

Information Systems in Public Financial Management

South Africa's financial management information architecture: Workable transversal system or outdated legacy system?

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Acronyms and abbreviations

BAS	Basic Accounting System
DPSA	Department of Public Service and Administration
IFMS	Integrated Financial Management System
IT	Information technology
LOGIS	Logistical Information System
PERSAL	Personnel and Salary Administration System
PFM	Public financial management
SITA	State Information Technology Agency
VBA	Visual Basic for Applications
VLN	Vulindlela

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Context

Over the past three decades many advanced and developing country governments, often with donor support, have undertaken projects to introduce or modernise financial management information systems. Modern software and new systems offer the promise of improvements in a range of public financial management (PFM) processes such as budgeting, cash management, accounting, monitoring and reporting.

Unfortunately, there is evidence that the potential promised by modern software and new systems to improve PFM is not always realised in practice, particularly in developing countries (Uña, Allen & Botton, 2019).

The systems currently used by the government in South Africa, together with the ongoing system-modernisation project, represent an interesting case study in this context, providing both experience of challenges associated with less modern software and, on the other hand, challenges associated with system modernisation.



Modern software and new systems offer the promise of improvements in a range of public financial management (PFM) processes such as budgeting, cash management, accounting, monitoring and reporting.



Summary

In 2002, the government of South Africa approved its first project to implement an Integrated Financial Management System (IFMS). However, a complex governance structure and technical approach led to protracted delays in implementation, and an amended approach (IFMS 2) was approved and initiated in 2013. Progress has been made on IFMS 2 and the project is currently preparing to pilot implementation. However, as of December 2020, the administration of national and provincial government is still managed through a transversal system comprising multiple distinct information technology (IT) products.

This means there are distinct and separate IT systems in use for human resource management, supply chain management, financial management and management information; respectively, these are the Personnel and Salary Administration System (PERSAL), Logistical Information System (LOGIS), Basic Accounting System (BAS) and the Management Information System, Vulindlela (VLN).¹ All four of these core products (BAS, LOGIS, PERSAL and VLN) are maintained and managed by the National Treasury and, although there are challenges with this transversal approach, PFM in South Africa is nonetheless effective.

This case study describes the existing transversal system and how it is used to support key PFM processes in South Africa. It reviews the challenges associated with the system before providing information on the ongoing IFMS project intended to replace it. The study concludes by drawing general lessons for other countries considering modernising their administrative systems.



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¹ Vulindlela means 'to open the way' in isiXhosa.



South Africa's transversal system

As of December 2020, the significant data requirements associated with the administration of 41 national, and more than a hundred provincial, government departments in South Africa are supported by a transversal system. In contrast to an IFMS,² the transversal system comprises four distinct and separate core IT products designed to support different administrative processes. Thus, human resource management, supply chain management, financial management and management information are supported, respectively, by the following four core systems maintained and managed by the National Treasury, and physically hosted in the State Information Technology Agency (SITA):

- **Personnel and Salary Administration System (PERSAL):** Introduced in 1994, primarily as a payroll management system, PERSAL has since been developed to include additional information needed for human resource management.
- **Logistical Information System (LOGIS):** LOGIS supports Asset Management and Supply Chain functions and was first developed in 1998. It facilitates provisioning and procurement, control over consumables and movable assets, and provides management information on stocks and assets.
- **Basic Accounting System (BAS):** First developed in 1992 and extended over time, the BAS is not an accrual, but a cash-based online accounting system. Nonetheless, it includes functionality to allow the capture of commitments and liabilities, while facilitating the management of payments, debtors, bank reconciliation, authorisations, budget capture, and other required accounting functions.

