



SOME EXPERIENCES ON THE CHANGE OF ORGANISATIONS FOR MAPPING AND CADASTRE

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ABSTRACT: Organizations for mapping and cadastre face the challenge to develop a more customer-friendly and financial transparent organizational performance and culture. This challenge is caused by a growing awareness of the users on one hand, and on government policy on the other hand. The adoption of a business strategy aiming at these important goals will impact substantially on the way this organization deal with business opportunities and information technology. As soon as an appropriate business strategy is adopted, the question arises how to identify customers needs, and how to control the business operations in such a way that the customer demands indeed are met. If governments impose a certain extent of recovery of costs, the challenge becomes even more exiting, since a public monopoly (as in many cases exerted by land registry and cadastral organizations) for which one has to pay makes users rather more than less unsatisfied. Organizations with such a user paid monopoly mandate therefore should be even more customer-friendly than commercial companies are. When these organizations

use or intend to use the Internet as a communication- and distribution channel, the performance will become more and more visible for the user, which will increase the pressure for good strategic and operational management even more. Organizations which give evidence that they meet society's demands (functions), give evidence that they work efficient (society gets value for money), and which have no fear to be open and transparent (give the society control and confidence) can however expect a good future.

1. Introduction

Many organizations for mapping and cadastre face similar problems. First of all there is tension between the organizational principles of the public administration and the requirements of an executive organization. The aim for serving customers impacts heavily on organizations for mapping and cadastre because they need continuity in investments in ICT and organisational development. The government however is restricted to its annual budget, which can differ from year to year because of the endorsement of the Parliament, the inflexible labour conditions, changing political priorities, still apart from political instability and lack of money. Secondly, governments tend to impose some form of cost recovery regime on this kind of executive organizations, causing decrease of legitimacy because customers are not satisfied in their desire to receive value for money. Thirdly executive organizations are almost everywhere on top of the list for staff and budget reductions because this kind of going concern activities seldom are politician's favourite priority. Fourthly, under investments in mapping and cadastre have the potential to cause backlogs which never can be overcome in the future.

2. Need for change

Yet there is a need for radical change in many organizations for mapping and cadastre. In the field of mapping, there is a growing supply of alternative products, like satellite images and other aerospace surveys methods. These alternative products are mainly provided by the private sector. Mapping agencies which do not develop a strategic view to the development of geo-information in society, and which cannot invest in adequate product development and service attitude, will face hard times and may possibly not survive. Insufficiently performing cadastral organizations supply incomplete, incorrect, out of date, not timely information on ownership, value and use of land and real estate, they cannot serve land tenure security, the land market, and government functions like land taxation, land use planning and development, and management of natural resources. The government might create new organizations in an attempt to neglect existing cadastres, or if the government does not take action an illegal land market and land use will come into existence.

3. Process for change

Mapping and cadastral organizations wanting to cope with changing environment, face a real challenge. The revitalization of an organisation is playing a simultaneous chess game, as the necessary change likely consists of various components:

- redefinition of mandates, tasks and responsibilities
- definition of mission, vision and strategy
- creation of transparent managerial and financial structures
- establishment of processes for customer relations
- introduction for process modelling and process management
- creation of a service focused organisation (corporate) culture
- application of appropriate ICT for management - and process support
- good public relations and public affairs.

These elements will be elaborated hereafter, substantially based on the practical experiences in the Cadastre and Land Registry Agency of the Netherlands, which changed into an independent public body in 1994. For a good understanding it should be known that this Agency is also active in the nation wide production and maintenance of (large scale: 1/1000) topographic maps (i.c. databases). Recently the government decided to merge this service with the Topographic Service of the Netherlands.

4. Administrative reform

The ambitions of organisations for mapping and cadastre can hardly be met within the traditional structure of the public administration. However there are administrative reforms going on. From a historical perspective (last 20 years) one might observe many reasons for reform. Administrative reform in the United Kingdom was very much based on the opinion that the administration was too ineffective, money wasting, not able to govern, and in the grip of pressure groups and trade unions (the Thatcher era). Administrative reform aimed at restoring political primacy, reduction of the tasks of the ministries to their core business, and the improvement of the output of the large public organizations by steering them at distance. This has been set trend since, applied by many neighbouring countries, and finally world-wide. Thus large operational public units should not be part of the core activities of ministries, but be positioned at a certain distance, ranging from agencies within the ministry to fully privatized units. Mapping and cadastre normally are considered as public tasks, in the sense that one way or another the government takes responsibility for execution of the task and good performance. A form that could suit organizations for mapping and cadastre, is that of a public independent agency with responsibilities sufficient for the goals they wish to achieve.

