FORUM ON TAX ADMINISTRATION

Introducing a Commercial Off-The-Shelf Software Solution

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Introducing a Commercial Off-The-Shelf Software Solution

The experience of the Finnish Tax Administration

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Preface

The Commercial-off-the-shelf (COTS) transformation project described in this handbook is the largest development project in the history of the Finnish Tax Administration. It includes all tax types, taxation processes and functionalities as well as all of the applications used for taxation and e-services. It has a significant impact on nearly every taxpayer in Finland and everyone working in the Finnish Tax Administration.

The major part of the transformation project has now been successfully completed. We have ensured that taxation in Finland will continue to function effectively and reliably for years to come, and therefore helped to secure the funding of the future Finnish society. Enhanced E-services are already providing customers with more visibility of their data and a wider selection of online services, making administration easier and more transparent. Tax officers are now able to focus better on tasks that are more meaningful and their skills have improved. Annual savings in IT costs are in the range of 15-20 million euros and the breakeven point of the project is expected in 2021. With the COTS system, we are also able to make tax policy changes faster and with lower costs.

Our COTS project has aroused significant interest among many tax administrations throughout the world. The Finnish Tax Administration has hosted several individual study visits as well as a three-day workshop with participants from over 20 different countries. Although the project has been a success, the learning curve has still been extremely steep. If we had known at the start of the project everything that we know now, we probably would have done several things differently. I hope, therefore, that this handbook, drawn from our experiences over many years, can provide useful insights and lessons learned on all the phases and aspects of a COTS transformation project, and will provide valuable support to anyone planning to follow a similar path.

I would like to thank everyone who has been involved in producing this comprehensive handbook on the experiences of the Finnish Tax Administration. The work was led by Persoonsgegevens Persoonsgegevens with the invaluable input of Persoonsgegevens Levasma, Virpi Pikkarainen, Heli Marttinen, Tiina Miettinen and Perttu Salo as well as other colleagues involved in the COTS project. I would also like to thank the OECD Forum on Tax Administration Secretariat for their guidance and support.

Finally, please may I thank everyone who was involved in the Finnish Tax Administration's COTS transformation project. The project would not have been successful without your expertise and commitment. You have done something remarkable and should be extremely proud of yourselves.

Markku Heikura

1.1. Director General, Finnish Tax Administration

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Abbreviations and acronyms

API	Application programming interface
COTS	Commercial off the shelf
CRMS	Customer relationship management software
DBMS	Database management system
ERPS	Enterprise resource planning software
GUI	Graphical user interface
IT	Information Technology
PMO	Project management office
RFP	Request for Proposals
SME	Subject matter expert

Executive Summary

Like many tax agencies, the Finnish Tax Administration (Tax Finland) built its own tax administration software from scratch. This software included up to two hundred different individual software applications, all highly integrated with each other. As the whole system of applications grew larger, it became more and more expensive to maintain and slower and slower to change. While many IT architecture principles were implemented thoroughly, it remained very hard to make the changes needed to adapt to the rapidly changing environment and to changing taxpayer expectations. The system was also becoming increasingly expensive to maintain.

In the light of this, Tax Finland executed two rounds of market research, which were followed by a detailed internal study, to identify whether there were better alternatives going forward. Based on the results, Tax Finland considered three different approaches. The first one, continuing with the existing system, was not considered a realistic option. The other two alternative approaches, which both had pros and cons, were:

- The purchase of best-of-breed-components. These are software solutions that are generally considered to work best for particular functions and applications; and
- a comprehensive commercial off-the-shelf solution (COTS).

After a thorough consideration and subsequent procurement process, Tax Finland decided to implement a COTS product. There were a number of considerations, including that:

- COTS is a fully integrated system. This allows data to be used efficiently across the organisation and for the standardisation of functionalities and user interfaces. While such standardisation can result in some limitations where users desire greater tailoring of solutions, it avoids the systems management problems that can occur over time with non-integrated solutions
- A COTS solution also benefits from the experiences of other users of the same product in different organisations, which will help to ensure a stable and field-tested system. In addition, further development of the system is carried out by all the users together with the vendor, reducing development costs and increasing opportunities for achieving helpful improvements.
- The division of costs differs greatly between a COTS system and separate systems. The initial outlay for a COTS system is significantly higher and the cost peak comes earlier. However the decrease in costs is also quicker and the payback period usually shorter overall.

