

The testing environment

Nicola Ferro

*Information Management Systems Research Group
Department of Information Engineering
University of Padua, Italy*



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- ❑ **evaluation process:** during this process each supplier is individually examined and it is rated according to its characteristics.
 - The evaluation process is formalized through the **evaluation matrix**
 - The outcome of the evaluation process is **the supplier score**, that is a number representing the rating achieved by the supplier;
- ❑ **comparison process:** once the suppliers have been rated, they are compared with each other their supplier's score basis.
 - The comparison process is formalized through the **comparison matrix**
 - The outcome of the comparison process is a **ranking of the suppliers**, based on their ratings

Evaluation Process: Building Blocks (1/2)



Category			
	Dimension 1	Dimension 2	Dimension 3
Item 1			
Item 2			

- ❑ **Category:** represents a main aspect of a system under examination. A category covers homogeneous properties of a system;
- ❑ **Item:** describes an elementary constituent of a category and it is used to detail a category;
- ❑ **Dimension:** takes into account different angles of a category, i.e. different facets and standpoints of a category. For example, within the same category we may consider the viewpoint of both a technician and an user.



Evaluation Process: Building Blocks (2/2)



Category 1

	Dimension 1	Dimension 2	Dimension 3
Item 1			
Item 2			

Category 2

	Dimension 1	Dimension 3
Item 1		
Item 2		



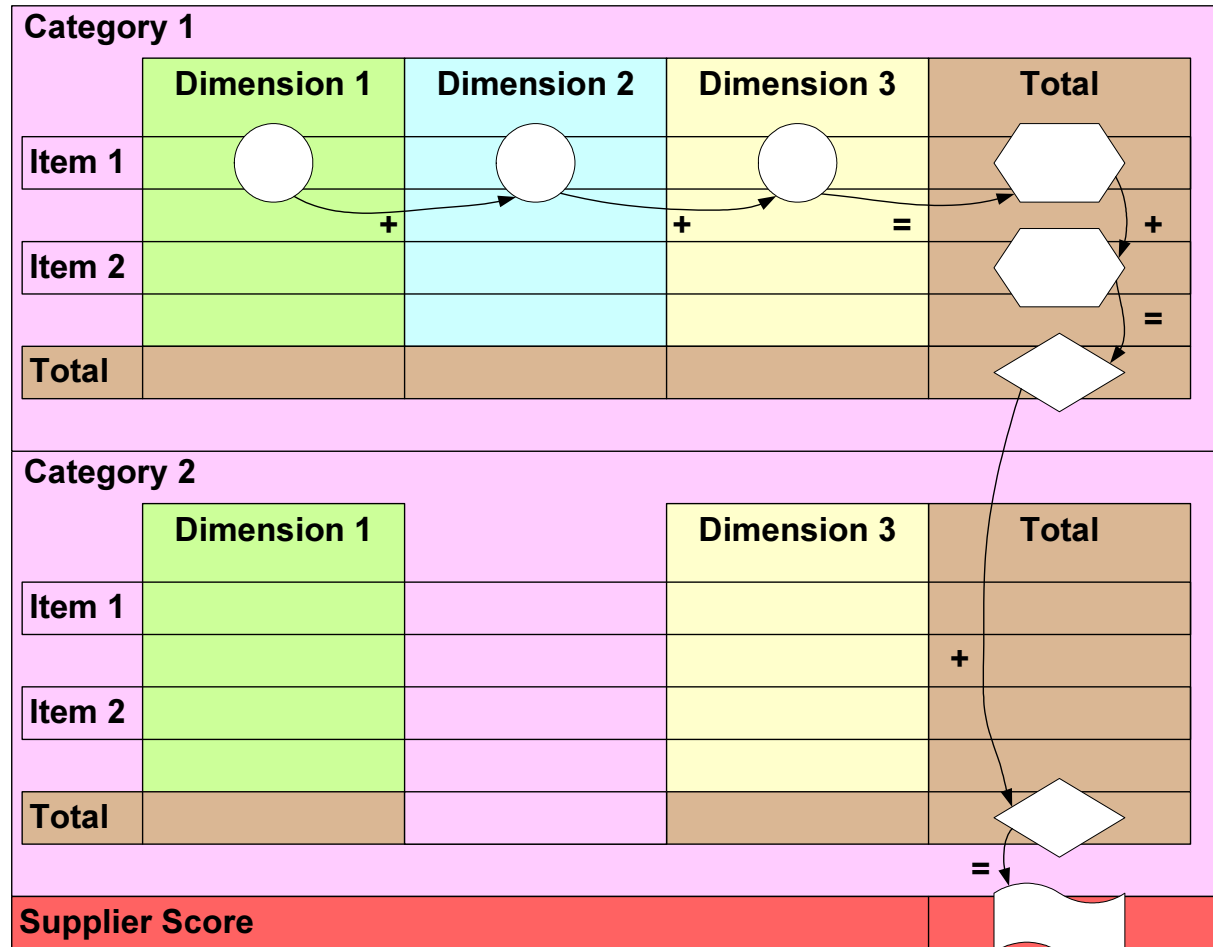
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Evaluation Process: Evaluation Matrix (1/2)