5. Redefinition of mandates, tasks and responsibilities

In case of political agreement and endorsement of such an organizational change, it will be extremely important to define mandates, tasks and responsibilities strictly. Especially in a situation where the organization acquires a certain independent status with regard to the minister, it is important to avoid unclear relationships. There should be no misunderstanding to which extent the minister has power to interfere in the organization's business. In case of the Dutch example the minister has certain lawful powers:

- appoints and dismisses members Executive Board
- approves long term policy plan
- approves fees
- approves annual accounts
- can ask information any time
- appoint and dismisses members supervisory council.

Within these powers, the Executive Board is responsible for:

- governing the organization
- statutory representation
- regulation organizational structures
- finances and accounting
- labour conditions.

Here we see clearly that the Board has executive powers to a large extent, however is accountable for results, performance, fees, long term policy plan, to the minister. This provides the minister with sufficient competence to meet the demand of political primacy. The minister can however only indirectly influence operational activities.

6. Definition of mission, vision and strategy

Having the ambition to be a customer oriented organization, there might be reason for reformulation of the mission, in order to include the customers drive. Ordnance Survey UK -eg. - defined as its mission "being content provider of choice for location based information in the new information economy", Ordnance Survey Ireland says "excellence in providing quality mapping and geographic information services to meet society's needs-, and the Dutch Cadastre & Land Registry Agency wants "to encourage legal security in all land matters, to maintain geometric foundation data, and deliver information to society on these issues, all at the lowest possible costs".

Regarding strategy, in the Dutch case there are good experiences with the strategic alignment model of MIT (Henderson et al, 1992) linking business strategy and ICT policy, business processes and ICT architecture, and fitting the strategy and operational level. The impact of the model is that business strategy, business processes, ICT policy, and ICT architecture are seen as being interrelated.

7. Creation of transparent managerial and financial structures

Public organizations which gain a certain independency, will need better information on “who is accountable for what”, and what are the costs of products and services.

Accountability is an issue embedded in the vision how on to manage the organization. Different options are possible: from centralised to decentralised. In the Dutch case it was decided that responsibility should be given to all managerial levels, embedded in a framework of described tasks and responsibilities, and with strict rules for accounting and reporting. The option here is a so called “negative” responsibility, that means that exactly is described which responsibilities are assigned to the higher level of management within the given tasks, by consequence “the rest is for lower manager” (a “positive” description would be that exactly is described what everybody responsibilities is).

The result of this step will be:

- management vision (i.c. allocation of responsibilities)
- financial management handbooks
- accounting and reporting manual
- clear description of work processes
- production standards and monitoring mechanisms.

A special case is a possible requirement for cost recovery. The basic nature of a government budgeting system is the planning on an annual basis of the expenditures and revenues of a government body. In fact the system is a cash administration, providing a precise overview of the cash flow, thus regardless the moment of actual use of labour force and goods and regardless the actual delivery of products and services. Depreciation and amortization therefore does not take place. The fact that government budgets are limited in time, reflect cash flow only, and are unlikely to be comprehensive, makes it difficult to calculate the actual true costs of products and services.

Consequently the concept of “cost recovery” is difficult to apply, and can only be interpreted in a way that it fits into the budgeting system: in stead of “cost recovery” it concerns “recovery of expenditures”.

The cost benefit approach, as used in the business sector, is based on a long term financial management. Government organizations which are allowed to have a cost benefit financial management normally are privatized to a certain extent (e.g. agency, independent public body, government owned company, trade fund). Though investments (e.g. soft- and hardware, surveying equipment, cars) are paid out of the cash flow budget (like in the government budgeting system), the period of actual use is taken into account (unlike the government budgeting system) by calculating depreciation (amortization). True costs are based on:

- depreciation values of investments
- registered staff resources and other expenditures
- registration of delivered products and services
- the relation between these elements, according to a fixed allocation model.

Knowing true costs of products and services will be a key to the pricing policy.

The profit and loss account provides information on the costs and revenues in a particular financial year. In the revenues a certain (even fixed) government funding can be included, if the government wants to keep prices low. The necessary flexibility can be found in the equity, which may vary between certain agreed limits, since fluctuations in the portfolio impact on the financial result of the profit and loss account which results in changing additions to the equity (Van der Molen, 2001).

8. Establishment of processes for customer relations

Aiming at seriously improving customer satisfaction, will most likely impact heavily on the structure and processes of an organization

- establishment of an appropriate structure
- marketing strategy and marketing planning
- marketing management and account management
- product development and innovation
- procedures for complaints.

In organisations for mapping and cadastre traditionally a lot of attention is dedicated to the production processes, as daily maintenance and updating are major operational tasks. The risk is that managers pay insufficient attention to customers. It is perceived that customer “disturb” the production process. Creation of a special customer unit therefore is recommendable. In fact the organisation is divided in two: the factory and the shop. All the contacts with the customer are channeled through the front shop. In the meantime the “factory people” can put all their efforts in production processes. This works very efficient and effective, but is important change in the organizational structure. The creation of such a front shop/factory model requires -of course- appropriate strategy, planning and management for the front shop sector just as the organization pursues for the production processes in the former structure.

