

# REDESIGN OF THE STATISTICAL INFORMATION SYSTEM: CZECH EXPERIENCE

#### Marek Rojíček

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#### The main phases of the project

Ist phase (2005 – 2006): creation of the basic part of Statistical Metadata System (SMS) – statistical classifications and indicators

In 2nd phase (2007 – 2009): implementation of the system of statistical tasks (surveys) into SMS, building of data warehouse, new content conception of SIS

In 3rd phase (2011 – 2014): modernization of the software tools for collection, processing and dissemination of statistical indicators and IT infrastructure



#### The content part of Redesign SIS

- The basic principles included into "Model 2008";
- Major goals were improvement of statistical quality, and reducing of respondent burden (focused on better use of administrative data and modeling/stratification change of the respondents' samples);
- There was a significant shift in the content component of SIS from the statistical survey approach towards statistical object oriented approach (statistical tasks and variables).



#### The content part of Redesign SIS – basic principles

- maximum use of modeling;
- maximum use of administrative data;
- use of data from one statistical task in other;
- coordination of surveys samples;
- "rotation" of an extended sample for individual CZ-NACE activities;
- "rotation" of variables for which a detailed structure is required;
- maximum stabilization of statistical tasks system;
- single figure principle (coherence of different statistical areas);
- statistical indicators cover the whole population (completeness)



#### **Process model**

#### The Generic Statistical Business Process Model (GSBPM)

Quality Management / Metadata Management								
1 Specify Needs	2 Design	3 Build	4 Collect	5 Process	6 Analyse	7 Disseminate	8 Archive	9 Evaluate
1.1 Determine needs for information	2.1 Design outputs 2.2	3.1 Build data collection instrument	4.1 Select sample	5.1 Integrate data 5.2	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Define archive rules	9.1 Gather evaluation inputs
1.2 Consult & confirm needs	Design variable descriptions 2.3 Design data	3.2 Build or enhance process components	4.2 Set up collection 4.3	Classify & code 5.3 Review, Validate & edit	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Manage archive repository	9.2 Conduct evaluation
1.3 Establish output objectives	collection methodology 2.4 Design frame	3.3 Configure workflows	Run collection 4.4 Finalize collection	5.4 Impute	6.3 Scrutinize & explain 6.4	7.3 Manage release of dissemination	8.3 Preserve data and associated metadata	9.3 Agree action plan
1.4 Identify concepts	& sample methodology 2.5	3.4 Test production system	Conceston	5.5 Derive new variables & statistical units	Apply disclosure control 6.5	7.4 Promote	8.4 Dispose of data &	
1.5 Check data availability 1.6	Design statistical processing methodology	3.5 Test statistical business process		5.6 Calculate weights 5.7 Calculate	Finalize outputs	7.5	associated metadata	
Prepare business case	2.6 Design production systems & workflow	3.6 Finalize production system		5.8 Finalize data files		support		

#### Data model



### **Global architecture of SIS**



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## Main benefits of the project

- Integration of statistical surveys, especially in business statistics;
- Electronic (web & pdf) statistical forms;
- Saving of statistical and administrative data in datawarehouse;
- Re-use of data from surveys, increase of administrative data sources use;
- Better comfort of respondents, digitalization of collection and dissemination of data = higher quality and more timely statistical indicators for users;
- Centralization of the IT tools for handling with data sets
- Standardization of metadata system
- Upgrade of IT infrastructure for statistical production process
- Experience with project management across the office, increase of the level of cooperation among differenct organizational units.

#### The main challenges and problems of the project

- At the beginning low support across the office (serious doubts if such big change is realistic, distrust in usefulness of SMS);
- Serious delays during the procurement (complicated description of the required parameters, administrative obstacles);
- Problem with capacities during implementation of the project (double work for many experts);
- Problems with sustainability of the routine production (budget restrictions in the public sector, lack of key experts);
- High demands for coordination of different statistical and supporting units ≠ organizational structure of the office.





# Thank you for your attention

marek.rojicek@czso.cz

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