

A Holistic Reference Framework for e-Government: The Practical Proof of a Scientific Concept

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Abstract

In the field of e-Government Austria ranks second within the European Union. The following paper describes one contributing factor for this success: The Holistic Reference Framework for e-Government as postulated by Wimmer, which defines eight different views, each of them representing a specific frame to integrate stakeholders into e-Government projects, to observe all aspects of various stakeholder groups with their specific needs, but also their specific know how. In accordance with this Holistic Reference Framework, the Austrian Federal Ministry of Finance developed its online e-tax application FinanzOnline, which has achieved outstanding acceptance by its users. The same holds true for the new federal budgeting and bookkeeping system. The paper at hand describes the way the project processes were set up in congruence with the Holistic Reference Framework and describes the established systems and their results.

1. Preliminary Remarks

1.1 The Austrian e-Government sector

In the field of e-Government, Austria holds a good position and ranks second within the European Union [1]. This position was achieved by a well organized cooperation between science and practice. A Federal Chief Information Officer, who directly reports to the Austrian Federal Chancellor, and a special think tank (ICT strategic unit – *IKT-Stabsstelle*¹) were installed to foster the transition of the results of scientific research into practical e-Government projects.

E.g. Maria A. Wimmer, the inventor of the Holistic Reference Framework for e-Government (below referred to as Wimmer model), worked as a scientist at the Johannes Kepler University Linz, Austria before joining the ICT strategic unit for a year to

¹ <http://www.cio.gv.at/>

transform her research experience into practice. In the meantime she has returned to science and holds a chair at the University Koblenz-Landau, Germany.

It is the job of the experts working in the practical branch to prove scientific concepts. In the case of the below discussed e-tax system FinanzOnline the practical proof was complemented by a national study denominating FinanzOnline as the most widely used e-Government transaction system in Austria [2]. In addition, FinanzOnline was distinguished with the Speyer Quality Award 2005².

1.2 The author's view

The author of this paper heads the unit for IT audit within the Austrian Federal Ministry of Finance and it is his role to audit ministerial e-Government projects. This means both acting as an auditor and as an internal consultant. Besides, within the field of ICT and e-Government the author acts as a linking pin between the ministerial IT organization and the scientific sector. Therefore he combines a practical view with a scientific horizon.

2. The Holistic Reference Framework for e-Government

2.1 The scientific model (Wimmer model)

E-Government applications are usually set up for users external to public administration (citizens – G2C, businesses – G2B) as well as for internal users (G2G). Successful e-Government must do more than just use information technology and put administrative services on the internet; successful e-Government implies reengineering administrative processes, reorganizing and restructuring public

² <http://www.hfv-speyer.de/qualitaetswettbewerb/>
<http://www.hfv-speyer.de/qualitaetswettbewerb/InformationinEnglish.htm>

organizations and shifting the focus towards a citizen and customer-centered service provision. Starting from that point, Wimmer propagates the necessity of a Holistic Approach [3, pp. 147-149] and defines e-Government as a multidimensional and multidisciplinary field with at least three key characteristics [4, p. 7]:

- different user groups with diverging service needs and interaction requirements,
- distinct government processes, integrating front-office and back-office (organizational issues),
- the support of government activity with modern IT, etc.

Going into detail, Wimmer elaborates her Holistic Reference Framework for e-Government [4, pp. 4 and pp. 7-10] and postulates a three-dimensional model with the following coordinate axes:

- Progress of a Public Service,
- Abstraction Layers,
- Different Views

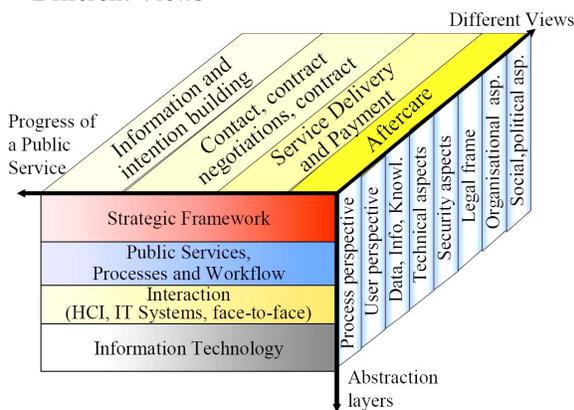


Fig. 1: Holistic Reference Framework for e-Gov.

