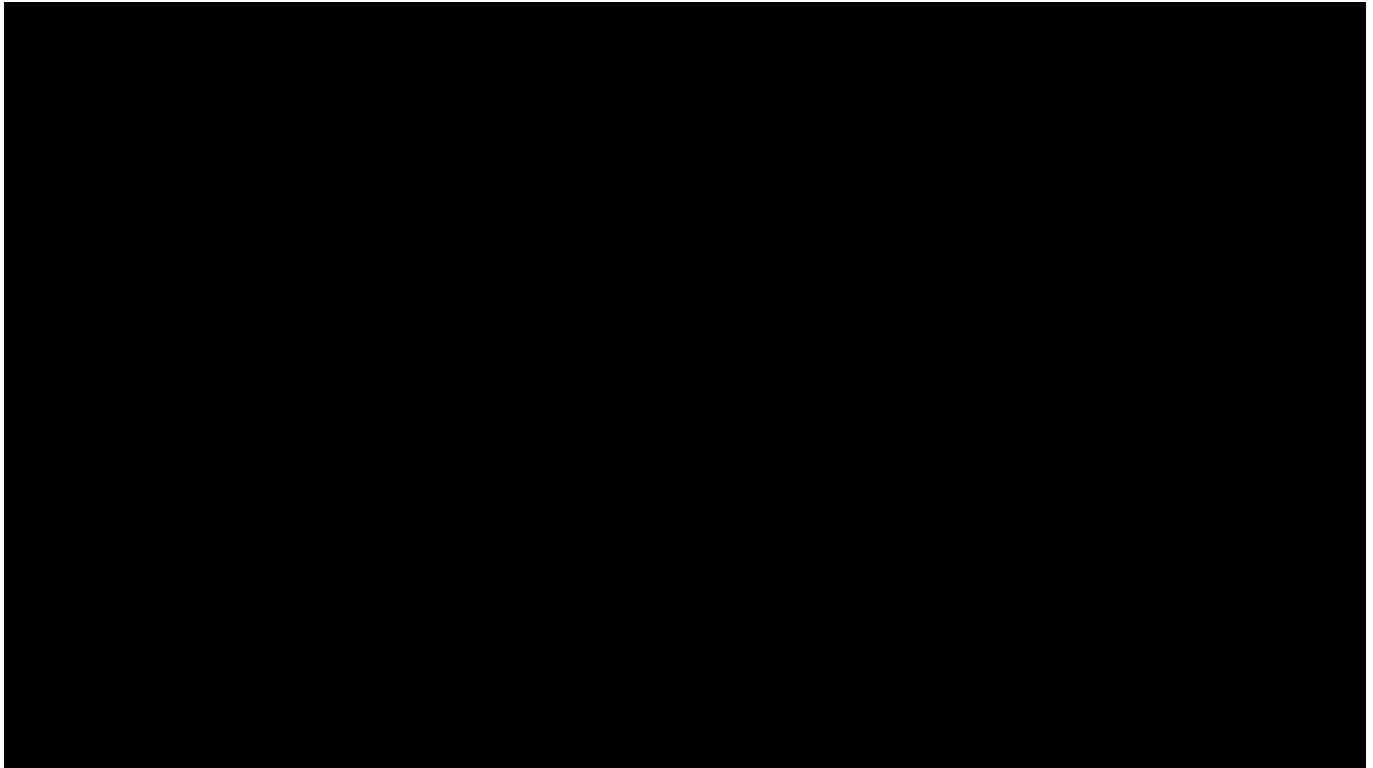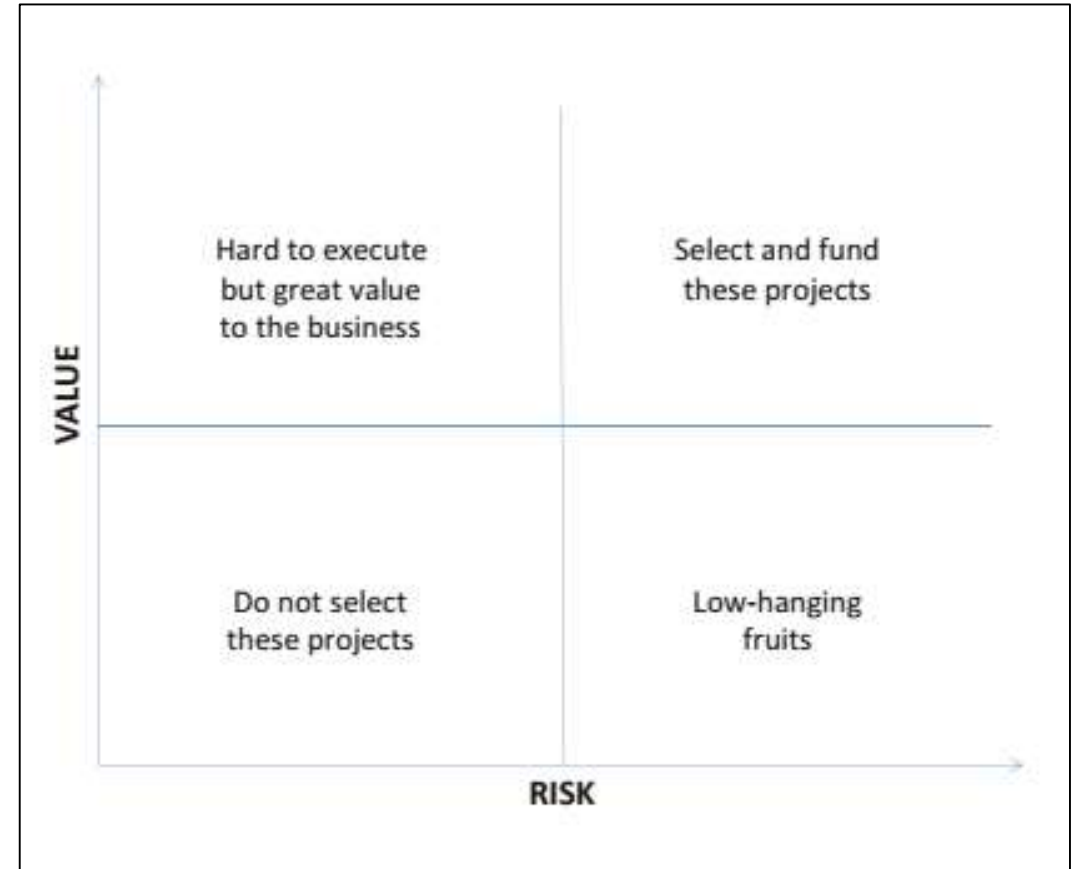## Defining Programs

