

# **Six Proven Models for Change**

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**Key words:** changemanagement, customer orientation, land administration.

## **SUMMARY**

Land Registry and/or Cadastre organizations are confronted with (at least) two external factors that impose a need for change, i.e. the evolution of the market and the developments in Information and Communication Technology. An explicit focus on the relevant issues is an essential requirement for successful change management, and a number of detailed models could be beneficial to the adoption of the necessary focus. These models pertain to (1) the approach adopted by organizations in our sector to their business objectives and ICT policy, (2) the impact of the provision of improved service to the market on the structure of the organization, (3) the issues involved in ensuring for an appropriate level of customer satisfaction, (4) the impact on product development, (5) issues of relevance to financial management, and (6) quality assurance. Experience acquired in practice has revealed that these models are also suited to applications in other fields.

## **RESUMÉ**

Les organisations de l'enregistrement foncier et/ou du cadastre sont confrontées à (au moins) deux facteurs extérieurs qui imposent un besoin de changement : l'évolution du marché et les progrès de la technologie de l'information et des communications. Pour gérer les changements avec fruit, il est essentiel de se concentrer explicitement sur les questions pertinentes. De plus, des modèles détaillés pourraient être profitables à l'adoption des priorités nécessaires. Ces modèles portent sur (1) l'approche adoptée par les organisations dans notre secteur en ce qui concerne leurs objectifs économiques et leur politique en matière de technologie de l'information et des communications, (2) l'impact de l'amélioration des services fournis au marché sur la structure de l'organisation, (3) les questions allant de pair avec la garantie d'un niveau adéquat de satisfaction des consommateurs, (4) l'impact sur le développement des produits, (5) des questions intéressant la gestion financière et (6) l'assurance qualité. L'expérience pratique a révélé que ces modèles peuvent également être appliqués à d'autres domaines.

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## **1. INTRODUCTION**

The UN Land Administration Guidelines [UN/ECE, 1996] state that:

*'a land administration system is in part an administrative system that must meet the needs of good government. It must also address the requirements of non-governmental institutions and the general public'*

The vision for a future cadastral system, 'Cadastral 2014' [Kaufmann & Steudler, 1998] states that:

*'Cadastral 2014 will be cost recovering'*

We have observed that changes currently in progress at many land administration organizations are indeed motivated both by a desire to achieve improved customer satisfaction and an increased cost recovery. It will be self-evident that at the Cadastre and Land Registry Agency of the Netherlands we have acquired experience with these developments; moreover in our international work we also encounter the same situation at our colleague organizations. The discussions within the FIG and the Working Party on Land Administration (UN/ECE) are also indicative of these developments. This all gives cause for the presumption that this is an international trend. However in our opinion this does not warrant the conclusion that endeavours to achieve customer satisfaction and provide for cost recovery are the sole reasons for change. Change is also required both as a result of developments within the institutional context (land policy and the legal framework), and in view of the technology push evident within land administration institutions. However institutional and technological changes primarily need to ensure for customer satisfaction and the coverage of the costs.

Every country possesses its own unique history, pattern of developments, and culture. This results in differences in each country's perception of possessions and property, legal certainty, and legal relationships both between the public and the state and between members of the public. Consequently the land administration systems of each country also exhibit differences in their objectives, organization, and significance. However in our experience the wishes of the customers are virtually identical in every country.

There is a high probability that customers of any of the world's land administration organizations will express their wishes in terms of the following:

- reliable land information
- ready access to land information
- comprehensible procedures and products

- rapid and guaranteed delivery times
- good service
- value for money

The last of these is associated with the wish for cost recovery. It should be realized that customers are perfectly prepared to pay for the products or services they require – a willingness that is in any case the apparent in everyday commerce, as well as in the contacts between the public and the government. However this willingness is subject to the condition that customers receive value for money. Members of the public will not be prepared to pay for the issue of a title to ownership or a cadastral survey if they have to wait three years. Conversely they will be perfectly prepared to pay for a product or service that provides them with an added value, such as timely information about the ownership and value of a house, or the prompt demarcation of the cadastral boundaries in the event of the threat of a dispute between neighbours. Cost recovery pertains to costs and selling prices, whereby three issues play a role:

- what is the cost price of a product or service?
- what is the selling price of that product or service?
- what is the significance of cost recovery within this context?

