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Topic (i): How IT can contribute to changing organizational culture

Is IT rationalisation a way to change service culture?

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I. Introduction

1. Eurostat, as a Directorate General (DG) of the European Commission, plays a crucial role in providing reliable and objective statistics to decision makers at EU, Member State and regional level. Eurostat works together with the national statistical institutes in the European statistical system (ESS). Regular updates and modernising of the IT systems used in the statistical production process are necessary to enable it to perform its tasks and help fulfil the mission of Eurostat — to be the leading provider of high quality statistics on Europe — in a cost effective and industrialised way.
2. This modernisation work is ongoing, and specific achievements have been reported previously at MSIS conferences. Recently, presentations have been made on the GSAST system as a corporate micro-data tool¹ and project examples with corporate systems for handling macro data, MDT and FAME.² The latest phase of this modernisation process is linked to IT (portfolio) rationalisation, where IT tools used will be reviewed.
3. In this paper, two different levels of IT rationalisation will be discussed. In the first part of the paper, the achievements of a Commission-wide rationalisation exercise in the domain of 'databases and analysis' are highlighted. The estimated impact of this approach on service culture is discussed. The second part of this paper focuses on Eurostat's internal efforts to reduce its statistical IT portfolio and the main challenges of this, together with an assessment of the impact on service culture with concrete examples.

¹ 2012; P. Jancsó and C. Wirtz; A corporate approach to processing micro-data in Eurostat; MSIS 2012 [http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2012/10_Eurostat.pdf].

² 2013; A. Queiroz and M. Vacarasu; Streamlining Statistical Production Processes in Eurostat; MSIS 2013 [http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2013/Topic_2_Eurostat.pdf].

II. Commission-wide IT rationalisation

4. At the end of 2010, the European Commission decided to take a more strategic approach to IT development.³ The aim of this approach is to optimise resources and investments to ensure that efficient IT tools support real business needs. This rationalisation process will provide guidelines, based in part on common sense principles, such as eliminating redundancies in IT systems covering the same business processes and favouring reusable corporate solutions.

5. Work has begun by giving a mandate to different DGs to lead work in different domains. After the initial waves which focused on administrative applications such as human resource management or planning tools, the domain ‘analysis and databases’ came under Eurostat’s responsibility in the third phase of the process. Eurostat’s main task in this exercise is to highlight potential synergies in statistical processing and data analysis across the European Commission.

6. The IT rationalisation exercise targets specific business functions relating to the collection, processing, analysis, storage and dissemination of data that is necessary to design, implement, monitor and evaluate EU policies in different DGs. This mandate complements the role and responsibilities of Eurostat within the European Commission, as defined by the Commission decision on Eurostat.⁴ The decision also requires Eurostat to coordinate statistical activities in the Commission.

A. Methodology

7. The rationalisation exercise, following a general methodology, is expected to have three distinct phases:

- (a) first, a preliminary assessment and information gathering phase (data collection), to collect all the information needed to understand the composition of the ‘analysis and databases’ portfolio.
- (b) second, an in-depth review phase, where the IT portfolio of the selected DGs in the domain is analysed during bilateral meetings, and flagship projects are identified.
- (c) third, a reporting and validation phase, during which a final report will be prepared and submitted.

8. The exploratory work in the first phase concluded with a recommendation that, for efficient rationalisation, the portfolio should be broken down into four smaller clusters, covering:

- (a) databases;
- (b) data processing, analysis and forecasting;
- (c) data dissemination; and
- (d) geographic information systems (GIS) applications.

This breakdown allowed Eurostat to set up small groups of experts to deal separately with each of the clusters and perform the necessary analysis.

9. In the **databases** cluster, analysis showed that several databases exist in different DGs, amongst others used for statistical purposes, to support the policy-making work of the DG. Rationalisation in this area aims to:

- (a) identify and inventory the databases;
- (b) promote statistical standards regarding the data structures, definitions and documentation; and
- (c) explore conditions for reusing data.

10. The **data processing, analysis and forecasting** cluster showed that almost all DGs analysed had started an internal IT rationalisation process, mainly through combining IT applications that perform similar tasks. Differences in business processes between DGs and constraints (e.g. data confidentiality) make using shared

³ ‘Getting the best from IT in the Commission’ SEC(2010) 1182 ;internal document.