The above figure shows the ordinate scales and nominates the different parameter values on these axes as stated by Wimmer. Later on Wimmer sharpened her concept and worked out several perspectives in a more detailed manner, which can be seen as part of the Holistic Reference Framework for e-Government [5, 6]; finally she established special guidelines for this holistic approach [7].

As can be seen above, the x-axis (Progress of a Public Service) depicts the progress of a concrete case of a public service from the status of gathering information via the applying phase to Service Delivery, Payment and Aftercare. The y-axis shows the process of general breaking down of a public service from the strategic level to the level of information technology – via some intermediate steps. These x- and y-axis are not discussed in detail within this paper.

The z-axis (Different Views) defines eight different issues for e-Government:

- Cultural, societal and political view
- Legal view
- Process view
- Organizational view
- User view
- Knowledge view
- Security and privacy view
- Technical view

Note: The topics within the above listing have been rearranged by the author to bring them into an order more appropriate to the considerations of this specific paper.

2.2 Assigning stakeholders to the Different Views within the Wimmer model

The author agrees with the Wimmer model in the sense that the combination of these eight views covers the knowledge resources required for establishing successful e-Government. When starting an e-Government project, a practical mode has to be found to make this knowledge accessible for the task. The author therefore proposes an empirical method to handle this case:

Projects usually start with a pre-project-phase, where project goals are being defined on a high level. These general goals are usually broken down to detailed project goals. This is a common approach which should not be discussed in this context.

Dealing with the Wimmer model, in a first step for each of these detailed project goals at least one stakeholder should be identified. This means finding a person or a group of persons affected by specific detailed project goals, or at least in some way interested in a field which is affected by a specific detailed project goal.

In a second step each detailed project goal (each with one or more stakeholders assigned to it) should be subsumed into one of the Different Views of the Wimmer model.

In a third step the following checks should be done:

- Is each detailed project goal assigned to a specific view?
- Is each view covered by at least one stakeholder?

After this process, every project goal should be assigned to a view, and every view to at least one stakeholder. This is necessary for the correct mapping between project process and stakeholders and therefore crucial for the functioning of the Wimmer model.

2.3 Different types of stakeholders

Bringing together the above named views in the described way means bringing together all the identified stakeholders, each of them standing for at least one of these views. In the analysis of these identified stakeholders two types of stakeholders can be found:

2.3.1. External stakeholders. These are stakeholders who do not form part of the organization implementing an e-Government project, but who are nevertheless concerned by the project. In the case of an e-taxation system citizens, tax consultants and businesses in their role as customers of the tax administration are typical external stakeholders. They are not responsible for the e-Government project, but as future users they are highly interested in the new system and its functionalities.

External stakeholders and their representatives should be given the opportunity to present their requirements for the new system, as well as the chance to contribute their specific knowledge in the concerned field. The way of integrating external stakeholders into an e-Government project might change from project to project. In general a multi-stakeholder forum, which may be organized as a kind of advisory board, may be useful. This multi-stakeholder forum could be used to discuss all new ideas, the functionalities of a new e-Government service, the organizational and legal changes, new processes and possibilities for the users, but also privacy needs, or the way users would be affected by the new e-Government service in general.

As a kind of countertrade users would bring in the specific needs and know how of their target group, they could be motivated to act as beta testers etc. This may result in better acceptance and higher usage of the system.

2.3.2. Internal stakeholders. Internal stakeholders are usually part of the governmental organization, usually they have certain roles and duties, e.g. legal departments are responsible for certain laws, organizational departments are responsible for the organizational structure or the processes, etc.

