Conclusions and recommendations of the National Audit Office

Legacy information systems

This audit assessed the lifecycle management of legacy information systems. The audit produced information on the current state of the lifecycle management of information systems in different central government units. The audit aimed at promoting the cost-effectiveness of the lifecycle management of information systems in the central government. The basic premise in the audit was that it is not necessarily a negative thing if an information system has been in use for a long time, but a long lifecycle may also reflect successful planning, long-term maintenance and development as well as effective procurement and contract management.

There are many reasons for a system's long lifecycle, and annual costs may vary to a great extent

In the case of the Legal Register Centre, Prime Minister's Office and Traficom, the length of the examined systems' lifecycles has been affected, for example, by different kinds of supplier dependencies and delays in the introduction of a new system. The long lifecycle may also have resulted partly from the fact that the legacy system serves the organization's activities well, that the processes related to the system have not been subject to significant legislative amendments and that the continuous development of the system has succeeded. At the same time, the organizations assess risks on a broad front and strive to manage them.

Based on the audit, the lifecycle perspective is recognised but not particularly seen in practice. The means of portfolio management vary, as no common targets have been set for the lifecycle management of systems.

The annual costs may vary significantly during the lifecycle. The costs are affected, for example, by periodic updates, major technological changes and the changing costs related to the end of the lifecycle. Based on the audit, maintenance and development costs can be financed by operating expenses up to a certain limit.

The financial solutions used do not support long-term lifecycle planning in the best possible manner. Based on the observations made, there is a lack of long-term financial planning, and funding is often more likely to be allocated to new technology projects. The investment perspective is not emphasized when procurement and major updates are planned. The value of the automation of tasks has not been calculated, and it is difficult in funding applications to demonstrate productivity potential, as in many respects the biggest productivity leap has already been made.

Supplier dependency may limit the customer's discretion but is not always a problem

Supplier dependency refers to commitment to a particular supplier's technology, which limits the customer's discretion when selecting a new supplier. In the Uljas information system, used in enforcement execution, the problem is legal dependence on the supplier. As the copyright to the system remains with the supplier, it has been in practice impossible to put the maintenance of the system out to tender.

Supplier dependency may also be caused by technological or financial reasons. In addition to the original service provider, two other companies have been selected to provide consulting services related to the application development of Traficom's VERO information system. The model of three service providers is also a way of reducing dependency on one service provider. At the moment, the share of the original service provider in consultancy services is considered to be too high. Thus, supplier dependency has not been completely eliminated so far. Supplier dependency has also arisen in the Government's decision-making system (PTJ). However, this has caused no problems. The original supplier is familiar with the system processes, which has facilitated the system maintenance. More generally speaking, it can be stated that dependency on one supplier is not always a problem.

If intellectual property rights are distributed unfavourably from the customer's perspective, as in the case of the Uljas information system, this may be a problem particularly in the case of legacy information system contracts. New agreements do not give suppliers as extensive rights. It may also be difficult to change service providers in the case of SaaS (Software as a Service) solutions, which have become more common in recent years and in which the service is fully hosted and managed by the supplier. SaaS services are off-the-shelf solutions. If a solution that meets the customer's objectives and needs is available on the market, it is possible to obtain efficiency gains from the use of such a service.

The end of the lifecycle of a legacy information system may cause increased costs for the customer. An appeal with the Market Court concerning the re-tendering of an information system and the related mandatory waiting period may cause the customer delays and enable additional revenue for the old provider who lost the tender.

The audit also identified good practices to reduce the risk of supplier dependency. Such practices include effective planning of the overall architecture of an information system, careful market research, using a negotiated procedure or a competitive dialogue in competitive tendering and preparing the invitation to tender in such a manner that, instead of describing the object in detail, it defines the objectives of the procuring entity. A procurement contract can be drafted in such a manner that sufficient intellectual property rights to the system remain with the customer and the contract includes a term on the supplier's obligation to provide assistance. The risk of supplier dependency is also reduced if the services are provided by several service providers (multi-supplier model).

Competitive conditions in the market can be exploited by tendering an information system's further development services

All the information systems examined are based on broad contract packages, which have been modified during the lifecycles of the information systems. By tendering an information system's further development services, it is possible to exploit the competitive conditions in the market, while promoting efficient functioning of the market. Of the information systems examined, the procurement of the VERO information system's application development consultation was tendered in 2020 by an open procedure. At the same time, a multi-supplier model was introduced to reduce dependency on one supplier.

The contract management of legacy information systems may involve specific challenges

All the audited public authorities have sufficient competence for the procurement of information systems and for the conclusion and management of contracts. The contract management of legacy information systems may involve specific challenges. The terms governing intellectual property rights in such contracts may be difficult to interpret or unfavourable to the customer. Over time, it may also be difficult to find out what amendments have been made to the contracts and to establish the relationship between different contracts and their precise content. Because of personnel turnover, the content of old contracts is not necessarily known to the employees of public authorities.

Based on the available documents, direct award of contracts on the information systems examined, amendments to the contracts and procurements based on previous contracts have been carried out in compliance with public procurement provisions.

To the extent audited, information security has been appropriately taken into account in the systems examined

The audit did not find any substantial shortcomings in the information security of the systems examined. Information security risks related to the systems are monitored and reacted to if necessary. No significant problems were identified in the data processing controls of the systems examined, either. The senior management of the audited entities is committed to meeting the information security requirements.

Recommendations of the National Audit Office

1. The Ministry of Finance should promote the creation of more consistent practices for the lifecycle management of government agencies' information systems. Defined principles, such as the prioritisation of generally used technology and better consideration of development needs in funding, would support the productivity perspective at different stages of the lifecycle.
2. Government agencies should actively plan the lifecycle of their information systems and the portfolio level in order to identify and anticipate when development during the system use requires special support. This information should be utilised in the preparation of ministries' budget proposals, which would lead to better coordination and prioritization of development projects.
3. Government agencies should ensure that all existing information system contracts are easily accessible and that amendments to them are clearly documented.
4. When planning procurements and contracts, government agencies should take into consideration the risk of supplier dependency and the good practices identified to limit this risk.