The goal of this handbook is to provide advice and recommendations, based on Tax Finland's experience, for consideration when purchasing, implementing and maintaining a COTS product. Some of the principles presented are also suitable for the development and implementation of other types of software solution in addition to COTS.

This handbook provides background and advice on:

- the procurement process, including the selection criteria, the drafting of the request for proposals and the contract and specialist inputs required;

- the planning processes needed for a COTS transformation project, including the project scope, scheduling and resourcing, business preparation and change management;
- implementation considerations including system requirements, conversion between systems, user interfaces, testing and training; and
- the core elements of maintenance and production support.

1. Introduction

The implementation of a COTS taxation solution for Tax Finland in all its phases took approximately ten years. The procurement phase started with two rounds of market research, which was followed by an internal enterprise architecture study. (Enterprise architecture is a description of an organisation from a business and IT perspective). A thorough evaluation of the available COTS products was also conducted. The procurement itself was a lengthy process with several steps, that took altogether approximately two years. These phases and steps, including Tax Finland's own experiences, are described in the following sections.

Following the procurement process, Tax Finland chose the supplier and the COTS taxation product. The contract was signed for 15 years. This included the delivery of the project, ongoing licenses to use the product, application management and future development.

Box 1.1. Cost

The total cost for 15 years, including implementation and production support, is EUR 226 million.

The Program's total costs were EUR 130 million:

- Delivery project and investment in licenses EUR 62 million
- Legacy system changes and decommissioning EUR 68 million
- Parliament granted EUR 109 million separate funding. The rest is financed from the operating budget of the Tax Administration.

Source: Finnish Tax Administration (2019).

1.1. Market Research on COTS Taxation Products

Tax Finland became aware of and interested in COTS taxation solutions in the early years of the 21st century. Tax Finland conducted two rounds of investigations into available COTS taxation products in 2004 and 2007. The investigations were relatively light, including conference visits, discussions with other revenue agencies and general research. The main outcome of these early investigations was that the COTS taxation products available at the time were not considered to be sufficient to address Tax Finland's needs, although they were judged to have future promise.

1.2. Enterprise Architecture Study

In 2010, Tax Finland assessed that continuing to develop its self-built software system would quite soon result in a situation where the costs and difficulties of both maintenance and further development would be excessive. Tax Finland therefore decided to conduct an enterprise architecture study to understand better the taxation processes used and the functionality that was present within the existing software system. The goal was to identify better and more efficient ways

of working in the changing environment, including changing taxpayer expectations, as well as the kind of tools and functionality that would be most appropriate for these purposes.

The enterprise architecture study had two major tracks. The first was to describe the major taxation processes and their relations to each other. The second was to identify areas of functionalities that were comparable to the functionality groups generally available in COTS suites such as enterprise resource planning software (ERPS) and customer relationship management software (CRMS). A large group of officials in different roles within Tax Finland participated in this work. Senior management was also heavily involved in the study to ensure that informed decisions were made at all levels based on the findings. An IT consultant company was also contracted to facilitate this study. (External consultants can be helpful in providing wider perspectives and exercising a challenge function.)

Based on the results, Tax Finland considered three different approaches. The first one, continuing as earlier, was not considered a realistic option given the issues that had been identified. The other two alternative approaches were using best-of-breed-components or a comprehensive COTS solution. The idea behind best-of-breed is to select the best available general product components to solve certain common issues in taxation, for example bookkeeping or record management. Costs, benefits and risks were evaluated for both of these alternatives. Based on these evaluations, the use of best-of-breed was considered to have the lowest risk since it could be done incrementally with costs spread over time. On the other hand, the COTS alternative, while it could be phased, was a system-wide solution. This presented the highest up-front investment but the lowest overall cost.