Following the holistic Wimmer model, all these internal stakeholders have to be integrated within the project structure and process and made responsible for the specific work packages coming from the detailed project goals they are assigned to. The integration of all these internal stakeholders determines the structure of e-Government projects and involves a high level of complexity to be tackled.

All parts of the governmental organization – as far as they are affected and therefore involved – should contribute to the project and the project results. This ensures that the e-Government application will work well and that it will be compatible with the governmental organization.

2.4 Practical impact of the Wimmer model

To embark on the above named eight views, when establishing new e-Government applications means to create political perspectives, e.g. to trust in tax payers' returns, but also to install a risk analysis on these returns to find out the ones not to be trusted. It also implies the combination of legal and organizational changes with the new possibilities of information technology. The legal and organizational framework has to be checked to find out whether the given provisions are necessary because of factual needs or whether they just represent the needs of the old paper based organization. Existing processes, which are adapted to traditional paper based administration, have to be scrutinized. Knowledge aspects of internal and external users have to be considered.

The Austrian Federal Ministry of Finance is inter alia responsible for the Austrian tax administration. This responsibility covers the whole scope of political strategies based on necessary legal changes (proposed to parliament by the ministry), organizational and technical aspects of designing and controlling the processes, guaranteeing taxpayers' privacy, and of course training the users. In this sphere of competence FinanzOnline³ – the Austrian e-tax application – was developed following the Holistic Reference Framework for e-Government. The project was finalized and is discussed below, considering the aspects of practical use of the Wimmer framework, its benefits and the lessons learned.

The same applies to the federal budgeting and bookkeeping system HV-SAP⁴, which is provided by the Federal Ministry of Finance for all federal public agencies.

3. FinanzOnline – the Austrian e-Government tax application

3.1 Project goals

The following project goals were stated for FinanzOnline:

³ In Austria, **Finanz** is the colloquial term for tax administration.

⁴ **HV**, German abbreviation for "*Haushaltsverrechnung*", the states budgeting and bookkeeping

- direct access to tax data and files for citizens (G2C), businesses and proxies e.g. tax advisers (G2B), and tax administration on the federal and municipal level (G2G)
- self service for users (seven days a week, 24 hours a day, no additional costs, only requirement: a browser, WAI-A)
- multichannel access (access via internet, paper based communication is further on possible, the same holds for face-to-face contact)
- multimodal login (either using a citizen card [8] through smartcard or mobile phone, or the classic way via user-id and password)
- decentralized user administration for business users based on a contract
- electronic tax return through web forms or XML upload (interoperability with bookkeeping software) without any attachments, or via web service (WSDL)
- secure and provable electronic delivery of tax notification and official letters from the tax authority (optional, delivery of paper documents by post still available) either as pdf or as XML data (interoperability with bookkeeping software)
- anonymous login for special calculations (e.g. to find out how much one's specific tax liability would be reduced by taking out a life insurance policy)
- completely paperless workflow and tax files
- restructuring the tax administration towards a slim and service oriented organization

3.2 Assigning stakeholders to the Holistic Reference Framework

Before going into detail, a glance at the value chain of Austrian taxation might be useful: Taxation can be seen as a specific kind of service. It is produced by the tax administration, but based on data made available by the taxpayers. Therefore the taxation value chain starts with the taxpayer or the taxpayer's proxy. The same applies to the end of the value chain: Taxation is not completed until the tax has been paid. Therefore the value chain also ends with the taxpayer or their proxy: The taxation process twice crosses the organizational border between taxpayer and tax administration. Therefore a successful and economic taxation process can only be established together with the concerned stakeholders.

As said before, when using the Wimmer model it is necessary to assign the detailed project goals to its eight views. In doing so, at least one stakeholder has to be assigned to each view of the framework. A

rough survey of the result of this process is given below.

3.2.1 Cultural, societal and political view. The creation of electronic tax returns without any attachments calls for a culture of trust between taxpayers and tax administration. This culture of trust needs a risk analysis to find out the untrustworthy taxpayers, which has to be done in an automated way and based on specific key figures. Regarding this project, appropriate decisions were made by the minister or by the minister's delegates in the responsible working groups. The political level was also responsible for supporting the proposed legal changes in parliament.

