



Horizontal audit of the cost, benefit, and effectiveness of major information and communication technology projects

Key facts

With this horizontal audit, the Swiss Federal Audit Office (SFAO) aimed to determine the extent to which cost-effectiveness can be meaningfully demonstrated with respect to 3 selected major information and communication technology (ICT) projects. The audit did not focus on an analysis of the overall project cycle and operations. The audit covered the following projects:

- ZEMIS¹, Central Migration Information System, Federal Office for Migration (FOM);
- DWH, Data Warehouse, Federal Office of Meteorology and Climatology (MeteoSwiss);
- MISTRA, Management Information System for Roads and Road Traffic, Federal Roads Office (FEDRO).

The ZEMIS system (A-2000-ZEMIS project) was included on request of the Finance Delegation of Parliament.

Inclusion of benefit and long project duration are problematic

On the basis of its audits, the SFAO determined that the inclusion of benefit represents a particular problem in the cost, benefit, and effectiveness analysis (CBE method). As a rule, an investment in an IT solution or the maintenance thereof should only be endorsed if the resulting annual benefit exceeds the annual costs. Persons interested in a project will do everything to ensure that the return on investment and the pay-back period in years are positive. Business management considerations, targets established by the Swiss Federal Audit Office and principles arising from the "01 Federal Administration IT Controlling Method" are therefore no longer the primary concern, e.g. to keep the ICT project development duration as short as possible (A-2000-ZEMIS has lasted more than 9 years, MISTRA 5 ½ years, and DWH more than 7 years) or not to confuse the period of amortization with the period of use.

From a CBE perspective, none of the 3 projects should have been realized

Meaningful demonstrations of cost-effectiveness are available for 2 of the 3 projects. If the quantifiable benefit is juxtaposed with the annual project expenses, purely from a CBE perspective, none of the 3 projects should have been realized. Especially in relation to the three audited major projects, the SFAO found that the CBE method has its limits, in particular in the case of melioration projects² that primarily serve to maintain and carry out the business of a government office. The return on investment and the best possible pay-back period in years should not constitute the primary criterion for realization in the case of such projects. The SFAO recommends critically questioning the positioning of the CBE method in the case of improvement projects and that it be used as a decision-making instrument primarily in choosing among alternatives.

¹ Within FOM, ZEMIS is run under the name A-2000. ZEMIS is the product (system) used upon introduction of A-2000.

² Melioration: replacement investments (improvement or replacement of an existing system).

Consistent implementation of project management is unsatisfactory

Nowadays, the realization of projects is one of the daily tasks of government offices. This is in particular true of ICT projects. Project management in the classic sense, i.e. the management of deadlines and resources, is in practice quite well defined in the government offices, but project management is unfortunately not always implemented consistently.

Difficult cost compliance

The necessary numerical data on financial project execution were not always available, which made cost compliance more difficult. Using available controlling data from various sources, the SFAO juxtaposed the planned and already incurred costs with the foreseeable and estimated total costs for each project. This juxtaposition shows that the foreseeable total costs in some cases are 175% higher than the original budget; in this connection, see e.g. the A-2000-ZEMIS project. Also in the case of DWH, full cost accounting indicates foreseeable total costs that are significantly higher than originally communicated. It should be taken into account in this regard that the project scope was expanded considerably over time. In the case of the MISTRA project, no statement can be made at this time, since individual partial projects have been pushed back and will be realized later.

HERMES and IT controlling methods of the Federal Administration do not automatically entail success

The appropriate guidance is necessary, and where guidance is necessary, controlling and communication must also be adequate. In this connection, the SFAO finds that the application and implementation of the Federal IT Council (FITC) requirements vary considerably, especially with respect to complying with the principles and methodology of the CBE demonstration and allowing controlling data to be consolidated up to the level of the Confederation. Government offices are not always certain when, for instance, a project is considered an ICT project and when it must be notified to the Federal Strategy Unit for IT (FSUIT). The SFAO also finds significant potential for improvement in the area of communication: where, for instance, total project costs are to be communicated at the beginning of a project, the users of a future system are to be included in the project work or to what extent financial controlling data are to be prepared and taken into account in guidance decisions.

Implementation of IT governance principles still needs time

IT development will continue to strongly influence the way in which administrative tasks are carried out in the coming years, in terms of both methods and costs. It is therefore worthwhile not only to observe this development, but also to master it by means of appropriate measures – namely through adequate structuring of management responsibilities in the ICT field and the provision of appropriate controlling instruments for IT projects. Line managers must be given the proper skills through training, sensitization and appropriate framework conditions and induced to use their IT resources in their administrative field in a future-oriented way, as called for by IT governance.

SFAO recommendations were largely accepted

Overall, the recommendations made by the SFAO were accepted by the affected administrative units and bodies (FITC, FOM, FEDRO and MeteoSwiss). In its meeting on 28 January 2008, for instance, the FITC decided that after the ongoing review of ICT steering in the Federal Administration, the necessary adjustments should be undertaken with respect to CBE, ICO and portfolio methods, tools, and processes. Deadlines by the middle of 2009 at the latest were defined. The FOM has already taken measures that will be continued in its implementation of Schengen/Dublin. FEDRO is currently developing its own construction cost controlling instrument and views the PCO reporting provided by the FITC as too detailed. The SFAO finds that superordinate controlling instruments are not sufficiently known and/or do not meet with great acceptance. In its comments, FEDRO also expresses the wish that, in the phase overview with the deadlines and milestones for five projects, the status be downgraded from "in progress" to "only planned so far". This means that the implementation level of the MISTRA project is even less advanced than communicated in the final discussion on 5 December 2007. MeteoSwiss is of the view that this horizontal audit has provided numerous indications of possible potential for improvement and has triggered valuable further discussions internally. In particular, the report in this connection will contribute to a further sensitization of project leaders with respect to cost, benefit and effectiveness considerations. In its comments, MeteoSwiss claims that some of the facts recorded in the report are incorrect and therefore desires several modifications. The SFAO abides by its portrayal of the facts. With respect to the desired changes, the SFAO points out that MeteoSwiss does not share the same understanding of project guidance and controlling in the ICT field and also does not apply the same criteria for declaring an undertaking as a project as would be required by the Federal Administration. MeteoSwiss will implement the recommendations in principle. Deadlines have been set for the end of 2008.

Original text in German