



Center for Technology in Government

**Public ROI - Advancing Return on Investment
Analysis for Government IT
*Case Study Series***

The Austrian Federal Budgeting and Bookkeeping System

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TABLE OF CONTENTS

Introduction	1
The Austrian Federal Budgeting and Bookkeeping System	2
Context Factors	3
Historical Context	3
Institutional Context	3
Political Context	4
Initiation	5
Mobilizing Support and Resources	5
Developing a Technology and Organizational Strategy	6
<i>Project Structure and Management</i>	6
<i>Technological Solution</i>	6
<i>Development and User Support Solution</i>	6
<i>Prototyping with the Ministries</i>	7
Making the Case to Stakeholders	8
The Implementation	8
Where It is Now	9
Public ROI Perspectives	10
Implications for Public ROI Assessment	12

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The public returns from the investment can flow from the internal improvements in the agency resulting in returns to individual citizens and the public at large (the main flow through the center). Other returns can flow to the political system and the economic environment (below the center), or through effects on other agencies (secondary performance gains). This general view of public returns informs the case studies and helps summarize the results.

The case studies were conducted through site visits and interviews with the participants in each project, combined with review of project documents and other evidence. We are indebted to the members of the Austrian Ministry of Finance and their IT team, especially Christian Ihle for their generous participation in the interviews and hospitality in Vienna. The findings and views expressed in this report, however, are those of the authors alone and do not reflect the policies or views of the participants or the Austrian Government.

The Austrian Federal Budgeting and Bookkeeping System

How a government obtains value from its citizens and external public environment and how it returns value to them are linked directly to its financial management systems. These systems are crucial links in the flow of revenues to the government and the flow of expenditures and services back to the public. Improving financial management, therefore, has the potential to produce significant returns in terms of both greater internal efficiencies and enhanced value to the public. These were the goals of the Austrian Federal Budgeting and Bookkeeping System project initiated in 1997 by the Minister of Finance and supported by the Chancellor (Prime Minister). The goal of the project was to redesign and integrate the electronic workflow of the federal government's budget and bookkeeping processes. The strategy they chose was to implement a single Enterprise Resource Planning (ERP) software standard throughout the federal government. By 2005, one of the results of the ERP implementation and the adoption of the necessary legal authority was that the Ministry of Finance successfully consolidated 85 bookkeeping units across the federal government into one federally owned, but privately operated, agency.

The consolidation and integration produced immediate and tangible benefits in terms of internal efficiencies. These resulted from the implementation of a new standardized work process for accounting and budgeting throughout the federal government, required fewer steps and less processing time (see Table 1). As of 2005, the legal consolidation of the numerous bookkeeping departments into one agency, along with the technical and organizational implementation of the ERP system, have resulted in actual annual savings of approximately €30 million. In terms of these returns to the government itself, the project is clearly a resounding success.

Table 1. New Federal Bookkeeping System Process Improvements		
Saving Category	Old Process	New Process
Number of process steps	25	14
Number of employees	15	7
Number of positions (roles)	20	10
Throughput time (days)	12	6
Processing time (minutes)	44	30

In terms of broader public returns, the project goals went beyond internal financial management efficiencies. The aim of restructuring the Austrian Federal Accounting and Bookkeeping system was much more than simply an "IT investment" from the very beginning. The bookkeeping system was part of a larger effort to implement ERP technology throughout the Austrian Federal Government as part of a governmentwide public management reform effort. The ERP technology was one part of a comprehensive strategy that included legislative reform, government wide reorganization and consolidation, and implementation of modern accounting and budgeting standards across the government. Though the specific ERP technology was just one element of a larger approach, the ERP technology played a very

important enabling role vis-à-vis the legal and organizational strategies. According to Christian Ihle, head of the Department of Accounting and Controlling, who directed much of the project, “All of this was possible only because we were able to communicate in an electronic way; budget planning and budget execution without personal contact. That was possible because we implemented the ERP.”

These more comprehensive goals can be thought of as building the internal management and information infrastructure for overall Austrian government efficiency improvements. These improvements reduce the burden on the public of financial support—taxes, fees, etc.—and can ease the burden of compliance with rules and policies. Better financial information can make government budgets and expenditures more transparent and thus, more legitimate and acceptable to the public. A more efficient government also can, in principle, provide more and high quality services. These are all potential “social” and “political” ROI factors from the ERP implementation and the related reforms. However, the government has not as yet mapped the successes in internal efficiencies to the more externally visible returns. There is some evidence of these types of public returns reported below and the discussion of further assessment is included in the final section.