- ❑ **item score:** is the weighted sum of the item sub-scores, i.e. the rating in a dimension of that item.
- ❑ **category score:** is the weighted sum of the item scores for each item within that category.
- ❑ **supplier score:** is the weighted sum of the category scores for each category.



Evaluation Process: Evaluation Matrix (2/2)



$$\text{supplier score} = \alpha_1 C_1 + \alpha_2 C_2 + \dots + \alpha_n C_n = \sum_{i=1}^n \alpha_i C_i$$

$$C_i = \beta_{i,1} I_{i,1} + \beta_{i,2} I_{i,2} + \dots + \beta_{i,k_i} I_{i,k_i} = \sum_{j=1}^{k_i} \beta_{i,j} I_{i,j}$$

$$I_{i,j} = \gamma'_i I'_{i,j} + \gamma''_i I''_{i,j} + \gamma'''_i I'''_{i,j}$$

- ❑ 5 points likert scale (1– bad; 5 – excellent)
- ❑ All weights normalized to 1

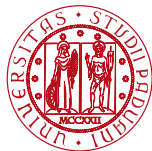


Evaluation Process:

Evaluation Matrix Example



Supplier name: Vendor 1.				
	Dimension 1	Dimension 2	Dimension 3	Total
Category 1 ($\alpha_1 = 0.3$)	$\gamma'_1 = 1$	$\gamma''_1 = 0$	$\gamma'''_1 = 0$	
Item 1 ($\beta_{1,1} = 0.4$)	3.00	—	—	3.00
Item 2 ($\beta_{1,2} = 0.6$)	4.00	—	—	4.00
Category 1 score	3.60	--	--	3.60
Category 2 ($\alpha_2 = 0.7$)	$\gamma'_2 = 0.4$	$\gamma''_2 = 0.3$	$\gamma'''_2 = 0.3$	
Item 1 ($\beta_{2,1} = 0.3$)	2.00	2.00	3.00	2.30
Item 2 ($\beta_{2,2} = 0.1$)	4.00	3.00	2.00	3.10
Item 3 ($\beta_{2,3} = 0.4$)	5.00	2.00	4.00	3.80
Item 4 ($\beta_{2,4} = 0.2$)	1.00	3.00	3.00	2.20
Category 2 score	3.20	2.30	3.30	2.96
Supplier Score				3.15