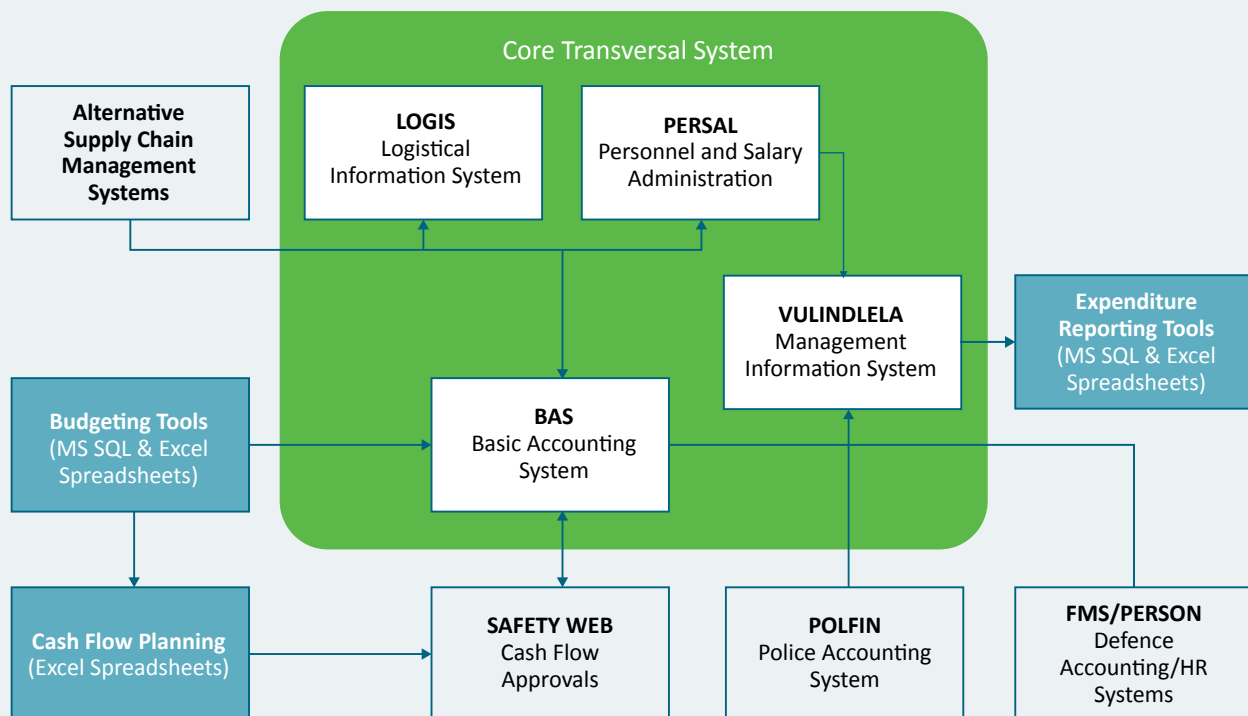
- **Vulindlela (VLN):** Each of the main systems described above offers only basic reporting functionalities, with VLN acting as the main management information system. Developed in 1997, VLN consolidates data from the BAS, PERSAL and LOGIS, summarising the information and producing higher-level datasets with financial, personnel and supply chain information.



As of December 2020, the significant data requirements associated with the administration of 41 national, and more than a hundred provincial, government departments in South Africa are supported by a transversal system.

² The term 'IFMS' can be used to describe a variety of IT products with different functionalities and levels of integration between administrative functions. Across sub-Saharan Africa, the term is often used to refer to a financial management system that does not include human resource and procurement functionality.

Figure 1: Core transversal system and supplementary systems



3.1. Supplementary systems

However, it is notable that not all national and provincial departments in South Africa make use of the core transversal system.³ Various additional systems are in use across government.

For supply chain management, Gauteng provincial departments use SAP software, and North West provincial departments use Walker software. Various other supply chain management systems are in place in KwaZulu-Natal and alternative systems are also used in the national departments of police, defence and justice and constitutional development.

For financial and human resource management, Parliament and the national departments of police and defence maintain and use separate systems. Parliament uses an Oracle Enterprise Resource Planning (ERP) system and the Department of Police use a system called POLFIN for financial management. The Department of Defence use the Financial Management System (FMS) for financial management and PERSOL⁴ for human resource management⁵

Additionally, the core transversal system is not designed to support all critical PFM processes without augmentation from supplementary systems. In particular, national and provincial departmental budget preparation, cash-flow management and expenditure reporting are managed primarily through supplementary tools developed by resources within the NT. These tools are sophisticated and functional, principally based on Microsoft Excel with a Microsoft SQL Server database and containing substantial Visual Basic for Applications (VBA) code.

³ This is largely because the complete rollout of the transversal system has not been a government priority since the commitment was made to implement an IFMS.

⁴ PERSOL is distinct from PERSAL.

⁵ Public entities are not supported by the transversal system and are not included in the planned IFMS implementation.