Context Factors

Historical Context

The accounting and bookkeeping functions in the Austrian Federal Government developed in a diverse and distributed way. During the 1960s, the Federal Government system for bookkeeping and controlling consisted of approximately 85 bookkeeping offices covering 150 spending units across the 12 ministries and other federal government organizations. This proliferation of bookkeeping offices was the result of the law that entitled all spending units throughout the Federal Government to have their own bookkeeping office. The overall federal budgeting and accounting data was entered and accessed through each of these individual units. There was no technical nor institutional capability to access budgeting and accounting data across the spending units from a single access point. As a result, anyone who wanted bookkeeping information from more than one unit would have to contact each bookkeeping office separately, wait one to two days to get the information, then combine the results separately. By the mid-1990s, the existing system was reaching the end of its lifecycle and the Ministry of Finance was faced with the decision to develop a new system internally or purchase a ready-made solution from the market.

The Ministry of Finance determined that the information technologies available in the 1990s were much better and faster than the outdated systems currently in use. The newer technologies offered modern capabilities to improve the entering, maintenance, and sharing of accounting and budgeting data between the federal ministries and the Ministry of Finance. However, the Ministry of Finance officials knew that the other ministries were taking advantage of these newer IT capabilities to construct their own separate, diverse, and often very expensive IT solutions. Moreover, these solutions typically lacked links with the existing accounting and budgeting system. Even if links and an interface existed, there were no IT system standards or standardized accounting and bookkeeping work processes in place. Without these, the links across the systems would not enable gains in efficiency and effectiveness of federal budgeting and accounting. The resulting financial information silos within the government agencies severely limited the ability of the Ministry of Finance to integrate information. To do so required very expensive and time consuming processes of manually extracting and re-inputting the necessary data. In an effort to avoid this incredibly inefficient “double work”, improved integration became the central goal of any new initiative.

Institutional Context

Constitutionally, the Ministry of Finance has authority over all financing aspects of the government. The bookkeepers throughout the federal government ministries and other spending units are all essentially employees of the Ministry of Finance. The Ministry of Finance has the authority to define the roles and responsibilities of these individuals. Moreover, by law, the Ministry of Finance, together with the federal audit office, is responsible for the uniform organization of all of the government accounting units and the

governmentwide accounting IT system. The Ministry of Finance does not have authority over the organization and operational functions of the other ministries. Therefore, the Ministry of Finance has no control over IT spending and the types of solutions chosen. So, while the Ministry of Finance has the legal authority to require that all the other ministries provide the same quantity and quality of data to the Ministry of Finance for accounting and budgeting purposes and use a specific IT solution for the reporting function, it cannot dictate the internal processes or workflow of collecting, maintaining, and providing the data. According to Christian Ihle, "From the Ministry of Finance, I could mandate the software and the rules for the accounting system, but not for the internal workflows and processes. They could run the process in a very difficult and complex way. They could leave the electronic process in their organizational process as they have in the past."

Political Context

The political context of the Ministry of Finance's efforts to update the existing federal accounting and budgeting system and to improve overall these processes for the government was complex. Given the historic and institutional context described above, the Ministry of Finance was faced with ministries and other spending units that did not want to give up their existing solutions and/or proposed IT investments for a Ministry of Finance chosen one based on a single technology and standardized workflow. Without the authority to mandate that the other ministries modify their internal processes, the Ministry of Finance had to depend on the voluntary willingness of the other ministries to cooperate, and this willingness was not generally forthcoming.

The reform of the federal accounting and budgeting system was part of a much larger governmentwide reform effort. Because of this reform effort, As part of this effort, the Ministry of Finance was able to secure the needed high level political support to move forward with the necessary legislative changes, obtain the needed funding, and secure the necessary level of cooperation from the individual ministries. The political climate was influenced by several recent milestones for the Austrian government. These three milestones contributed to focusing the energy of the Austrian government on reform.