⁴ COMMISSION DECISION of 17 September 2012 on Eurostat [<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:251:0049:0052:EN:PDF>].

tools difficult, but there is potential for IT rationalisation in sub-processes where a specific, well-defined procedure is used in several DGs. Guidelines for this can be found in work done by the statistical community in different international organisations on developing standards (for data, metadata and operations) and common models, such as the generic statistical business process model (GSBPM) for statistical business process models, and the generic statistical information model (GSIM) as a common abstract model for data objects manipulated in statistical production.

11. The **Data dissemination** cluster showed that the surveyed DGs use specific tools and processes to allow external users to consult data and there is room for some rationalisation in this area.

12. The Commission decision on Eurostat defines two different kinds of published statistical data. The first is ‘European statistics’, determined by the European statistical programme and the corresponding annual work programme. These high-quality statistics are developed, produced and disseminated by Eurostat. The second category is defined as ‘other statistics’ — i.e. those that are not ‘European statistics’, disseminated by other Commission services. Ideally, all Commission statistical data — whether European or other – should be accessible through harmonised dissemination channels and documented in a uniform way.

13. In recent years, Eurostat has built up a record of disseminating data, using powerful extraction and visualisation tools. Currently, the Eurostat website⁵ serves about 1 million ‘European statistics’ dataset consultations every month. The bulk download facility is available to retrieve full datasets from the reference database and it now serves 1.7 million files per month.⁶ Eurostat’s long experience in data dissemination meant that integration with the European Union’s Open Data Portal⁷ required only limited effort.

14. Currently, Eurostat is the main data provider for this platform, providing access to over 6200 datasets. The structure of the dissemination chain consists of a single database structure (updated twice a day) with visualisation tools providing instant propagation of database changes.

15. Details of the website were presented at MSIS 2012.⁸ These tools are continuously improved and components are added to respond to users’ needs. The feasibility of making Eurostat’s dissemination chain available to other DGs has proven successful in one test case. Since March 2013, DG Competition disseminates the State Aid Scoreboard data using the Eurostat dissemination chain.⁹ This does not, however, mean that the data are published via the Eurostat website, as this is reserved for ‘European statistics’. Instead, the Eurostat dissemination chain has the potential to act as a back-office system for publishing data (‘other statistics’) anywhere on the europa.eu website. Extending the use of the dissemination chain will, however, require substantial renovation of the chain to make it sufficiently robust and stable for use by multiple DGs.

16. The **GIS** cluster showed that GIS applications in the Commission are well coordinated among Commission services. Rationalisation in this area aims to:

- (a) create a catalogue of GIS tools and geospatial reference datasets; and
- (b) propose recommendations for guidelines to achieve a Commission corporate identity in public GIS applications.

17. The work in all the four clusters is ongoing. The expert groups are currently further analysing the clusters and working on business case documents.

B. Estimated impact on service culture

18. The possible effects on service culture of this rationalisation exercise will be discussed, using the example of the data dissemination cluster. The impact of this exercise is twofold. First, there is an impact on the

⁵ <http://www.ec.europa.eu/eurostat>.

⁶ 2013 M. Kotzeva, D. Defays; Progress report on it rationalisation in the domain ‘Analysis and Databases’ Internal document.

⁷ <http://open-data.europa.eu/>.

⁸ 2013 C. Laevaert; Eurostat data as open data: experience with Google and with the open data community (Section III) MSIS 2012. [http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2012/19_Eurostat.pdf].

⁹ http://ec.europa.eu/competition/state_aid/studies_reports/expenditure.html Table and graph: [Non crisis state aid, without railway, as a % of GDP](#).

Commission services using Eurostat's common tools. A certain level of harmonisation is needed at the level of business workflows producing the data to be published (at least at the final part before dissemination). The shared dissemination system requires the data to be coded according to harmonised and derived code lists. It then requires adaptation of the data production system or the data structures to produce harmonised and ready-to-disseminate output files. A change may be required in ways of working, to take into account the necessary time constraints (data must be uploaded before 10:00 to be disseminated at 11:00 in the morning update cycle), access rights (only a small number of people — the domain managers — are allowed to disseminate data) and other factors. The users of data published through the new shared method will note a common 'look and feel', even if the data is published on the DG's own website, and will benefit from powerful data visualisation options, including graphs and maps.

