



Modernisation Lab – *Focussing on Modernisation Strategies in Europe: some NSIs' experiences*

Competencies for a Register Based Statistical Institute

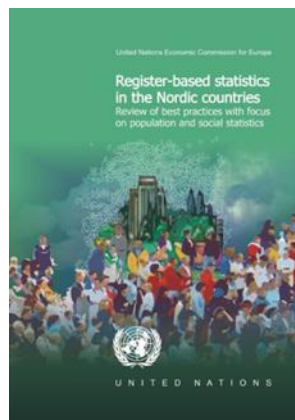


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A Register Based Statistical Production System

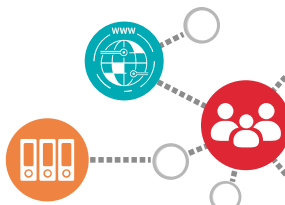
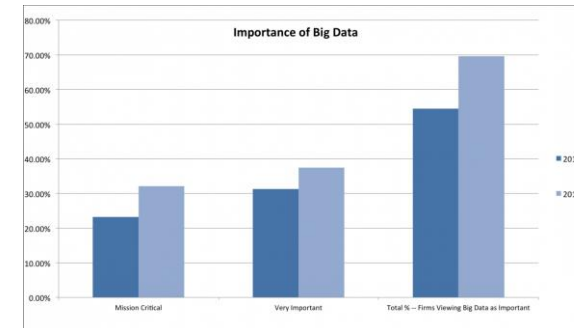
- is not a system using only registers (register survey)
- is a system utilizing all sources of data but is built around a register system



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Data Sources

- Sample Surveys – 1930ies
- Administrative data - 1970ies
 - Register Surveys
 - Register based sample surveys
- Alternative data sources – 2010ies
 - Big Data
 - ... new sources
- Potentials in use of all data sources?
 - New survey design



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Principles

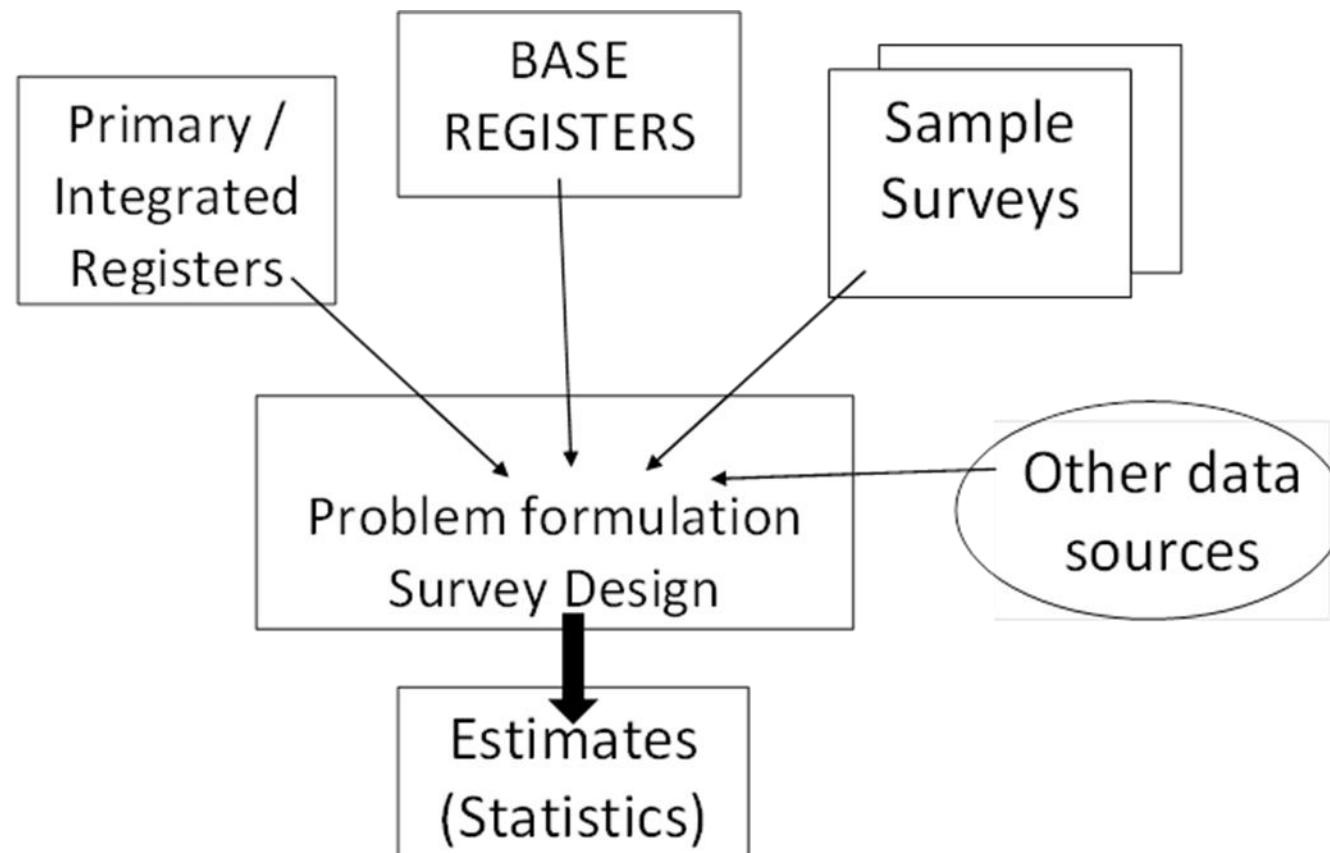
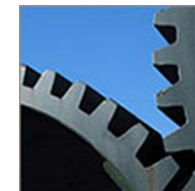


Figure 1: A register based statistics production system in action.



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Preconditions for a register based Statistical Institute



- Metadata-driven transport/input from administrative sources
 - We need to know what data we are receiving
- Metadata in the statistical process
 - Process data to determine/validate the changes
- Legislation and public acceptance
 - Legislation that allows the NSI to have access to administrative data
 - Public trust in the public authority that do the primary collection of the data
- Good relations with the Data Providers
 - Changes in the administrative sources due to legislations, new rules etc.



Question for the future – How will Big Data change the NSI's

- Is Big Data a register – can we process the data as register ?
 - OR - can we use the technics/methods from Big Data on Registers ?
- Can we as NSI's produce the statistics as quick as the other “players”
- Will our credibility as NSI change ?
- Do we have the knowledge and competence to evaluate and use Big Data ?



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V:s regarding Big Data

- Volume
 - The quantity of generated and stored data. The size of the data determines the value and potential insight- and whether it can actually be considered big data or not.
- Variety
 - The type and nature of the data. This helps people who analyze it to effectively use the resulting insight.
- Velocity
 - In this context, the speed at which the data is generated and processed to meet the demands and challenges that lie in the path of growth and development.
- Variability
 - Inconsistency of the data set can hamper processes to handle and manage it.
- Veracity
 - The quality of captured data can vary greatly, affecting accurate analysis.



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(Future ?) Competencies



- Problem formulation and complex survey design
- Complex sampling design
- Estimation using multisource data
- Managing large register systems
 - Statistical methods
 - Informatics methods
- Retrieval and formatting of nonstandard data sources (Big Data ...)
- Communication



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Thanks for Your time !



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