Austria's decision to join the European Union on January 1, 1995, had a significant influence on the political and economic context – placing considerable pressure on the government to initiate several budget consolidation programs and structural adjustments.² Government reform in Austria reached a new level after a political change in government in 2000. The new government put a strong emphasis on a comprehensive reform of administration and on budgetary consolidation to meet the EU's criteria for participating in the single monetary policy.³ The 'administrative reform law' that passed Parliament in November of 2001 outlined a broad range of reform projects to include personnel reductions, an improved cost accounting system, and budgetary improvements. In 2003, due to deteriorating economic conditions, the Austrian government officially dropped its goal of maintaining a zero budget deficit, but considered austerity and savings a high priority – and still does to this day.⁴ Through its Administrative Innovation Program (VIP), the government targeted a total reduction of public spending by €1.3 billion by 2006. In addition, the government targeted reduction of the Federal Administration by an equivalent of 10,000 full time employees between 2003 and 2006.⁵ In March, 2004, the Austrian E-Government Act set the requirement that all public bodies be capable of full electronic transactional service delivery by 2008.⁶ These three events raised the Ministry of Finance's plans for a new accounting and budgeting system to a high priority. The system would support the goals of both internal government reform and delivery of improved services to citizens through its e-government strategy.

² Gerhard Hammerschmid and Renate Meyer, New Public Management in Austria: Local Variation on a Global Theme? *Public Administration* Vol. 83, No. 3, 2005 (709-733).

³ For more on the euro and European Union monetary fiscal and monetary policies visit <http://europa.eu.int/euro/>.

⁴ Gerhard Hammerschmid and Renate Meyer, New Public Management in Austria: Local Variation on a Global Theme? *Public Administration* Vol. 83, No. 3, 2005 (709-733).

⁵ For more information on the VIP visit the Austrian government Web site: <http://www.austria.gv.at/2004/4/23/pubserv.pdf>.

⁶ eGovernment Fact sheet – Austria – History, Interoperable Delivery of European eGovernment Services to public Administrations, Businesses and Citizens. European Union Web site: www.europa.eu.int/idabc/en

In the same period, another policy trend further supported the Ministry of Finance's efforts to implement the new federal accounting and budgeting system: consolidating government organizations into single corporate entities. In the 1990s, 24 government organizations were transformed into corporations with their own legal identity. The underlying administrative principle of reorganization or "corporatization" is that the government should not do anything that can be done as well or better by the private sector or by independent organizations operating on free-market principles at arm's length from central government.⁷ A major motivating force for this corporatization was dissatisfaction throughout the government with limited flexibility in financial and administrative routines, personnel actions, and wage policies. This dissatisfaction often focused on the two organizations that played a critical role in implementing the new budgeting and accounting system, the Federal Computing Center and the Federal Bookkeeping Agency.⁸

Initiation

Initial planning for the new federal accounting and budgeting system began in the IT Directorate of the Ministry of Finance in 1997. The then head of the IT and Organization of Accounting and Payment Transactions division, Stephan Csoka, had envisioned a new federal accounting and budgeting system based on modern accounting system and budgeting concepts. The vision was for a complete redesign of the way the federal government did accounting and budgeting. This vision was translated into the two following goals:

Use of standard software with appropriate user interfaces.

Complete redesign of the budgeting, budget-execution, and bookkeeping processes as an integral part of an organizational workflow.

Csoka believed that an enterprise resource planning (ERP) solution could enable this vision. Such a system could improve and standardize government budgeting and accounting processes. It could also provide a way to unify the multiple and disparate IT capabilities that had emerged among ministries in the last decade. The division conducted a study to assess current ERP software against the Ministry's requirements for a new accounting and budgeting system. The feasibility study results showed that SAP was the best solution among available ERP options. However, the feasibility study did identify the need for SAP to issue a new release of its ERP software that addressed several requirements of the Austrian government in order to implement the standardized accounting and budgeting process throughout the federal government.

Mobilizing Support and Resources

With the results of the feasibility study in hand, Csoka and members of his team approached the Minister of Finance and the State Secretary in the Ministry of Finance to gain political support for moving forward with the project. According to Christian Ihle, "We knew we'd need the political support because of the substantial amount of funding it required and the long term impact it would have on all the federal ministries. Once we saw it was possible to achieve our goals with an ERP software package, we showed the State Secretary what we needed to do. He knew the value of information and therefore we didn't really have a problem."

In 1998, the project team, which consisted of the Ministry of Finance IT Directorate instructed by the Minister of Finance and the State Secretary, moved to secure support for the project at the ministerial level. Securing the political support of the 12 ministers enabled the Ministry of Finance team to gain access to the individual ministries and begin working with their bookkeeping units for an integrated system rollout.⁹ The project team was also able to rely on the Council of Ministers to help them settle the many

⁷ *Issues and Developments in Public Management: Austria – 2000*, OECD, 2001.

