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CARFAX

Cost- and service-effective solutions for local administration: The Finnish case

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Introduction

We Finns are proud of our status as a forerunner and pioneer on the road towards the information society, as foreseen, for example, by the European Commission (see, for example, the various publications by European Union authorities in http://www.ispo.cec.be). Whether counted from the number of mobile phones, Internet domains or user accounts, Finland is in the top three countries in the world, sometimes even the world champion, as, for example, in the field of electronic money transfer and transactions, as witnessed by the lowest amount of cash circulating in relation to gross national product in the world.

Our aim here is to show that public administration in Finland has been a key player in this process. In addition to providing a fruitful environment for the private sector to build the information society, the state, as well as many municipalities, has heavily invested in information processing and telecommunication facilities. This is no coincidence, since the information society has for a long time been a deliberate target in the Finnish national search for competitive advantage.

We address this manifestation using a fresh theoretical background, the resource-based theory. In addition to painting the theoretical background, we try to give examples of how this theory can illuminate practical settings in public administration. The resource-based approach focuses more on internal resources of an organization than on the competition taking part in the market. Since most public administration takes place without competition, market-oriented theories are of little use. Instead, other theories should be looked for.

The resource-based theory is important, because it places information and information processing power in a key position, as does its close companion transaction cost theory: information systems are used to make information flow fluently and inexpensively. Since most transaction costs are caused by insufficient information or the costly processing of it, information systems should reduce transaction costs. As Thomson (1967) puts it: "Information technology belongs to those technologies, like the telephone and money itself, which reduce the cost of organizing by making exchanges more efficient: it is thus a mediating technology, i.e. a technology that links several individuals through standardization and extension of the linkages".

Our two examples of practical telecommunication-based information systems are in the area of local administration. Local administration has always been a key part of Finnish

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administration, not least because of the foreign reigns that covered Finland until independence in 1917. In order to maintain local possibilities for decision-making, the Finnish Senate transferred as much political and other decision-making power to local administration as possible—beyond the control possibilities of foreign reign. This tradition still partly lives on. It has also been proposed that the current excellent state of telecommunications in Finland is partly because of this situation. The healthy competition between the state-owned telephone company and some 50 local telephone companies—established for the reasons presented—has benefited the development of the whole branch.

In our resource-based analysis of telecommunication arrangements for public administration, we conclude that telecommunication and information systems not only in themselves are important resources, but that they enhance other resources and make more efficient use of current resources. According to the resource-based theory, it is most important to use available resources efficiently—unused resources just cause costs in the form of real operative and capital costs, as well as in the form of opportunity costs (Alchian & Demsetz, 1972). At the whole-society level, public administration is a key vehicle for alleviating social costs (Coase, 1960) through its public service role.

The resource-based approach to public administration

Why look at resources in public administration?

The focus of most management theories is on business-conducting, profit-seeking, commercial enterprises, from the environment in which these theories are born. The pressure for public administration to adopt goals, processes and routines based on these theories is immense. However, we feel that all the material offered is not readily suitable for public administration. We should take a critical look at the existing management theories and ponder their suitability for public administration.

In our analysis of suitable theories, we have landed on the area of resource-based thinking. This management and governance structure theory has its roots among others in the transaction cost theory (Williamson, 1975, 1985), and is currently discussed and developed in a lively manner (Barney, 1991; Penrose, 1959, 1985).

Our chain of logic for selecting the resource-based approach as a background theory starts from our analysis of the basic characteristics of public administration:

- No need to search for business ideas, as the tasks and goals are given from above, by political decision-makers or even by law.
- In clear administrative and controlling tasks, no competition.
- At least in the Nordic countries, the share of public administration of gross national production at a maximum; no further resources to be expected.
- The demand for the services is not to be manipulated; the demand may be even negative.
- Customers cannot switch suppliers; own control over customer service quality is extremely important.

Based on these prerequisites, we feel that theories focusing on markets and looking for market share or power there (for example, Porter, 1980, 1985) are of no crucial importance for public administration. Public services having private or other competitors are, of course, in a different situation. Instead, focus on the internal operations and resources is more important. The question is: how do we produce better and more customer service with current resources?