One aspect considered carefully by Tax Finland was the difference between the degree of vendor lock-in between the approaches (i.e. the extent of dependence on a particular vendor and the inability to switch vendors without substantial costs). All approaches have a certain degree of vendor lock-in, but the degree of lock-in with a COTS product vendor is generally much higher than with best-of-breed solutions. There is, though, some flexibility when it comes to the implementation work for a COTS solution. Most of the organisations that have selected COTS products can also use in-house experts to make changes to configurations, at least to some extent.

The outcomes of the selected approach have been in accordance with the initial expectations of Tax Finland. (Of course, as only one approach could be implemented, it is difficult to assess what the outcomes of other approaches would have been.)

1.3. Evaluation of COTS Taxation Products

The next stage was to evaluate more thoroughly the available COTS taxation products to assess whether it would be possible to use any of them in Tax Finland's circumstances. The concern was that Finland's tax legislation is both very detailed and, in some areas, very complicated to apply. Complicated legislation will often lead to a more complicated implementation process which some products may not be able to adapt to.

The first step was to select a project team to carry out the evaluation. Leading experts from each area of Tax Finland were selected to form part of the project team. The team included representatives for all of the major taxation processes as well as the IT function.

The actual evaluation included the three major suppliers of COTS taxation products. To prepare for this, Tax Finland created a list of the key features to be evaluated. Each of the three COTS providers were then invited to give a 5-day presentation and a full demonstration of their product based on the list of features.

After each set of presentations, which included detailed questioning, the experts in the project group assessed whether taxation in Finland could be carried out effectively with the particular

taxation COTS solution presented. The result was that the project group concluded that it would be possible to carry out taxation in Finland with all of the COTS solutions that had been selected for evaluation.

Based on the results of the enterprise architecture study and the evaluation, the executive team of Tax Finland made the decision to start the preparations for the procurement phase. Before starting the procurement, Tax Finland obtained approval and funding from the Ministry of Finance and Parliament.

1.4. Procurement Principles

One of the early tasks of a COTS procurement is to formulate a procurement strategy. This strategy sets out the most important principles that are followed in the procurement process.

Given that a procurement of this type is a huge undertaking that only happens once in a few decades, Tax Finland decided to hire a procurement consultant to supplement in-house expertise. The appointment of a procurement consultant was done through a short procurement process lasting three months.

With the help of the consultant, Tax Finland drew up the procurement principles within the procurement strategy. This was then followed by a quick re-evaluation of the taxation COTS products available on the market. Only the three leading products had been subject to evaluation in the earlier phase. It is very important to understand any new developments in the market before starting a public procurement in case there are changes or issues that have arisen in relation to some products.

Tax Finland decided to appoint one responsible supplier for the whole delivery rather than multiple suppliers. The supplier's responsibility was to include the implementation of the COTS system, obtaining appropriate software licenses, the migration and conversion of data from the legacy systems and the overall steering of third party providers, such as the providers of the legacy systems and the existing infrastructure. Tax Finland also wanted to include the maintenance and further development of the system into the same procurement process so that the on-going cost would be well understood at the outset and more easily contained. The IT infrastructure needed to support the COTS solution was to be acquired from the Government's centralised service.

Tax Finland considered it very important to have an experienced supplier that has previously delivered similar projects successfully. (There have been a number of examples of successful taxation COTS projects, but also some failures.) In addition to the experience of the supplier itself, Tax Finland considered it vitally important that key personnel who had been involved in previous successful projects should also form part of the project team.

As set out above, the goal was to get a fully functioning and integrated COTS taxation product rather than building a taxation system based on some reusable components. This would allow Tax Finland to share the product maintenance and development costs with other users of the product as well as benefit from improvements made by other users.

Tax Finland did not, therefore, want to describe the needed functionalities in great detail lest this limit other options for achieving the goals in the most effective manner or result in discussions whether or not something was in the scope (and the budget) of the project. Instead, it was clearly communicated in the procurement documentation which elements of the taxation systems (rather than functionalities) were in the scope.

As well as not constraining better outcomes that might be achievable, Tax Finland wanted to keep the level of the tailoring of the COTS system to a minimum. This is important in helping to lower

costs at every point of the lifecycle of the system. A detailed description of requirements would have most likely jeopardised this target, leading to de facto tailoring. The view taken was that supplier should be experienced enough in delivering a COTS taxation system to be able to submit a tender that achieved the specified high-level goals.