3.2. System interoperability and the Standard Chart of Accounts

Although the components of the transversal system and supplementary systems are distinct products, it is important that they combine to support government in a coherent manner. The various system components must be synchronised, and set up with uniform standards, to ensure the useful and convenient exchange of information or data across supported processes.

In the South African system, this interoperability is enabled through the use of the Standard Chart of Accounts. The Chart of Accounts is applicable to all national and provincial government departments and provides the framework against which all financial transactions made by government must be classified. It includes the structure of all government departments, together with classifications for economic item, fund, asset, infrastructure, responsibility, project and region.⁶

Each year, the Chart of Accounts structure is implemented across all components of the transversal system and supplementary systems. This ensures the components of the system work together to provide coherent support to the government across multiple administrative functions and processes:

- **BAS** – The approved Chart of Accounts structures are loaded centrally into BAS. This allows departments to capture both their budgets and their expenditure throughout the year, according to the Chart of Accounts format.
- **LOGIS** – The approved Chart of Accounts is loaded into LOGIS through an interface with BAS, with any additional set-up completed centrally. Thus, transactions completed on LOGIS may feed automatically through into BAS in the Chart of Accounts format.
- **PERSAL** – Currently, each government department is responsible for capturing the approved Chart of Accounts structure in the PERSAL system, such that personnel spending may feed automatically through into BAS. The National Treasury conducts checking processes to ensure that departments complete this correctly and, consequently, that structural discrepancies between BAS and PERSAL are minor.
- **VLN** – VLN simply reflects BAS, LOGIS and PERSAL data, and the provided summary datasets are, therefore, also structured according to the Chart of Accounts.
- **Supplementary tools** – Explicitly designed and built according to the annual Chart of Accounts structure, these tools produce and accept datasets that may be exchanged straightforwardly with core system components.

Ultimately, the uniformity of the various components of the core transversal system and the supplementary systems with the single framework of the Chart of Accounts enable the exchange and consolidation of data across the system as a whole.

Expenditure monitoring: The COVID-19 Response

Judicious use of the Standard Chart of Accounts has been critical in the monitoring of the COVID-19 response. At the start of the pandemic, the National Treasury added relevant items to the Chart of Accounts, and configured BAS accordingly, allowing national and provincial departments to record their COVID-19 response spending. Detailed instructions were issued to departments on how to transact, and the NT is now in a position to conveniently extract national and provincial spending information specific to the COVID-19 response for monitoring and reporting purposes.



Although the components of the transversal system and supplementary systems are distinct products, it is important that they combine to support government in a coherent manner.

⁶ Further detail on the Standard Chart of Accounts can be found at <https://oag.treasury.gov.za/Pages/default.aspx>.



Public financial management processes

The core transversal system and supplementary systems play a critical role in PFM in South Africa, supporting key processes such as budget preparation, cash-flow management, transactions and business intelligence. Information is provided below on how these processes are managed by the South African government in practice.

4.1. The budget preparation process

The budget preparation process is managed by the National Treasury externally to the core transversal system, using an SQL database and a range of sophisticated Excel workbooks. These workbooks are set up with the Chart of Accounts structure to facilitate the breakdown of the departmental budget ceilings into programmes, economic classifications, infrastructure spending and funds. They also include historical spending trends, special projects, personnel and departmental performance data to help inform budgeting decisions. Visual Basic code and password protection are applied to avoid unauthorised structural changes.

Once departmental ceilings are settled, the workbooks are set up and distributed to departments for the completion of detailed budget proposals. Departments submit their proposals for analysis by, and negotiation with, the National Treasury. Throughout this process, submissions are loaded onto an SQL database, which manages the large volumes of data involved and facilitates the production of a consolidated budget dataset for the whole of government, and which may be conveniently analysed.

Once the consolidated budget is finalised, the published budget documentation is produced. Document production is largely automated, with VBA code embedded in further Microsoft Excel templates used to populate document templates. Explanatory text is included in these templates and these techniques produce the Estimates of National Expenditure and other budget documentation.⁷

Together with published documentation, and datasets for analysis, the budget process and negotiations also inform adjustments to the Chart of Accounts for the coming financial year. The agreed structures are loaded by the NT into BAS to allow departments to capture their budgets in the system, and their expenditure throughout the year. Departments capture their budgets manually, and central checking processes in the National Treasury are required to ensure accuracy.

