
# Complex estimation of quality of cartographical products

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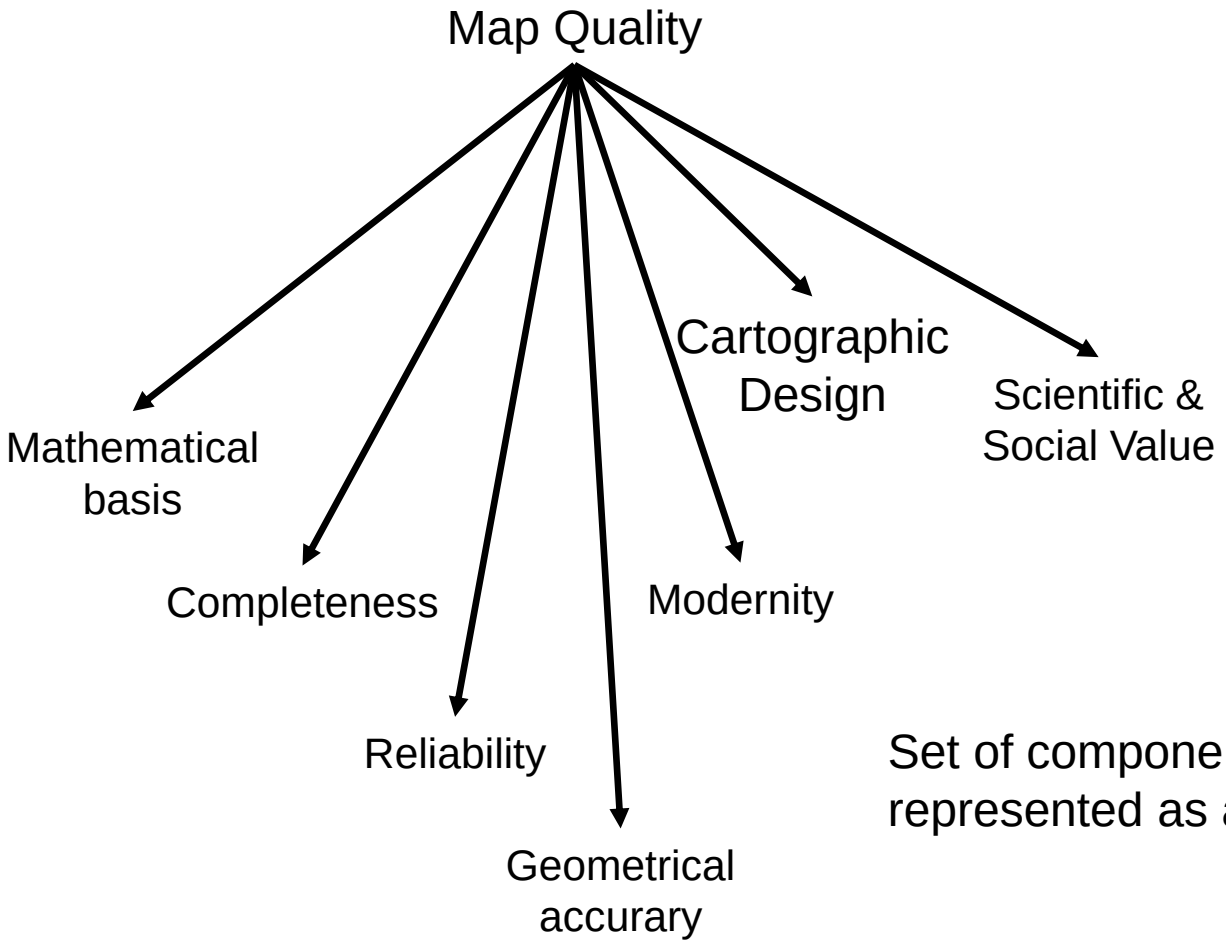
# Agenda

- Agenda
  - Map Quality
  - Hierarchical Model of Map Quality
  - Components of Map Quality
  - Conclusions and Further Studies