1.5. Key Selection Criteria

The key selection criteria for choosing the COTS product supplier were derived from the procurement principles. There were two phases to the procurement process.

In the first phase the selection criteria were focused on the COTS product and the experience of the supplier. Tax Finland wanted to have a COTS taxation product that is widely used and a highly experienced and successful COTS supplier, so references providing solid evidence of both of these qualities were important. Tax Finland also wanted the supplier to be able to adapt to the Finnish language, so this was included as a core criterion.

In the final phase, overall price, as is usually the case, was the biggest single selection criterion with a 40% weight in the final selection. The second main selection criterion was the experience of key personnel in previous COTS delivery projects, with particular weight given to similar projects. Usability was also an important selection criterion. This was evaluated by having a usability review as part of the tender scoring process. (As the functionality of the COTS solution had already been considered during the evaluation phase, this was not considered as an important criterion at this stage.)

1.6. Procurement Phases

The actual procurement took all together a little less than three years from the decision to proceed to the signing of the contract and the commencement of the delivery project.

The procurement was launched in [illegible]soonsgegeven 2012. The selected approach was a negotiation system where in the first phase the suitable candidates were shortlisted according to the selection criteria. In the second phase, negotiations were arranged with the shortlisted candidates. These negotiations were highly important in giving Tax Finland insight into which requirements and contract clauses were of critical importance and which were not. This is extremely hard to do without having a dialogue with the suppliers. The negotiation process is also a good way to iterate versions of the Request for Proposals (RFP), which is the document used to solicit proposals. The final RFP was published to the candidates in the beginning of 2013 and the purchase decision was made in April 2013.

As can happen in large public procurements, there was an appeal to the Market Court on the purchase decision. The Market Court proceedings took a little less than one year. Tax Finland was ready to sign the contract and start the project in the spring of 2014.

1.7. Request for Proposal and Contract

One of the early decisions in producing the Request for Proposals was to write it in the form of a draft contract. This meant that in the negotiations the supplier candidates and Tax Finland could quickly start talking about concrete issues as regards contract wording.

In the contract structure there was a top-level frame agreement that stated the main provisions that generally applied for all underlying contracts. The frame agreement, among other things, stated the governance model for the co-operation between the parties and the general acceptance procedures.

The main underlying contracts accompanying the frame agreement were:

- The Security contract
- The Delivery Project contract
- The Application Management contract
- The Additional Development Project contract
- The COTS software contract.

Delivery Project Contract

The most detailed of the subcontracts was the Delivery Project contract. The Delivery Project contract described the scope and requirements for the target system, i.e. the end-state system sought by Tax Finland.

The functional requirements were written following the principle outlined above of not specifying details beforehand, i.e. the requirements mainly concerned high-level processes and tax-type descriptions, with a focus on the outcomes sought rather than the methods to be used to achieve those outcomes.

There was also a general functional requirement document describing system functionality on a high level and identifying some general functionalities needed across processes and tax types. In addition to functional requirements, there were also requirements for quality and testing as well as non-functional topics. Non-functional requirements include, for example, performance and lifespan related requirements.

The Delivery Project plan also contained the project plan itself as an appendix. The project plan, the first version of which was submitted as part of the tender, was intended to be developed further over time as a "living document". The first version was an initial description of the overall project, its goals and the planned schedule of the implementation.

Pricing

Prices and the provisions for pricing for every contract were all collected to one top-level appendix.

The Delivery Project contract had a fixed price and a mechanism to price changes to the project scope based on function point analysis (a method for estimating the size of software and the functionality delivered to users) and the function point price (the cost of increasing the size of the software).

The Application Management contract pricing had two parts. The first one was a fixed yearly fee for maintenance. The second part concerned the pricing for minor developments, with a yearly system of reserving based on estimates of person-years likely to be required. Changes are possible, but it was clearly stated in the contract what kind of changes would incur an extra charge.

There may of course be additional development projects needed after the delivery project in order to handle extensive changes that cannot be done within the provisions in the Application Management contract for minor development. The pricing of additional development projects can be based on a fixed fee, a time-and-material basis or a function point based system.