4.2. Cash-flow management

After the budget process, the National Treasury collects cash-flow projections from departments before the start of the financial year.⁸ Once again, this process is conducted using sophisticated Excel templates sent to departments, analysed and combined in the NT to provide a consolidated projected schedule of funding requirements.

Once approved, the cash-flow schedules are loaded onto a bespoke software application managed in the NT called Safety Web. This system is integrated with BAS and has functionality to prevent spending above approved levels.

⁷ Including the midyear Adjusted Estimates of National Expenditure (AENE) documents.

⁸ Treasury also collects updates to these projections from departments throughout the year.

4.3. Transactions and expenditure

Once budgets and cash-flow schedules are approved, the core transversal system facilitates accounting and transactions made by departments, as follows:

- **BAS** – BAS is configured with the Chart of Accounts structure and loaded with approved budgets following the budget process. Throughout the year it is used to capture, record and report on transactions by all national and provincial government departments except Parliament and the departments of police and defence. Transactions conducted on both PERSAL and LOGIS automatically feed through to, and are captured on, BAS. Departments not using PERSAL or LOGIS are required to capture transactions directly on BAS.
- **LOGIS** – BAS and LOGIS are integrated. Transactions that are completed through LOGIS, automatically feed into BAS, with BAS returning information to LOGIS including, for example, confirmation of budget availability.
- **PERSAL** – Salaries paid through PERSAL are automatically transferred and captured on BAS. In practice, the interface between the two components is maintained manually and this can lead to discrepancies between the two systems. Furthermore, backdated amendments to payments are captured independently on BAS and PERSAL, which can contribute to variances between the two components on a monthly basis. Nonetheless, technical resource and checking processes within the NT ensure that cumulative differences between the systems remain minor.

4.4. Business intelligence, expenditure monitoring and reporting

VLN is a critical component of the business intelligence system, summarising and consolidating the large BAS and PERSAL datasets as follows.

Data from BAS, LOGIS and PERSAL is accepted by VLN in order to create summary datasets. Notably, the team at VLN also integrates monthly data received from the separate financial systems of the departments of police and defence, but does not currently do so for the many alternative procurement systems across government.

After Vulindlela makes summarised datasets available, supplementary systems are required to transform these into complete business intelligence and financial management reports, appropriate for senior management and Parliament. Since there is no centralised system that produces complete, serviceable management information reports, each national and provincial department must make its own arrangements.

The production of management information reports is likely to vary considerably between government departments, with some implementing more efficient and effective processes and systems than others. Within the NT, many of the same techniques used to achieve the automated production of budget documentation described above are employed to produce automated management information reports. Specifically, VLN and supplementary data, is imported into the Microsoft SQL Server database, linked to Excel with VBA coding and used to populate document templates. This provides an effective semi-automated reporting system in the NT.



The core transversal system and supplementary systems play a critical role in PFM in South Africa, supporting key processes such as budget preparation, cash-flow management, transactions and business intelligence.



Challenges with the transversal system

The transversal system has been developed over more than 20 years⁹ to support the administration of national and provincial government departments in South Africa, and, with the help of supplementary systems as described above, does so effectively. However, as with all systems, it is not without its challenges. This section outlines some of these.

5.1. Coverage across government departments

As stated above, the core transversal system in South Africa is used by the majority of, but not all, government departments. This complicates the production of consolidated datasets and government-wide management information. While Vulindlela provides consolidated datasets for expenditure and personnel reporting, there is currently no consolidated procurement dataset that includes all national and provincial departments.

Further to this, the use across government of multiple systems that provide the same, or very similar, functionality is inefficient. Departments not using the core transversal system for various functions bear the costs associated with the maintenance of the alternative systems.

5.2. Need for supplementary systems: budget process

The budget process is not supported by the core transversal system, but facilitated by supplementary systems based on Microsoft SQL and Excel. Functionally these supplementary systems are effective and the risks to reliability that might be expected with using Excel to facilitate complex processes are greatly reduced by supplementing Excel with VBA code and using an SQL database to store and manage data. The primary challenge associated with this approach is that the development and maintenance of sophisticated Excel tools requires technical resource and capacity with associated costs.

