Exercise 6

25.10.2022

#1 Career selection problem

In this exercise you will build a multiattribute decision model to support career selection. You may work in small groups (2-3 people). The preference statements used in building the model can represent the views of one of the group members, or those of some fictional (yet reasonably realistic) person.

Consider four different careers (specialist in: finance, consultancy, industry, or academia) with respect to three different attributes (median salary, vacation, fit with interests). The performances of each career on median salary and vacation are shown in the table below. Please fill in your own assessments about how the different careers fit your (or the fictional decision maker's) interests.

	Finance	Consultancy	Industry	Academia
Median salary (€/month)	4300	5000	4800	4000
Vacation between 2nd and 10th work years (weeks/year)	5	5	5	6
Fit with interests {poor, fair, good, excellent}				

a) Study whether the attributes can be considered (i) mutually preferentially independent and (ii) difference independent.

b) Construct normalized attribute-specific value functions using the following measurement scales:
    - Median salary: [3500 €/month, 5500 €/month]
    - Vacation: [2 weeks/year, 8 weeks/year]
    - Fit with interests: {poor, fair, good, excellent}

    Use indifference methods or give a functional form for the first two attributes; use direct rating for the last one.

c) Elicit the attribute weights by defining equally preferred changes in the attribute levels.

d) Based on your model, which career looks best?

Be prepared to present your model and results for the other students, for example using a few PowerPoint slides or Excel sheets including:

- The value tree,
- Attribute-specific value functions (graphic representation),
- Discussion on whether the attributes are mutually preferentially independent and difference independent,
- Equally preferred changes in the attribute levels,
- A table showing the alternatives' attribute-specific values, attribute weights, and overall values.