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EUROPEAN COMMISSION STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES (EUROSTAT)

ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) STATISTICS DIRECTORATE

Meeting on the Management of Statistical Information Systems (MSIS 2007)
(Geneva, 8-10 May 2007)

Topic (i): Governance and management of statistical information systems [choose one of following]

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) GOVERNANCE AND SERVICE PARTNERSHIPS

Supporting Paper

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I. INSTITUTIONAL SETUP

1. A typical national statistical office is an independent agency. The independence is often ensured through legislation in line with the Fundamental Principles of Official Statistics[1]. At the international level, no statistical agency would be independent. Statistical departments of intergovernmental organizations are primarily considered as statistical services to other programmes.

2. However, some UNECE member countries have partly or fully decentralized their statistical systems. In this respect, statistical agencies may also take the form of statistical departments within a specialized ministry and/or government agency with a higher or lesser degree of independence.

3. As a result, the notions of partnerships that are internal or external to the "organization" are relative. In some cases this may refer to a statistical organization in the narrow sense, in other cases to a more general institution.

The organizational setup of the UNECE

4. The UNECE Statistical Division is a part of the secretariat of the United Nations Economic Commission for Europe. From the resource and budget viewpoints, the UNECE secretariat shall be considered for the purposes of this paper as the "organization" – in particular for ICT governance and partnerships issues.

5. The Statistical Division is one of the six substantive divisions that form the UNECE secretariat. The other divisions cover the areas of transport, environment and human settlements, trade and timber, energy and economic cooperation and integration. Some statistical activities are also undertaken in the fields of transport,

[1] Decision C(47) adopted by the United Nations Economic Commission for Europe at its 1992 annual session.

human settlements, timber and energy by the respective divisions. The Statistical Division is responsible for the macroeconomic database and gender statistics database.

6. A large part of the Statistical Division's work focuses on the coordination of international statistical work, methodological development and technical assistance.

II. ICT SERVICE PARTNERSHIPS

7. A survey undertaken in 2004 among 15 member countries [MSIS 2005, paper No. 25] showed that 65% of statistical agencies used a mixture of providers with the focus on in-house facilities; 20% used government providers; and 15% used commercial suppliers. Concerning the internal organization of ICT, about half of the responding agencies significantly consolidated ICT services under a common management, while 13% of agencies managed them separately for each service.

A. Partnerships within the same organization

8. The complexity of ICT-related tasks requires at least the creation of a specialized ICT Department within statistical offices that formalizes its relationship with client departments [MSIS 2006, No.18, multiple papers of MSIS 2005, etc.]. Such a department often serves as the interface when there is an external partnership.

9. For national statistical offices there is often a central ICT service serving substantive departments/units. The central ICT service specializes, to a large extent, in statistically oriented services. In a decentralized set-up the substantive departments/units also have a limited number of ICT staff, while in a centralized set-up, a central ICT unit manages all ICT staff.

10. The central ICT units of the international organizations serve all programmes of which statistics is only a part. However, statistics usually belongs to privileged users, and the central ICT unit has some statistical expertise.

The practice at the UNECE

11. The User Services Section of the Statistical Division provides a basic support, including troubleshooting, technical website maintenance assistance in desktop publishing, spreadsheet calculations, etc.

12. The UNECE has a central ICT unit – the Information Systems Unit (ISU). The ISU is attached to the UNECE central administration. It serves as a first contact for the UNECE clients for system administration and application development. The ISU often serves as a coordinator for external partnerships.

13. The Statistical Division and the ISU have a special relationship that is formalized in a Service Agreement. The agreement covers ICT tasks, the UNECE Statistical Database, including programming, system administration and training. Other services are provided to the Statistical Division, as to other divisions, outside the framework of the Service Agreement.

B. Partnerships with other government agencies and services

14. There may be different reasons for concluding partnerships with other government agencies on the provision of ICT services. Among those discussed at past MSIS meetings, we can highlight:

- A government decides to centralize the provision of ICT services to a single government supplier for reasons of economy of scale. There were also cases, when the statistical office recreated at least core ICT services that would more flexibly reflect the needs of statistics.
- The statistical office participates in broader e-government initiatives, and suitable networking facilities and tools are available from the government. On the other hand there were also cases

when statistical offices succeeded to avoid onerous certification procedures and favoured the comfort of respondents without compromising their confidentiality [MSIS 2005, No.3].