⁸ *Issues and Developments in Public Management: Austria – 2000*, OECD, 2001.

⁹ In the Republic of Austria the Council of Ministers forms the cabinet in the executive branch. The members are chosen by the president on the advice of the chancellor. For more information on the Austrian government please see *Republic of Austria: Public*

disputes between the Ministry of Finance and the individual ministries that would arise throughout the project. In Christian Ihle's terms, "We needed it to get our 'back free.' To go into all of the ministries, we needed this kind of support. It was important to feel free to work the ministries."

Though the project had support at the Council of Ministers level, the individual ministries resisted paying for the project out of their own budgets. So the Ministry of Finance decided to finance the ERP implementation. With the financial arrangement in place, the project team could proceed to offer tenders, one for software and hardware, the other for project development support. The Ministry of Finance had no experience with such a large project at the beginning of the tender. According to Erich Albrechtowitz, application manager in the Ministry of Finance in charge of the ERP project budget, "This was a very challenging step for us. We didn't have the power within the Ministry of Finance itself to implement the software on our own." For the support tender, the project team sought a lead contractor with consulting and ERP experience. They chose Siemens Business Services for its expertise in both consulting and with SAP ERP implementation.

Developing a Technology and Organizational Strategy

The new federal accounting and budgeting system was both a governmentwide reform project and a series of cultural and organizational change projects in the ministries. Even with the legal mandate for consolidation, it would still require an operational strategy to bring the many bookkeeping units into one Federal Bookkeeping Agency. The project team chose to use the ERP implementation to first achieve the necessary technical and process consolidations. That provided a foundation for the physical and organizational consolidations that generated the savings and other benefits. In this way, the technology framework in the SAP ERP software provided one of the enabling mechanism for the system changes. The overall success of the process required other policy, management, and organizational strategies as well.

Project Structure and Management

Project management involved both high level executive attention and a day-to-day operational structure. The high level executive engagement was through a steering committee with representatives from the Federal Chancellery, the Office of the Minister of Finance, the Ministry of Finance IT and budget directorates and internal audit office, the Federal audit office, the Federal Computer Center, SAP Austria, and Siemens Business Services. Operational management was the responsibility of a smaller project team comprised of representatives from the Ministry of Finance IT and budget directorates and Siemens Business Services. They were responsible for overall project management to include budgeting, controlling, and rollout.

Technological Solution

The earlier feasibility study showed that an ERP based on SAP software was the only available solution that could cover 85-90% of the Ministry of Finance's requirements for the new system. The new system would have to serve all 12 ministries in the federal government. According to Erich Albrechtowitz, "It's very difficult to develop a single software solution that meets all the needs of the 12 ministries. However, you can provide them with a standard." The SAP ERP software provided that standard. In 1998, SAP delivered the new release with the special features for government budgeting, called Industry Solution Public Sector (ISPS) – now called EAPS. This release contained the needed accounting and budgeting standards for the new accounting and budgeting process for the federal government.

Development and User Support Solution

An implementation as complex as this ERP project required substantial support capability for development and training activities. Part of this capability was based in the Federal Computing Center (FCC). This

Center, created as part of government “corporatizing” decisions, was created in the mid 1990s in response to governmentwide frustration with public sector IT units that lacked the flexibility and skills to adapt to the rapidly changing IT environment. Without the constraints of government salary and personnel restrictions, the FCC could attract a pool of IT professionals that could offer the techniques and solutions the government needed to meet technology changes and service demands. The FCC began with about 400 employees whose salaries were more competitive with the private sector IT market than the public sector. The FCC has grown to approximately 1,500 employees.

To support the ERP implementation, the Ministry of Finance worked with the FCC to create a Customer Competence Center (CCC) staffed with personnel trained and certified by SAP. Cost effective management of a government wide IT innovation such as this, based on a new technical solution, with thousands of users spread out across multiple government boundaries, would require the personnel and skill only the FCC model could provide. According to Christian Ihle, “The CCC was a focal point of our project. It gives us today an independence and flexibility that we previously did not have.”

The benefits of the CCC are clear and significant. According to Ernst Steiner, Head of Department, Customer Competence Center, “Through the CCC the government saves 50% on the cost of SAP software licenses. Moreover, by relying on the CCC not only as a help desk for system problems but also as a resource for other project development, the federal government is reaping considerable savings compared to what it would have to pay external consultants for the same services.” Further savings result from the CCC staff’s familiarity with Austrian government operations and work with the ministries and other government organizations on a daily basis. This reduced the need to bring external consultants up to speed on the special features of the government. According to Christian Ihle, “The CCC knows who we are, what we want, and how we work.”

