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DEVELOPMENT (OECD) STATISTICS DIRECTORATE**

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Topic (i): IT governance in statistical offices

**MANAGING THE MOVE TO AN OUTSOURCED ENVIRONMENT:  
LESSONS LEARNED\***

**Invited paper**

**Submitted by the Swiss Federal Statistical Office<sup>1</sup>**

**Summary**

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\* For technical reasons, this document has been submitted after the deadline.

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## Introduction

1. The purpose of this paper is to describe the framework conditions which led the Swiss Federal Statistical Office (OFS) to restructure the organization of its information and communication technologies (ICT) following the decision<sup>2</sup> taken at the end of the 1990s to outsource the provision of IT services for reasons of economies of scale. Looking back after more than five years at the implementation of this outsourcing, the paper proposes to give a detailed explanation of the organizational changes made necessary from the standpoint of the management of statistical information systems (MSIS).

## Organizational aspects

2. With a view to addressing the new challenges imposed by this outsourcing, a new ICT organization had to be instituted within OFS. Articulated around four principal axes, i.e. “**tasks**”, “**processes**”, “**roles**” and “**organizational structure**”, this restructuring aims essentially to clarify decision-making competencies, to guarantee the obtaining of services as contracted, to manage the evolution of the IT architecture and to limit the costs of transactions due to the outsourcing.

3. The response made by OFS with regard to implementation of the four above-mentioned axes should be placed in perspective together with the three ICT management levels considered:

- The *strategic* level is in charge of all the tasks and activities of ICT steering, whose definition was largely inspired by the COBIT (Control Objectives for Information and related Technology) reference model.
- The *tactical* level is in charge of ensuring that statistical production units receive IT services meeting their expectations from both the quantitative and the qualitative standpoint. The definition of the tasks and activities inherent to this level was inspired in large part by the ITIL (IT Infrastructure Library) reference model (for service recipients).
- The *operational* level is in charge of the development and utilization of software, software packages and applications. Although this level has been outsourced, the definition of tasks and activities (expectations vis-à-vis service providers) was, however, also inspired by the ITIL (service provider) reference model for the exploitation of infrastructure and applications and by the HERMES<sup>3</sup> model for development.

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<sup>2</sup> Decision taken under a common programme (NOVE-IT) for the whole of the Swiss Federal Administration.

<sup>3</sup> HERMES is the official project management method in the Swiss Federal Administration. It is, however, a phase (cascade) model making it possible to integrate international standards such as UML and RUP, and thus take into account the iterative aspects of software developments.

4. The organizational component of ICT management thus appears to be the real keystone for successful MSIS. Placed at the crossroads of various disciplines (statistics, informatics, economics and management), it has to provide a common, shared and accepted frame of reference, where the question of centralization/decentralization of the ICT organizational structure reflects not competing but complementary approaches.

#### **Aspects related to service management**

5. In outsourcing its IT services, OFS also abandoned the relationship of hierarchical subordination that used to link it with its own computerized information service in favour of a principal/agent kind of contractual relationship.

6. To understand the OFS response to this new situation, it should be placed in perspective together with the implicit and induced redefinition of responsibilities related to the control of development work (IT architecture). In fact, this apparently straightforward outsourcing required OFS to differentiate and treat separately two types of services, i.e. services relating to IT development and hence directly geared to the IT architecture, and those relating to the utilization of infrastructure and applications.

7. To control the provision of development-related services, OFS was forced to meet a number of framework conditions, on the one hand by launching a UML (Unified Modelling Language) training programme enabling statisticians and IT staff to have a common language available to them, and on the other by redefining the IT architecture directives more precisely, and finally by reinforcing development-related documentation control activities. In addition, resorting to a similar approach made it possible to manage services related to the utilization of the infrastructure and applications, i.e. firstly by adapting through sustained training the profile of the ICT section personnel with the object of enabling them to take on their new tasks as service recipients, and secondly by strengthening the tools for monitoring and controlling the level of services provided.

8. As the reader will have understood, qualitative as well as quantitative control of the provision of services means having available people with a dual profile, capable both of understanding, interpreting and defending the needs of the statistical production units with external service providers, and also able to manage and negotiate SLA (Service Level Agreement) contracts in keeping with real needs and finally to verify their operational implementation.

#### **Aspects related to the SIS architecture**

9. The IT architecture control issue has taken on a quite special dimension within OFS after the separation between service recipient and service provider, principally as regards responsibilities for the definition, design and development of the architecture.

10. In this connection, OFS has resolved the problem of controlling work on its IT architecture by acting on two axes:

- Initializing an SIS urbanization approach with a view to identifying the relations existing between the organization, products, processes and applications/data, thus being able to anticipate the consequences of any major changes in the IT architecture (applications and data).

- Retaining responsibility for the definition and design of the enterprise architecture<sup>4</sup> and delegating to a single partner, playing the role of general enterprise, responsibility for architectural control of developments and their integration into the exploitation architecture. In this way, basing itself on its past experiences, OFS was able to emphasize the fact that the predominant factor ensuring success in the design of an SIS architecture remains the determination of the level of granularity which has to be considered. If too generic, it will remain a vision subject to the most diverse interpretations, and if over specific it will necessitate too frequent adaptation and no longer be able to perform its reference role.

11. Thus, the above-mentioned two axes have helped to emphasize the possibility of designing and developing generic, adjustable, flexible and reusable components, which coupled both with data storage<sup>5</sup> and with centralized metadata management will form a generic architecture allowing most needs to be covered, and for that to be done without initializing new development projects.

### **Aspects related to investment in applications**

12. Managing investment in applications involves first having a clearly defined and respected portfolio<sup>6</sup> management process, together with a clear definition of the functionalities of each of the portfolio items. Secondly, a distinction has to be made between investment decisions concerning commercial software and software packages, and those concerning developed applications.

13. The Swiss Federal Administration leaves OFS some latitude in the choice of particular commercial software and software packages, as long as these are not contrary to the standards set at higher (federal and/or departmental) levels. This latitude refers generally to statistical software tools and packages. In that regard, when investments need to be agreed upon in this area, the strategy followed by OFS for some years has been to move towards “software suites”, to the detriment of a “Best-of-breed” or “Managed Universe” approach, the latter two options not having yielded the anticipated results over time.

14. As the reader will have realized, OFS tries as far as possible to meet its needs relying on commercial products. Recourse is thus made to development projects only when the specifications drawn up by the statistical production units cannot be covered by commercial products on the market.

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<sup>4</sup> Management, application and data layers of the architectural reference model of the Swiss Federal Administration, itself inspired by the Federal ITA Conceptual Model.

<sup>5</sup> OFS has a CODAM (Corporate Data Management) project for centralized data storage and also for centralized metadata management.

<sup>6</sup> A portfolio contains all studies, projects and applications (software, software packages and developed applications).