5.3. Need for supplementary systems: business Intelligence

The existing transversal system does not provide comprehensive business intelligence software available to all national and provincial departments. The National Treasury has developed tools and processes based around Microsoft SQL and Excel, which produce timely, reliable, automated management information reports. However, across government, each national and provincial department makes its own arrangements to produce such reports for internal consumption, and bears the accompanying costs. Some departments may produce required reports manually, carrying resource costs and the risk of inaccuracy. Other departments may develop or independently procure business intelligence software, contributing to a proliferation of software solutions across government and the associated duplication of effort and inefficiency.

⁹ BAS was first developed in 1992, PERSAL in its current form was introduced in 1994, and LOGIS was first developed in 1998.

5.4. Functionality limitations: human resource management, supply chain management and accrual accounting

Although PERSAL has expanded beyond the original payroll management system, additional information, controls and personnel administration functionality are considered desirable for human resource management and would require significant modifications to the existing component.

Furthermore, additional asset management functionality, together with greater interface granularity and controls, would be beneficial for supply chain management, and would involve extensive alterations to LOGIS.

Finally, the government in South Africa currently accounts on a cash basis but is committed to making the adjustment to accrual accounting once IFMS implementation is complete.¹⁰ IFMS will be based on accrual accounting principles, whereas, although it does have functionality to accommodate commitments and liabilities, extensive modifications would be required to develop BAS into a comprehensive accrual accounting system.

5.5. System interoperability

In South Africa, interoperability between the various components of the transversal system is managed by technical resource and through the consistent use of the Chart of Accounts. However, while managed effectively, ensuring coherence across the various components of the transversal system requires technical resources and introduces the potential for human error. System configuration, management and verification processes all entail resource costs.

5.6. System maintenance and management

Although some components are older than 20 years, the NT continues to maintain the core transversal system. The physical infrastructure hosting the system is modern and may be easily upgraded.

However, in principle, the costs of the maintenance and management of multiple software products might be anticipated to be higher than those associated with a single product. Managing the multiple components and interfaces associated with a transversal system may be more expensive and challenging, in some instances, than the management of a single IFMS solution. Additionally, the procurement and management of contracts from multiple vendors may be more onerous than dealing with a single IFMS provider.



Managing the multiple components and interfaces associated with a transversal system may be more expensive and challenging, in some instances, than the management of a single IFMS solution.

¹⁰ See <http://www.treasury.gov.za/documents/national%20budget/2019/review/Annexure%20W2.pdf>.



Integrated Financial Management System

It is important to note that the existing transversal system continues to support effective PFM in South Africa, and the above challenges could be diminished through additional investment in transversal system components. Nevertheless, given that additional functionality is desirable in all four core components of the transversal system, replacing the entire system with an IFMS represents a coherent systems modernisation strategy.¹¹ In South Africa, the government is committed to the procurement and implementation of a single IFMS solution rather than replacing, adding to, or further developing, transversal system components individually. This section provides information on the IFMS project to date.

6.1. The initial IFMS project

The initial IFMS project (now referred to as IFMS 1) commenced in 2003. The project was designed to cover financial and payroll management, human resource management, supply chain management and business intelligence across all national and provincial departments, and the solution architecture chosen was a combination of commercial off-the-shelf (COTS) software and bespoke software. Project completion was planned for 2013.

However, despite project spend amounting to approximately R650 million,¹² the schedule slipped significantly, and implementation of the IFMS 1 system did not take place. Many factors contributed to the cessation of the IFMS 1 project, but key challenges are thought to have included the following:

- A solution architecture was uniquely designed to cater specifically for existing business processes in the South African government and, hence, included the development of bespoke software.¹³ Particularly, given capacity constraints,¹⁴ the open-ended nature of bespoke software development created risks to timelines, budgets and overall system integration and functionality, which ultimately were realised.
- Because the project was designed to reform multiple administrative processes simultaneously, project governance was split along functional lines between the Department of Public Service and Administration (DPSA), the National Treasury and SITA.¹⁵ These agencies were responsible, respectively, for ensuring that the IFMS supported human resource policies and processes, financial and supply chain management functions, and that all components and services were integrated into a coherent overall solution.
- These complex arrangements and the number of involved parties contributed to a lack of clearly delineated business ownership, which in turn may have led to insufficient project management, co-ordination, change management and project quality assurance.

6.2. The current IFMS project

Due to mounting costs and delays, the cabinet formally approved discontinuation of the IFMS 1 project in November 2013, and it was replaced by a second IFMS project (IFMS 2). Given the lessons learned during IFMS 1, the governance structure was overhauled for IFMS 2 and the solution architecture revised to include only COTS software with little to no customisation and bespoke development.

