

Project selection with scenarios  
Learn to calculate them. Govern your programs.

# ITM Platform



**ITM Platform**  
PROJECTS ▪ PROGRAMS ▪ PORTFOLIO



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## 1 Project selection with scenarios: What for?

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*If we have more project proposals than we can execute, how do we choose the projects without affecting the performance of the business?*

Scenario selection is a very effective methodology when choosing the most suitable combination of projects for an organization.

**Advantages:**

- **Based on objective data**
- **Eliminates bias between different departments**
- **Oriented to find the best possible combination of projects**
- **Allows for easy communication with customers and colleagues**
- **Easy visibility**

This guide illustrates the calculations used in ITM Platform's project programs prioritization system.

**Request a demo session with one of our product experts to learn how to prioritize projects with scenarios in the ITM Platform.**

[Request a demo](#)

## 2 Project selection with scenarios: How?

### 2.1 The data set

Suppose we have five projects in the Program, each with a different level of importance and with an estimated economic value.

Order	Name	Importance	Proposed cost
1	Project 1	6,33%	75.099,00 €
2	Project 2	42,04%	90.091,00 €
3	Project 3	20,29%	64.144,00 €
4	Project 4	12,61%	13.777,00 €
5	Project 5	18,73%	80.126,00 €
<b>Total cost:</b>			<b>323.237,00 €</b>

The first thing we must do after assigning the relative importance of the projects is to determine all the potential solutions we are going to work with. In this set of solutions, we will determine which projects can be undertaken or not, and will be denoted by “**C**” (Chosen) and “**N**” (Not chosen)

With two possible values (**C** and **N**) with two for each project, there will therefore be,  $2^5$ , or  $2 \times 2 \times 2 \times 2 \times 2 = 32$  possible combinations, which are represented in the following table. Thus, the scenario where no project would be chosen would be **NNNNN**, and that they are all, **CCCCC**:

<b>NNNNN</b>	<b>NNNNE</b>	<b>NNNEN</b>	<b>NNNEE</b>	<b>NNENN</b>	<b>NNENE</b>	<b>NNEEN</b>	<b>NNEEE</b>
<b>NENNN</b>	<b>NENNE</b>	<b>NENEN</b>	<b>NENEE</b>	<b>NEENN</b>	<b>NEENE</b>	<b>NEEEN</b>	<b>NEEEE</b>
<b>ENNNN</b>	<b>ENNNE</b>	<b>ENNEN</b>	<b>ENNEE</b>	<b>ENENN</b>	<b>ENENE</b>	<b>ENEEN</b>	<b>ENEEE</b>
<b>EENNN</b>	<b>EENNE</b>	<b>EENEN</b>	<b>EENEE</b>	<b>EEENN</b>	<b>EEENE</b>	<b>EEEEN</b>	<b>EEEEE</b>

As each project has an estimated cost, each cell can be translated by its costs:

**N=0**   **E= Project cost**

For example, the cell in row 4, **EENEN** column 3:

$$\text{\$75,099} + \text{\$90,091} + \text{0} + \text{\$13,777} + \text{0} = \text{\$178,967}.$$

The table below contains all the calculations respective of the possible combinations:

0	75.099,00 €	90.091,-00 €	165.190,00 €	64.144,00 €	139.243,00 €	154.235,00 €	229.334,00 €
13.777,00 €	88.876,00 €	103.868,00 €	178.967,00 €	77.921,00 €	153.020,00 €	168.012,00 €	243.111,00 €
80.126,00 €	155.225,00 €	170.217,00 €	245.316,00 €	144.270,00 €	219.369,00 €	234.361,00 €	309.460,00 €
93.903,00 €	169.002,00 €	183.994,00 €	259.093,00 €	158.047,00 €	233.146,00 €	248.138,00 €	323.237,00 €

Similarly, with costs, it is also possible to add the importance:

0.00 %	6.33 %	42.04 %	48.37 %	20.29 %	26.62 %	62.33 %	68.66 %
12.61 %	18.94 %	54.65 %	60.98 %	32.90 %	39.23 %	74.94 %	81.27 %
18.73 %	25.06 %	60.77%	67.10 %	39.02 %	45.35 %	81.06 %	87.39 %
31.34 %	37.67 %	73.38%	79.71 %	51.63 %	57.96 %	93.67 %	100.00%

## 2.2 Add budget constraints

Now that we have all possible combinations of projects, we will introduce an economic constraint.

