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Topic II: Planning and management of statistical projects

PROJECT MANAGEMENT AT INSEE

Contributed paper

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I. INTRODUCTION

1. This paper describes how projects are managed at INSEE, and the different organizations that have been set up to do so. It is divided in three chapters: before 1990, from 1990 to 1996 and after 1996. Each chapter describes the organization at the time, the way projects are funded, managed and the technologies used, as well as the drawbacks that led to the next organization. I firmly believe that our way of doing business is very dependent upon a set of factors that may or may not be present elsewhere. So whoever would like to adopt some of the organization we have set up may want to think of why we chose the solution to understand whether it would fit his or her particular context. My conclusion will tell what our current objectives are.

2. The French culture on project management is very much that project management evolved from the need to manage informatics projects and not the other way round. Another trait is that issues are solved with better organizations and not with better processes.

II. INSEE ORGANIZATION

3. INSEE stands for National Institute for Statistics and Economic Studies. It has the following missions:

- To coordinate the public statistical system : apart from INSEE, fifteen or so ministries have a statistical service responsible for statistics and analysis in its field: Agriculture, Education, Justice, are such examples
- To gather and process national statistical data in economic and social fields

1 Prepared by Christophe Alviset.

- To disseminate data and analysis of the data.

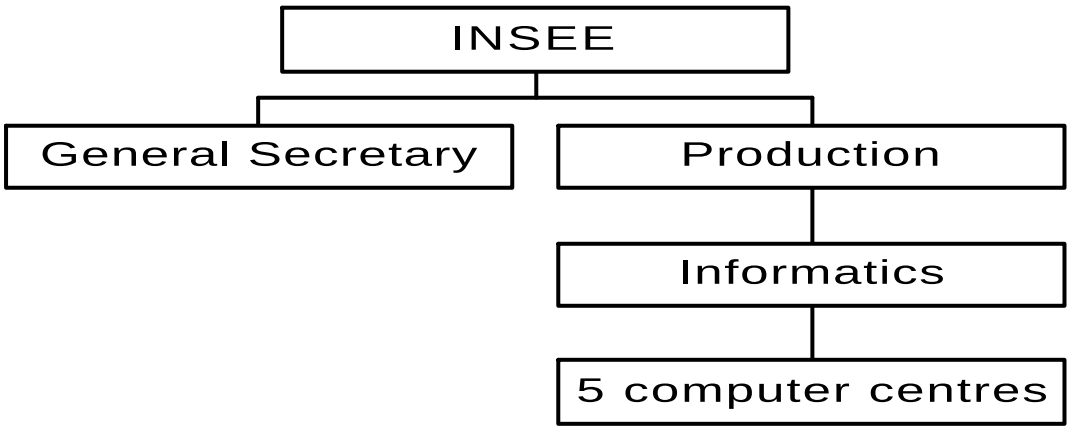
4. The geographical organization has evolved over time; it is now as follows:
- the head office in Paris
- 22 regional offices, including overseas
- 5 computer centers

5. The head office is comprised of 3 subject matter directorates:
- social and demographic statistics, including the population census, the population register and social statistics methodology
- business statistics, including the business register and business statistics methodology
- economic studies, including national accounts

and 4 functional directorates :
- general secretary, including informatics
- general inspection, including regional offices
- statistical coordination
- dissemination and regional statistics
- the group of national statistical schools; their informatics is separate from that of INSEE.

III. FROM 1971 TO 1989

6. In 1971, INSEE undertook a general reorganization, grouping all informatics and statistical production under one single Production Directorate. The 5 computer centers and 22 regional offices are under the responsibility of two units: the Informatics Department and the Production Organization and Methods Service. A General Secretary is responsible for budgeting and planning, as well as personnel and general services, including procurement.



Project funding

7. The Direction Committee examines every six months all requests for funding and allocates the means to the different clients. The description and the justification of the work holds in a few lines.

Project management

8. Project, maintenance and production are mixed. Teams are set up as sectors, each sector is handling several projects and several applications. Different methods are used by different teams, and some teams do not use any method at all.