19. Secondly, there is a significant impact on Eurostat as the provider. The tools developed will not only be used by Eurostat, the DG that produced them, but offered to other DGs, too. This will impact on the work as service provider, as it will have to deal with both internal and external clients. All development work needs to be discussed with the client DGs, and harmonised and agreed. All user requirements (both internal and external) should be collected and matched. There will be additional tasks, e.g. providing regular external training on the tools. It will also affect IT governance. The increased number of stakeholders outside our organisation will require an extended steering committee and additional consultation with IT governance bodies (e.g. IT Steering Committees) in other DGs.

20. As the number of DGs served increases, the coordination and management of user needs and the IT development required might go beyond Eurostat's 'core business'. If this happens, these tasks could be transferred to DG DIGIT, the IT directorate general of the Commission.

III. Eurostat internal IT Rationalisation

21. The second part of this paper focuses on Eurostat's efforts to rationalise its own IT portfolio.

22. Eurostat uses and relies on IT tools to carry out its daily business. Data from numerous statistical areas are processed every day. IT plays a crucial role in the way production chains work. The principles of efficient use, level of maintenance costs, business continuity aspects, generality, reusability, and other factors drove Eurostat to renew and redesign the suite of IT tools it used. Colleagues at Statistics New Zealand have reported similar programmes.¹⁰

23. Eurostat introduced several programmes to modernise and rationalise the IT portfolio for producing statistics. Starting from the monolithic CRONOS system dating back to before the PC era, IT tools for producing statistics evolved considerably. Rationalisation programmes are always built on the achievements of previous programmes and these have helped Eurostat to keep up with progress and use up-to-date tools. The 'CVD' programme (from 2002-2012) established metadata-based modular production systems, e.g. GSAST, (See footnote 1) and the concept of EBB/EDIT¹¹, a modular validation tool,¹² etc. Faced with a new office automation platform, based on Windows 7, and increased security constraints, several legacy applications were transformed or eliminated. These were mainly developed using outdated Visual Basic technologies. Thanks to these modernisation programmes, there are only a limited number of legacy applications¹³ currently used to produce data.

24. Last year, Eurostat started a new programme aiming to consolidate the statistical production IT portfolio. There are several reasons for such a consolidation, such as:

- (a) budget cuts and resource constraints that create a need to reduce costs and increase efficiency;
- (b) technological advances in tools, e.g. new versions of underlying technology, or completely new technologies (Service-oriented architecture (SOA), Big Data, etc.);

¹⁰ 2013 B. McDavitt, M. Jug, T. Vanderburg; Migration from Legacy Systems MSIS 2013.

¹¹ Previously called EBB (Editing Building Block).

¹² 2011; G. Pongas and C. Wirtz; Statistical data editing near the source using cloud computing concepts; MSIS 2011 [<http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2011/wp.20.e.pdf>].

¹³ Legacy application in this case means outdated technologies no longer supported by the software providers. e.g. VB6.

- (c) the natural life cycle and evolution of each IT tool. Two tools can be created with distinct uses, but as more options are added to meet users' needs, these tools begin to overlap. In these cases, maintaining both tools is inefficient.

25. The rationalisation programme set out short- and medium-term objectives to reduce the heterogeneity in Eurostat's software applications. Over the next five years, the number of internal Eurostat IT applications used for statistical business processes is expected to be reduced by 50%. In addition to this reduction, the medium- and long-term objective of the programme is to move to a service-oriented architecture.

A. Methodology

26. To meet the short- and medium-term objectives of this new rationalisation programme, the following steps were decided:

- (a) drawing up an inventory of IT tools used for statistical production;
- (b) analysis and categorisation of these tools;
- (c) planning the rationalisation exercise; and
- (d) carrying out the rationalisation exercise.

Inventory of IT tools

27. The inventory is based on the Euro Process Metadata Structure (EPMS). The EPMS is a standard metadata structure that Eurostat uses internally to document statistical business processes. There is a record in the EPMS for each statistical process, of which there are currently 102. The EPMS covers six processes and sub-processes from the GSBPM that are specific to Eurostat's work: collection, process, validation, disclosure control, metadata management, other. The IT applications used in each part of a given business workflow are recorded in a database. During the inventory exercise, IT applications recorded in the database were validated and their names were harmonised to facilitate automated reporting. Statistical processes using each software application were counted by determining the number of times these harmonised names appeared in the EPMS. This exercise resulted in a table showing IT applications and the number of statistical processes they were used in. The EPMS is regularly updated to reflect any changes in processes. This updated database provides the necessary tool for monitoring and following up the rationalisation exercise's progress.