3.2.2 Legal view. The aforementioned political decisions required changes of the fiscal law. Substituting paper based processes for online transactions brought up the necessity to scrutinize the entire fiscal law to find out whether a regulation was just caused by needs of the "paper world" or whether it is essential because of factual needs. This work package was assigned to the unit responsible for tax law, which made the appropriate proposals for parliament.

3.2.3. Process view. Installing a completely paperless workflow within the tax administration demands a totally new process design. In addition, these electronic processes cross organizational borders: They start with the taxpayer, then run through the tax administration, where a lot of work is done by IT, and end up with the taxpayer again. In the case of businesses or proxies these beginnings and endings are also based on IT. Therefore – in general – the process view is crucial for the success or failure of an e-Government project. This work was accomplished by the unit responsible for tax organization in coordination with other working groups and the multi-stakeholder forum.

3.2.4. Organizational view. On the one hand the organizational view is tightly connected to the process view, on the other hand questions concerning the administrative structure can also be asked irrespectively of the process view. In the case of the FinanzOnline project the aim was to slim the whole administration. This was fostered by the extensive change of processes. The job was done by the unit responsible for tax organization, assisted by the political level.

3.2.5. User view. FinanzOnline supports different user groups: On the one hand there are employees

who just file their tax return once a year to get their tax refund, e.g. when investing in their flat or house. On the other hand there are professional users, e.g. businesses, and the real professionals, e.g. tax advisers.

Concerning the user view, Wimmer says: "Addressing the specific needs of different user groups not only refers to a superficial distinction of target groups such as citizens, businesses and governments. To better serve the users, electronic public services have to be developed in strong relation with the specific target groups such as public servants at one-stop service encounters, intermediaries (notaries, architects, lawyers, tax consultants), students, unemployed, families, pensioners, accounting staff of companies, etc." ([4] p. 8)

In accordance with the specific needs of these target groups, FinanzOnline was designed as a bundle of several packages: There is a citizens' package and a businesses' package. In addition there are specific additional packages for the intermediaries (tax advisers, lawyers and notaries) and for public administrations on the federal and municipal level. The design itself was assigned to a specific task force. The members of this task force came from the Unit for Tax Organization and from the Unit for Tax Automation within the IT-Directorate of the Ministry of Finance and from the Federal Computing Centre. Each package was designed in cooperation with representatives of the specific user groups. In the case of the citizens' package additional professional usability tests were made.

3.2.6. Knowledge view. In order to provide electronic public services through virtual self service shops, knowledge needs to be transferred adequately so that citizens and businesses are able to use these facilities in a smart way. Nonetheless, public servants and administrative staff also need accurate training on new facilities and knowledge support for their work [4 pp. 8-9].

In the case of FinanzOnline the process of building up knowledge was widely delegated to the stakeholders or their representatives (see below 3.3). Therefore it was the duty of these organizations to train their members. This approach worked very well in field of businesses and proxies. Publicity campaigns addressed to citizens were and are being offered both by tax administration and by the Chamber of Labor. Tax officers on the one hand were offered special training courses; on the other hand they got their training on the job.

3.2.7. Security and privacy view. The Austrian fiscal code comprises strict provisions concerning fiscal

secret. Therefore and given the usual security aspects a detailed concept of logging access to fiscal data had to be implemented. This also applies to special audit functions based on the randomized selection of audit cases. The staff unit for data security and privacy within the Directorate for Information Technology took care of this.

3.2.8. Technical view. FinanzOnline is a standardized internet front end to existing backend tax applications. It offers different packages (e.g. citizens' package, businesses' package) for different user groups and replaces various former online transactions. Therefore, all user groups – including the tax officers – use the same system based on a detailed role concept of authorizations. Professional users like businesses and proxies can define additional users and give them different rights in accordance with the role concept. For example within a company, the bookkeeper could be authorized to file applications and tax returns through the system, while a secretary just could be authorized to make queries on the company's tax account or tax files.