Prototyping with the Ministries

Prototyping played an important role in the overall implementation process. The particular prototyping strategy used by the project team balanced the need for standardized processes versus the need to fit the system to diverse ministry situations. To do so, the project team adhered to two principles:

It is not necessary to analyze the old processes in detail. Rather, it is much more effective to create smart and slim standard processes.

People dealing daily with the “old” process should not be involved before the newly designed “standard processes” can be offered.

The principles, according to Christian Ihle, meant that, “We consciously excluded users from the initial creative design step, but let them participate in a second step of evaluation and fine design. This guaranteed full creativity for the design step and full usability for the results.” They were able to work within the project team for the first step due to the teams of expertise with government accounting. The lead contractor from Siemens Business Services and key member of the project team, Mr. Sturm Reinhold, had extensive experience working with the Austrian National Bank and helping to privatize an Austrian telecommunications company. In addition, Mr. Reinhold had over 28 years of experience working with SAP.

The Ministry of Social Security, Generations, and Consumer Protection was integrated into the project to test and refine the newly designed best practice process. This partnership began the prototyping phase of the project. It is important to note that this ministry was not randomly chosen to participate in the prototype. The project team found that employees in this ministry were open to change and modernizing their organization.

Throughout this prototyping phase of the project, the Ministry of Finance and Siemens representatives held structured meetings with members of the prototype ministry to test and refine the work and data processes and test new roles and new work place definitions. According to Heinz Weber, head of the bookkeeping office in the Ministry of Social Security, Generations, and Consumer Protection, “We showed the project team how we did the work previously. Next, they showed us how we could do it in the new

software environment. We tested it and proved that their design processes could be realized in practice.” According to Sturm Reinhold, “At this phase in the project, we were able to create a prototype of the new accounting and budgeting system, which was more than a technical prototype. It was a comprehensive prototype for reinventing the organization.”

As a result of the prototype work, the project team defined 10-12 working roles for the accounting and budget process. These typical working roles would now become the standard for the whole Republic. Based on the best practice process, the team was able to take a lot of different work functions previously executed by a number of different people and integrate many of these functions; executed by fewer people. The project team was now prepared to offer these new processes supported by the IT system to the rest of the ministries.

Making the Case to Stakeholders

The importance of the internal value of the project was evident in the way the project team made the case to senior political leaders. They focused on how the new federal accounting and budgeting system would support the administration’s government reform efforts. They emphasized how the ERP system, along with the consolidation of bookkeeping agencies and the creation of both the Federal Bookkeeping agency and the FCC’s Customer Competence Center, would bring hard financial savings and a streamlined accounting and budgeting process to the federal government. However, once political support was secured, the case needed to be made to the government employees that would be directly affected by the new system as the users. This included bookkeepers and management that would be the consumers of the information provided by the new system. Project success hinged in large part on this group of stakeholders, based on their ability and willingness to use the system. According to Christian Ihle, “You must not create servants but experts. The people must feel that they are worth working there as experts; they are asked, they are contacted, and there is good communication and respect. This is the way you can achieve higher performance in every organization.”

The Implementation

The comprehensive prototyping completed in 1999 provided a model for the rollout process. Based on that approach, the project team began the rollout process in 2000 and completed it in June of 2004. In preparation for this phase of the work, the project team created rollout groups for each of the ministries. The rollout groups applied a modified version of the prototype approach in which each user group in the ministries could be taught the system and the new processes.

As the rollout groups moved into the other ministries, their approach was supported by the fact that the best practice process for accounting and budgeting and the ERP system had been essentially given the stamp of approval by the Ministry of Social Security, Generations, and Consumer Protection. That prototype demonstrated to the other ministries that the new system could work. According to Christian Ihle, “We had to give them a system that the users felt supported the processes related to their responsibilities, showing that they could benefit in some way from using the system and processes that we had developed.” Throughout the rollout, the first prototype success was used as an example in the other ministries, and users from the prototype ministry were used to train users in the other ministries.