One crucial issue to be understood is the nature of demand for public administration. Is

there really a demand for the services the authority is offering. According to Kotler (1973), demand can have different forms. We illustrate what the different forms of demand could mean in the case of public administration:

- *No demand:* customers are not demanding the service. Perhaps, for example, they are not aware of the service. This could happen in the case of grants or consulting service provided by authorities for enterprises.
- *Latent demand.*
- *Uncertain demand:* customers are not demanding the service up to the supply possibilities. As there is awareness of the service, the service should perhaps be redesigned or there should be actions to reduce supply.
- *Full demand:* a situation aimed at. Demand and supply are in balance.
- *Infrequent demand:* demand is not equal over time. This could be, for example, because of the time procedures the authority is itself setting for the customers (as in the case of tax administration). Careful analysis of business processes and their settling over time is needed.
- *Overdemand:* supply should be extended, or substitute services should be invented. Often so in the case of public subsidiaries.
- *Undesired demand:* the authority is there (for example, because of law), but all would be better off if there were no demand (for example, data security authorities or drug administration).
- *Negative demand:* customers are trying to avoid contact with the authority and its services. Consider, for example, the police or tax inspectors.

Basic messages of resource-based thinking

The kernel of resource-based thinking on an organization is described by Amit and Schoemaker (1993): "For managers the challenge is to identify, develop and deploy resources and capabilities in a way that profices the firm with a sustainable competitive advantage and, thereby, a superior return on capital". If we replace the wording "competitive advantage" with "superior service for customers", this definition is perfectly suitable for public administration too. The public should get superior service with minimal resource usage, saving input money (taxes).

In our analysis we want to differentiate between strategic and operational management of resources. According to Hinton and Kaye (1996), operational management has to do with the efficient and effective application of existing resources, whereas strategic management has to do with the total amount of resources, either acquiring or harvesting them. In public administration, strategic management has to do with political decision-making and is out of the scope of this article. We focus more on operational decision-making within an authority managing the resources at hand.

What kinds of resources do public authorities control? Barney (1994) defines a firm's resources as follows:

> In general, a firm's resources and capabilities include all of the financial, physical, human, an organizational assets used by a firm to develop, manufacture, and deliver products or services to its customers. Financial resources include debt, equity, retained earnings and so forth. Physical resources include the machines, manufacturing facilities, and building firms used in their operations. Human resources include all the experience, knowledge, judgment, risk-taking propensity, and wisdom of individuals associated with a firm. Organizational resources include the history,

> relationships, trust, and organizational culture that are attributes of groups of individuals associated with a firm, along with a firm's internal structure, control systems, and dominant management style.

Most obviously, the classical production factors firms use are not of crucial importance. Production facilities, raw materials and energy have a modest role, since there is no physical production. Not even access to capital is crucial, since the owner (state, municipality) is usually in a position to cater for the capital needed should extra demand occur.

Instead, public authorities control many more modern resources:

- operational procedures;
- knowledge;
- goodwill;
- access to customers;
- access to other authorities;
- coordination and controlling systems, including information systems;
- power as described by law.

Operational procedures represent the routines that are needed to take care of the authority's tasks. Process-oriented thinking has for a long time been 'in' in management literature, as witnessed by best-sellers such as Davenport and Short (1990) or Hammer and Champy (1993). Consider, for example, the routines needed to run a yearly income tax or data collection system. Operational routines are built in fixed timetables, data structures and procedures, and are most often implemented in information systems.

Knowledge is in the heads of the members of the organization. Only a small fraction of it can be written down on paper to form explicit knowledge. However, information systems of the organization, and especially data, information or even knowledge bases of such organizations, include knowledge. Information systems as pools of common organizational knowledge are an important resource.

Goodwill is extremely important for public administration. Public administration is outside competitive jockeying, and therefore a trustworthy partner. As described by Oliver (1990), the reasons for cooperating can take different forms. It is important to stress that in many cases the public authority is not something a customer has to turn to, but a valuable partner selected on a free-will basis. In Finland, we have a good example of the goodwill public authorities enjoy. Postal services in many rural areas have been given to the operational management of private companies, such as small shops. However, despite exactly the same services as the main post offices run by the state itself offers, some company customers complain that they do not want to see their postal traffic operated through competitors.