1.8. Procurement Project Roles

The procurement of a COTS taxation solution is in itself a large project. It is important to identify the set of roles required and to select people with the right skillsets for those roles.

Top-level support is crucial for a successful procurement project. The procurement sets the foundation for the delivery phase. The procurement project needs a project sponsor who is a top-level executive able to take difficult and sometimes time-sensitive decisions and who will create a supportive environment for the procurement project team. In Tax Finland the sponsor was Tax Finland's Director General.

There should also be a procurement project steering group to discuss and implement necessary decisions. In addition to the project sponsor, top-level support is also required in the steering group. The steering group should also have representatives from all the parties that have a stake in the project. All business areas in the tax administration, including IT, as well as Finance Ministry representatives should be considered when selecting steering group members.

The procurement project also needs a highly skilled project manager to handle the complex operational management process of a high-value procurement.

Several kinds of experts are needed for a COTS taxation procurement. Taxation subject matter experts from all areas of the business are needed to write requirements and to evaluate proposed solutions. IT expertise is also needed, although it should be noted that a COTS project is a lot less of an IT project than most traditional software projects. This is because the aim is to specify outcomes rather than to set detailed functional requirements that will often be tailored to specific business users. Procurement is also an expertise in itself, including negotiation and tactical skills as well expertise in contracts, licensing and procurement legislation.

The project will inevitably generate a lot of paper work and it will be important to have good document management, particularly given the risks of disputes and litigation. Having a communication specialist on the project is also worth considering given the number of interested parties that need to be kept up-to-date on what is happening.

2. Transformation project planning

2.1. Goals of the project

As a first step of the COTS project planning phase, it is important to reaffirm the goals of the project. This is in order to ensure that, at all levels, there is a full and shared understanding of goals and that everyone is bought into what is a very expensive, time and energy consuming process, and one which has a number of significant risks including for business continuity.

In this regard, Tax Finland felt it important to set out, in a transparent way, concrete and measurable outcomes which were linked to the goals of the project as well as the strategic goals of the organisation itself. To ensure that the metrics are as precise and reliable as possible, the first measurements should be done before the project starts in order to set the baseline. In a COTS taxation project, high level goals might include: enhancing compliance; improving services to taxpayers; and reducing costs for both taxpayers and the tax administration.

Enhancing tax compliance can be difficult to assess. Even the evaluation of the baseline value is generally a very difficult task. One option is to split the high-level goal into more concrete and measurable sub-goals. Some examples of more measurable sub-goals could be a decrease in errors, an increase in on-time filing or greater use of compliance-by-design processes (such as withholding) in some areas.

Improvements in taxpayer services can be readily seen to some extent in statistics around, for example, the uptake of new functionalities, such as the ability to file electronic tax returns, upload documents and interact online with the tax administration. However, establishing the impact of such services on taxpayer satisfaction requires baseline measurements, for example through the use of surveys and focus groups.

Reducing costs is usually quite easily measured at a high-level as regards overall tax administration costs. There can be difficulties, though, in separating the various factors that can affect the overall cost. The better that the costs included in the baseline are described, the easier it will be to calculate comparable costs after a few years.

Measuring compliance burdens on taxpayers can be difficult where a tax administration does not have a good quantitative model (although these will often be stylised to broad taxpayer classes). Qualitative assessment can also be used, for example through the use of taxpayer surveys of the perception of burdens. It is worth looking carefully at how effective current measures of compliance burdens are and, if possible, making improvements prior to establishing a baseline.

2.2. Scope

The COTS transformation project scope should be derived from, and closely tied to, the underlying issues that the project is seeking to address or improve. It should also focus on the key elements needed to complete the COTS transformation successfully. All involved in the project should be aware of the risks of "scope creep" which can come in at all stages.

As part of helping to avoid scope creep, it is important to be clear on the adverse outcomes if the work is not done or if the project is delayed. If possible, other simultaneous changes in the

organisation should be avoided. Where this is not possible, such changes should be subject to rigorous change management procedures including the identification and mitigation of risks.

