

Institutions Matter

The impact of institutional choices relative to access policy and data quality on the development of geographic information infrastructures

Presented by prof. Bas Kok

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Geo-information and Land Development



Three key aspects in GII development

- policy
- data quality
- use

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Two access policy poles for PSI

- Open access policies
- Cost recovery policies

Open access policy in a nutshell

- Minimum of use restrictions
- No copyright or database right for government
- Maximum marginal costs of distribution: i.e. cost of every additional unit

- Often associated with poor quality data sets

Cost recovery policy in a nutshell

- Use restrictions imposed
- No limit on price
- Frequently associated with high quality data sets

Data quality

- The value of a data set relies upon its coverage and on the strengths of its representation of diversity, on its truth within a constrained definition of that word, and on its availability (Longley 2001)

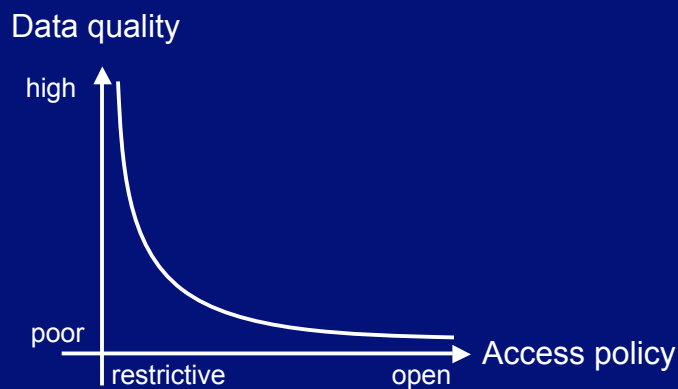
Data quality in GII

- Technical characteristics:
 - jurisdictional coverage
 - jurisdiction-wide uniform data model
 - current, accurate, metadata, etc.
- Non-technical characteristics:
 - access policy
 - ease to access (e.g., one stop shop)

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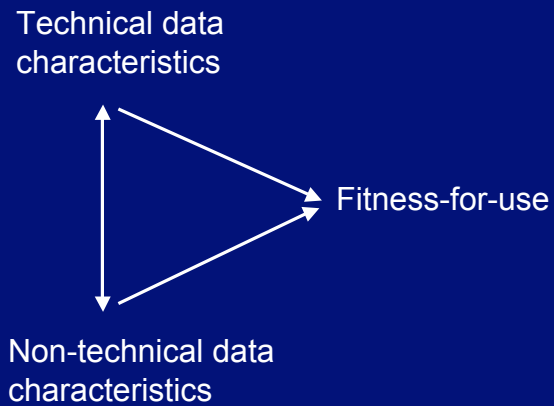
Suggested relation policy and quality



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Data characteristics and use



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Users

- Primary users (users who use the data set frequently for purposes similar to those of data collection);
- Secondary users (irregular users for similar purposes as the primary users);
- Tertiary users (value-added users), and
- Quartary users (end-users).

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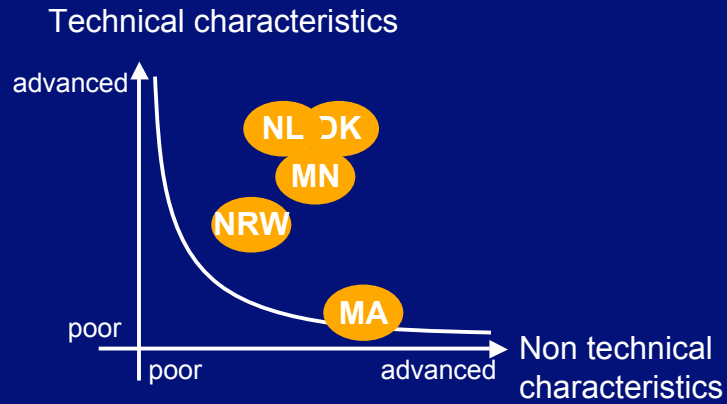
Research methodology

- Case study research
 - 5 densely populated areas with high socio-economic development
 - focus on parcel and large-scale topographic information
 - literature study and interviews with key experts

Case study parcel data sets

Case \ Dataset(s)	DK	NL	NRW	MA	MN
Overall technical data characteristics	+	+	0/-	-	0/+
Access policy	-	-	-(+)	++	-
Ease to access	+	+	-/0	0/-	+
Use	primary and secondary	primary and secondary	primary and secondary	primary and secondary	primary and secondary