Accepting the new accounting and budgeting standards in the base system was a potential issue in all ministries. In some cases, processes were modified because the ministries had fixed rules, some of which were tied to legal mandates. However, based on the rollout team’s process modeling approach, users were usually able to see the efficiency potential in new processes. Examples from the prototype provided visual examples showing the time, money, and personnel resources that could be saved using the new process. According to Christian Ihle, “We trained roles; we didn’t train SAP experts. Therefore, it was a very action-focused training and system.”

Another aspect to the rollout was a series of “road shows” where a team from the Ministry of Finance went throughout the country to the capital towns and we invited all the opinion leaders from the federal organizations there and informed them about the project, the schedule and the milestones.” Based on the

work during the prototyping, the project team had real results and experiences to share. The road show gave government employees and managers the opportunity to ask questions and express their concerns about how the new system would impact their jobs and became a big success for the project. According to Ihle, they had to make an effort to spread the good news because, “Bad news is able to destroy a project and good news doesn’t travel as fast as bad news. It was a very important task to inform the users and the opinion leaders at the right time before we implemented the system.”

Where It is Now

Due to the success of the rollout and the technical and organizational benefits that were realized through the ERP implementation, the government moved forward with the consolidation of the bookkeeping agencies. The Federal Bookkeeping Agency was legally founded on July 1, 2004, and became fully operational on January 1, 2005.¹⁰ The consolidation of 85 individual bookkeeping agencies into one organization, currently distributed across four locations, resulted in a reduction in bookkeeping personnel from 1,100 to 550. Moreover, the extra 550 bookkeepers did not lose their jobs but were reallocated to other positions throughout the ministries, such as procurement and internal auditing. Total savings were approximately €30 million in the first year of operation (2005). The Ministry of Finance expects to reduce the personnel in the bookkeeping agency by another 20% over the next two years as the government takes increasing advantage of the technology. For this achievement, the Ministry of Finance won the 2005 Administration Award for projects, presented by the Austrian Chancellor.

The creation of the Federal Bookkeeping Agency and the ERP implementation enables the overall provision of accounting services under minimal use of resources and same level of service. Through the bundling of administrative resources, more efficient control of personnel, and the nationwide use of standard software, significant synergy and considerable savings were achieved.¹¹ The system currently has over 4,000 users across the 12 federal ministries and other government organizations. Further gains will depend in part on individual users taking advantage of the system and the process improvements. The Ministry of Finance will continue to engage with the newly formed Federal Bookkeeping Agency and individual ministries to encourage maximum use of the system’s potential. “In the future,” according to Christian Ihle, “we will be able to measure the duration time for completing accounting and budgeting transactions. We will use this information and any inefficiencies that we identify as a leverage to improve the process throughout the government.”

The value of the new system is not limited to these savings. Since 2005, the Ministry of Finance has expanded the project and focused on the data warehousing capability of the new system. One of the lessons learned was that, beyond these efficiencies linked to the larger political aspect of government reform, users and upper level management saw improvements in job performance. More specifically, according to Heinz Weber, “ In the Ministry of Social Security, Generations, and Consumer Protection, the process standardization and integration of accounting and budgeting data improved managers’ capability for reporting and gave them a more comprehensive view of their organization.”

The new system also provides the infrastructure for developing services with direct returns to the public. Beyond the accounting functionality, the new system will be linked to support a key element of Austria’s e-government strategy. That strategy aims to “enable government organizations to electronically record, save, find and re-work information thereby supporting the transfer of paper files to electronic files for all inter-ministerial processes at the federal level.”¹² This element of the e-government strategy is critical to the government’s goal of all public bodies being capable of full electronic transactional service delivery by 2008. The ability to deliver direct benefits to citizens of as part of this e-government goal depends on a

¹⁰ Josef Makolm *A Holistic Reference Framework for e-Government: The Practical Proof of a Scientific Concept* Proceedings from the 39th Hawaii International Conference on Systems Sciences, 2006.

¹¹ Administration in Brief: Services and Data, Austrian Federal Chancellery, May 2006.