Login to FinanzOnline is possible either via participant-ID denominating the company, plus user-ID and password, or by using the Austrian citizen card [8]. The citizen card, which in Austria is understood as a concept based on PKI, can be used either through smart card or mobile phone. Moreover, an anonymous login is available for special calculations, e.g. to find out how much one's specific tax liability would be reduced by taking out a life insurance policy. In this case a user either has to download some tax data to be used for these anonymous calculations, or s/he has to (re-)type their income data for these anonymous calculations.

FinanzOnline provides direct access to users' data and tax files seven days a week, 24 hours a day. Tax returns and applications can be submitted either via web form or in bundled form, by using the XML upload facility or via the WSDL interface. If taxpayers use paper forms or show up at their tax office personally, their applications are typed into the system by a tax officer.

Tax notifications and official letters of the tax administration can be delivered in a secure and provable electronic way ("Data Box") either as a pdf or as XML data. A special data transfer on the basis of XML is available for municipalities to obtain federal tax data and audit files. Anyway, delivery of paper forms by post is also available.

Depending on the user's choice, completely electronic communication with the tax authorities is possible, and actually preferred by most of the professional users. The workflow inside the tax

administration for its part is performed in a completely electronic way. Every access to the system, any query, data modification, upload etc. is logged in a detailed manner; this is to provide the possibility of reproducing any access to tax data and files.

3.3. Project structure and stakeholder integration

The FinanzOnline project was one of the major projects implemented in the last years by the Austrian Federal Ministry of Finance. In a pre-project-phase a feasibility study was carried out in 2001. On the basis of this study the FinanzOnline project was developed and initiated in 2002. Of course the project followed the rules of project management, which are well known and should not be discussed here. The innovative aspect of the FinanzOnline-project was its compliance with of the Holistic Reference Framework for e-Government, which was postulated by Wimmer in 2000 [3 pp. 147-159].

The eight views of the holistic framework ([4] p. 7) were taken as a basis, and the appropriate stakeholders were identified. In addition, a distinction was drawn between external and internal stakeholders from the view of the project organization. In a third step representatives of these stakeholders were identified and asked to take part in the project.

3.3.1 Internal stakeholders:

- the Minister of Finance and his office, overall responsible, but especially responsible for the cultural, societal and political view
- the Unit for Tax Politics within the Directorate for Taxes and Customs, responsible for the cultural, societal and political view on an operational level
- the Unit for Tax Law within the Directorate for Taxes and Customs, responsible for the legal view
- the Unit for Tax Organization within the Directorate for Taxes and Customs, responsible for the organizational view and (together with the Unit for Tax Automation) for the process and knowledge view
- the Unit for Tax Automation within the Directorate for Information Technology, responsible for the technical view and also for the process and knowledge view (the two together with the Unit for Tax Organization)
- the Unit for Project Management and Principle Affairs within the Directorate for Information Technology, responsible for the technical and administrative project organization

- the Staff Unit for Data Security and Privacy within the Directorate for Information Technology, responsible for the security and privacy view
- the Federal Computing Centre as service provider for the Ministry of Finance, on an operational level responsible for the technical view and the support of the project organization

All these internal stakeholders were asked to appoint delegates who participated in the classic project organization, where these representatives – supported by their respective units – had to implement the work packages appropriate to the specific responsibilities for certain views of their units.

3.3.2. External stakeholders. As described above, there were seven views of the holistic reference framework already covered by stakeholders integrated in the project process and responsible for specific work packages. The challenge was now to find and integrate representatives for the user view, especially concerning the precondition that external users should not be part of the ministerial organization.

In Austria the representation of interests is established on a legal basis, built upon a system of chambers. These chambers act as legal representatives for their members, whereupon membership in these chambers is not optional, but obligatory by law. There are chambers for employees, businesses, proxies, e.g. tax consultants, lawyers, notaries etc. Functionaries and representatives within these chambers are democratically elected.