So changing the organisational structure in this respect, also requires complementary strategy and management.

In the Dutch case, since 1997 the organization has been focused on customer service, through the division of the organization into a back office and a front office. This step was followed by substantial investments in education, training and improved professionalism. All regional units (comprising 1-3 provinces) now employ 1 marketing manager, various account managers, and many customer service staff, from which about 50% are recruited from outside the organization. At the corporate level a marketing policy unit was created, under the leadership of an experienced marketer previously employed by the commercial financial sector.

A system of marketing planning exists, with strong ties with the overall planning and control cycle. All units are accountable for their performance, both in terms of productivity and customer service. Customer requirements as determined by the Agency can be summarized as follows. Customers (although - of course - not every group of customers share the same wishes) desire up to date, correct (no mistakes),

complete and well accessible information, and the perception of getting value for money.

9. Introduction for process modelling and process management

Efficiency will be encouraged if working processes are well modelled and described, production standards are set, and actual performance is being monitored. This is for both production processes and customer related processes. For the sake of efficiency also processes of delivering of products and services, procedures for answering complaints, standards for special services (like GIS support), are necessary. Regarding production standards, as often exact figures are absent, a solution can be to fix production standards built on experts common sense.

As - for the Dutch case - meeting demands of customers also required appropriate organizational structures and adequate quality management, much effort has been invested last years in streamlining and describing work processes and in the establishment of total quality management. As a result the ISO 9001/2000 certificate was issued last year.

It seems to be important to ask customers regularly to which extent they are satisfied. This provides direct input in the management of the organization. In the Dutch case, every two years customer are asked for their satisfaction regarding reliability of the Cadastre, expertise of the staff, delivery times of products and services, accessibility of data (on-line services), customer orientation, clearness of customer communication and regarding the organizations capacity to thinking along with customers. This survey is outsourced to an independent firm.

10. Creation of a service focused organisation (corporate) culture

The cultural aspect should provide a natural baseline for customer orientation and service oriented attitude. "Customer satisfaction" does not mean doing everything a customer asks. It always is the organization to consider costs and benefits, and to decide. One could say that organizations with a weak customer focus might be confused on what to decide, while well focused organizations have a mindset bringing them to a good decision when to say "yes" and "no".

Encouraging a service oriented attitude can be done through the application of competence management. In such a system the performance of employees is measured not only in terms of production standards, but moreover in terms of attitude and behaviour. The assumption is that the managers clarify what kind of competence they favour: such as "communication skills", "result oriented", "customer-friendliness", "operational control", "and robustness".

In the Dutch case up to 7% of an employee's wage is dependent on the result of the annual assessment.

11. Application of appropriate ICT for management - and process support

Organizations for mapping and cadastre experience the determination, processing and dissemination of huge amount of data. As “up-to-dateness” of the data normally is a major customer requirement, the work is highly transactional. Good ICT support will be very helpful in meeting objectives here. Application of ICT depends on an organisations ICT-policy. Issues like:

- what kind of ICT (proven, experimental ?)
- data communication (open internet, closed networks ?)
- mainframes or PC's
- central or decentral information management
- central or distributed databases

and similar issues should be clarified prior to investments in information - software - and hardware architecture.

In the Dutch case experience has shown that long term planning is difficult. The approach now is a short term planning (max. 3 years) within a framework of guiding principles (i.c. the ICT policy) (FIG, 2003).

12. Good public relations and public affairs

Customer satisfaction depends very much on the expectations a customer has, compared with his perception of the performance. If, for example, his expectations about delivery times are high, and the organization performs slowly, the customer will be dissatisfied. Therefore it is extremely important that the expectations of the customer are realistic and can be met by the organization. Only then customer satisfaction can be reached. The expectations of a customer are to a certain extent manageable. Of course the customer has his own channels through which he is influenced (earlier experiences, colleagues), however the organization - providing good communication - can encourage a realistic expectation of the customer.

A similar situation occurs towards the politicians, ministers, and members of parliament. It is good to know what is going on which can be of influence to the organisation, and reversibly it is important that political people are aware of the existence of the organization, its performance and its view to the future.

13. Change management

Change in the above mentioned broad sense, cannot be done as a part time activity for people next to their main job. A small full time task force has to act to pull and push the change.

14. Conclusions

Adopting customer orientation as a major strategic objective, will impact heavily on organizations for mapping and cadastre. Customers of these organizations do not differ much world-wide. Although there will be country-specific differences, one might be sure that all customers desire to acquire: reliable information, easy accessible information, quick delivery times, good service attitude, up-to-dateness and the perception of value for money. Knowing this, in depth analysis on how to meet these demands, give the guiding principles for the change of the organization. After that, it will be a matter of implementation. Experience reveals that this requires quite an effort.

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