Public authorities often have access to customers because of their legal duties. When performing this obligatory contact, they can add value to the transaction by supplying extra services for the customers. Here, of course, data privacy and fair competition considerations are of key importance. The authority should not use the customer contact established in an official context for commercial purposes; that would perhaps harm the customer's privacy (for example, selling of addresses) or competitive stability (for example, selling something simultaneously with performing the official transaction).

Access to other authorities is likewise of key importance. Through cooperation with other authorities, a public authority can provide added value for customers that the private sector could not. The metaphor of 'one stop shopping' is very important for the Finnish administrative culture at the moment. According to that metaphor, a customer—say setting up a firm and needing assistance in the procedure—should be able to do all the transactions

with the authorities through one party only. All the authorities having a stake in the process should cooperate in the background, without causing extra communication needs for the customer.

Coordination and controlling systems were first born in public administration. According to the classic framework by Masuda (1980), public administration was the first organizational setting in which computers were used. Because of the data mass public authorities have to take care of in many instances, effective high-end use of computers is the only possibility. Consider, for example, many public registers or public statistics production, or processes such as taxation or financial administration for the state agencies.

Finally, power can sometimes be of crucial importance in inter-organizational settings, as described by Oliver (1990). In addition to power supported by legislation, there can, of course, be power types, such as market power and expert power. However, power granted by legislation is the scarcest and most difficult type to imitate.

To summarize, the resources of public administration are not physical in nature, but have to do with information and knowledge, and access to the similar resources of customers and other authorities. Further organizational resources are of key importance, such as human resources. Coordination and control over activities are of key importance, both internally and in external relationships. In this, coordination and control activity, and information and telecommunication systems, play a crucial role.

The value of public administration resources

A further valuable framework for us to analyze resources is provided by Barney (1994). According to him, a resource should be:

- valuable;
- rare;
- costly to imitate;
- efficiently organized;

in order to bring competitive advantage, in our terminology superior customer service. Again, we analyze and give examples of what these could mean in the case of public administration.

A resource is valuable if it can be used in the production process or customers demand it as such. For example, many human skills get outdated fast, even in public administration. To give a simple example, the skills of a typist are perhaps not directly applicable in modern text processing systems.

According to our definitions, most resources of public administration are rare. The service can be acquired only from one authority entitled to run it. There is a monopoly situation. To turn the situation around, if an authority cannot supply a unique service, its activities are most obviously redundant to the activities of some other entity, and there is a need for further coordination. Actually, in controlling and coordination, monopoly is the logical and aimed for state of affairs, odd as it might sound.

The cost of imitating public administration resources is mostly very high. Many other organizations, such as consultants or private organizations, can enhance and bring extra value for public administration, but cannot take over their activities and role. The core competences of public administration remain untouched. For example, access to customers if needed is limited to the authority itself, as in the case of tax investigations, whereas other organizations can, for example, supply tax consulting.

The issue of efficient organization is our primary concern in this article. To tackle this area fully is not possible in this article. We concentrate our effort here on exemplifying how

telecommunication-intensive information systems have been used in Finland to organize resources efficiently in order to provide superior customer service.

Finnish local administration

Structure of the Finnish public administration system

Finland's public administrative system comprises the state, autonomous bodies and what is called indirect administration.

The state. The state comprises the highest governmental bodies: parliament, the president of the republic and the council of the state, and the state administration, which includes central, regional and local administration.

The state central administration comprises the ministries and other central administration. The functions of the ministries are to lead and guide their administrative sectors, draft proposals to be submitted to the council of state and exercise decision-making power based on legislation. The other central administrative units are mainly bodies directed by a ministry on the basis of management by results.

State regional administration comprises the provincial governments and the separate district administrative authorities. The provincial government is the general administrative authority in a province, and also performs certain special functions. The separate district authorities are special regional authorities under the central administration, some of which exercise significant decision-making authority in public policy.

The state local authorities act directly on citizens. The principal local administrative units are the state local district offices, tax offices, employment offices, post offices and the local offices of the social insurance institution. The post office was incorporated a few years ago and the social insurance institutions work directly under parliament.