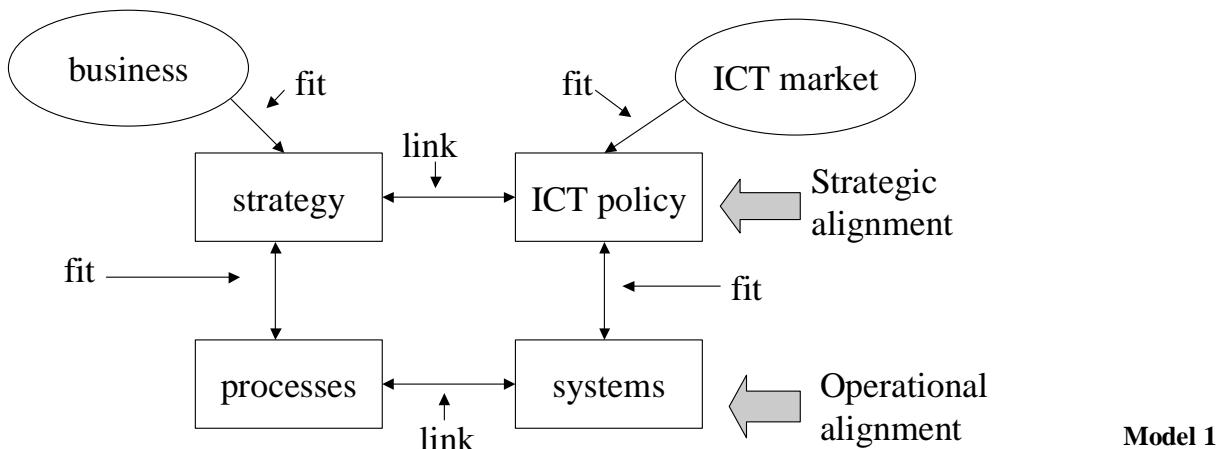
This would appear to render reorganizations a simple matter. This is also apparent from the ease with which land administration organizations incorporate the adoption of a customer orientation and the achievement of cost recovery as objectives in their strategic plans. However the experience we have acquired within both our organization and our international consultancy work reveals that the incorporation of these two objectives has an extremely great impact on the organization, and that they give cause to the need for a fundamental and comprehensive change both in the organization and its working procedures. Experience gained in practice reveals that the interpretation of a customer orientation and cost recovery in terms of explicit and feasible changes in the organization – and their management – is anything but simple. The use of a number of simple organizational models can be conducive to the implementation of these changes. These models impart a structure to the changes, play a role in the internal and external communications, and provide for the control of the changes. They have, in any case, served a useful purpose during the ten years required for the implementation of changes in our organization, the Dutch Cadastre and Land Registry Agency.

Since we are of the opinion that the needs and requirements resulting from the adoption of a customer orientation and the achievement of cost recovery are essentially uniform in nature anywhere in the world we therefore also presume that all land organizations are confronted with the same situation. This presumption serves as the justification for this article.

## **2. CHANGING AN ORGANIZATION**

A common characteristic of Land administration organizations is the great deal of effort they devote to the determination, registration and dissemination of information pertaining to the ownership, value and use of land. This involves a large amount of data that is subject to many changes, needs to be kept up to date, and must be accessible for consultation. Consequently

these operations constitute a highly transactional environment. The efficient and effective performance of these duties is possible only with the support provided by Information and Communication Technology (ICT). However what is the appropriate approach to the organization's objectives in relationship with the opportunities offered by ICT? MIT's 'strategic alignment model' [Henderson & Thomas, 1992] is of use in deciding the approach to be adopted.



The strength of this model lies in its ability to establish a relationship between the strategic and operational aspects of the organization's objectives and its ICT policy.