- The basic infrastructure tools, like e-mail, internet connectivity, web servers, etc. are conveniently made available from another government agency.

The practice at the UNECE

15. There are two ICT service providers in Geneva that belong to the UN system of organizations:

- ICT services of the United Nations Office at Geneva (UNOG-ICTS): This provider operates the main infrastructure in the building where the UNECE is located. Therefore, it is an unavoidable "last mile" provider for all telecommunication services, including the Internet. Moreover the UNECE has its e-mail and file-sharing servers hosted and administered by the UNOG-ICTS. The same provider ensures services needed by delegates attending UNECE meetings in Geneva.
- United Nations International Computing Centre (UNICC): This centre is a kind of a cooperative operating on the basis of costs recovery. UNECE is a member of the UNICC. The UNICC aims at developing advanced services and orienting members accordingly. UNECE hosted its database and web servers at UNECE, but these services were recently transferred to a commercial provider. Lately the UNECE increased its cooperation with the UNICC in the development of large applications, namely the customer relations and meetings management system.

16. The UNOG ICTS also provides the UNECE with basic telecommunication services as well as advanced tools for audio and video conferencing. These are intensively used by the Statistical Division (and other divisions) in communicating with the steering groups, organizing committees and task forces. UNOG-ICTS is the only provider within the UN Secretariat who can organize multi-site videoconferences and also serves remote duty stations.

C. Outsourcing to private providers

17. In general the move towards outsourcing to external service providers is motivated by a greater flexibility and value for money. However, while the civil servants do not challenge the expertise that external providers bring to the office, they often question the financial reward and value for money issues. This is a cultural obstacle to be dealt with [MSIS 2006, No.19].

18. On the other hand, licensing may represent a real obstacle and should also be addressed [MSIS 2003, No.3]. The software houses often retain ownership of the software and charge annual fees. As a consequence, the statistical agency never owns the software or perpetual rights to it. Moreover, the agency does not have the freedom to choose another provider, while using the same application. Several authors recommend that statistical agencies should retain ownership for statistical applications. Ideally the source code should become a property of the statistical office.

The practice at the UNECE

19. The UNECE Statistical Division does not have a direct experience with outsourcing of its ICT-related operations. However, the hosting of the website, list-servers and most importantly hosting of the statistical database servers are outsourced to private service providers. The contracts are managed and service guaranteed by the UNECE Information Systems Unit that ensures ICT services for all divisions and units of the UNECE.

20. The Database on International Statistical Activities (DISA) is not a typical statistical application. However, it is a key tool enabling the Conference of European Statisticians to fulfil its coordination mandate. Since the beginning, ICT development was ensured through institutional contractors (private companies). The basic data model and functional specifications were developed in-house at the UNECE. The development took place in three phases. A different contractor was used for the first phase than for the two other phases. In

between, the UNECE staff was able to ensure minor maintenance changes. This was possible thanks to contractually agreed ownership by the UNECE.

21. The Gender statistics database was set up by an individual contractor. This was a very early experience with outsourcing. The 6-month contract comprised feeding of metadata, defining data cubes and loading initial data into the already existing UNECE Statistical Database (ECESDB). This experience showed that a contract cannot be based on trust alone. The resulting database was in use for about five years, but the set-up did not respect the business rules of the ECESDB. Another individual contractor has restructured the database under a four-month contract, so that it conforms to the business rules. As the UNECE has started to use PC-AXIS for the web appearance of its database, this second contract also necessitated restructuring the relevant links between ECESDB and PC-AXIS.

22. The UNECE also turned to individual contractors for language-related consultancies on metadata. The requirements on contractors required familiarity with statistical databases as well as subject-matter issues.

D. Performance measures

23. Performance measurement and management was spelled out in a great number of papers presented at MSIS between 2003 and 2006. These are often specific measurements set for concrete agreements. A generic Capability Maturity Model (CMM) presented in 2003 was developed for the purpose of evaluating software [MSIS 2003, No.3 and No.4]. In all cases the performance and quality assurance should be the focus in each project involving outsourcing.