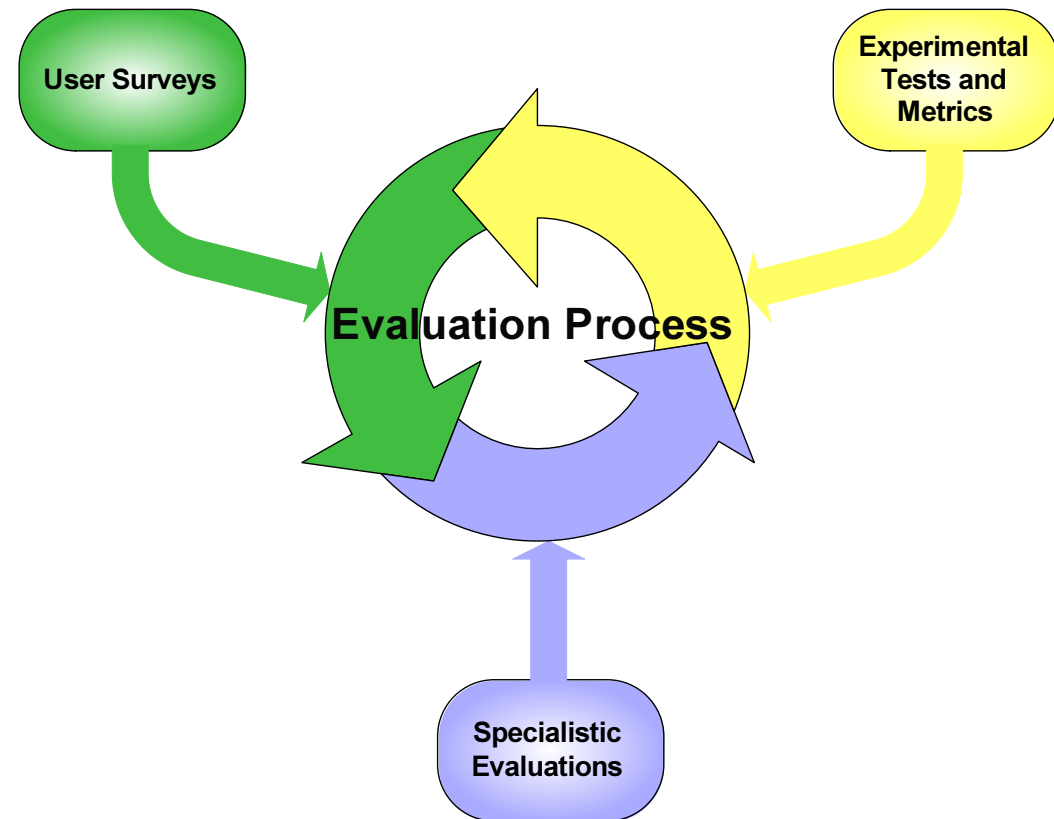
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Evaluation Matrix: Dimensions

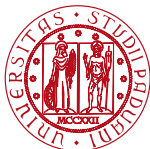
- ❑ **Off-line Expert:** the analysis of this solution is conducted by an expert, who is evaluating the solution. This expert can be either a technician or a manager, who is involved in evaluation of the system.
- ❑ **On-line Expert:** the experimental verification of the solution is conducted by an expert person, who verifies and tests the solution.
- ❑ **On-line User:** concerns the every day utilization of the solution by an end-user, who tries it. The findings are a summary of opinions and the degree of user satisfaction.