This chamber system perfectly covered the needs of the FinanzOnline project for representatives of specific user groups (citizens, businesses, proxies, municipalities). Therefore the chambers were invited to take part in a FinanzOnline-multi-stakeholder forum. This forum acts as an advisory body, where the project objectives and functions of FinanzOnline were being discussed. At present this multi-stakeholder forum can be described as a round table where further stages of development of FinanzOnline are being treated.

The following institutions are part of the multi-stakeholder forum of FinanzOnline:

- the Chamber of Labor, representing employees, who are the classic users of the citizens' package
- the Economic Chamber, representing businesses and companies in general, with regard to the businesses' package, but also acting for software producers in the special field of interoperability (XML, WSDL) between bookkeeping software and FinanzOnline

- the Chamber of Financial Trustees, presenting their special needs as proxies of their clients and as daily users of the system
- the Chamber of Lawyers presenting the needs of special proxies and of self assessment of real estate transfer tax, gift tax and some legal fees
- the Chamber of Notaries, presenting the needs of special proxies and court commissioners, and also of self-assessing of real estate transfer tax, gift and inheritance tax and legal fees
- the Association of Municipalities, acting for municipalities as users of the system and also in the field of interfaces for interchanging data between the federal and the municipal level
- last but not least, representatives of the project organization and the Federal Ministry of Finance, chairing the forum and presenting the ideas of the FinanzOnline project to be discussed and coordinated within the members of the multi-stakeholder forum

In fact a lot of fruitful discussions took place in this forum. This may be the reason for the excellent acceptance FinanzOnline experiences especially in the professional sector (see below). As a specific result of this cooperation the training of professional users was organized by their above mentioned chambers. This could explain the extraordinary acceptance of FinanzOnline within this user groups.

3.4. Lessons learned

3.4.1. Cultural, societal and political view. The availability of an automated risk analysis brought a dramatic change of the self-image of tax officers. It is no longer their duty to check tax returns, which is now done by the IT system – a change that was hardly acceptable to a part of the staff. This problem was underestimated by the project team and had to be tackled later on. In the future the cultural, societal and political view should not only be assigned to the political level, but also grassroots’ people should be addressed by it.

3.4.2. Knowledge view. As said before, the process of building up knowledge was widely delegated to the stakeholders or their representatives. This approach worked very well in field of businesses and proxies, but not so well in the field of citizens. Hence in this field just 25% of the target group uses FinanzOnline. In the future more attention should be given to the target group of citizens. Whereas business users adopt a system quickly if it offers economic benefits, citizens have to be convinced in a psychological way.

3.5. Project results

Since going online on 01/ 20/ 2003, FinanzOnline has been the most frequently used transaction system of the Austrian Government [2].

FinanzOnline - users	number of users	proportion of total potential
citizens	600.000	approx. 25%
businesses	130.000	approx. 15%
municipalities	2.300	> 95%
banks	800	> 90%
proxies (e.g. tax consultants, lawyers, notaries)	8.000	> 90%
total	741.100	
indirect users via proxies	900.000	approx. 90%

Table 1: FinanzOnline users

The above Table shows the use of FinanzOnline by several user groups: The system is heavily used by the professional sector. The number of 15% within the user group of businesses just considers the direct use of FinanzOnline and does not contain the use via proxies. In Austria businesses usually authorize a proxy to handle their taxation matters; as shown by the indirect usage via proxies of 90%.

FinanzOnline processes up to 7.5 m transactions per month and up to 100.000 secure electronic deliveries of tax notifications and official letters from tax authorities per month.

FinanzOnline enabled far-reaching organizational changes: Seven tax directorates on the state (“Bundesland”) level were substituted by five slim regional management organizations. The number of tax offices was reduced from 80 to 43. The head count within tax administration was reduced from 15.700 tax officers to 11.300 [9].

