DaCoTA

Road safety management in Europe: patterns and particularities

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Purpose of analysis

- to investigate the RSM systems of the European countries, based on the RSM questionnaire responses, aiming to recognize country groups with similar RSM components

RSM questionnaire – 5 parts:

1 Institutions organization, coordination and stakeholders' involvement (9 main questions)
2 Policy formulation and adoption (11)
3 Policy implementation and funding (13)
4 Monitoring and evaluation (9)
5 Scientific support and information, capacity building (8)

- ***availability of certain RSM components ?***
- ***understanding typical RSM structures available in the European countries ?***

Dataset preparations

2 datasets: Expert responses – 14 countries,
Governmental responses (12) – 11 countries

RSMQ: ~ 330 lines of variables, including partial lines (if *yes* …) versus 14 observations

Decisions on data applied:

- Main answers only (50)
- Coding: **1** for **yes, 2** for **no, 1.5** for **unknown**
- Average summary scores for multiple lines
- Analysis of **5 separate parts** of the RSMQ
- Data imputations

Expert responses: Preliminary data analysis

❑ Excluding **consensus variables** (12-14 identical answers, low variance)

Examples

17.Have national medium-term quantitative targets been set for improved safety performance? **Yes, for most**
10. Are some government agencies actively advocating the need for taking road safety action? **Mostly, yes**
23. If a long-term vision has been adopted, has a budget been estimated to move towards this vision? **No, for most**

Method of analysis

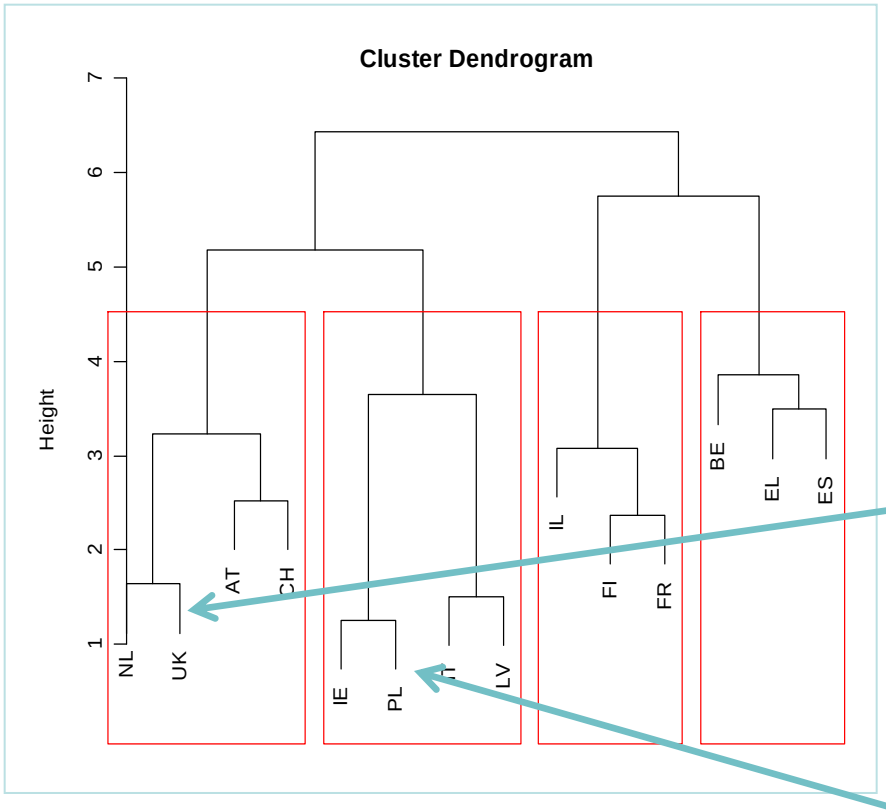
Cluster analysis: to organize observed data into meaningful groups (clusters), based on combinations of independent variables, which maximizes the **similarity** of cases within each cluster while maximizing the **dissimilarity** between groups (**initially unknown**)

Countries' clustering:
each part of the RSM questionnaire –
2 methods applied: ***the Ward and the k-means***

Finding clusters' composition - 3 tools:
(a) a classification tree by Ward
(b) groups by k-means
(c) the clusters' Silhouette plot by PAM (Partitioning Around Medoids)

Part 1 analysis (Institutions organization): Classification results

Ward



K-means:

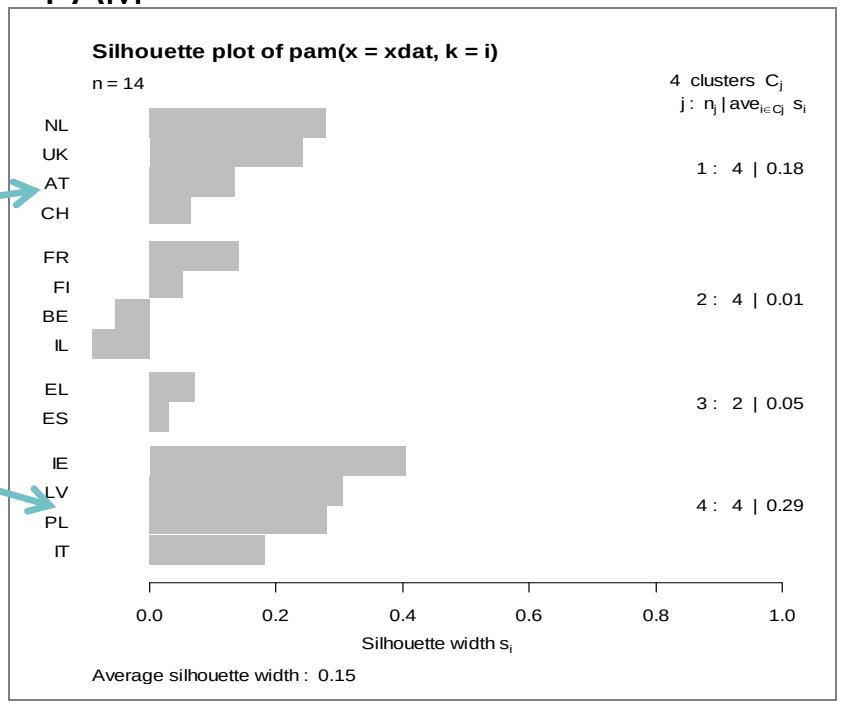
1 IL IE PL

2 BE FI FR

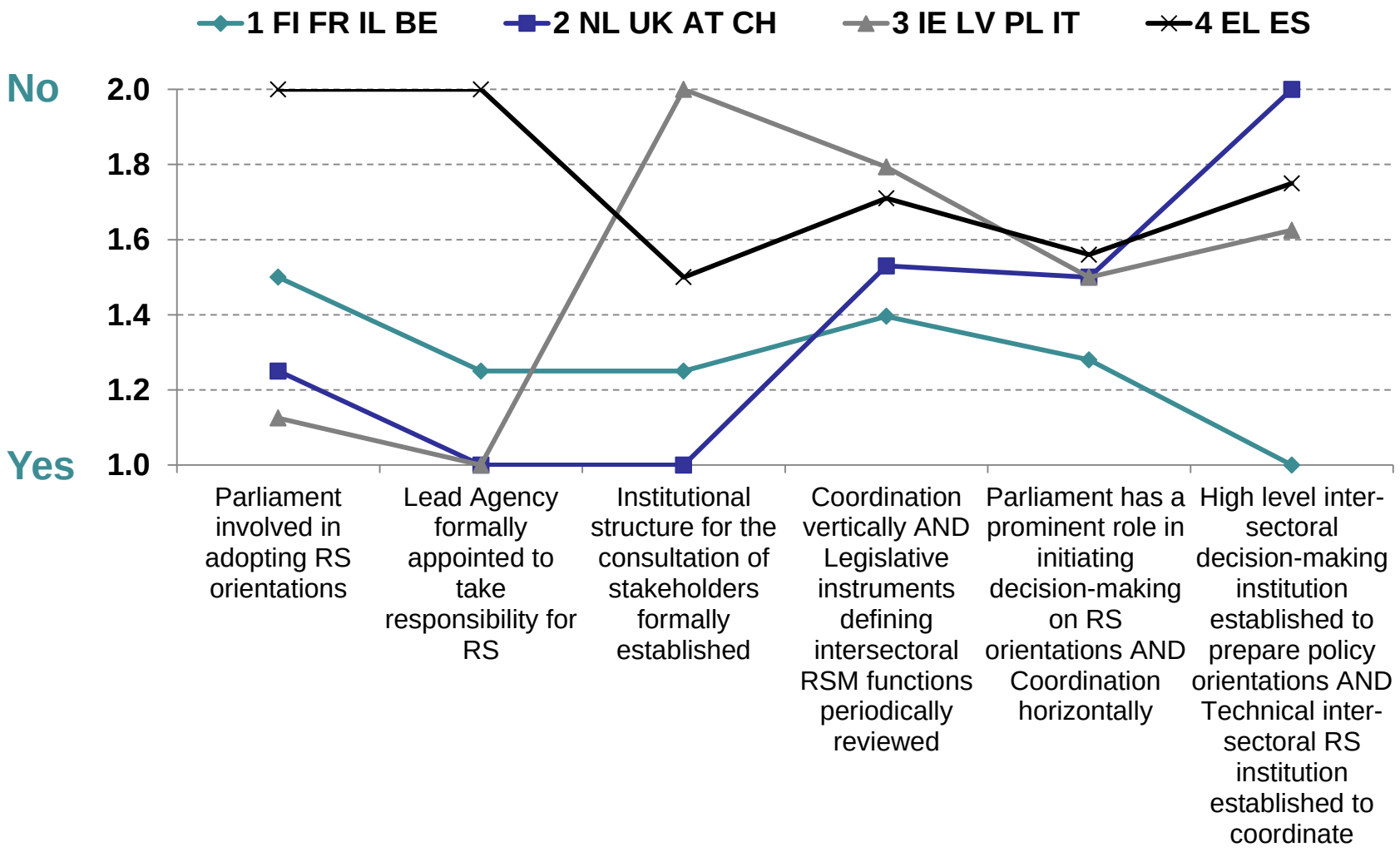
3 IT LV CH NL UK

4 AT EL ES

PAM



Part 1 ("Institutional organization") analysis results: mean values of availability of the RSM components, by clusters of countries



Summary: each country group following the five analyses and a final group estimated (Expert responses)

Country	Country clusters identified following the RSM components' analysis of					A final country group where the number of groups requested is		
	Part1	Part2	Part3	Part4	Part5	**3**	**4**	**5**
CH	2	1	1	1	2	1	2	2
IL	1	2	3	1	1	1	2	2
FI	1	2	1	1	3	1	2	2
BE	1	4	4	1	1	2	2	3
LV	3	3	3	1	1	2	2	3
NL	2	2	2	1	3	2	2	3
FR	1	4	5	1	1	2	2	3
UK	2	3	5	1	1	2	2	3
AT	2	1	4	2	2	2	2	3
ES	4	2	3	1	2	2	3	3
IE	3	3	6	1	2	2	3	4
IT	3	4	5	2	1	2	3	4
PL	3	3	6	2	3	3	4	5
EL	4	4	6	2	2	3	4	5

Summary of countries' classifications: conclusions

- All the countries are ***different*** where ***the whole RSM systems*** are considered
- A number of countries with a ***consistently higher level*** of the RSM component availability and with a ***consistently lower level*** of the same features can be recognized
- Due to the diversity of existing forms, the task of identification of typical RSM structures in the European countries seems to be ***unrealizable*** where the RSM system is considered as a whole.

However, it is ***possible*** to compare the countries where parts of the RSM system are considered separately

Additional observations: availability of the RSM components, across the countries

A rule: "medium availability" = a score of 1.4-1.6

Part 1 "Institutional organisation, coordination and stakeholders"	***Higher*** availability level for: * Lead Agency formally appointed to take responsibility for road safety