The practice at the UNECE

24. UNECE concluded “memoranda of understanding” with service providers within the UN System. These are based exclusively on costs recovery, and therefore, no commercial sanctions are possible. It is not meaningful to define the service level under this setup. Performance is maintained at “the best possible” level.

25. The UNECE has not had much experience with commercial providers. However, the recent developments are towards outsourcing the hosting of web servers, database servers and anti-spam protections. The contracts contain quality clauses and delays for interventions. The downtime statistics, number of captured spam (along with number of “false positives”), as well as pricing, justify that the quality has improved within the zero growth budget.

III. UNECE ICT GOVERNANCE STRUCTURE

A. General ICT governance at the UNECE

The users

26. The UNECE secretariat is composed of six substantive divisions (each manages 1-2 substantive programmes) and a central administration. The total regular staff is about 200 persons. At peak periods this number can be increased by 50% with the addition of consultants, temporary assistance staff and interns.

27. In addition to these users there is an important number of meeting participants who attend meetings in Geneva and other locations. As the UNECE’s work programme is quite technical, the delegates have relatively high requirements on the ICT services.

The UNECE Information Systems Unit

28. The ICT services are coordinated by the UNECE Information Systems Unit (ISU). The ISU has currently 8 staff members: 1 ICT assistant, 2 helpdesk assistants, 2 database programmers (80% of whom work for the Statistical Division), 1 programmer analyst coordinating other database and software projects and 1 system administrator.

The governance mechanism

29. The governance mechanism focuses on reflecting various users' needs in the ICT management. Therefore all UNECE divisions as well as the central administration are represented within the ICT governance structure. This representation is ensured at two levels.

30. The management level of the ICT governance structure is the ICT Management Group (ICTMG). Each Division is represented by one senior level staff member. The central administration has several representatives covering the budget, human resources, programme planning and public information. In addition, one of the division directors, currently the Director of the Statistical Division, chairs the ICTMG.

31. A network of ICT Focal Points was created at the working level. This is composed of an open group of ICT specialists from different divisions and units. There are no restrictions on representation, but all who are willing to contribute are welcome (e.g. there are currently three participants from the Statistical Division.). The ICT Focal Points discuss technical issues before these are passed on to the management level (ICTMG). As the staff often call upon the ICT focal points within the divisions as first-level trouble-shooters, they have a very good overview and understanding of the issues to be addressed.

B. Statistical database and other ICT projects

32. The UNECE Statistical Database is covered by the Service Agreement. About 1.5 of system developer posts is reserved for this project. There are several systems included under the heading statistical database: (i) a production database (data warehouse); (ii) metadata repository according to the Statistics Sweden model (as an interface with PC-AXIS), and (iii) PC AXIS (more precisely PX-Web) for data dissemination. From the content viewpoint this is visible to users as two subject-oriented databases with a common interface design: (a) Macroeconomic Database, and (b) Gender Statistics Database.

33. Statistical databases in other divisions often share the production database as a backup and also benefit from this project. It is planned to gradually migrate the front end of those databases to PC-AXIS. The service partnership between the ISU and the Statistical Division will then gain a multilateral character.

34. The Statistical Division also maintains a Database of International Statistical Activities (DISA). This is the main tool for coordination of statistical activities in the UNECE region. The development was coordinated directly by the Statistical Division, with a methodological guidance (concerning ICT issues) from the ISU. The major programming tasks were undertaken by external contractors under three different contracts (see above). The User Services Section of the Statistical Division ensures current maintenance, while the ISU assumes responsibility for the administration of servers and backups.

35. The websites of the Statistical Division are hosted on common servers, currently outsourced to a commercial provider. The Statistical Division's partner is the ISU, who ensures all other contacts and requests. The original website was created for distribution of meeting documents, and forms the most important part of the website called the "Documents Library". UNECE also has a specialized website on Gender Statistics that is managed internally.

36. The management of contacts was centralized into a Contacts Database shared by all UNECE Divisions. As this was the first attempt at unification, future improvements will be needed. Moreover, as most of the contacts are meeting participants, this opportunity will be used to merge it with the Documents Library into a Customer Relations and Meetings Management System. The Statistical Division is leading this project from the users' perspective. Technically it is coordinated by the ISU, the project manager is an external contractor (hired by the ISU). The UNICC facilitates outsourcing of the programming work to a private company in India. This shows that it is a quite complex from both the content and management perspectives.

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