



## **Modernisation strategies in the Australian Bureau of Statistics (ABS) – An Enterprise view of the future**

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### **Abstract**

As communities' demands for statistics increase, National Statistical Institutes (NSIs) are being challenged to produce new and more detailed outputs, within shorter timelines, and often with reduced resources. This paper outlines some of the strategies implemented by the Australian Bureau of Statistics (ABS) to address these challenges.

The ABS is seeking to progress a transformative program of modernisation focusing on modernising the statistical production process, as well as all other lines of business. Through this modernisation, the ABS aims to ensure sustainability through greater standardisation of organisational capabilities (e.g. business processes, statistical methods, statistical information and IT systems), and expanding international collaboration. Some of the key aspects of the internal strategy are the development of an Enterprise Architecture (EA); updating corporate governance, investment and capability development frameworks; expanding functional specialisations; standardising the statistical production processes; and supporting the cultural change required for the transformation to be understood and progressed by staff and stakeholders. While the EA broadly describes the 'to be' world, the other aspects, many of which are already in practice, describe strategies which will support the ABS to achieve it. Externally, the ABS is collaborating with various NSIs and international organisations to develop and implement standardised language and organisational models, with early proofs of concept already developed using these models. These collaborations aim to share services and infrastructure, thus reducing capital investment required by individual organisations.

Keywords: Enterprise Architecture; International collaboration; modernisation.

### **1. Introduction**

Like many statistical organisations, the Australian Bureau of Statistics (ABS) operates in a fast changing and complex information landscape – users expect more data, more frequently – and is constrained by a tight financial situation and aging systems. In response to these challenges, the ABS has embarked on its transformation program which will modernise the way it collects, manages and delivers statistics.

The Statistical Business Transformation Program has a number of objectives. The ABS needs to:

- reduce the risk of statistical failure;
- reduce the cost of operations;
- achieve a faster turn around for customers; and
- through the above, grow the business and reduce red tape.

The program aims to simultaneously reduce the cost and time of doing business, and increase the relevance and range of ABS statistical products and services. It is also looking for greater leveraging of synergies across government and NSIs. To maximise the benefits of this work, the ABS is promoting partnerships with its client base, to ensure its statistical outputs continue to deliver maximum value to policy makers and the community at large.

## 2. Focusing on the Business

The ABS has developed an Enterprise Architecture (EA) to support the Statistical Business Transformation Program. The initial phase of the EA development was to translate the ABS's vision for the future into the change required to move toward the new world. This provided a map of the ABS's 'to-be' world, as well as outline the developmental needs to support the organisation into this new state.

The EA supports the ABS in taking an informed and coordinated approach to its modernisation program, ensuring all strategic and tactical planning and decisions support the ABS's vision. One of the key challenges for the ABS is progressing the transformation, while simultaneously supporting the ongoing day to day work.

A key part of the EA is the Business Architecture. In developing its Business Architecture, the ABS created a model of the common generalised activities undertaken across the organisation which could be standardised for the 'to be' world. This model is called the Business Architecture Activity Model (BAAM).

The ABS implementation of the Generic Statistical Business Process Model (GSBPM) provided a basis for describing statistical production activities. However, the ABS wanted a model that included the activities outside statistical production. The BAAM<sup>1</sup> includes four broad layers of business - Statistical Leadership, Statistical Capability, Statistical Production, and Corporate Capability.

In describing its non-statistical work, the ABS sought increased alignment with the Australian Government Architecture Framework with the inclusion of the Corporate Capability (to describe general government and business support functions). By aligning the ABS's corporate functions to a Whole of Government framework, the ABS will more easily integrate any available or future Government off-the-shelf solutions

## 3. Creating reusable solutions

The BAAM facilitated the identification of business capabilities for its modernisation work. The main gains are achieved by ensuring activities make use (and reuse) of generalised capabilities. This leads to more effective use of resources by only having to develop and manage a smaller group of capabilities.

The ABS defines capabilities as the combination of six distinct elements: people skills, methods, processes, information (including standards, policies, data and metadata), systems, and other resources (such as non ICT buildings and equipment). In essence, capabilities are the guides and enablers supporting activities.

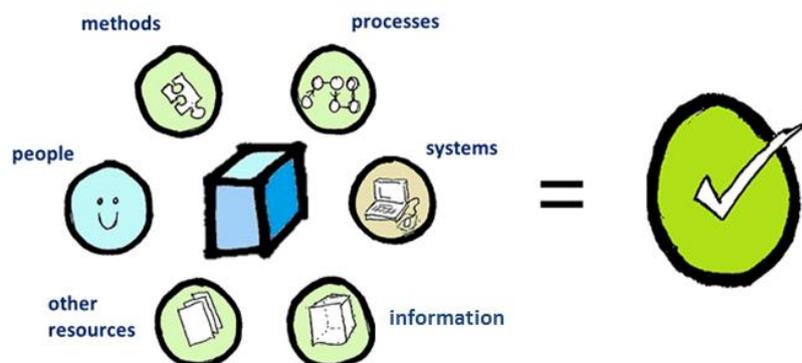


Figure 1. ABS capability elements

<sup>1</sup> The BAAM was an input to the development of the Generic Activity Model for Statistical Organizations (GAMSO) which was released by the High Level Group in March 2015.