It reveals that in contrast to the past – when the organization's objectives were specified prior to the selection of the requisite technology that would provide for the achievement of those objectives – nowadays developments in technology in part determine the nature of the organization's objectives. An objective stipulating the rapid supply of land information to customers could not be specified in the absence of Internet technology which renders this objective feasible. An objective stipulating the daily maintenance of up-to-date information databases can be accepted only when it is known that this is possible with today's database technology. It would be impossible to specify an objective stipulating the rapid and on-line delivery of notarial deeds and title documents if it were not known that use can be made of developments in the field of digital signatures and the associated security measures. An objective specifying the more rapid completion of surveys of cadastral boundaries is feasible only when it is realized that advanced GPS technology is either available in the ICT market, or will otherwise soon become available. An organization can stipulate an objective requiring an adequate and rapid support of the market only when it is appreciated the continually improved software applications suitable for this purpose are being launched on the market. In other words, the formulation of the organization's objectives is a shared duty of the general

managers and the ICT managers – or, more precisely, of those managers in the possession of a sufficient insight into and management of both issues, i.e. what are referred to as *geo-information managers*.

Consequently the strength of the model also lies in its explicit indication of the need for changes in strategy (which consequently refers to both the objectives specified for the organization and for the ICT market-place) to be accompanied by changes at an operational level. It should be realized that the organization's objectives are achieved by means of the working procedures, and the ICT policy is effected by means of the implementation of the requisite ICT architecture. The acceptance of an organizational objective stipulating the electronic submission of deeds and documents by the deployment of specific ICT options results in the need for changes in both the operations (involving business-process redesign and/or organizational development) and changes in the information software and hardware architecture deployed in the ICT system. It subsequently provides for the awareness of both the managers and the operational staff that they will in turn need to implement changes with respect to their expertise, skills, and culture.

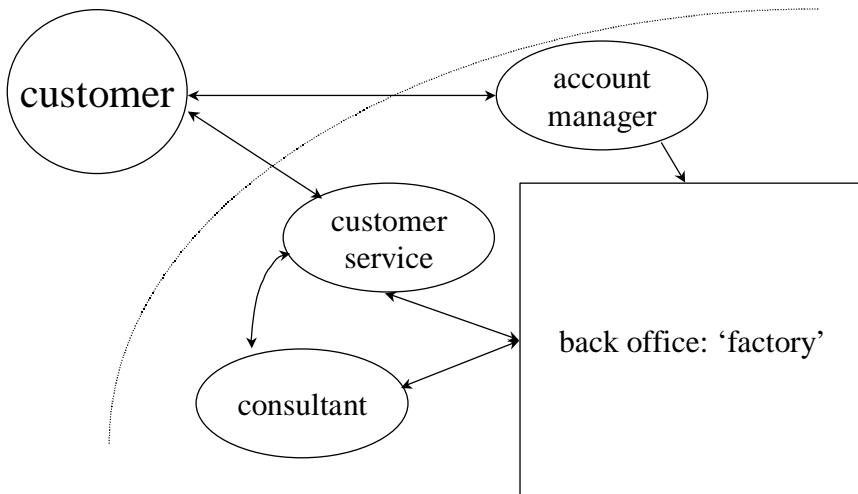
In our experience this model – and probably in common with the many models constructed by scientists – offers excellent guidelines for the change process, and can be understood by both managers and staff.

### **3. SERVING CUSTOMERS**

Compliance with the customers' needs involves more than just the formulation of explicit objectives for the organization. It will rapidly become apparent that structural attention to the customers will require the implementation of organizational changes. This is due to the need for facilities that provide for the following:

- the continual awareness of developments in customers' requirements
- products and services in compliance with the specifications
- compliance with delivery times
- the rapid resolution of problems
- settlement of complaints in a manner acceptable to the customers
- the provision of support to customers in their use of the information they receive

Structural attention to the maintenance of appropriate customer relations is not simply a side activity. Land administration organizations traditionally exhibit a strong focus on output in view of their concentration on the day-to-day maintenance of up-to-date administrative and geometric databases. The never-ending process of day-to-day data capture and data processing demands all their attention, and questions from customers are perceived as a disruption of the generation of the actual output. Productive employees are readily deployed in the everyday processing of changes, whilst less productive employees are assigned to contacts with customers. This means that an efficient and effective cooperation with customers cannot be achieved in an operational environment, as is also made clear by the following model.