When planning ahead on the roll-out projects, a best practice is to prioritise any pending change requests with the original scope to see if there are elements of the original scope that can be postponed, trimmed or even removed from the project.

A detailed scope document, setting out the business critical priorities, will help the project team to keep a strong focus on what the COTS transformation aims to achieve and what is not in scope. The document should be reviewed with key stakeholders and management periodically to maintain a common understanding and to help avoid inadvertent scope creep.

Tax Finland's implementation project scope included all the tax types and taxation functionalities of Tax Finland, for example registration, internal financial information, tax audit, collection, revenue and refund accounting. After the final implementation project, all of these taxation functionalities were to be performed solely by the COTS system.

While there is typically a lot of technical work related to implementing a COTS project, the importance of engaging with a wide range of stakeholders on all aspects of the project scope should not be underestimated.

A COTS project scope will usually cover at least the following task areas:

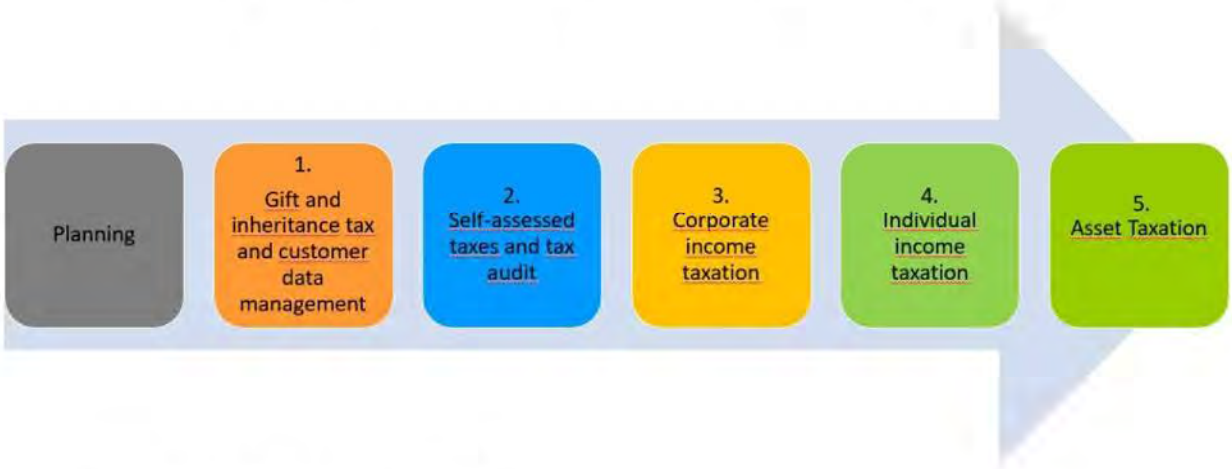
- COTS product implementation, including:
  - the design, development and testing of existing features and functions that need to be replaced with the COTS system
  - the design, development and testing of new features and functions that will be built during the transformation project to the new COTS solution
- data conversion from legacy applications to the COTS system, including data extractions and possible data clean-up
- legacy or third party software changes that need to be done because of the transition to COTS
- the decommissioning of legacy applications and transition planning
- system integration (inbound and outbound)
- planning for the transition period including go-live preparation and support
- ongoing support after "go-live" (for an agreed period)
- technology and environments (e.g. development, testing, staging and production)
- organisation, roles and planning for resource changes that will be necessary on the move to COTS
- related change management activities such as communication, training and recruitment
- tasks related to non-functional requirements that ensure continuity, availability and performance, as well as the robustness of the external and internal system security including as regards meeting data protection requirements.

2.3. Schedule

The schedule is built off the scope and expected outcomes. When planning the schedule, it is important to allow for a project duration that minimises implementation and business continuity risks.

COTS implementation projects that include several tax types and features are seldom a "big bang" type of project (i.e. one go-live date for all planned changes). Instead, the project is usually broken down into several go-live events and the sequencing of smaller projects to ensure that risks for business continuity are kept at acceptable levels. It is therefore important to identify the proper project structure for implementation and, if appropriate to minimise risks, to split the work into manageable COTS implementation projects.

Figure 2.1. Transformation project has five implementation projects



Source: Finnish Tax Administration (2019).