Characteristics of Eurostat's IT applications

28. In order to set rationalisation targets, the IT applications used to produce statistics were divided into categories. They can be grouped based on different aspects.

29. Based on their **relation to the corporate IT structure**, applications can be grouped into 'centrally managed applications', 'centrally supported applications', and 'other applications'.

- (a) *Centrally managed applications* are also called *corporate applications*. They are owned by the relevant IT team, and their maintenance and development is centrally organised. Most of the time, these applications serve many different production groups and data collections. In most cases, they are fully metadata-driven (see below). This group includes most of Eurostat's corporate systems, such as EDIT, GSAST, EUROCUBE, 'FAME corporate' and 'MDT corporate', Eurostat corporate systems used for metadata, dissemination and the Single Entry Point.
- (b) *Centrally supported applications* are owned either by the relevant IT team or by the production team. These tools are supported by IT teams, and their maintenance and development can be carried out by the production team (under the supervision of the IT team) or by the IT team. This group includes most of the SAS applications and some local MDT and FAME implementations, which are managed directly by production teams and do not follow corporate standards.
- (c) The third group (*other applications*) in this classification contains the applications that do not belong to the previous two groups. These are often used in end user computing. These tools, although they are not supported by IT teams, are subject to approval by the IT governance

structure. These applications are not supposed to be used in data production chains. Examples of applications in this group include Excel, Access, R programs, etc.

30. Applications can also be grouped based on their **degree of generality**.

- (a) *Fully generic, fully metadata-driven* applications are developed once, for all possible uses, and their different parameters and metadata settings make them suitable for different data collections. If changes are necessary in the program (within the limits of its design) the metadata can simply be changed. If this program is used in a new data collection, a new set of metadata must be created, but no programming is necessary. No hardcoded elements are used. One example of such an application is EDIT. In order to be able to validate the file, the file format and the validation rules must be provided. The format and the rules stored in the metadata repository of EDIT enable the use for different data collections.
- (b) *Partially generic, fully metadata-driven* applications are developed with some specific modules for different data collections. If a new data collection is treated with these applications, additional modules covering the specific items in the new processing workflow may need to be developed. If changes are necessary in the program for an existing data collection (within the limits of its design) metadata can simply be changed. No hardcoded elements are used.
- (c) *Specific* applications are developed to fulfil specific needs and cannot be used elsewhere. Hardcoded elements are commonly used. This group includes specific SAS programs, one shot tools, etc.

31. In IT rationalisation, the aim is to move towards centrally managed applications and fully metadata-driven applications. Further analysis took place, based on the following three categories:

- (a) centrally managed, corporate software applications;
- (b) centrally supported, non-corporate software applications;
- (c) other non-corporate software applications.

Planning rationalisation

32. In the global planning phase, at the start of the rationalisation programme, the number of processes to be rationalised is estimated for each year of the programme. This estimation is based on relevant project managers' evaluations of the IT systems. To help make decisions on the future of the tools and on iterative planning for the following four years, a set of criteria was drawn up. The software applications to be phased out are selected according to the following criteria: ¹⁴

- (a) Degree of **alignment** with Eurostat's overall strategy and enterprise architecture;
 - i. Readiness of the software applications for use in a future service-oriented architecture;
 - ii. Readiness of the software applications to accommodate corporate ESS technical and statistical standards;
- (b) **Risks** tied to the use/phase out of software applications;
 - iii. Potential for loss of functionality if a software application is phased out;
 - iv. Risk of business disruption due to limited support for software applications;
- (c) Operational **factors and costs**;
 - v. Number of business processes using the software applications (software applications used in a single business process have a disproportionately high maintenance cost);
 - vi. Age of the software applications (ageing technology increases the difficulties/costs of maintenance and sustainability);
 - vii. Opportunity to take advantage of business process redesign plans (e.g. due to changes in the data structures or new international data sharing agreements) to replace software applications.