Technologies

9. Mainframe applications using SAS, IDMS, ADABAS, VSAM or flat files. The interface is character-based.

Reasons for change

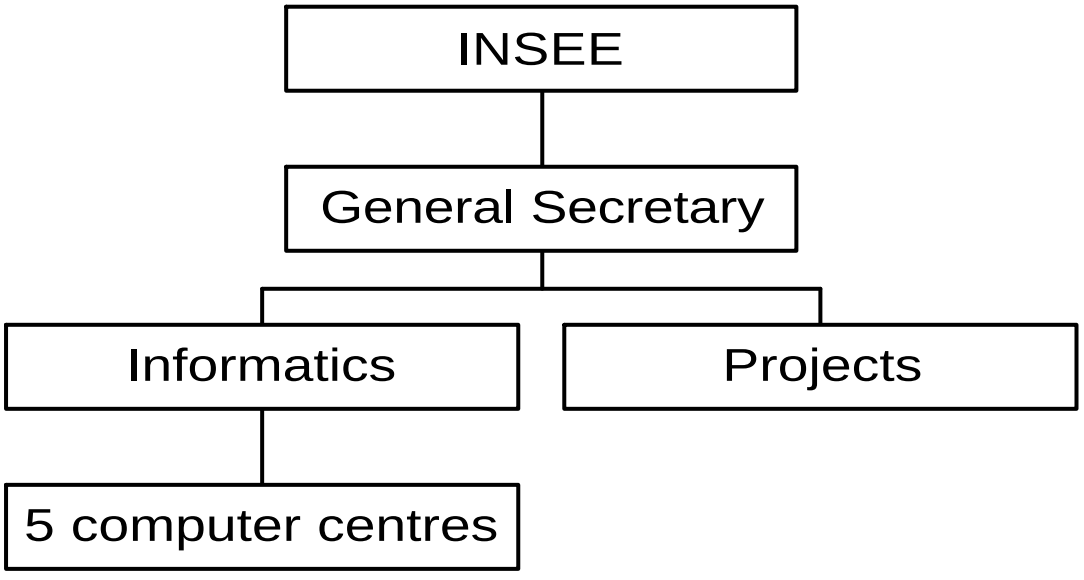
10. An audit was conducted in 1989, which gave the following analysis:
(a)Projects take too long.
(b)Developpers are not close enough to their clients.
(c)There is no systematic follow up of project costs.
(d)The statistical client should be enabled to make decisions.
(e)There are not enough development tools and no standards for development.
(f)Young recruits (with a mix of statistical and informatics skills) do not want to be assigned to informatics.
(g)User skills and organization are not enough taken care of.

11. It was felt that new projects did not receive enough attention from informatics, and that funding was haphazard at best. To counter this, a new organization was set up, specifically responsible for projects. Projects would have a twofold dimension of organization and informatics, in as much as user skills and how the statistical production work is done within and between regional offices is an important issue in the success of the project.

IV. FROM 1990 TO 1996

12. In 1989, the Direction of Production was split up into regional offices management on one hand and informatics on the other. Regional offices report now to the General Inspection, and informatics reports to the General Secretary. Regional offices underwent a reorganization of their own in 1992-1993.

13. Informatics was further split up in two departments, Projects and Informatics. The informatics department was responsible for infrastructure and application maintenance and production, the projects department was responsible for projects.



A unification of the methods for development was drawn up specifically for INSEE, mainly derived from the French Merise method.

Project funding

14. Projects had to go through 6 stages:
(a)Needs analysis
(b)Preliminary study
(c)Detailed study
(d)Development
(e)Production
(f)Maintenance
There was no funding for the project until the needs analysis was done by statisticians, and the funding was given only for doing the preliminary study. When this study was done, the funding was given for the rest of the project, and revised every six months if necessary.

Project management

15. Two main roles are defined: an informatics and organization project leader and a statistical project leader. For each project a steering committee was set up, and supervised the project until it went to maintenance. After that stage, a maintenance committee took over.

16. The choice of a planning tool was made (PMW), as well as a design tool (Mega) and a configuration management tool (PVCS). A tool for estimating the size of projects was also selected.

17. Outsourcing part of a project or a complete project was experienced, and met with mixed success.

Technologies

18. Technologies used in the projects ran the whole range from mainframe processing using Oracle and CICS or Adabas and Complete, to client-server with SAS or Oracle and Paradox, to micro-based applications using Paradox.