11 Estimating the expense of investment in the existing system relative to an IFMS solution would require a detailed costing exercise.

12 See https://www.agsa.co.za/Portals/0/PFMA2012-13/2012_13_PFMA_consolidated_general_report.pdf and http://www.agsa.co.za/Portals/0/PFMA%202013-14/PFMA_2013_14_consolidated_general_report.pdf

13 The solution architecture also included COTS software; it was a combination of the two.

14 Surrounding business process design and documentation, system specification and implementation, software development project management and related expertise.

15 SITA is a schedule 3A public entity as listed in the Public Financial Management Act (1999)

As of December 2020, together with related activities, a dedicated team has been established and resourced in the National Treasury, business processes have been mapped, Oracle has been appointed as the service provider, software licenses have been procured, an implementation strategy and plan approved, and the project is preparing for pilot implementation before full rollout.

It should be noted that since cabinet approval of the IFMS 2 project in 2013, a number of challenges have impacted the project timeline, notably including numerous changes in strategic leadership, audit investigations and delays in supply chain processes. Over and above these, negative press reports, particularly allegations of corruption, have beset the IFMS over the years. This necessitated the completion and consideration of internal audit and forensic investigations by the NT during the project to date.¹⁶

Nonetheless, the IFMS steering committee has now approved the outcomes from the previous phase of the project and the commencement of the next phase. Identified pilot sites include the National Treasury and the DPSA together with selected departments in the Eastern and Western Cape provinces. Following pilot implementation in the selected departments, full rollout of the IFMS project is planned for all national and provincial government departments.

The procured IFMS solution includes multiple integrated modules, and is expected to support financial management, human resource management, payroll management, supply chain management and business intelligence requirements. It is intended to fully replace the existing transversal system across government.

Once implemented, the benefits of replacing the existing transversal system with IFMS are presented in an IFMS brochure as including:¹⁷

- Replacing ageing technology and avoiding increasing costs of maintaining legacy systems. Notably, these costs include the potential inefficiency and functional duplication of maintaining the current multiplicity of software and platforms.
- Facilitating ongoing financial, supply chain and human resource management reforms through the introduction of new functionalities. This includes support for accrual accounting, budgeting, and improved human resource and inventory management functions.
- The implementation of uniform policy norms and standards across supported processes, through enhanced system interoperability.

- Processing and compiling data in ways that increase the availability of quality information for planning, reporting and better decision-making in the management of public resources. This relates to system interoperability and functionality to combine and aggregate datasets in order to provide reliable management information (Hendricks, 2012).

However, although progress has been made on the IFMS 2 project, rollout of the system across government is yet to commence.¹⁸ The timeline for completion will depend on available resources, together with the readiness of national and provincial departments.

6.3. IFMS 2 implementation challenges

Throughout the world, IFMS implementation is notoriously complex and lengthy requiring not only extensive system specification, development and configuration, but modifications to business processes, change management, training of users, user acceptance testing and ongoing troubleshooting and support (Uña, Allen & Botton, 2019).

In South Africa, complete implementation of IFMS requires that these activities be completed in all of the 41 National departments, and over 100 provincial departments, currently supported by the transversal system. Furthermore, the chosen IFMS solution will involve the reform of multiple administrative processes within each of these government departments: financial management, supply chain management, human resource management and business intelligence. Different teams are responsible for the various administrative processes within departments and reforming all processes will involve a substantial number of stakeholders and government employees, each with potentially inconsistent and competing priorities.

The reform of multiple government departments, together with multiple administrative processes within each department, represents a highly significant change management and co-ordination operation, across numerous groups of stakeholders.¹⁹ It is safe to assume that full implementation of IFMS 2 in South Africa will be a very challenging, multiyear process.

¹⁶ Detail on the timeline for the IFMS project is available at <http://www.ifms.gov.za/Roadmap.aspx>

¹⁷ See <http://www.ifms.gov.za/Brochure%20Final.pdf>

¹⁸ The exact expected timeline for IFMS 2 implementation is not publicly available but rollout is scheduled for 2021 <http://www.ifms.gov.za/Roadmap.aspx#2021>

¹⁹ During the IFMS 1 project in South Africa, the project-governance structure has been split along functional lines between the DPSA and National Treasury, contributing to complexity and management challenges.