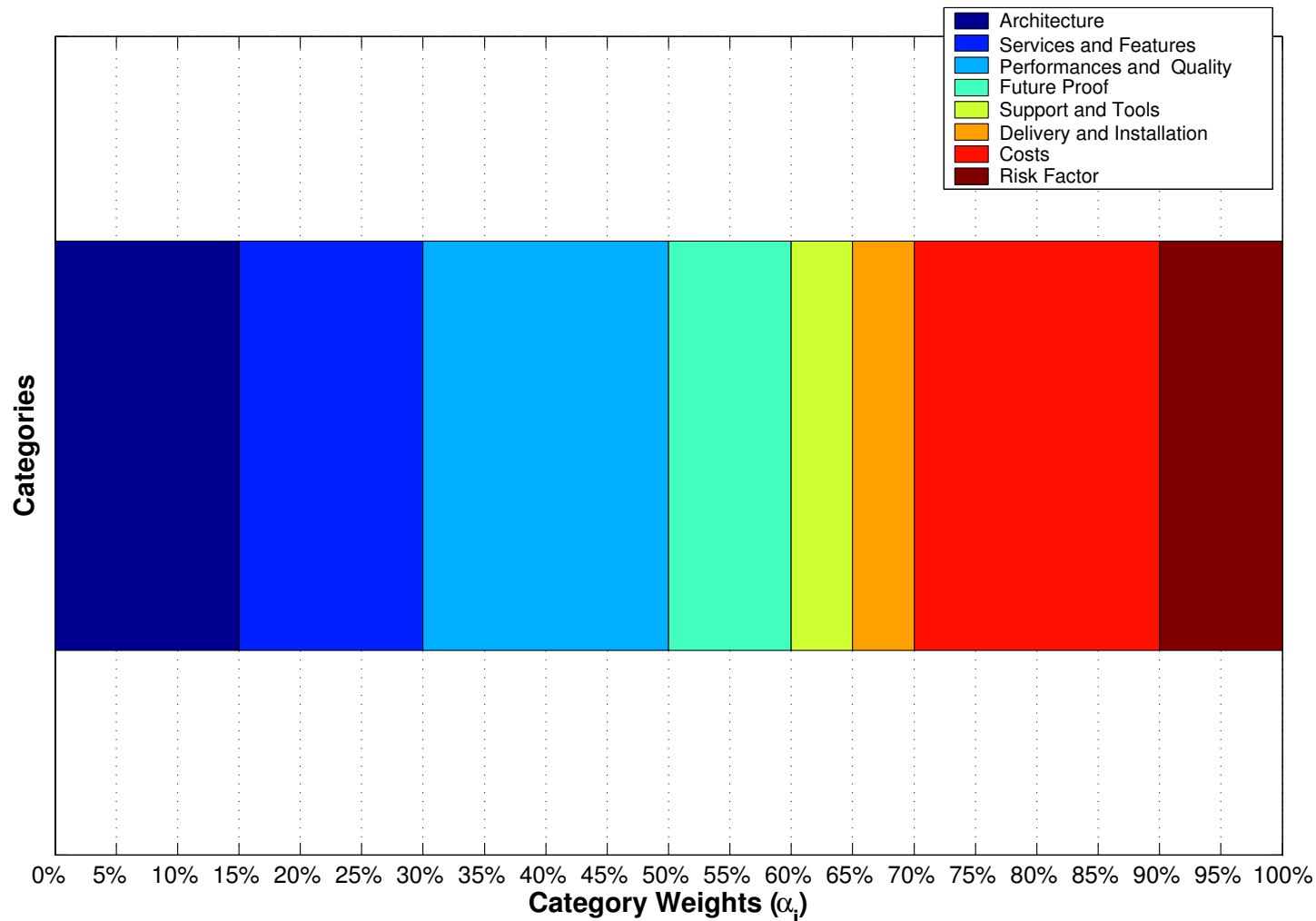
Evaluation Matrix: Categories (1/2)



- ❑ **Architecture:** concerns infrastructural aspects, technical specifications and system features of a system.
- ❑ **Services and features:** concerns functionalities and services offered by a system.
- ❑ **Performances and quality:** evaluates the general performances and the quality, which are measured from both an objective and a subjective point of view.
- ❑ **Future proof:** concerns perspectives of future development of a system
- ❑ **Support and tools:** concerns tools for administration of system and the support offered by the supplier.
- ❑ **Delivery and installation:** concerns aspects regarding the delivery and installation of a system
- ❑ **Costs:** concerns the financial aspects of a system
- ❑ **Risk factors:** concerns the riskiness of a system and the acceptance of these risks.



