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# IT OUTSOURCING IN EUROSTAT – OUR EXPERIENCE

**Invited Paper**

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## I. INTRODUCTION

1. Outsourcing entered the informatics world of Eurostat (and of course the Commission) in the 1980s. The term refers to the delegation of non-core informatics activities to external entities.
During the past years, outsourcing has taken various forms, which have coexisting, varying from the increase of Eurostat personnel by addition of persons coming from Software development companies to the real outsourcing, i.e., the delegation of the execution and administration of tasks at the contractors premises.

2. Outsourcing is applied for various reasons. The most important of which are:
- obtaining an expertise which cannot, in principle, be found among its own staff,
- the flexibility in human resources, their allocation, amount and mobility
- and, finally, the need to focus internal resources to core business activities (statistics that are difficult).

3. Until now outsourced tasks have covered requirements gathering and analysis, application design, application development, system maintenance, help desk activities and perhaps in the future will include infrastructure and network management.

4. Internally executed tasks cover project management, system integration definitions, system architecture and requirements gathering and analysis,

5. Generally, outsourcing, although a delicate operation, has helped Eurostat to improve access to new technologies, reduce obsolescence risk, improve access to skilled personnel and improve responsiveness to user needs.

6. In the following text we describe the informatics environment of Eurostat, the framework used in the implementation of outsourcing activities and, finally, the lessons learned from the outsourcing coordination.

## II. INFORMATICS ENVIRONMENT OF EUROSTAT

7. As in other public organisations, informatics in Eurostat is more or less thirty years old. The first systems in Eurostat covered the essential needs of computation and (paper) dissemination of statistics. Given the difficulty to acquire hardware, the lack of tools and specialised personnel, Informatics was centralised and the number of systems was very limited. In fact, until 1983-84, Eurostat used (with some minor exceptions) only three systems: a time series storage system; a tabulation system; and a classification system, all implemented in ICL hardware and using proprietary software.

8. This centralised model changed when PCs and Unix entered into operation. The withdrawal of the proprietary hardware and operating system pushed to a massive in-house development of new applications and rewriting of the old ones. The need to proceed quickly had an effect that it was necessary for the production units to participate in the conception of the new systems. The profile of Eurostat officials (many with technical university degrees) helped in this process and, consequently, the need to develop many systems at the same time resulted in the intensification of outsourcing.

9. The applications themselves became more complex. Database systems and multi-user applications became frequent. The centralised mainframe applications have been replaced by client server ones and nowadays all major applications are developed using the 3-tier model with thin clients using web technologies.

10. Currently, all major applications of Eurostat run in Unix platforms. The Windows environment is used for mail, word processing and some single user statistical applications which are progressively migrated to Unix.

11. The annual survey of informatics application resources of 2006 showed the following:

- Applications were developed using Oracle, Access, Excel, Business Objects, Fame, SAS, Oracle Express, Java, C, C++, Power Builder, Cold Fusion, Web Logic and VB.

- Among the 126 existing applications, the large majority can be classified as having the evolutive maintenance status, i.e., they are in production but they continue to be functionally improved and modified.

- Informatics activities, i.e., activities of development or outsourcing supervision, occupied 74 persons (equivalent) among Eurostat officials, which represents 8.5% of the Eurostat staff.

- In the same year the budget allocated to outsourcing activities has been equal to 11 million € which can roughly be considered equivalent to 130 (outsourced) persons. The ten biggest developments absorb about half of the outsourcing budget.

12. These statistics are interesting not only in absolute terms but also relative ones. From the information available we cannot determine exactly how many of the 74 persons are committed to the outsourcing related activities. However, available data permits to say that the outsourcing absorbs a significant amount of internal human resources. Moreover, generally, the persons following the outsourcing contracts belong to the most qualified officials in Eurostat.

