Chapter 8
Analysis-Sensitive Conversion of Administrative Data into Statistical Information Systems

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EXECUTIVE SUMMARY

This chapter presents a case study concerning the development of a Statistical Information System (SIS) out of data coming from administrative archives of the PAs. Such archives are a rich source of up-to-date information, but an attempt to use them as sources for statistical analysis reveals errors and incompatibilities among each other that do not permit their usage as a statistical and decision support basis. These errors and incompatibilities are usually undetected during administrative use, since they do not affect their day-by-day use in the PAs; however, they need to be fixed before performing any further aggregate analysis. The reader is engaged with the basic aspects involved in building a SIS out of administrative data, such as design of an integration model for different and heterogeneous data sources, improvement...
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of the overall data quality, removal of errors that might impact on the correctness of statistical analysis, design of a data warehouse for statistical analysis, and design of a multidimensional database to develop indicators for decision support. Finally, some examples are presented concerning the information that can be obtained by making use of a SIS constructed out of Registry and Income Office archives.

ORGANIZATION BACKGROUND

Public Administrations (PAs) are facing profound institutional and organizational changes requiring managers, stakeholders, and responsible statesmen to increase their ability in quick decision making processes. In this context, information related to individual and collective needs plays a large and relevant role, and therefore a deep knowledge of the observed phenomena and an increased degree of timeliness, quality, and efficiency is required.

The case study described in this article concerns the development of a SIS out of data coming from administrative archives managed by some PAs, namely the Registry Office of a large municipality and the Income Office of the country (for privacy reasons we refer to the municipality with the $M$ tag and to the country with the $C$ tag). The project described in this case study aims at integrating the information contents of the archives to provide to the decision makers a set of accurate and up-to-date information describing some characteristics of the population living in $M$.

Here we summarize some descriptive data about the PAs and the statistical research center involved:

Registry of $M$
- Type of business: PA services
- Products/services provided: Registry activities
- City dimensions: about 1,300,000 resident inhabitants

Income office of country $C$
- Type of business: PA services
- Products/services provided: tax collection, tax related documentation collection

Statistical Research Center that developed the SIS
- Type of business: non profit organization
- Products/services provided: statistical analysis, statistical information system design, and management
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