# Map Quality

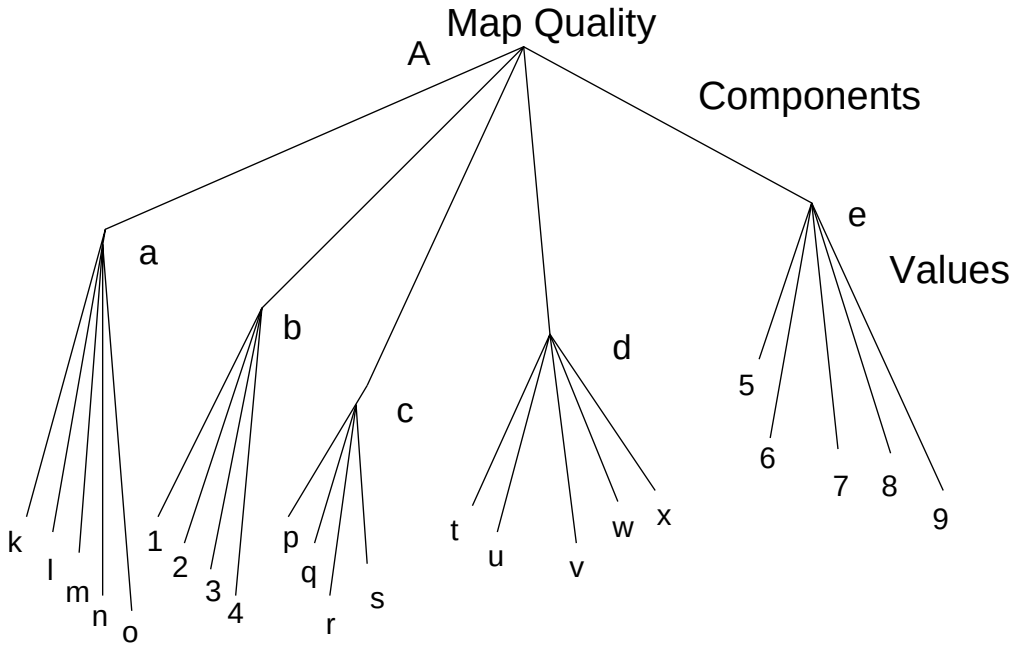
- Quality (ISO 8402)
  - set of properties and characteristics of production or service which give to them ability to satisfy the caused or prospective needs
- Map producer
  - Ensure quality of map production and cartographic products by adherence to government regulations and technical standards
- Map user
  - Usability of a map for intended use
    - To share the geographic information
    - to support collaboration and decision-making

# Map Quality




Set of components of map quality represented as a vector of quality

# Hierarchical Model




$$A=\{a,b,c,d,e\}$$

$$a=\{\mathrm{k},l,m,n,o\}$$

$$b=\{1,2,3,4\}$$

$$c=\{\mathrm{p},q,r,s\}$$

$$d=\{\mathrm{t},u,v,w,x\}$$

$$e=\{5,6,7,8,9\}$$

Map quality considered in breadth and in depth.

# Components of Map Quality (1)

- Mathematical basis
  - Map scale
  - Projection
  - Coordinate reference system
  - Reference grids
  - Map configuration

- Geometrical accuracy
  - Positional accuracy acc ISO 19157

# Components of Map Quality (2)

- Completeness of content
  - Presence and abscense of features acc ISO19157
  - Classification parameters of map features
  - conformity of classification to requirements of methodology and logic
  - degree of classification
  - Partly acc ISO 1957 Logical consistency

- Reliability
  - how well the map features reality
  - typical and prominent characteristics of phenomena and their relationship
  - Level of abstraction/ generalisation

# Components of Map Quality (3)

- Modernity
  - determining the lifecycle of the map
  - validity of mapped content with respect to time
  - Partly ISO 1957 Temporal accuracy

- Cartographic design
  - Legibility
  - no defined set of qualitative and quantitative rules for evaluating the cartographic design

# Components of Map Quality (4)

- Scientific and social value
  - ideas and views of the map author can influence any map element
  - fail scientific and social standards

- Value of information
  - share of information capacity allowing the map user to solve his tasks
  - map features the right informative content if the map enables the user to share the geographic information, to support collaboration and decision-making according to the intended use


# Conclusion

- Hierarchical model
  - visualizing the components of map quality
  - estimating the map quality considering the full complexity of its characteristics
- Evaluation of map quality
  - Map producer
  - Map use
- Further studies
  - further elaborate the hierarchical model in terms of
    - Completeness of the map quality vector;
    - Use of the model in representing and reporting the results of map quality evaluation

# Thank you for your attention!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