Relation policy and quality parcel data



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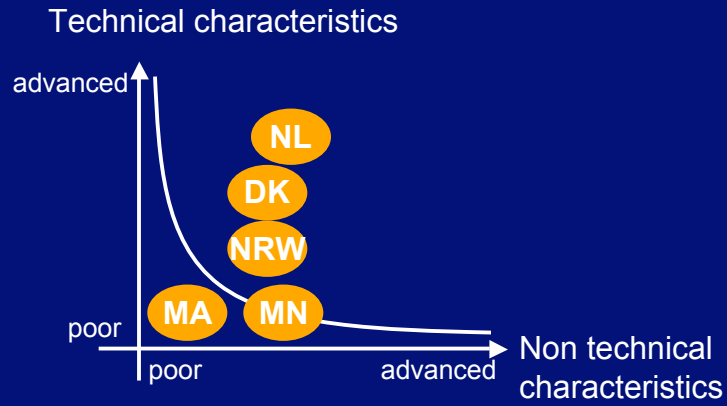
Case study large-scale topography

Case	DK	NL	NRW	MA	MN
Dataset(s)	DK	NL	NRW	MA	MN
Overall technical data characteristics	0	0/+	0/-	--	--
Access policy	-	-	- (+)	- (+)	-
Ease to access	0	+	-/0	--/ N/A	++/ N/A
Use	primary and secondary	primary and secondary	primary and secondary	primary and secondary	primary and secondary

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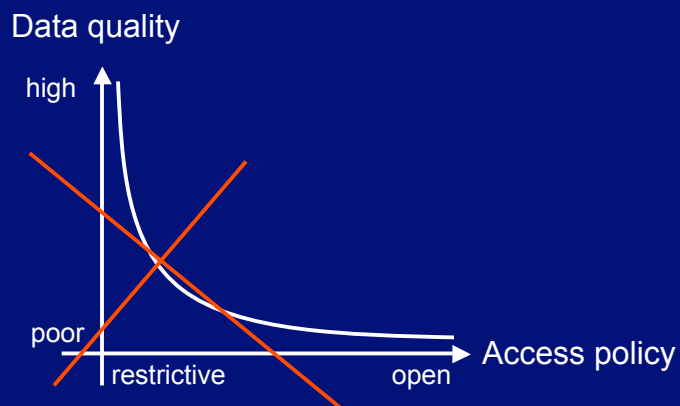
Relation policy and quality topography



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Suggested relation policy and quality



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Institutional setting parcel data sets

Case \ Dataset(s)	DK	NL	NRW	MA	MN
Overall technical data characteristics	+	+	0/-	-	0/+
Access policy	-	-	-(+)	++	-
Ease to access	+	+	-/0	0/-	+
Institutional setting (# organisations responsible for data collection)	1	1	54	351	7

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Institutional setting topography

Case \ Dataset(s)	DK	NL	NRW	MA	MN
Overall technical data characteristics	0	0/+	0/-	--	--
Access policy	-	-	-(+)	-(+)	-
Ease to access	0	+	-/0	--/ N/A	++/ N/A
Institutional setting (# organisations responsible for data collection)	68	1 (28)	54	>3	>7

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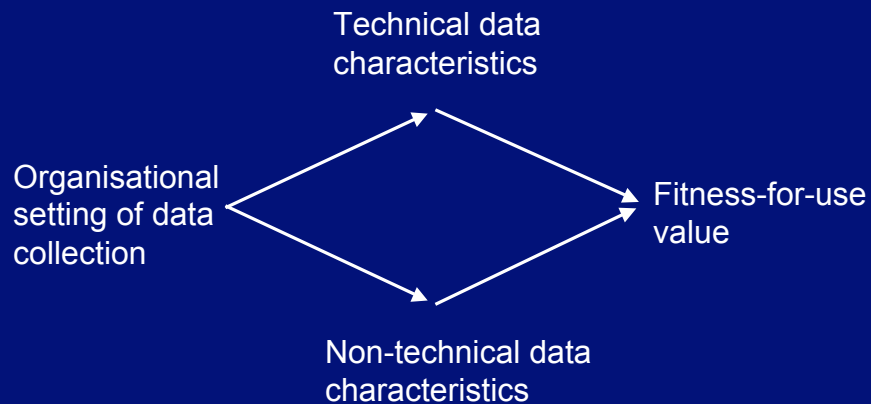
Institutional setting in case study

- Centralised data sets
 - score better for technical characteristics and ease to access data
 - not so for access policy
- Decentralised data sets
 - heterogeneous technical and non-technical characteristics

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Institutional setting and data characteristics



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Conclusion

- Institutional setting decisive for technical and non-technical characteristics of framework data sets
- Choices in institutional setting centuries ago still determine the status and prospect of GII development in case studies

Ways forward

- Institutional reform
 - re-organising government
 - transform voluntary efforts into formal arrangements (law)
- Coordination to address decentralisation
 - champion
 - technological solutions

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