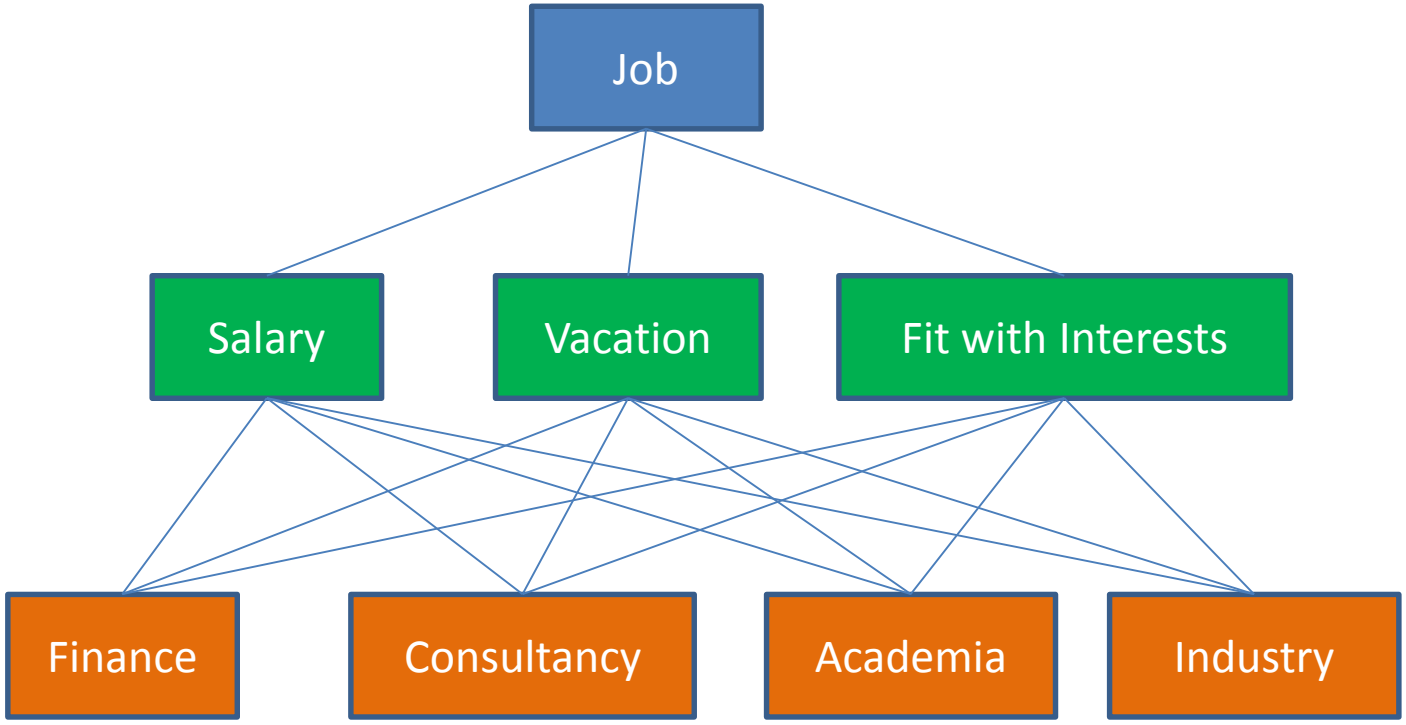
Value tree


Job
Salary
Vacation
Fit with Interests
Finance
Consultancy
Academia
Industry

Independence checking

Check, e.g., whether DM agrees with following types of statements:

- (5500,8,excellent)>(3500,8,excellent)➔(5500,2,poor)>(3500,2,poor)
- (5500,8,excellent)>(5500,2,excellent)➔(3500,8,poor)>(3500,2,poor)
- (5500,8,excellent)>(5500,8,poor)➔(3500,2,excellent)>(3500,2,poor)