**Imagine that the CFO sets an expenditure ceiling for these projects to a maximum of \$200,000.**

There are several combinations that we can no longer choose:

0	75.099,00 €	90.091,-00 €	165.190,00 €	64.144,00 €	139.243,00 €	154.235,00 €	229.334,00 €
13.777,00 €	88.876,00 €	103.868,00 €	178.967,00 €	77.921,00 €	153.020,00 €	168.012,00 €	243.111,00 €
80.126,00 €	155.225,00 €	170.217,00 €	245.316,00 €	144.270,00 €	219.369,00 €	234.361,00 €	309.460,00 €
93.903,00 €	169.002,00 €	183.994,00 €	259.093,00 €	158.047,00 €	233.146,00 €	248.138,00 €	323.237,00 €

Looking at the table of importance now, the combination with the highest value excluding the ones we cannot afford should be the combination we choose:

0,00%	6,33%	42,04%	48,37%	20,29%	26,62%	62,33%	
12,61%	18,94%	54,65%	60,98%	32,90%	39,23%	74,94%	
18,73%	25,06%	60,77%		39,02%			
31,34%	37,67%	73,38%		51,63%			

That is the combination:

**NEEEN**

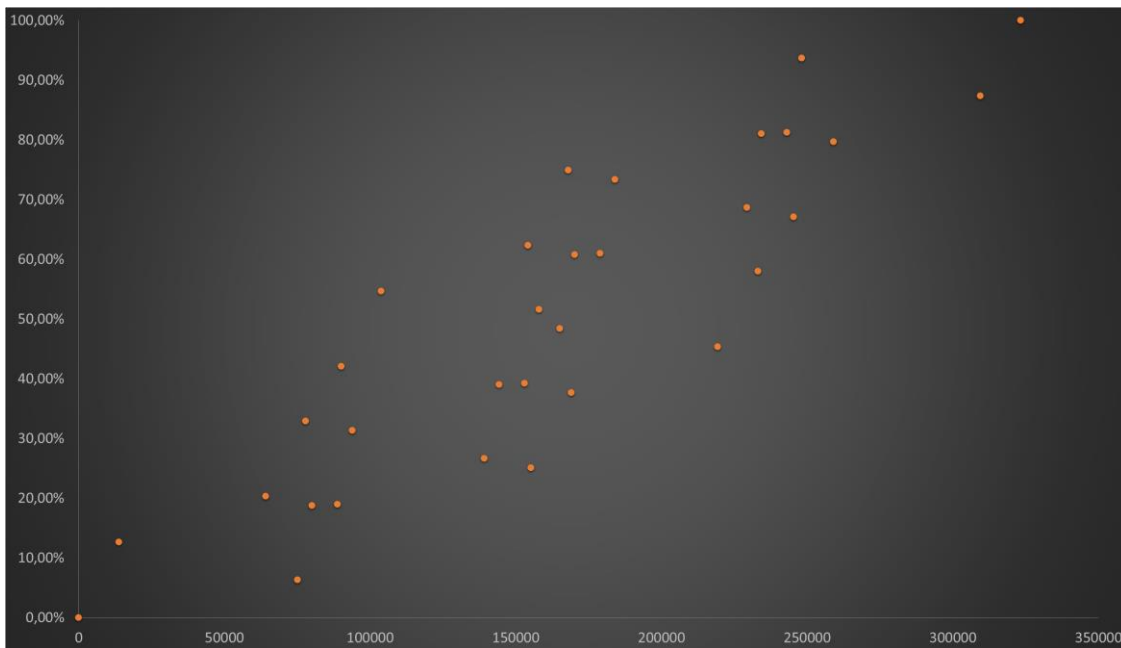
What does this mean? That **projects 1 and 5 should be discarded** to achieve the greatest possible value with the existing budget:

-	Name	Importance	Proposed cost	State
1	Project 1	6,33%	75.099,00 €	<i>Discarded</i>
2	Project 2	42,04%	90.091,00 €	
3	Project 3	20,29%	64.144,00 €	
4	Project 4	12,61%	13.777,00 €	
5	Project 5	18,73%	80.126,00 €	<i>Discarded</i>
		<b>Total cost:</b>	<b>323.237,00 €</b>	

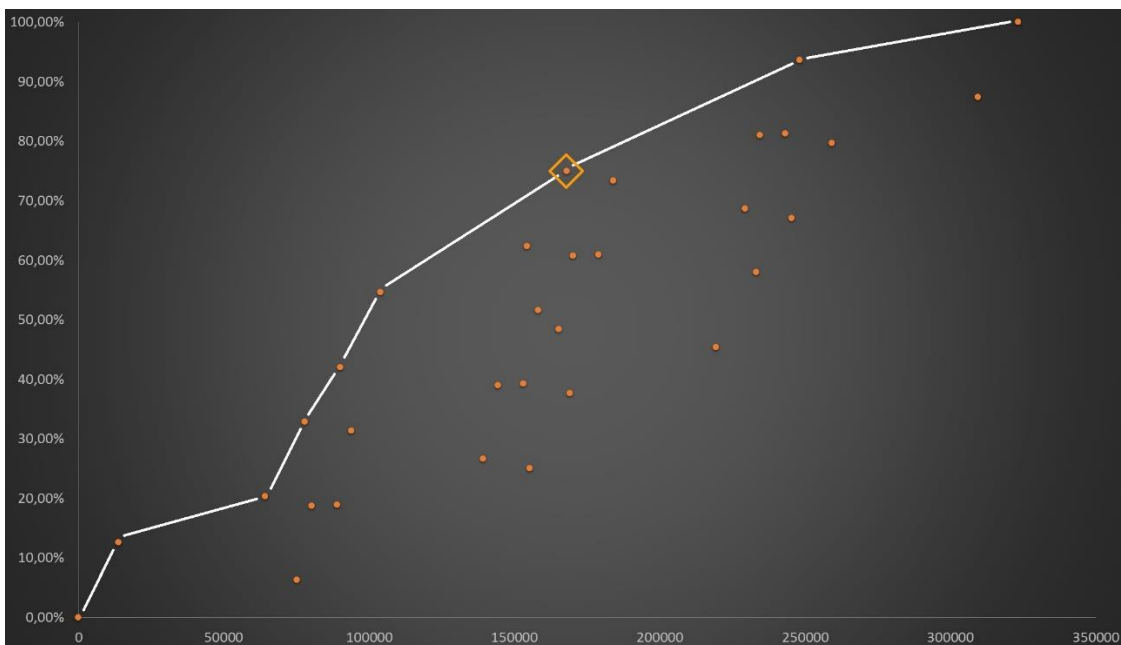
**Constraint:** 200.000,00 €

<b>Selection:</b>	2, 3 y 4
<b>Value:</b>	74,94%
<b>Cost:</b>	168.012,00 €

The values of the two tables, combined, generate this scatter diagram:



In the diagram below you can see the the efficient frontier and the selected scenario: it is the highest value below \$200,000.



The orange dots are the possible alternatives, the white line marks the efficient frontier (ie: the best combinations that can be made without limitations) and the diamond the selected scenario.

This simple model serves to illustrate the basic concept of optimization that underpins the Program Scenarios. Of course, the other option is to perform the calculation manually for each group of projects.

**But what happens when projects have different importance for different areas of the organization? And how to facilitate the calculation of the efficient frontier? After all, this example is a simplified representation.**

**ITM Platform accommodates all the complexity of real organizations with their program benefits and strategic prioritization:**

### **Scenario Prioritization in ITM Platform**

- **Different Valuation Interfaces**
- **Linking valuation with strategic objectives**
- **Add as many scenarios as you want and explore all possible scenarios**

See how you can maximize the performance of your projects!

[Request a consultation](#)



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