http://www.bundestkanzleramt.at/Docs/2006/5/30/verwaltung_konkret_englisch.pdf

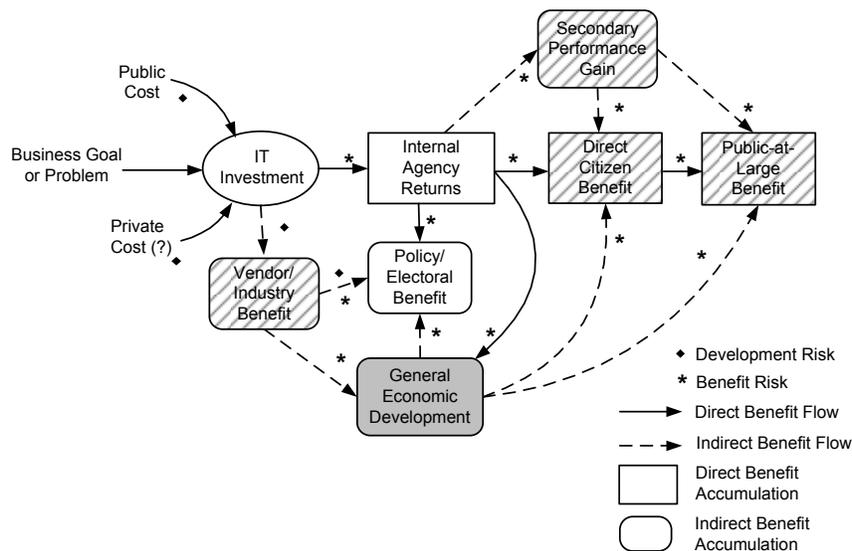
¹² See Austria eGovernment Fact sheet at <http://europa.eu.int/idabc/en/document/1395/385>.

portfolio of technology tools, policies, and government process and workflow improvements. The new federal accounting and budget system is an important piece of the puzzle. Moreover, its direct benefits and value to the government and the users of the system can be linked to direct benefits to citizens and other stakeholders that will emerge as additional aspects of the e-government strategy are implemented.

The complexity and integrated nature of this e-government strategy also creates some new risks. According to Christian Ihle, “We were very fortunate that the SAP implementation for the federal accounting and budgeting system was one of the first large scale IT implementations across the government. Being one of the first, we had a lot more flexibility than we have today.” As the e-government strategy is implemented through various new IT solutions, many of which require interfaces with one another, technical, policy, or even management changes within one system can have large and potentially disastrous effects on other systems. According to Christian Ihle, “If we are not careful, instead of isolated IT islands, we will have an enormous yet fragile IT environment that we are unable to improve or modify for fear of shutting it all down.”

Public ROI Perspectives

The public returns from this investment extend beyond internal efficiencies to include both direct political and social benefits, as well as potential and indirect effects. The shading in Figure 2 below (modified from Figure 1 in the introduction) represents these returns, indicating where there is evidence for direct and documented returns (unshaded sections) and for indirect or potential returns (hatched sections). The direct returns reported and documented for the project are very substantial, but almost exclusively internal to the Federal agencies and in the political system. These internal returns, described above, represent a continued saving of direct expenses and enhanced internal efficiency. The secondary performance gains appear to be of two types. Some of the personnel from bookkeeping and accounting, for example, were transferred to auditing functions. Increased auditing capability will further reinforce internal efficiencies by detecting and correcting wasteful or improper expenditures. Improved auditing will also produce policy and electoral returns through improved transparency and accountability of the government vis-à-vis the parliament and citizens.



Index:

Unshaded = Direct and documented returns

Hatched = Indirect or potential returns

Shaded = Not applicable or lack of foreseen indirect or potential returns at this time

Figure 2. Types of Documented and Potential Returns

Potential returns are linked to the role of the ERP project as both a model for government transformation and as an information infrastructure for future improvement in services and other government operations. The ERP system serves at least two major goals of the government's larger e-government strategy. One is enabling improvements in internal financial management and decision making that are a part of the overall government transformation. The other is providing a major portion of the integrated information resource necessary to achieve the goal of a fully electronic workflow in government agencies. While not measured as part of this project, these returns can be significant. They are described in Tables 2 and 3 below.

Table 2. Direct and Indirect Public Returns		
	Political Value	Social Value
Direct	<ul style="list-style-type: none"> • Improved credibility and political support for agency resulting from improved government operations and money saved • Ability to report improved performance with fewer resources generates support for elected officials • Report improved government efficiency to stakeholders and general public; improves agency's status in government 	<ul style="list-style-type: none"> • Resources reallocated to work on activities directly related to citizen services • Financial service quality improvements due to better government decision making • Enhanced accountability, transparency; improved trust and legitimacy of financial operations of government
Indirect	<ul style="list-style-type: none"> • Improved internal government operations enhance support for other political interests and strategies, e.g., new system supports other parts of the government's reform efforts and e-government strategy • Using "cutting edge" technology enhances reputation & status of officials 	<ul style="list-style-type: none"> • Improved transparency of other government operations & decisions • Lower cost and faster development of service improvements overall • Potential for improved public access to information of economic and political value