4. HV-SAP: The Federal Budgeting and Bookkeeping System

4.1. Project goals

The following project goals were stated for HV-SAP:

- use of standard software with appropriate user interfaces
- process redesign and electronic workflow integration
- provision of all affected parties with controlling data

- reduction of the accounts departments to their core capabilities
- establishment of a Federal Bookkeeping Agency and relocation of the accounts departments to this agency
- payment of bills within 3 days

4.2. Assigning stakeholders to the Holistic Reference Framework

The HV-SAP project was a typical G2G project that concerned the entire Austrian Federal Administration. The project goals were developed in accordance with the Holistic Reference Framework for e-Government (see below). Since the Federal Ministry of Finance held responsible for the project, stakeholders were classified as internal or external from the ministerial point of view. Following the views of the Holistic Reference Framework, several subprojects and specific boards were established.

4.2.1. Cultural, societal and political view. The new philosophy of providing all affected parts of the Federal Administration with electronic budget data accelerated the ongoing cultural change within the Austrian Administration. Another major cultural change was caused by the decision to use the standard software SAP and, last but not least, by the political decision of outsourcing the entire bookkeeping service to a newly founded bookkeeping agency. In order to foster this change process, the project was promoted by the Federal Minister of Finance, who directed the “Advisory Board of Project Promoters”.

4.2.2. Legal view. The existing legal framework was scrutinized to find out whether given regulations were based on merely historical matters, or whether they covered factual needs. Instruments of New Public Management were legalized and the new Bookkeeping Agency was set up by law. This work package was assigned to the unit responsible for budgeting principles, coordination and law and to the unit responsible for IT and organization of the accounting system and automatic payments. These two units also made the appropriate proposals for parliament.

4.2.3. Process view. The implementation of a completely changed workflow within the entire Federal Administration called for a new process design – a challenge that caused a fundamental business process reengineering. The respective work was done by a special subproject team consisting of experts in law, governmental organization, and process (re-)engineering, workflow tools and SAP.

These experts were nominated by the directorate responsible for budgeting and by the unit for “IT and Organization of the Accounting System and Automatic Payments” of the Ministry of Finance. Additional team members came from the general contractor, the Federal Computing Centre, and - last but not least - the concerned ministries. [for more details see 10; 11].

4.2.4. Organizational view. Due to the establishment of the bookkeeping agency it was necessary to outsource the accounts departments from all Austrian ministries and subordinate agencies and found the Central Bookkeeping Agency with several regional management subunits. This work was assigned to a special subproject team.

4.2.5. User view. As discussed above (see FinanzOnline), electronic public services have to be developed in close cooperation with the specific target groups [4, p. 8]. Therefore, both an advisory board of users and a specific advisory board of ministerial IT-Managers were established to discuss all problems and proposed solutions from the view of these different user groups.

4.2.6. Knowledge view. Public servants and administrative staff need accurate training on new facilities and knowledge support for their work ([4, pp. 8-9]. In order to meet these requirements, a specific subproject was set up, which – based on blended learning – established a „train the trainer“-concept.

In addition, a SAP-certified Customer Competence Center for first and second level support was established. Presently it is run by the Federal Computing Centre (see also below, Technical view).

4.2.7. Security and privacy view. The usual security and privacy requirements had to be implemented, which was carried out under control of the Staff Unit for Data Security and Privacy.

4.2.8. Technical view. The technical view was divided into three sub-views and handled by specific work groups:

- the new bookkeeping system (solution design and customizing of SAP, design and operating of the transition phase from the old to the new system)
- technical solution (HW/ SW concept, migration strategy, implementation of the new HW/ SW platform)
- service (rollout-plan and implementation of the competence center, including the help desk and the training concept; see above).

4.3. Project structure and stakeholder integration

The HV-SAP-Project was one of the most important projects the Austrian Federal Ministry of Finance has carried out during the last years. It started in 1998 with a public tender and was implemented in the course of several phases. The project was closed on May 31, 2004. The Federal Bookkeeping Agency was legally founded on July 1st, 2004, and became fully operational on January 1st, 2005.