## III. FRAMEWORK OF OUTSOURCING ACTIVITIES

### A. Principles

13. Eurostat needs to outsource technical and administrative assistance in order to obtain promptly resources and expertise which cannot be found among its own staff. The option to use the external contracts is,

and should be, based on clear rules and harmonised selection criteria and be results oriented. In particular, current regulations require that:

- Services be specified in terms of output (results) and not input (resources used by the contractor).
- The performance of the contractor has to be regularly and closely monitored.
- In order for services to be outsourced, there must be a competitive market to deliver these services.
- Eurostat must maintain a technical capacity to define the required service, estimate its cost and monitor and evaluate the results.
- Outsourcing does not diminish the responsibility of Eurostat (the organisation and its responsible officials)

## B. Contractual framework of outsourcing activities

14. Outsourcing activities contracts originate with a set of procedures known under the name "Call for tenders". In general they follow the following steps:

- Pre-information announcement in the Official journal of the European Union, announcing the subject of the call for tenders, the duration of the programme and the maximum allocated budget.
- Subsequent "Call for tenders" publication in the same official journal as above, describing the details of the object of the Call for tenders, and the conditions of acceptability and selection.
- The choice of the contractor is done using three kinds of criteria:
    - Selection criteria in which general experience, size and financial capacity are examined.
    - Awarding criteria in which the quality of the offer is evaluated.
    - Financial criteria (the price offered for the service).
- The financial offer is not known before the first two criteria are evaluated and published to make the technical evaluation objective.
- The contract is signed with the company having the best score, the score being the weighted average between awarding and financial criteria. In general, to retain only good offers, companies having less than 60% of the awarding maximal note are eliminated. The first criterion is evaluated on a pass / no pass basis.

# IV. CONTRACTUAL PROCEDURES

15. The contractual procedures that can be used depend mainly on the potential contract size and fall into one or several of the following cases:

## A. Open call for tenders

16. Open call for tenders must be used for all cases in which the amount to engage is superior to 60000€. Companies fulfilling the requirements may submit an offer. The call for tenders specifies the maximum duration of the contract provision for the delivery of services, usually one or two up to a maximum of five years. Given

that the Commission budget is annual, the Commission is not bound to sign either contract for the total amount nor to sign it at once. The special application is a framework contract explained below.

**B. Restricted call for tenders**

17. The restricted call for tenders is a mechanism of selection in two steps. From the financial or administrative point of view it has the same restrictions as an open call for tenders but the selection mechanism does not choose a single company but many, usually from two to twenty, according to the predefined selection / awarding criteria. At a second step all pre-selected companies can participate in a restricted call for tenders.

18. This procedure is used when services for a generic subject are looked for, but neither the exact volume nor the exact specification can be given at the moment of the (non-restricted) call for tenders. Suppose, for example, that Oracle expertise is required of a maximum estimated volume of 1 million €. The restricted call for tenders will select at a first step a number of the best companies and will create a pool. Then, when a project needs Oracle expertise, it can send the specification to all the pre-selected companies and receive their offers which have to be evaluated as in the open call for tenders above. Obviously this procedure shortens the duration between the requirement specification and contract signature and fits well only to standard or regular informatics activities.

**C. Informatics framework contracts**

19. The framework contract mechanism implements a special case of the restricted procedure. The call for tenders is done using a generic description, describing merely the technical capacity needed and the potential types of interventions (tasks), rather than specific needs. The selected companies are ranked and then for each particular type (of expertise) the cascade principle is used. This principle consists of sending a request to the first ranked company. If the company refuses the request, the request is sent to the second one, etc. The major advantage of such a system is the reduction of the elapsed time between expression of the need and contract signature. Indicatively speaking an open call for tenders takes six to nine months and a framework procedure about two months (of course the initial company choice takes as much time as the normal open call for tenders procedure.

20. The majority of informatics developments of Eurostat use framework contracts given the shorter administrative procedures. Such a system offers better flexibility and thus is better adapted to fulfil various informatics needs.

21. In fact this system has revealed itself as very well adapted to our needs and within the framework contracts Eurostat uses the following types of services:

- Time and means which usually covers analysis, prototyping, design, testing, documentation and training. The time and means execution happens on Eurostat premises. The contractor has to present the CVs in its offer. Eurostat picks a person from this list. The company is responsible for the knowledge transfer in case of replacement (it provides a new batch of CVs). And a specific person cannot work more than 660 days under this regime. In practice this type of contract is used whenever proximity with Commission officials is necessary or for day to day support, small maintenance functions but not for application development.

- Quoted time and means first an initial contract is signed specifying in loose terms the work to be done. Second, several consecutive small tasks are defined to which the company must answer giving the total cost of each task in person-days. This type of contract is appropriate for smaller size developments and projects at evolutive maintenance level where the global specification cannot be done at the moment of the contract signature. The drawback of this system is that it obliges the Eurostat officials to estimate and negotiate the duration and cost of each subtask.

