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Topic (ii): Development strategies for statistical information systems

MEETING THE DEVELOPMENT CHALLENGES AT ONS – A CASE STUDY

Invited Paper

Submitted by the Office for National Statistics, United Kingdom¹

Summary

I. INTRODUCTION

1. The Office for National Statistics (ONS) is currently undertaking a major modernization programme that looks at the business processes and procedures, and the underlying technology solutions. This paper summarizes the challenges and implications for the Information Management Group (IMG) as it strives to deliver its part of the modernization agenda. It also looks at the steps IMG is taking to face up to those challenges.

II. CHALLENGES

2. IMG has a number of major challenges to address if it is to succeed in delivering its elements of the ONS modernization agenda:
- ONS has myriad disparate legacy systems that are difficult and costly to support. Part of the modernization programme is to develop new solutions based primarily on Java and Oracle technology that will reduce, and eventually nullify, reliance on legacy systems;
 - While delivering against the modernization agenda, IMG needs to ensure that business as usual is maintained to the highest standards and the outputs of the office are still produced according to agreed schedules;
 - IMG has suffered significantly in recent years from a lack of investment in new technology and therefore does not have the internal capacity to undertake the modernization programme without support;
 - The lack of investment also impacts on standards, procedures, tools and techniques necessary to deliver in the new technologies;

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- The volume of work required over the next three years significantly exceeds current capacity.

III. STEPS TAKEN TO ADDRESS THE CHALLENGES

A. Resourcing

3. IMG acknowledges that a significant amount of training and mentoring must accompany the introduction of new technologies. Given the lack of investment to date, it was accepted that it would be some time before IMG's own staff were proficient and fully productive in the new development environment. The skills deficit was compounded by the volume of work to be undertaken. Estimates of the planned workload identified that IMG would need to double its development resource in order to meet demand.

4. With the lack of skills and resources, IMG decided the most appropriate option was to enter into a partnership arrangement with an external services company. Following a formal selection exercise, Xansa was chosen as the development partner.

5. As expected, it took some time for the partnership to 'bed in', with the inevitable uncertainty and scepticism from both sides at the outset. Now the relationship is yielding benefits and further improvement can still be made.

6. IMG expects up-skill its own staff in the new technologies. However, this brings a number of issues that are still being considered:

- Staff IMG wishes to train in new technologies are managing the business-as-usual work and cannot therefore be released without negatively impacting daily production activities;
- Unless IMG releases staff for training, it will remain overly reliant on its development partner, Xansa;
- Not all staff manage to make the transition from legacy to the Java/Oracle environment.

B. Standards, Techniques, Tools

7. It was recognized that in order to deliver in the timescales required and to an agreed and repeatable standard, a significant amount of work needed to be done to establish a development framework. From a start point of no agreed development life cycle, standards or tools, IMG has implemented the following:

- A full life-cycle methodology, called ONSide, based on the framework provided by Xansa but amended to include ONS-specific requirements;
- The concept of Object Oriented Analysis and Design supported by the introduction of the Rational toolset, RUP (Rational Unified Process) and DSDM (Dynamic Systems Development Method);
- Component-based development;
- Creation of standard estimating and testing processes, using TASSC and KARNER estimating tools and the testing elements of the Rational toolset;
- Tailored training for development staff to support introduction of the above.

8. The amount of time required for staff to become familiar in the new techniques has taken longer than originally anticipated, which obviously has impact on delivery against schedule. The estimating approach is therefore being updated to reflect this.

9. Although IMG staff welcomed the rigour that the introduction of the new life-cycle and supporting tools provided, the business users remained to be convinced that this new approach would yield benefits. However, after experiencing project delays - and enjoying a period of reflection - the business users are now embracing the life cycle and are requesting it be extended to cover some of their activities.

C. Organisation

10. With the provision of additional resources and the introduction of the development life cycle, it became apparent IMG was not organised as efficiently as it could be. The most notable deficiency was lack of an overall design authority and technical architecture team, which was subsequently created and staffed with Xansa people, with a plan to migrate IMG staff into the team over time.

11. A systems analysis and design function was also established as was the Java Technology Unit. The estimating and testing functions were established as virtual teams with staff trained in techniques and used appropriately.

D. External Influencers

12. The steps noted above are major undertakings in their own right. However, ONS is required to make significant changes to fall in line with Government initiatives and reviews such as Gershon, Lyons and Allsopp. These reviews can significantly impact on the modernization agenda.

13. As a result, IMG needs to undertake a number of tactical pieces of work while maintaining the drive to deliver against the strategic vision.