Reasons for change

19. In 1996, an audit was done on project management, which led to the following diagnosis:

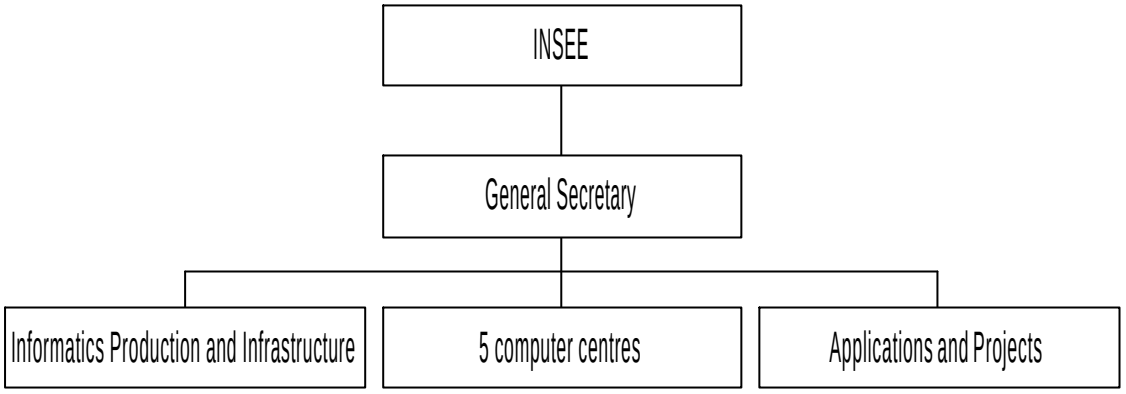
(a)Projects are too small, too numerous and take too long.
(b)User organization is not enough taken care of.
(c)There are not enough statistician ressources assigned to projects.
(d)There is no systematic follow up of project costs.
(e)Some projects are done by maintenance teams.
(f)Preliminary studies are too long.
(g)Young recruits (with a mix of statistical and informatics skills) do not want to be assigned to informatics.

20. The drawbacks of the previous organization are twofold: difficulty in getting ressources for projects (as projects and maintenance drew their ressources from a pool of people in the same locations) and difficulty in managing some operations as projects, as a result of competition between the informatics and the projects departments. The shortened command-line between the projects department and informatics project teams proved difficult to sustain in the long run.

V. SINCE 1997

21. A new organization is then set up, with an assistant secretary general for informatics and two deparments: a production and infrastructure department and an applications and projects department. It was felt that informatics production was not

done properly enough and that a separation between maintenance and production teams was necessary. The 5 computer centers report directly to the assistant secretary general.



The applications and projects department has one chief responsible for all the projects and applications of a given client, thereby helping informatics be more in alignment with business units.

Project funding

22. Funding for maintenance is done by each directorate within a maintenance budget, and that budget decreases at the rate of 5% each year. Projects are funded with the investment budget. Special work such as the year 2000 or euro receives mixed funding.

23. In 1996 was set up the Investment Committee. The committee advises the direction committee on which projects are worth funding, first at the needs analysis stage, then at the preliminary study phase. This makes sure that an independent third-party makes a judgement call on which projects are worth doing, since the natural inclination for informatics would be to refrain from doing more projects and statistics would insist on doing projects even on shaky grounds.

Project management

24. It was recognized that projects were often redone on the basis of the preceding project. This is not an efficient use of technology, as new technologies could enable new functionality. For the bigger projects (like the population census or the business register), a specific study is done, a kind of preliminary study for a domain, to help advise on choosing the right projects.

25. A method for analysing user skills and organization was devised and goes through the stages of analysis of the current situation, choice of the organization and preparation for change. A third project leader is introduced, responsible for organization.

26. Outsourcing parts of projects is now better understood and is done when the necessary resources or skills cannot be found at INSEE.

Technologies

27. Technologies now move to the internet and mainframe and client-server applications are phased out in favour of three-tier applications. An integrated workbench is in use, D2000 from Oracle Corp.

Reasons for change

28. The next audit has not yet been asked for. However, a rapid evaluation says that:
(a)Projects are too long.
(b)Projects do not have enough resources.
(c)Infrastructure changes take too long to be applied to all applications.
(d)User interface is not consistent across applications.
(e)The overall move to the internet takes too long.
(f)Young recruits (with a mix of statistical and informatics skills) do not want to be assigned to informatics.
(g)Project leader skills are not managed.

VI. FUTURE ENDEAVOURS

29. We currently have a little under 100 projects and more than 230 applications in production or maintenance. We are undertaking a revamping of our methodology and projects are now done in the following 6 stages:

(a)Needs analysis
(b)Preliminary study
(c)General conception
(d)Detailed conception, development, validation
(e)Deployment
(f)Maintenance

This should enable us to be more reactive to user needs, shorten overall project duration and increase quality.

30. We plan to move to UML and tackle reuse at the team and computer centre level. We have identified in 1998 eight objectives for progress ; they would apply to each project or application:

(a)to hold a launching seminar at the beginning of the project; this has the purpose to make sure everyone in the project understands what his role is and to draft a planning and a risks analysis
(b)to set up a monthly planning, with the amount of work required for each task
(c)to write a test plan right after the project has its green light, including the set up of a test database
(d)to prototype
(e)to set up at least three distinct environments : development, test and production
(f)to have a study of ergonomics or work organization done by specialized staff or outside consultants
(g)to estimate the size of the project using function points
(h)to sign a service level agreement for the application in production.
We are currently at about the 10 to 30% level for most of these objectives.