The complexity and size of the project required a detailed project structure and management. Therefore the eight views of the Holistic Framework ([4, p. 7) were taken as a guideline and the appropriate stakeholders were being identified. In addition a distinction was drawn between external and internal stakeholders from the point of view of the Ministry of Finance, which organized the project. In a third step representatives of these stakeholders were identified and asked to take part in the project.

4.3.1. Internal stakeholders: The following internal stakeholders were identified:

- the Minister of Finance and the State Secretary within the Ministry of Finance and their offices, overall responsible, but especially responsible for the cultural, societal and political view
- the Unit for Budgeting Principles, Coordination and Law within the Directorate for Budgeting
- the Unit for “IT and Organization of the Accounting System and Automatic Payments” within the Directorate for Information Technology
- the Unit for Project Management and Principle Affairs within the Directorate for Information Technology, responsible for the technical and administrative project organization
- the Federal Computing Centre as the service provider for the Ministry of Finance, on an operative level responsible for the technical view and the support of the project organization
- the Staff Unit for Data Security and Privacy within the Directorate for Information Technology, responsible for the security and privacy view
- the general contractor Siemens Business Services, which was associated and integrated by contract and therefore should be called an internal stakeholder of the project

All these internal stakeholders were asked to appoint delegates who participated in the classic project organization, where these representatives – supported by their respective units – had to implement

the work packages congruent to the specific responsibilities for the certain views of their units.

4.3.2. External stakeholders: Although HV-SAP was a typical G2G-Project, from the perspective of the project organization external stakeholders had to be integrated, especially to cover the user view. Austrian ministries are given a vast amount of independency by the Austrian constitution, which means that the Ministry of Finance can operate just under its responsibility for budgeting and bookkeeping guidelines. In the given situation this meant that the Federal Chancellery and the other ten ministries had to be convinced of the new system by the Ministry of Finance. Therefore the user view was of vital importance and, as mentioned above, two advisory boards were established, one for the users and one for the IT managers working in the Austrian ministries. In addition, a supervisory board of project promoters was established, which was directed personally by the Minister of Finance.

A lot of fruitful discussion took place in all these bodies, which is one of the main reasons for the good acceptance of the new system and the newly founded Bookkeeping Agency.

In Austria it is the special duty of the Federal Audit Court to draw up the annual financial statements of the Federal Government. Therefore the Federal Audit Court has an ambivalent role, being on the one hand responsible for auditing and on the other hand for the annual financial statements. In fact its representatives were integrated into several project units.

4.4. Project results

The example of a simple procurement process illustrates the effective streamlining of processes:

process key figures	old process	new process
process steps	25	14
organizational interfaces	6	4
changes in format of media	5	1
involved members of staffs	15	7
number of different roles	20	10
handling time (minutes)	44	30
throughput time (days)	12	6

Table 2: HV-SAP process key figures

Thanks to the new system it was possible to outsource all the bookkeeping of the federal level of state to the Federal Bookkeeping Agency, which serves all federal bodies. It was set up by law and

carries out all bookkeeping activities with just 50% of the former bookkeeping staff.

5. Summary

The Holistic Reference Framework for e-Government as postulated by Wimmer [3, 4, 5, 6, 7] covers the views of processes, users and knowledge, as well as technical, organizational and legal views, and - last but not least - the cultural, societal and political view, along with the data security and privacy view. The combination of these views provides the knowledge resources required for successful e-Government. FinanzOnline and HV-SAP were developed following this Holistic Reference Framework for e-Government. The FinanzOnline-system achieved outstanding acceptance by its users and is thus the most frequently used transaction system of the Austrian government [2]; moreover, FinanzOnline was distinguished with the Speyer Quality Award 2005.

Recapitulating, it can be said that the Holistic Reference Framework for e-Government – the so called Wimmer model – is a good and useful basis for developing successful e-Government applications which especially meet the needs of all stakeholders concerned and can therefore achieve outstanding user acceptance. Austria's second rank in the field of e-Government within the European Union [1] proves the success.

7. References

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