Qualitative methods

- The SWOT analysis

Qualitative methods
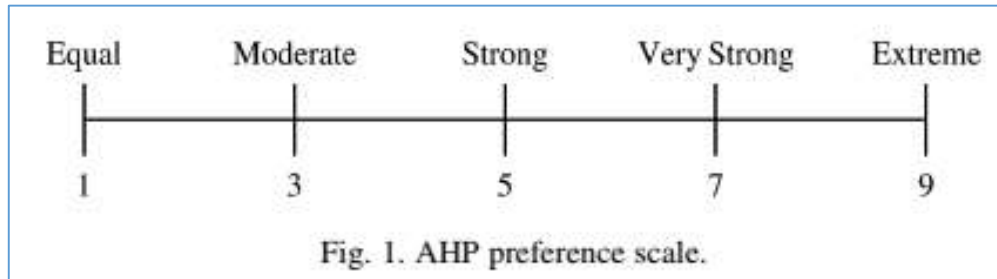
- The SWOT analysis, which lists strengths, weaknesses, opportunities and threads on a table

A two-by-two matrix with VALUE on the vertical axis and RISK on the horizontal axis:
- Top-left: Hard to execute but great value to the business
- Top-right: Select and fund these projects
- Bottom-left: Do not select these projects
- Bottom-right: Low-hanging fruits

Semi-Qualitative Method

- Multiple Attribute Techniques

➢ The performance index of a given project (k) is the summation, for all parameters (i), of the utility weight (w) multiplied by the score (s) of each attribute, as in EQ
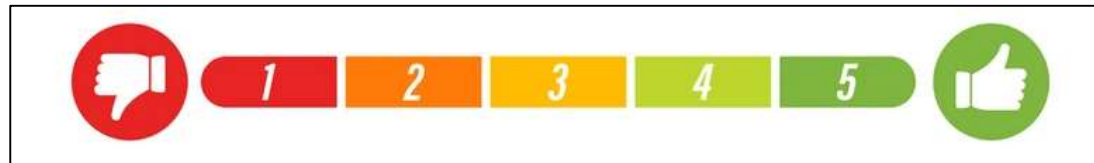
Equal	Moderate	Strong	Very Strong	Extreme
1	3	5	7	9

Fig. 1. AHP preference scale.

$$PI_k = \sum_{i}^{n} w_i * s_{ik}$$

Semi-Qualitative Method

Multiple Attribute Techniques

Attributes	Attribute 1	Attribute 2	Attribute 3	Attribute 4	Attribute 5	PI
Weight (w)	0.2	0.5	0.05	0.15	0.1	
Project A	4	2	3	5	1	
Project B	3	5	1	2	4	
Project C	5	4	2	3	1	
Project D	2	1	5	4	3	
Project E	2	3	3	5	2	

Semi-Qualitative Method

Multiple Attribute Techniques

1. Give examples of attributes for a construction project?

2. In the given example, which attribute is the most important?

3. Calculate the Performance Index **PI** for each project.

4. Then rank the projects according to their importance.

5. Analyze the example of attributes given in the lecture.

6. What is the logic behind determining the weight value of each attribute?