Autonomous bodies. The main forms of autonomy in Finnish public administration are local self-government (municipalities), the autonomy of the Åland Islands and the autonomy of religious denominations. The position of local government in Finland is stronger than in Europe as a whole. Joint municipal boards are regional or local municipal administration units established by local authorities. The Åland Islands have extensive autonomy in both legislation and the conduct of administration.

Indirect public administration. Public administration in Finland also includes indirect public administration, which performs public administrative functions at various levels. The organizations comprising this sector are outside the sphere of both state and local government.

The Finnish government's programme has established, as objectives for the improvement of public administration, the clarification of the division of duties between different administrative levels and the enhancement of efficiency, functional operation and service orientation.

Reform of regional administration

The Council of State initiated the Regional Administration 2000 project to reform regional administration. The project's objective is to create a regional administration which is clear, takes regional features into account and involves fewer organizations than is now the case.

The first part of the Regional Administration 2000 concerns the establishment of

employment and economic development centres to coordinate the regional policy, and the other part confirms the provincial governments' status as authorities responsible for administration and security.

The Act on Employment and Economic Development Centres entered into force on 1 September 1997. The economic development and employment centre is a new regional authority, comprising all present district offices of the business service within the Ministry of Trade and Industry, technology development centres' national offices, the Finnish Guarantee Board's regional offices, the Finnish Foreign Trade Association's regional offices, labour district offices within the authority of the Ministry of Labour and rural district offices subordinate to the Ministry of Agriculture and Forestry. The centre replaced the existing six regional business organizations. Before, there were 77 regional units assigned for these functions. Since September 1997, they have been replaced by 15 centres.

The Employment and Economic Development Centre is responsible for regional development, finance and training for economic activities and employment administration. In addition, it is responsible for some supervision and inspection functions. It promotes and supports development within its own region. The new office is responsible for allocating most of the regional development funds in the state budget.

The reform lightens employment administration because the decisions which are now made by many different sectors will have a common objective. The state's decisions on business life and labour policy at regional level will become more parallel. Compared to the earlier situation, the quality of the services will improve, because joint usage of customer registers, other databases and company researches will simplify decision-making.

The reform will simplify entrepreneurs' contacts, as a single authority will be responsible for providing all regional business services. The reform will harmonize decision-making concerning the companies within three different administrative sectors. By bringing functions together, the state can save costs without reducing the number of customer services.

Another part of the Regional Administration 2000 project is reformation of the provincial governments. Their responsibilities have changed considerably during the past 10 years. The provincial governments have gradually adjusted to function as administrative authorities promoting the state's national and regional objectives. This means a return to the provincial governments' former job description. The provincial governments have responsibility for the resource management of the subordinate state's local units. The provincial governments are primarily responsible for regional security and general administration. As a result of the decreased number of responsibilities, personnel has been reduced to nearly half in the 1990s.

The current responsibilities of the provincial governments do not cover as many areas as before. The reform does not concentrate on services provided for the citizens, but the objective is to rationalize and intensify the state's performance in its administrative functions.

The number of provinces in mainland Finland was decreased from 11 to five on 1 September 1997. The five provinces and the locations of the provincial state offices are:

- Province of South Finland (Hämeenlinna);
- Province of East Finland (Mikkeli);
- Province of West Finland (Turku);
- Province of Oulu (Oulu);
- Province of Lapland (Rovaniemi).

Besides the headquarters, the provincial governments will have service agencies in the premises of the present provincial governments. All provincial governments that were to be suspended will remain as regional service units. The primary means of decreasing personnel is natural wastage.

State local district reform

In recent years, many reforms have been carried out at the local level. At the local level the reforms have led mainly to increases in function and authority, to expansion of territory and to partial consolidation of local administration.

The most significant reforms concern the lower courts, the tax administration and the state local districts. The lower court reform mainly replaced the courts of the rural districts and the city courts with district courts. The territories of the tax offices were combined and their number reduced by more than 100.

The most significant and extensive reform carried out at the local level is the state local district reform, which on the one hand concerns the functions of local police, prosecutors, distraint and registration authorities, and on the other those of general administration. The reform took effect in December 1996. At that time, the present police districts and judicial districts (348 units) were replaced with 90 new state local districts and the organizational units operating in them by offices founded for each state local district. Separate offices were established in major cities.