**Model 2**

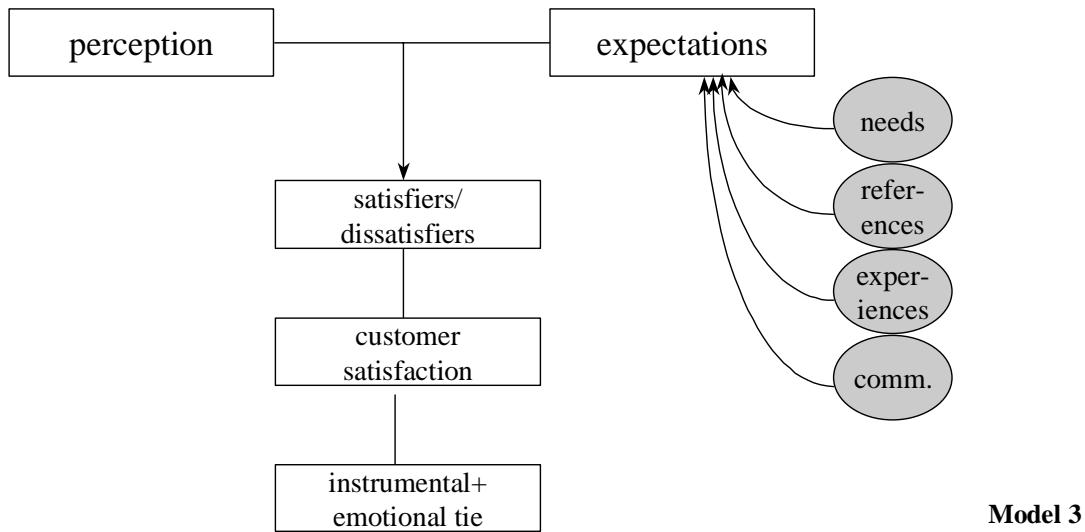
This pertains to the front-shop/factory model from marketing practice, which indicates that organizations wishing to adopt a serious approach to the maintenance of customer relations will need to subdivide their activities into a production section (the ‘factory’) and a market-oriented section (the ‘front-shop’). The factory staff will be able to concentrate in full on the day-to-day maintenance of up-to-date records, whilst the front-shop staff will be able to concentrate entirely on the supply of products and services, the maintenance of customer relations, the resolution of problems, and the settlement of complaints. A subdivision of this nature also results in the deployment of new categories of staff; employees in customer service, account managers, marketing managers, and consultants. From a management perspective it will be necessary – in analogy with the production division – to implement a planning and control cycle for the service side of the organization.

In other words, the acceptance of customer satisfaction as one of the strategic objectives of an organization has a major impact on both its structure and management processes. Some of our own experiences are reviewed in [Magis, 1999].

#### 4. CUSTOMER SATISFACTION

An analysis of the manner in which customer satisfaction is achieved leads to a further detailing of the guidelines for the reorganization.

A model from marketing psychology provides an explicit specification of the nature of customer satisfaction, and of the manner in which it can be achieved.



**Model 3**

The model indicates that the level of customer satisfaction is dependent on the extent to which the customers' experience with the products, services and assistance provided by the organization are in agreement with their expectations. The nature of these expectations is based on the customers' needs, the experiences of others in their surroundings, their earlier experiences, and the information they have received about the organization. For example, our organization deals with real-estate agents and property managers active in the fast-moving property market; they adopt the airs and status of fast-dealing businessmen, and they used to feel that the services they needed from our organization would never be supplied at the speed or the quality they expected. These professional groups expect extremely rapid services which are tailored precisely to their working procedures, an expectation that cannot readily be met. Moreover the influence on the customers' expectations exerted by the mutual exchange of unfavourable experiences is anything but conducive to their perception of the organization. Consequently the failure of an organization to communicate with its customers in an inappropriate manner (for example, by specifying delivery times that cannot be met) gives rise to a real threat of customer dissatisfaction with the organization. We have also had some unfavourable experiences with customer dissatisfaction, for example as a result of:

- the specification of delivery times that could not be met.
- the announcement of software solutions that were not implemented in time
- the publication of technical specifications we did not comply with

Consequently the model also makes reference to *dissatisfiers* and *satisfiers*, concepts which are of benefit to a comprehension of customer satisfaction. *Dissatisfiers* refer to those elements of the organization's service that need to be provided in the appropriate manner, but which when provided in the appropriate manner will not automatically result in customer satisfaction. Customers will regard compliance with delivery times as nothing more than self-

explanatory. Compliance with delivery times will not automatically result in customer satisfaction; however non-compliance *will* result in dissatisfaction. *Satisfiers* refer to those elements that result in customer satisfaction, but which when not provided do not automatically result in dissatisfaction. Customers will usually appreciate a regular newsletter; however its publication at less frequent intervals will not automatically result in dissatisfied customers.