Part 2 "Policy formulation and adoption"	***Higher*** availability for: * a national medium-term road safety programme (elaborated and adopted) * national medium-term quantitative targets * NGOs actively promoting road safety * government agencies actively advocating the need for taking road safety action ***Lower*** availability for: * local road safety programmes' integration into the national road safety policy
Part 3 "Policy implementation and funding	***Lower*** availability for most components

Governmental responses' analysis - Example

Results of the Part 1 analysis ("Institutional organization"):

Cluster1: BE, FI, IT, UK
Cluster2: FR, IL, LV
Cluster3: EL, IE, NL, PL1, PL2

- **Different** from expert responses: **only 3 countries** (BE, EL, FI) were classified similarly in both analyses.

- In general, **governmental responses state a higher availability** of the RSM components compared to expert estimates.

- In particular, the governmental representatives believe more that **the Parliament** plays a prominent role in initiating decision-making on road safety orientations and

that there is a technical inter-sectoral body empowered to carry out **a vertical coordination** between other bodies involved

Governmental responses' analysis: general conclusions

- Country groupings are ***different*** compared to those based on expert responses.

- We suggest to apply the country groups ***based on expert responses***.

- The governmental representatives tend to be ***more positive*** concerning the availability of the RSM components in their country.

- RSM components associated ***with stronger differences*** between the governmental and expert opinions:
  - a prominent role of Parliament, carrying out consultations with local authorities
  - availability of a national medium-term road safety programme
  - availability of formal resource allocation procedures, fund allocation to evaluation
  - setting a reporting procedure to monitor RS interventions
  - regularly informing the citizens