When planning the schedule, issues to consider include:

- the best timing for go-live events from the point of view of the business cycle and/or possible changes to legislation
- the best timing from a resource availability point of view. For example, end-user training may not be possible during the peak season for tax assessments or in holiday periods
- the time and effort needed for development, testing and training, which can often be underestimated
- the needs for separate transition period solutions (such as temporary integrations) in particular minimising the amount of possible additional work or costs due to transition period
- dependencies with other ongoing projects, for example competition for resources, the availability of staff etc.
- internal and external risks, e.g. the effect of possible problems on tax revenue and the administration's reputation (it may not be wise to start with the biggest revenues), resourcing bottlenecks and the quality of data in different systems

- the vendor's and other stakeholders' preferences and views, in particular on key risks
- the need for appropriate preparation work before the transition to the COTS system can start.

The time needed for building up the organisational requirements for the COTS transformation should also be taken into account. In particular, the identification and recruitment of skilful and motivated personnel can be time consuming. Tax administrations should not only rely on the vendor, but also consider benchmarking with other organisations or similar projects to inform a good understanding about what is required to keep to the schedule. It is important to look for a common understanding with all internal and external parties involved in the transformation and to ensure that they are committed to, and able to deliver the schedule.

Starting with a pilot is a recommended way of gaining more knowledge about the product and the implementation methods and can be very helpful in creating realistic schedules.

Complex and large-scale COTS implementation projects usually take several years to complete. In the tax administration context, the overall duration is mainly determined by the number of tax types and processes to be implemented. As mentioned above, it is important to keep in mind that the volume and complexity of tax legislation and the level of automation required can have a major effect on the duration of the project. The duration of the project can be shortened by moving forward with more tax types in parallel. However, the risk level rapidly rises as the project size grows. In general, the project should be as short as possible without creating unmanageable risks.

2.4. Resources

A successful transformation project of the scale and scope of a COTS transformation relies on having people with the right attitude and the right skillsets. A high-level resource plan, which identifies skills gaps and training needs, should be done as soon as the first ideas about scope and schedule are available and should be based on previous experiences. It should be updated continuously as more information becomes known. Information about resource availability should also be fed back to the project schedule, ensuring that it is realistic.

Resourcing can take time and it is recommended to start negotiations regarding resourcing needs well before the actual implementation project starts. In particular, impacts on other areas of the tax administration needs to be fully considered in cases where staff are redeployed in full or part to the COTS project.

In general, the use of full-time resources on a COTS project is recommended instead of several part-time resources. This allows staff to focus fully on the task at hand and helps to avoid conflicts of interest when time is divided between jobs, including with different management chains. Otherwise there is a risk that either work on the COTS project or the existing areas of responsibility will suffer, or both.

Other resources besides people should also be fully planned and funded. In addition to the costs of the software provider, among other things to consider are the costs of travel, the costs associated with project offices or facilities, project staff training and transition period costs as regards the move from and/or maintenance to any remaining legacy systems. A realistic budget that covers the whole COTS transformation project is essential for a successful project. It is advisable that the budget should also include a contingency plan to minimise the risks of delays (subject to appropriate governance arrangements).

Box 2.1. Personnel

The transformation project employed approximately 180 full-time and 100 part-time Tax Finland employees and 100 consultants. Additionally, 200 trainers were needed.

Approximately 100 person-years and EUR 15-20 million will be saved annually.

Source: Finnish Tax Administration (2019).

2.5. Organisation, Roles and Responsibilities

The tax administration's management and the COTS transformation staff should all have a clear understanding of how the COTS transformation organisation is governed, including its policies and procedures.

Clear and defined role descriptions, team responsibilities and performance expectations are needed for the project staff (including vendors), not only in the recruitment process, but also in day-to-day operations.

A COTS transformation project is first and foremost a business transformation project. In concrete terms, this means that the business process owners should have the primary responsibility for the system requirements. Business personnel need the support of technical personnel acquainted with the legacy systems, but those responsible for business processes should be the one making the decisions. This should be reflected in the organisation, roles and responsibilities of the project as well.