¹⁴ Implementing Eurostat's IT strategy: Eurostat IT rationalisation internal document.

33. Based on the criteria above, applications are selected as candidates for rationalisation each year. This iterative process will be repeated annually.

Carrying out the rationalisation exercise

34. The rationalisation of software applications selected in the planning phase to be phased out takes place in the following steps:

- (a) *Identification of the processes involved:* based on the analysis and inventory, the statistical business processes using software applications to be phased out are identified and the relevant production teams are contacted. Involving the production teams early on in the process helps build fruitful cooperation at later stages.
- (b) *Detailed analysis of the business workflow implemented in the current system:* for each process involved, the business workflow and the IT environment is analysed. User needs are checked and any additional requirements are identified at this stage. This step might involve re-design or modernisation and harmonisation of the business workflow, and it requires close collaboration between the IT teams and the production teams.
- (c) *Proposal of a corporate solution:* for each relevant process, the requirements for the new system are compared to the available corporate solution options in order to find the best match.
- (d) *Implementation:* the actual replacement of the software applications to be phased out with the appropriate corporate solution takes place in all relevant processes. This phase includes developing an implementation timeline (which must take into account the production calendars for each statistical business process), migration of data from the old system to the new one, testing the new software application thoroughly and providing appropriate training to staff in the production teams on using the new software applications.
- (e) *Production:* this step marks the end of using software applications that have been phased out. Any support for these software applications is removed.

B. Experience so far

35. After the inventory process and the categorisation of the applications the analysis showed that:

- (a) there are a total of 97 different software applications in use in Eurostat, serving 102 production processes;
- (b) there are four corporate software applications for metadata workflows and 12 applications are used in the Single Entry Point, which supports data exchange with Member States;
- (c) twenty-nine corporate components for dissemination were identified — a separate programme is planned to reduce this number.
- (d) there are 12 corporate software applications for statistical data processing, four of which will be phased out. These cover almost all aspects of data processing, including, for example, data validation, seasonal adjustment, or disclosure control. The most commonly used non-corporate tool is MS Excel, with or without macros. It is used in 71 sub-processes. Scripting tools (Windows and UNIX) are used in 20 sub-processes. MS Access is used in 10.
- (e) there are 22 applications which are only used by a single process; most of these are specific tools to handle the data workflow of a given survey. Planning for the first exercise resulted in nine software applications being chosen for rationalisation. However in some cases, it may not be possible to phase out an application completely during the first year of the exercise but the number of processes using it can be reduced.

36. The main challenges in the section are the following:

- (a) Timing of the exercise. It is better to schedule the change of application when a major revision is necessary anyway.
- (b) Raising awareness about the existence and advantage of the corporate tools. Presentations, including real user experience, can help to convince the production teams to change to a corporate tool as soon as possible.
- (c) Thorough analysis is needed when a corporate software application is phased out.
- (d) This inventory only considered the applications used in statistical production. It does not provide an accurate picture of end-user computing tools.

37. Even if carefully planned, carrying out a rationalisation exercise is not easy. The main challenges and learning points can be seen in two examples. Both applications were selected for rationalisation mainly because of an opportunity to redesign the application workflow. In both statistical domains, changes to the governing European regulation meant that micro data and macro data might need to be processed. The existing workflows were only capable of processing aggregated macro data. For both systems, it was decided to move to GSAST, the corporate application for processing micro data.

38. In both examples, the corporate tool had a significant impact on the new micro data workflow. Micro data processing was new in both instances since only aggregated data had been received in the past. The best practice and standard working methods introduced by the corporate tool helped the teams to redesign their ways of working and to ensure that similar workflows were harmonised.

39. Implementing new standards (e.g. SDMX¹⁵) in corporate tools is the central maintenance team's responsibility. This removes some of the burden from business units. Changes in the composition of the European Union (e.g. Croatia's accession in 2013) or the Euro Area (e.g. the introduction of the Euro in Latvia from 1 January 2014) are automatically included in the corporate system's metadata.

Example 1

40. The first example concerns **Tourism** statistics. Before the rationalisation exercise, all tourism data was processed with two workflows based on Statistical Administration and Management (SAM). SAM was designed to allow statisticians to create Oracle and MS Access databases without programming. Originally, SAM was written in Visual Basic and Visual C++. As the functionality of SAM can be provided by other corporate systems, it was decided that all SAM applications should be phased out. In this example, therefore, an existing corporate tool is migrated to a more modern one.