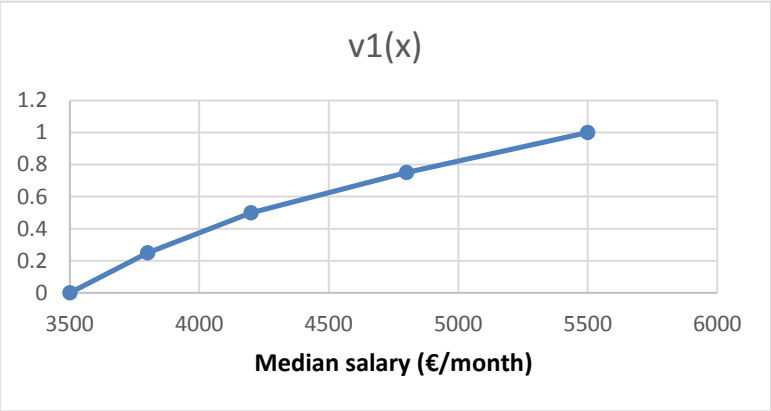
- (5500,2,excellent)>(3500,8,excellent)➔(5500,2,poor)>(3500,8,poor)
- (5500,8,poor)>(3500,8,excellent)➔(5500,2,poor)>(3500,2,excellent)
- (5500,8,poor)>(5500,2,excellent)➔(3500,8,poor)>(3500,2,excellent)

Mutual pref. Indepen-dence

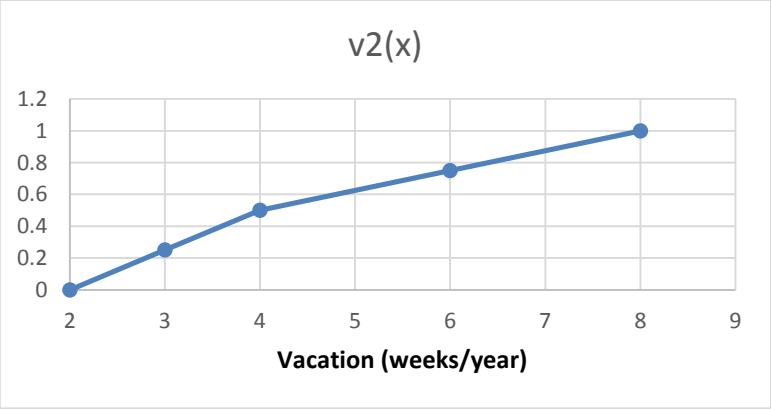
- (5500,8,excellent)←(3500,8,excellent)~d(5500,2,poor)←(3500,2,poor)
- (5500,8,excellent)←(5500,2,excellent)~d(3500,8,poor)←(3500,2,poor)
- (5500,8,excellent)←(5500,8,poor)~d(3500,2,excellent)~(3500,2,poor)

Difference independence

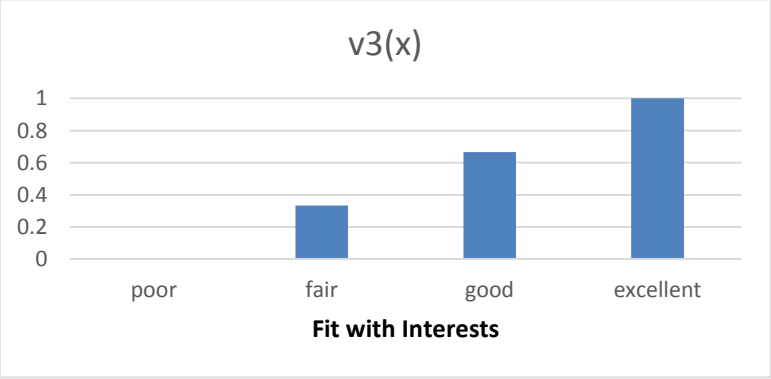
Attribute specific value functions



Salary (€/month)	Bisection method checkpoints
3500	x0
3800	x0.25
4200	x0.5
4800	x0.75
5500	X*



Vacation (weeks/year)	Bisection method checkpoints
2	X0
3	x0.25
4	x0.5
6	x0.75
8	X*



Fit with interests	Value by direct rating
poor	0
fair	0.333333
good	0.666667
excellent	1

Attribute weights + attribute levels and values of alternatives

- Suppose DM has stated that

  (3500,8,poor)←(3500,2,poor)~(3500,2,fair)←(3500,2,poor)~(5500,2,poor)←(3500,2,poor)

- This implies w2=w3/3=w1 ➔w1=0.2, w2=0.2, w3=0.6

		attr. Levels xi	Finance	Consultancy	Industry	Academia
		Salary	4300	4600	4800	4000
		Vacation	5	5	5	6
		Fit with interests	fair	good	good	excellent
weights		**attr. Spec. Values vi(xi)**	Finance	Consultancy	Industry	Academia
w1	0.2	Salary	0.541667	0.666667	0.75	0.375
w2	0.2	Vacation	0.625	0.625	0.625	0.75
w3	0.6	Fit with interests	0.333333	0.666667	0.666667	1
		overall values V(x)=w1*v1(x1)+ w2*v2(x2)+w3*v3(x3)	0.433333	0.658333	0.675	0.825