The main objectives of the reform are to improve the standard of services and the legal rights of citizens, to ensure the equal availability of an adequate supply of services throughout Finland and to create the conditions required for transfer of authority to the local level and for more economical production of services.

Strengthening the self-governing status of the municipalities

As of 1997, there are 455 municipalities in Finland, of which 102 are classified as towns or cities. Municipalities collect income tax and property tax from their residents.

The new Local Government Act, which strengthens the self-governing status of municipalities and which came in force in 1995, gives more freedom and decision-making power to municipalities. On the basis of the Act, the municipalities have the opportunity to organize their administration and activities in accordance with the local conditions.

A major part of the responsibilities of municipalities are statutory, because the state may give responsibilities to municipalities only by legislation. Municipalities receive a calculated state subsidy for these obligations. Education and culture, health care, social welfare, economic and physical planning and the construction of communal engineering are essential municipal responsibilities.

Kuvernet

The objective of the reform of public administration is to increase efficiency, flexibility and service facilities. The availability of services in all parts of the country is also to be ensured.

The development of the Finnish information society proceeds in many sectors. The main principles in state information management are:

- information management has to promote the basic responsibilities of public administration;
- the investment made in information technology has to be used more efficiently;
- developing the compatibility of information systems;
- data collection will be rationalized and limited;
- electronic communication will be efficiently used;
- data services and markets will be developed;
- European integration developments will be taken into account.

Provincial governments function as regional general administrative authorities of the state, and also take care of regional responsibilities for several ministries. Provincial governments are administratively subordinate to the Ministry of the Interior. The ministry is responsible for their management by results and supervision.

According to the act on state information management, the Ministry of the Interior is responsible for steering and controlling the development of information management in the provincial governments and subordinate state local administration, as well as taking care of coordination between the state and the municipalities.

The first data communication network in regional administration was the one between 11 provincial governments, called Kuvernet. The network is linked with other administrative and service networks. The state local districts subordinated to provincial governments use this telecommunication solution, including registration services in magistrates.

The provincial governments' net is based on the TCP/IP protocol. Its main use areas are e-mail and centralized systems on service centres as economy systems, personnel systems, operating systems of several ministries, document registration, file and print services, Internet and Intranet services and EDI services (EDI services have over 1000 users). The net has linked the staff from the provincial governments or the subordinate state local units with the centralized system or services. Magistrates' administration on-line services depend totally on the net.

The state local district reform, which took effect in December 1996, and the provincial administration reform in September 1997 set new challenges for information technology and telecommunications. The network infrastructure can be used as a resource in the new organizational situation when duties and services are reorganized. There are possibilities to improve service, save double-work and cut costs. Added value also comes in the form of new working and communication habits in a network, and from the more effective use of e-mail. There are huge possibilities in process redesign and the development of team work. There are possibilities in specializing, centralizing or decentralizing. Up-to-date information and documentation reaches the user quickly and equally. Direct communication between authorities and citizens will be developed further.

Kasser

The Ministry of the Interior began in 1994 the development of data exchange between the state and municipalities, and in the background influenced the policy and the principles in information management and the common pressure to produce services more effectively.

In the resultant negotiation between the Ministry of the Interior and the Provincial Government of Turku and Pori it was agreed that the Province of Turku and Pori will do the concrete implementation. EDI software was acquired, as well as X.400 software.

The Provincial Government of Turku and Pori at the same time started an education programme to develop working processes in administration. A simulation game was used as a working method. The method aims at improving productivity in administration, office and expert work. The method is based on process thinking, a participating approach and the everyday experience of the personnel. With the help of a simulation game, it is possible to study together complicated, multi-phased and often invisible administrative work procedures.

There was a real need (an administrative order) to develop data transfer between municipalities and the Ministry of Agriculture and Forestry. The goal was to build an economic and working data transfer solution. As a working method, process thinking was used. The customer was in a key position. The whole working and information process was

examined, in all different phases from local administration level to central administration. The principles of quality management were used as well.

