Hand-In Paper:

Applied Large-Scale Group Decision Making Using Systemic Consensus and Fuzzy Method of Comparative Linguistic Expressions

Appendix

Table 4. Decision-making methods compared

		Alt. DM in 7 steps [21]	DM in 5 steps [14]	DM in 6 steps [4]	DM in 3 steps [14]	DM based on innovation concept. [14]
Defining	1	Identify the decision	Decision identification	Classifying the problem	Identification	Context description
	2	Gather relevant information	-	Defining the problem		-
	3	Identify the alternatives	Options examination	Deciding what is "right"		-
Identifying	4	Weigh the evidence	Information gathering	Building into the decision the action to carry out	Building decision components	Innovation
	5	Choose among the alternatives	Decision-making	esting the validity and effectiveness of the decision		-
Developing	6	Take action	Decision implementation		Implementation	Decision
	7	Review the decision	-			-

Table 5. Means of sliders and CLE value of all alternatives

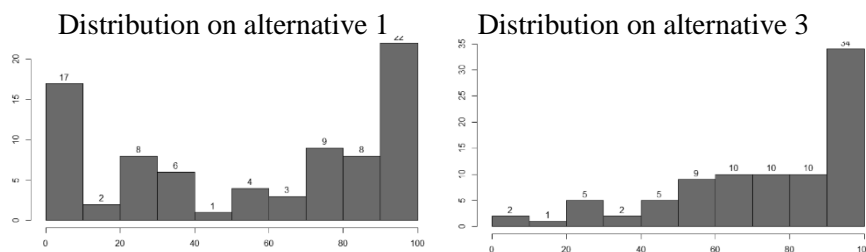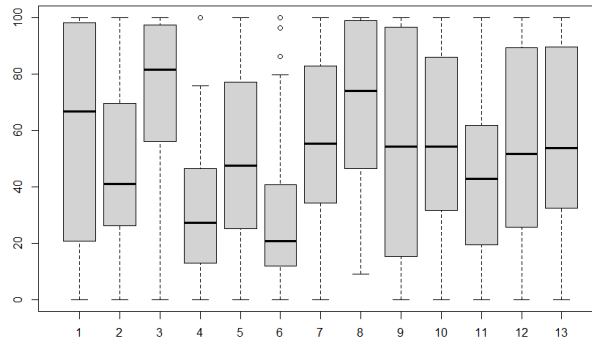|	Support					Resistance				
Alternative	slider-value	CLE 1 s1	CLE 2 s2	CLE 3 s3	CLE 4 s4	slider-value	CLE 1 r1	CLE 2 r2	CLE 3 r3	CLE 4 r4
1 Schäracher St.	**49.813**	0.000	0.500	0.500	0.000	**55.550**	0.000	0.000	1.000	0.000
2 Unterdorf St.	**40.706**	0.000	1.000	0.000	0.000	**46.231**	0.000	0.833	0.167	0.000
3 Towards the City of Sursee	**68.008**	0.000	0.000	1.000	0.000	**74.124**	0.000	0.000	0.833	0.167
4 Towards the St. Erhard	**28.353**	0.000	1.000	0.000	0.000	**31.804**	0.000	1.000	0.000	0.000
5 Dörnliacher St.	**40.961**	0.000	1.000	0.000	0.000	**49.378**	0.000	0.583	0.417	0.000
6 Hinterdorf St.	**24.172**	0.333	0.667	0.000	0.000	**29.818**	0.000	1.000	0.000	0.000
7 Slow traffic	**50.062**	0.000	0.500	0.500	0.000	**56.760**	0.000	0.000	1.000	0.000
8 Relocation	**59.956**	0.000	0.000	1.000	0.000	**70.211**	0.000	0.000	1.000	0.000
9 No action	**46.318**	0.000	0.833	0.167	0.000	**53.353**	0.000	0.250	0.750	0.000
10 Combination on timeline	**52.665**	0.000	0.250	0.750	0.000	**56.623**	0.000	0.000	1.000	0.000
11 Combination of measures	**40.712**	0.000	1.000	0.000	0.000	**43.858**	0.000	1.000	0.000	0.000
12 Use of Train	**45.109**	0.000	0.917	0.083	0.000	**56.021**	0.000	0.000	1.000	0.000
13 Repurposing	**54.280**	0.000	0.167	0.833	0.000	**58.614**	0.000	0.000	1.000	0.000

Fig. 6 Distribution Histogram of resistance-assessments per alternative 1 and 3

In **Fig. 6** Fig. 6 two distributions of the resistance slider values from the case study are shown. On the right histogram the distribution is very clear, while as the left histogram shows a widely spread distribution of assessments. Thus, the average value could not be considered significant. The same analysis was performed on all histograms, to establish the resilience of the single membership-degrees.

Fig. 7. Statistical values per alternative of the support slider-values

Table 6. Membership-degrees of output statuses per alternative (only values > 0)

Alternative	Output statuses as CLE			Rank
	pursue clearly	pursue critical	rather not pursue	
3 Towards the City of Sursee	0.167	0.833		1
8 Relocation		1.000		2
13 Repurposing		0.833	0.167	3
10 Combination on timeline		0.750	0.250	4
7 Slow traffic		0.500	0.500	5
1 Schäracher St.		0.500	0.500	6
9 No action		0.167	0.750	7
12 Use of Train		0.083	0.917	8
11 Combination of measures			1.000	9
4 Towards St. Erhard			1.000	10
2 Unterdorf St.			0.833	11
6 Hinterdorf St.			0.667	12
5 Dörnliacher St.			0.583	13