A COTS implementation project typically requires the following key roles:

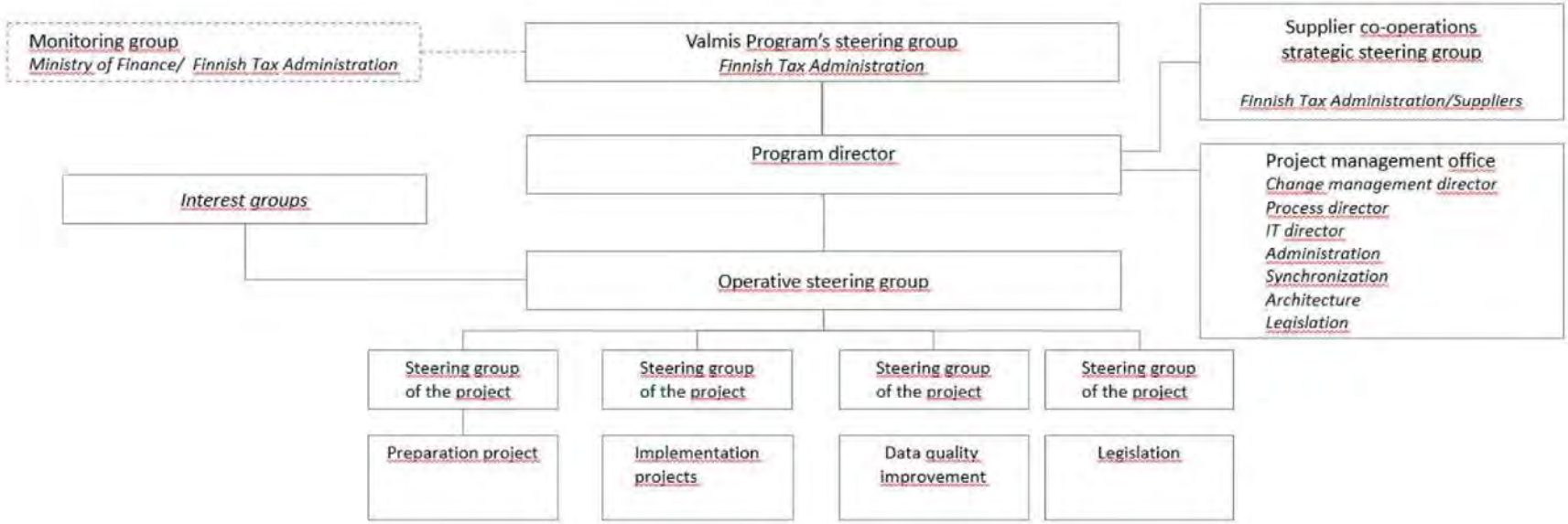
- Subject matter experts (SMEs) representing business processes, who are in charge of the functionality in their own area, including requirements, rules, testing, training and writing the user procedures
- One primary SME is needed for every process. This person is responsible for the process as a whole, and acts as a team leader for other SMEs and technical experts included in the process team. Their teams should have responsible persons for different areas of the process, for example, testing, training, conversion etc. The size of the team depends on the size of the process and can vary from a few people to teams of over fifty
- Technical experts in charge of technical environment and software set-up and maintenance
- Software developers in charge of building the software solutions
- Team and project management
- Coordinators that support the process teams on cross-functional areas, e.g. integration, data architecture, conversion, interfaces, testing, security, cutover, letter templates, reports and training.

If the transformation project is large, then a separate project management office (PMO) is recommended to take care of overall administration including HR matters, finance and costs,

governance, tools and facilities. The PMO may also contain specialists having the expertise and responsibility to make decisions in the following areas:

- Common business architecture (processes, common features and functions)
- Common technical architecture
- Dependency management synchronisation (i.e. the resource, scope and scheduling dependencies with other ongoing and planned projects)
- Legislative interpretation and the identification of any necessary legislative changes
- Change management, including roles and responsibilities, communication and training
- Management of vendor contracts.

Figure 2.2. Transformation project organisation



Source: Finnish Tax Administration (2019).

Figure 2.3. Example of an implementation project organisation

Source: Finnish Tax Administration (2019).