Table 3. Government Measures of Merit (Goals), Returns, and Indicators			
Policy Mandate	Measures of Merit (Goals) from the Legislation	Returns (Planned or Realized from the Investment)	Possible Indicators
<ul style="list-style-type: none"> • Joining the European Union in 1995 and participation in the EU monetary policy in 1999 • Administrative Reform Law of 2001 • The Austrian E-Government Act entered into force on March 1, 2004 	<ul style="list-style-type: none"> • Personnel reduction • Electronic platform for citizens access • Cost accounting system • Budgetary reforms, and introduction of SAP and an electronic filing system • Public bodies to be capable of full electronic transactional service delivery by 2008 	<ul style="list-style-type: none"> • Improved government operations • Cost savings • Increased efficiencies • Ministers, managers, and other users have more and better information available to make more informed decisions • Resources reallocated to citizen services • Improved decision making supports better services to citizens • Enhanced accountability & transparency • ERP model supports other initiatives in government's reform efforts and e-government strategy 	<ul style="list-style-type: none"> • See Table 1 above: approx. €30 million saved per year • Baseline operational metrics unavailable • User satisfaction (surveys, interviews-not employed) • Ministry of Social Security success in shifting resources • Other examples possible but not documented

Implications for Public ROI Assessment

Our approach to public ROI assessment looks at two main ways by which IT investments return value to the public: by improving the value of the government itself from the perspective of the citizens, and by delivering benefits directly to persons, groups, or the public at large. This case shows an investment that has generated substantial public value in the first sense, but less clearly so in the second, at least at the present time. It is clear that this particular IT investment has increased the value of the Austrian Federal Government from the point of view of the public. As a result of the investment, government is much more capable in financial management, in making wise use of resources, and in providing information for financial transparency and accountability. While difficult to quantify, these returns are meaningful and form an important part of the overall value proposition. In a sense, government can be thought of as a tool that societies invent and fashion to create value in terms of services and other cultural and political activities. An investment that improves the “tool” in some significant way can be said to return value, even if the direct connection to a return at the level of the individual citizen can not be measured. Since the investment in this Austrian case is so substantial and the returns so diffused throughout the government, more attention to this issue seems appropriate.

Beyond the financial metrics for efficiency and savings readily available in this case, it would be useful to consider how the increment in this “asset” value of the government can be described. The question rests in part on how to describe what the overall asset value of a government could be. The price of government services (i.e., taxes and fees) does not provide much guidance, since much of the services one “purchases” in this way are not priced via a market and are public goods in the economic sense. If the Austrian Government reduced taxes each year by the exact amount saved, the return to the public in money terms would be clear, but this is neither likely nor possible; the value of a “saving” that is simply applied to some alternative use is not a true cost reduction. A sufficiently sophisticated accounting system could identify the added value or savings from the “infrastructure” value of the ERP in supporting improved services in various government areas, but that sort of data is not available in this case. Moreover, the necessary baseline data on service costs and quality were not collected at the beginning of the project.

Alternatively, surveys of the population could reveal some insight into how the internal improvements are valued by citizens. This could yield estimates of value qualitative terms, such as a rating of government performance or “excellence” on some arbitrary scale. Since the ERP system has the capability to add value across the government, such a survey could elicit opinions about the performance of government across many programs and service types. In some service areas more objective measures of performance may be available, such as air quality indicators for environmental protection agencies, test scores for education agencies, or crime statistics for law enforcement. However, government agency actions are usually just one factor among many affecting these indicators, making the assessment quite problematic.

It is also quite expensive and conceptually difficult to assemble all the necessary data to assess an investment with such broad reach in government. It was not necessary for the government decision makers in this case to ask for or seek public value data to justify the investment. At this point in the development of the new system, the internal efficiency case has been sufficient. In one sense, therefore, an opportunity was lost to collect baseline data and attempt to track broader returns in terms of service quality or quality of life indicators. For further development of these systems, however, faith in the efficacy of the ERP system as enabling performance improvement generally may require more data. The Austrian e-government strategy is a comprehensive one, of which the underlying ERP capability is a potentially important part. It would be useful, therefore, to have baseline data about service levels, quality indicators, costs, and public opinion data for areas of claimed improvements. These would support the ongoing investment in this and other potentially valuable new IT tools.