The information management of provincial government had the desire to succeed. The atmosphere was active and filled with enthusiasm. The budget was minimal. There was a risk of failure. Because of customer service and reputation, the personnel in data management were ready to work hard, and there was not a thought of giving up.

Despite the tight schedule and budget, it was possible to succeed in building a working and cost-effective solution to data exchange between the state and municipalities. The agriculture sector in the municipality transmits subsidy payment information on agriculture through an EDI-based system to the Ministry of Agriculture and Forestry. Practically all municipalities (450) use this national payment and register information system in file transfer.

This cost-effective system uses as a solution the information technology that has already been invested in municipalities, and there is no need for expensive investment. The municipal agriculture authority transmits data to the net with the help of microcomputers and modems using Kasser software. The transmission uses local telecommunications and the national datanet. The municipalities can also use their own service communication nets or X.400 e-mail. The data will be transmitted to an EDI server in Turku, where they are processed and further transmitted to the Ministry of Agriculture and Forestry.

The numbers of transmitted files are so huge that no traditional manually functioning solution has been able to handle it. The system has been used in the other direction; the files transferred from the Ministry of Agriculture and Forestry to municipalities use this Kasser EDI-based system. The number of transmitted files has doubled.

This solution is an innovative example of a cost-effective state–municipality file-transfer system that is available to all municipalities. The Kasser system transfers yearly an amount of data equivalent to 5 million A4 pages. The transactions produced over the system account for 5.5 billion FIM (1 billion ECU) yearly. This cost-effective system had made it possible for all municipalities to transfer files profitably and without additional expense. The positive effects reach all citizens, in the form of more effective administration needing less tax money.

Conclusions: Telecommunications as an important resource for Finnish local administration

According to our analysis, telecommunications is an important resource for public administration. First, it enhances current resources; second, it takes advantage of existing resources more efficiently; third, it creates new resources for the public administration. In general, organizational resources are enhanced or created, and existing physical resources are more efficiently utilized.

The enhancing effects are considerable. Operational procedures are rationalized and even eliminated through implementation of telecommunications-based information systems. Internet- and Intranet-type solutions allow for the efficient distribution of organizational knowledge, for both internal and external customers of public administration. Telecommunications facilities and proper infrastructure positively affect the public image and goodwill of public administration, giving it a modern touch. Access to customers is enhanced through electronic channels and gateways, as is access to other authorities and their databases. The full benefit from coordination and controlling systems can be realized, as telecommunications allows for effective data collection and cross-checking of data. Further, modern telecommunications-based information systems can be viewed as symbols of the power of the state, as well as practical tools for using power.

Taking more efficiently advantage of current resources can be seen in many sectors. As

routine work gets performed through information systems, the number of staff can be reduced, or, more precisely, current staff can handle an increasing number of transactions and customer service. Savings in staff result in savings in physical room needed: scarce building resources can be targeted to public-saving projects, such as hospitals and sporting facilities, instead of administrative buildings. Another important field of resource using efficiency is the field of data. By combining and searching through digitally stored data, new important information can be produced. The possibility for more efficient decision-making through data mining (see, for example, Inmon (1996) for basic concepts, or Hoogeveen and van der Meer (1994) for an interesting example) in the public sector is a considerable one.

Creation of new resources takes place in many areas. New cooperative arrangements between different authorities are created, and even between customers and the public administration. Totally new knowledge about the development and implementation of information systems in public administration settings is created. The most important new resource is new communication channels or media between different participants, authorities and their customers. In general, one could say that the total culture of administration can be turned away from routine-oriented towards service-oriented.

Investment in information technology is by itself hardly something we can call an innovation. Innovation is implemented, when the development of information systems is integrated to process redesign. When the administrative routines have to be touched upon because of the technology, why not utilize this possibility to introduce even more profound changes to the fields of processes, databases and service offerings of the public administration?

Finally, the real innovation steps in when we look at information and communication technology as a resource, not valuable only by itself, but as a resource enhancing and boosting other resources. It is no longer feasible to consider information technology as a cost factor, but as a basic resource building in the base for more efficient operation and customer service resulting in competitive advantage, or superior customer service, as we prefer in the case of public administration.

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