Evaluation Matrix: Categories (2/2)

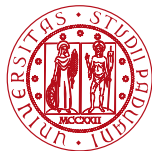
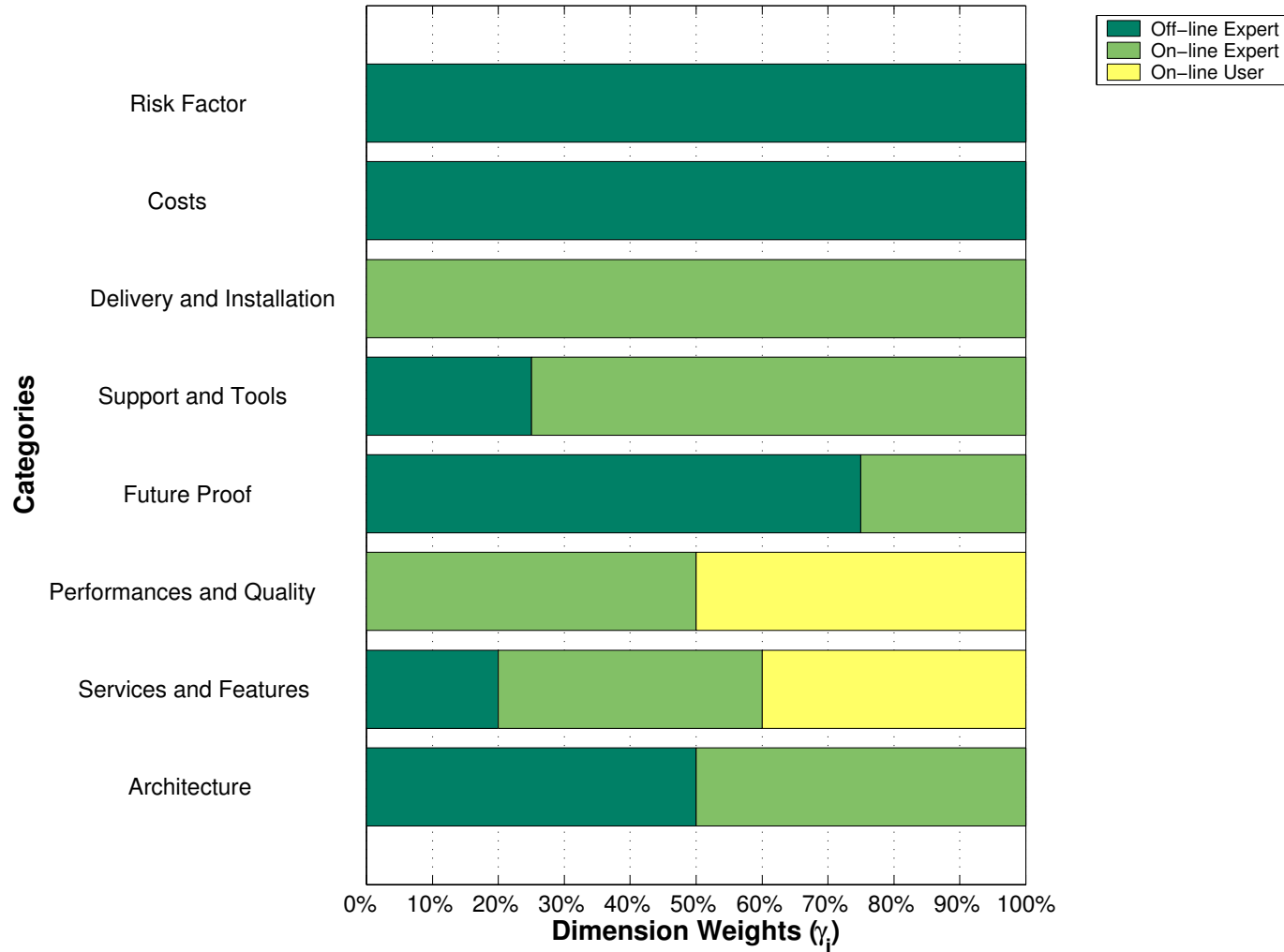


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Evaluation Matrix: Categories and Dimensions



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Thank you!

Nicola Ferro
University of Padua – UNIPD
ferro@dei.unipd.it



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