The ABS developed a Capability Reference Model (CRM) to support the identification, development, and management of standardised organisational capabilities. It also helps to inform and prioritise investment.

Some of the key goals of implementing the ABS's Capability Architecture include:

- breaking down siloes by developing generalised capabilities to support all areas of the business;
- improving output consistency by promoting standardised capabilities; and
- increasing agility and decreasing costs of improvements, through self-contained reusable components which can be individually updated, rather than large end-to-end bespoke solutions.

By developing and managing enterprise wide capabilities, the ABS is modernising the culture of the organisation. A Service Oriented Architecture approach is being used. This is based on well-defined, re-usable, self-contained functional modules ('services'), connected together to run statistical business processes. This is in alignment with the Common Statistical Production Architecture (CSPA).

These services are being developed to provide standard business functionality as described by the CRM. Statistical collections can rapidly combine and recombine services to provide end-to-end solutions for new iterations. To support business areas to marshal the wealth of pre-packaged services, staff will interact with the business process management system through standardised interfaces. This will facilitate pre-bundling of services into meaningful business patterns, and will increase business agility by facilitating the configuration of reusable services.

#### 4. The Statistical Business Transformation Program

The ABS CRM identifies a set of high level enterprise capabilities designed to be discrete and reusable across business activities. These capabilities were grouped into distinct projects to be developed through the modernization:

- Statistical Data Management
- Statistical Metadata Management
- Statistical Process and Workflow Management (Design and Configure)
- Statistical Process and Workflow Management (Process and Workflow Control)
- Statistical Solutions Development
- Statistical Real World Intelligence
- Data Acquisition
- Dissemination
- Statistical Quality Management
- Stakeholder Management
- Data Compilation – Coding
- Data Compilation – Derivations
- Data Compilation – Output Adjustment
- Data Analysis
- Statistical Data Validation
- Statistical Data Linking
- Confidentialisation
- Output Estimation
- Register, Frame and Sample Management

The ABS is developing strategies for incorporating common capabilities into generic production processes. The modernisation strategy for capabilities is divided into three stages:

##### 1. Foundational capabilities

In recent years, ABS has had a strong focus on building these integral pieces of information infrastructure which most or all other capabilities rely on in order to achieve their goals. These include an Enterprise Data Management Environment, a Metadata Registry Repository, and Business Process Management system to orchestrate all business services.

##### 2. Book-end capabilities

These capabilities include data acquisition and dissemination which are functions that have previously been centralised within the ABS and have clear capability owners and well understood processes.



These capabilities will help clarify the process of reengineering, and provide an assurance for the effectiveness of the governance model.

These capabilities are important as the ABS will make it easier to provide data and will provide tools to better access data. This will reduce respondent burden and strengthen our partnerships with other government departments and data users.

### *3. Processing and analysis capabilities*

Transforming data from input to output functions are currently decentralised across the ABS. The ABS is looking across the organisation to identify innovative ways which meet the information needs of the government and the community. Through reengineering, efficient enterprise wide capabilities are expected to be developed.

In undertaking the reengineering required as part of the transformation program, the ABS aims to further develop the EA by incorporating the learnings achieved throughout the process. Finally, having completed the transformation, the ABS would be armed with a detailed, functional EA which will support management and innovation into the future.

## **5. Ensuring alignment to the vision**

To ensure project delivery and alignment with the ABS vision, strong governance is required. The Strategic Design Committee, comprised of Senior Executive staff from across the ABS, has a specific goal of ensuring all significant project proposals are aligned to the program objectives. The ABS have developed Decision and Design Principles which are actively applied at multiple points of a project's life cycle to help guide them toward the "to-be" world.

The broader governance fora, including various design advisory boards, and steering committees ensure the EA is actively and visibly used to influence and integrate ABS strategy, business practices, people, information flows and technological resources. These are facilitated by established processes, templates and timely quality gates.

The transformation program is much more than changes to systems, processes and technologies. The ABS is transforming how it works, what it delivers to clients and how it engages with other government organisations and the community. It is a profound change to the workplace culture.

To carry the organisation through a complex process of transformation, all staff need to be involved. Faced with a "large step change" challenge, the ABS will only achieve its goal if all resources are aligned in their deployment.