- Fixed price contracts under which Eurostat specifies in detail the deliverables in advance and the company responds with a project plan team structure, the composition of the development team (experience, knowledge and education), responsibilities and total workload. Fixed price contracts are the most used ones considering the volume of funds. They are used for larger scale developments. Due to administrative procedures there is a couple of month's idle period between the specification of requirements and the start of development. However for significant projects the whole procedure is globally beneficial.

22. Currently used framework contracts cover the following areas of expertise:

- Project management, analysis, prototyping, design, programming, technical documentation and training.
- Development expertise in Oracle, J2EE application servers, Cold Fusion, Power Builder and VB.
- Development expertise Content Management Systems, web sites creation, GIS and mail systems
- Development expertise in data warehouses, reporting and statistical tools (Business Objects, SAS, Fame, Troll, MatLab, etc.).
- Off site developments independently of the tools used on the contractor premises.
- Studies on quality, security and user requirements issues.
- User assistance, administration and project coordination.

### D. Other procedures

23. There exist two other minor procedures called negotiated procedure and one offer procedure for contracts lower that 60,000€ and 3,500€ respectively which are not detailed here, given that they are not used for informatics activities.

## V. EXPERIENCE OF EUROSTAT

### A. Outsourcing conditions for success

24. The experience of Eurostat shows that in general the following conditions are required to guarantee the quality output from the outsourced activity:

- Availability of qualified project managers, i.e., having the necessary professional experience in order to understand well the user needs, being able to draft good specifications, decide on technical choices proposed by the companies and being aware of the technical advances in the informatics domain. The best such people would have administrative and negotiating skills and understand well both statistics and informatics. It has to be kept in mind that outsourcing needs continuous and significant in house management. Research in the private sector has shown that the user requirements preparation phase (usually done internally) amounts for not less than 10% of the total project cost.
- Specifications - accurate and with sufficient detail requirements and the delivery terms precisely specified.
- The selection of the contactor must include appropriate choice mechanisms, i.e., assurance of choosing the best or sufficiently good offer.
- Continuous dialog and monitoring of the company during the contract execution is guaranteed.

- The specifications are realistic and correspond to the available budget. It has to be kept in mind that many companies respond rather quickly, trusting the amount declared in a contract. In case of serious underestimation, conflicts may arise harming the final output.

- Relation between the company and public administration must be of mutual trust.

- On an individual project level a long term budget plan is established covering not only the initial developments but also the long term evolutive and corrective maintenance. Usually mature organisations dedicate the majority of human and financial resources to maintenance and support activities rather than to new projects.

**B. Outsourcing can be harmful, disappointing or inefficient whenever:**

- internal personnel cannot specify, coordinate and control the quality of deliverables of a company

- inaccurate or fuzzy/vague or unrealistic specifications have been produced.

- the contract does not contain a description of the critical deliverables in absence of which no payment can be made.

- the organisational structure is inappropriate.

- internal and company teams are mixed. This rarely works, given that the persons involved have different salaries and are submitted to different managerial structures and constraints.

- there is too much supervision and monitoring. This should be avoided because it may lead to company reactions or an implicit transfer of the final responsibility to the public organisation.

- outsourcing is applied to a core activity such as strategic planning, user requirements and architecture definition. Strategic parts of the organisation must not be outsourced because they risk leading to loss of control and expertise.

- the cycle of the evolution of the requirements is shorter than the software development cycle. This is sometimes called: moving target.

## VI. CONCLUSION

25. The experience of Eurostat affirms that globally outsourcing can be beneficial. Currently the environment in Eurostat is such that failures of outsourcing are rare. An annual review of IT development needs, IT framework contracts use and close follow-up and monitoring are the cornerstones of the success of process. This however does not mean that we can stop being vigilant. The potential sources lie mostly in two areas.

26. First, the companies that win framework contracts change every several years. Consequently, at such times there is an extra need for resources to transfer the knowledge to the new company programmers. This can result in delays and extra costs in such years.

27. Second, and more important, as the understanding and translation of the users requirement has to go hand in hand with the precise specification of the IT system, the most important and sensitive element, the concurrent need for comprehension and appreciation of issues in both informatics and statistics required from project managers may be also a source of glitches. Staff in Eurostat is encouraged to change positions for the

sake of their own career. Frequently "la relève" for project managers is not an expert in statistical methods and informatics at the same time. Thus there is a learning period for one of these two subject matter areas.

28. Finally, to stay in control and keep the expertise in house, the core activities should not be outsourced.

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