41. The rationalisation exercise began by analysing one of the application's original workflows. As there had been a significant change in the workflow because of the need to analyse micro data, the old workflow was re-designed and integrated with the micro data workflow. After analysing the business workflow, a new application was developed in GSAST and is currently in use.

42. This rationalisation had some impact on the way the business team works. As the tool that was phased out was also a corporate tool, with centralised support and development, this had limited impact on the team's work. However, there were some changes. The GSAST tool uses commercial software (SAS Enterprise Guide) as its main user interface, with the advantage that the knowledge and experience in using the tool is reusable. The possibilities GSAST provides, e.g., OLAP cubes to allow easy analysis of multi-dimensional data, help the user to explore their data. One impact on service culture is that advanced GSAST users (who are allowed to perform minor maintenance in the metadata tables to change codes, indicators, dissemination tables, etc.) have to ensure that their modifications are first tested in the test environment before changes are made to the production system.

43. Including users in detailed discussions during the design phase and in final testing of the production workflow that was implemented in the corporate system helped to ensure staff felt involved. This meant that the user perceived the introduction of the corporate tool as a common effort, and testing was seen as a learning period and not as an unwanted additional workload.

¹⁵ See www.sdmx.org.

44. The feedback from the team was positive. The second workflow of Tourism is currently being analysed and a GSAST application will be developed to cover all the workflows.

Example 2

45. The second example concerns **Cause of Death** statistics. In this statistical domain data was processed with a custom-made SAS program. Although SAS is among the technologies supported, the application was developed by the user and was difficult to maintain. With further maintenance, the SAS program could have been adapted to process micro data, but this was not seen as a real option, for business continuity and documentation reasons. In this example, rationalisation had a significant impact on the way the business team worked. Instead of modifying the relevant SAS code to implement changes, the user had to document the changes they wanted and ask the central support team to correctly introduce them in the corporate system. This probably seems time consuming, but it is necessary to keep the corporate system running and correctly documented. This has also changed the skills required of staff in the business team. The ‘programmer’ part of the user’s profile is transformed to ‘power user’, leaving more time for the user’s role as ‘statistician’.

46. The main challenges in this example were the following:

- (a) The Cause of Death statistics use some unique methods that had to be developed in the corporate tools. These included an extra aggregation level (shortlisted data) in addition to the usual micro and macro data, a mid-year reference, etc.
- (b) The main user in the production team worked directly with SAS, but using GSAST required the use of the SAS Enterprise Guide. Regular in-house training on the SAS Enterprise Guide facilitated the transition.

C. Future plans

47. Several iterations of the Eurostat IT rationalisation exercise have been planned for the future. Regular planning and reporting on the programme’s achievements is part of the implementation plan for the Eurostat IT strategy.

48. This IT rationalisation is not the only current programme aiming to consolidate workflows and IT. There are also several business projects at ESS level which were presented at the MSIS 2013 meeting.¹⁶

49. Eurostat is also working on moving to a service-oriented architecture (SOA). The SOA is a design principle focusing on the use of different services and integrating these into a single information system. A single SOA-based user interface (IS4STAT) is being developed for Eurostat’s existing corporate systems. This interface has generic functionalities that can be used by statisticians in different fields.

50. The Product Family Management program will help to control IT tools used in producing statistics and end user computing tools.

D. Conclusion

51. This paper aims to give an overview of Eurostat’s rationalisation efforts at the wider Commission level, and at Eurostat level. The methodologies of the ongoing exercises are also summarised.

52. From the Commission-level rationalisation exercise, it can be seen that the impact has different aspects up to and including on governance.

53. From the other two examples examined in this paper, it can be observed that there is a strong interdependency with business processes, and IT rationalisation might have a direct impact on the ways in which business users work, and on their respective workflows. Both exercises are still ongoing, in line with project plans. This will provide further experience which will help answer the question in the title of this paper.

¹⁶ 2013 J.M. Museux, N. Hilbert and R. Barcellan; Architecture the ESS.VIP Programme MSIS 2013. [http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2013/Topic_1_Eurostat.pdf]