The transversal system during and after IFMS implementation

Throughout the multiyear IFMS rollout period, the transversal system, with associated technical resources and costs will remain essential for government in South Africa, with departments continuing to use the existing system until it is their turn to implement IFMS. During this period, not only will the transversal system continue to require maintenance but technical resources will remain necessary to ensure that the IFMS and transversal systems are broadly interoperable. Government standards will need to be applied across both the transversal system and the IFMS, and data from each will need to be combined and aggregated to provide management and monitoring information across government.

Even after full IFMS implementation, the transversal system will be maintained for some time, and technical resources will be required to make the necessary revisions and additions to existing supplementary systems to ensure interoperability with the IFMS. IFMS 2 consists of COTS software and, as such, is designed to cater for the general corporate management needs of government, rather than the unique requirements within various departments. Certain government business needs will require systems supplementary to the IFMS:

- Although data for more recent years will be transferred to the IFMS, transversal system components will continue to store important historical data until such time as it is archived and made available through an alternative supplementary system.
- The production of standardised management information reports and documentation is a valuable output of the IFMS. However, more in-depth analysis, department-specific reporting, or policy-area-specific reporting, are likely to continue to require supplementary systems and processes.

- The government budget process includes analysis of historical data, policy specific data, performance data and other information that may not be available on the IFMS, but which, nonetheless, needs to be included in budget documentation. Although the IFMS includes a budgeting module (as part of the financial management functionality), which will be used to support the government budget process and produce documentation, it is likely that supplementary systems and technical resources will remain necessary.

Supplementary systems and technical resources capable of consolidating data from multiple sources and systems will continue to be important for effective PFM during, and even after, IFMS implementation.²⁰



Supplementary systems and technical resources capable of consolidating data from multiple sources and systems will continue to be important for effective PFM during, and even after, IFMS implementation.

²⁰ Much like the transversal system, the IFMS will not be used to support public entities, which will continue to require supplementary systems.



Conclusion and recommendations

This case study has shown that the transversal system in South Africa is workable and supports the administration of government effectively. Furthermore, additional investment and development in the transversal system in South Africa has the potential to increase coverage and expand functionality, unlocking economies of scale and diminishing many of the challenges described above.

Nonetheless, the government of South Africa remains committed to the procurement and implementation of a single IFMS solution rather than continued expansion and investment in the existing transversal system. Successful IFMS implementation offers the benefit of built-in system interoperability and, since enhanced functionality is desired in all four transversal system core components, represents a coherent systems improvement plan.

However, the complete implementation of IFMS remains a significant challenge in South Africa, with a considerable complication being the simultaneous reform of multiple administrative functions across a large number of government departments. Perhaps, given the proven capacity of the government to manage the distinct components of a transversal system successfully, it would be worth considering a modular approach to IFMS implementation in South Africa, replacing core transversal system components, and reforming associated administrative processes one by one, across government.²¹

Ultimately both an IFMS and a transversal system can be used to support the administration of government and effective

PFM. Which solution is more appropriate to support a given government will depend upon analysis of country-specific needs and capabilities, the costs associated with each option, and the scale and complexity of IFMS implementation. Lessons for other countries considering modernising their administrative system include the following:

- Both an IFMS and a transversal system can be effective solutions in principle
- The primary advantage of an IFMS solution is built-in system interoperability
- System interoperability can, nevertheless, be achieved in transversal systems with the use of a standardised chart of accounts and the development of interfaces between system components
- IFMS solutions should not be expected to eliminate the need for supplementary systems and technical resources
- The flexibility of a transversal approach is likely to offer benefits in some circumstances, including comparatively straightforward implementation
- IFMS implementation can be complex, expensive, lengthy and highly challenging, and successful implementation is far from guaranteed
- A detailed diagnostic assessment and cost-benefit analysis should be undertaken in all circumstances before adopting either approach.

21 For example, replacing BAS with the IFMS financial management module, while leaving PERSAL, LOGIS and Vulindlela in place would reduce the number of processes being reformed, and training required, across and within government departments, at any one time. Experiences from the transversal system suggest that ensuring interoperability between the IFMS financial module, PERSAL and LOGIS, would be a challenge but achievable. Once the IFMS financial module is implemented across all departments, it would provide a useful technical platform for the implementation of remaining IFMS modules, such as the human resource module, one by one.

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