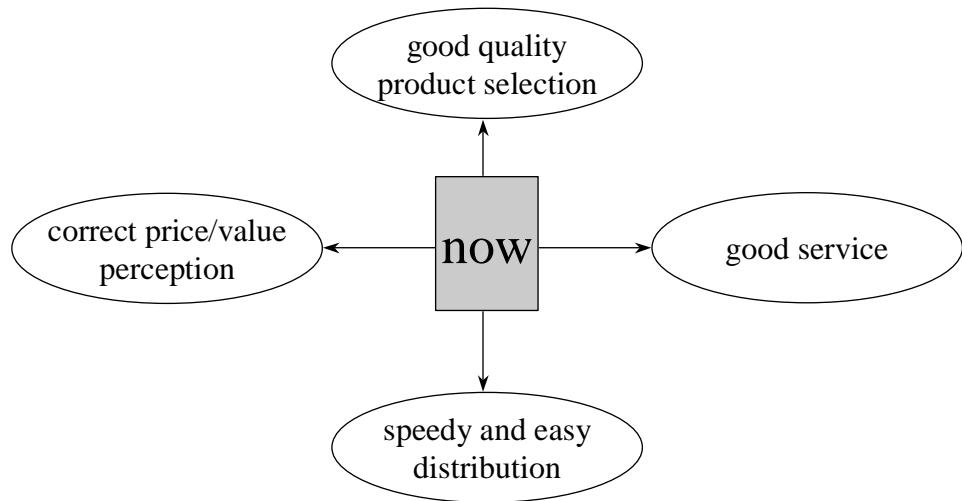
This brings us to communications with the market as a means of exerting an influence on customers' expectations. Quite a large number of land administration organizations either fail to communicate with their customers, or communicate with them to an inadequate extent. This is in fact a general characteristic of many countries' governments. In the absence of adequate communications customers are unable to assess what they may reasonably expect from the organization. 'Will new products and services be made available?', 'Are there any developments pertaining to ICT applications?', 'What is the delivery time?': the customers simply don't know. The model indicates that customer satisfaction is at great risk in the event of the failure to manage their expectations (see also [Steudler & Kaufmann, 2002]).

In our opinion the incorporation of a customer-orientation objective in the strategic plan automatically results in the need to improve the communications with the market. Moreover the relationship between land administration organizations with their governments also renders communications with politicians worthwhile, i.e. what is referred to as *public affairs*. For this reason our organization not only devotes structural attention to communications planning, but has also implemented a plan for the maintenance of its public affairs.

## 5. DEVELOPING PRODUCTS

Compliance with customers' wishes involves more than merely supplying products and services in accordance with the relevant technical specifications. Many land administration organizations are of the opinion that customer satisfaction will automatically result from the availability of sufficient funds for investments in new maps, improved accuracy, maps at a larger scale, new databases, etc. However nothing could be further from the truth, as is apparent from the inventory of customers' requirements listed in Section 1. It will be self-evident that modern products and services that comply with the technical specifications constitute one of the cornerstones for the appropriate performance of a land administration organization; however other factors are also involved, i.e. ready access to data, good service, and value for money. The extent to which the organization fulfils *all* these requirements is a measure of customer satisfaction. Even marvellous cadastral maps that are not delivered on time and which, moreover, are perceived by customers as being too expensive for their needs (their practical value) will not result in customer satisfaction. However marvellous cadastral maps that are delivered on time – and at a price commensurate with their practical value – *will* result in customer satisfaction. Consequently the sum of all these elements determines the degree of customer satisfaction.

This has consequences for the approach land administration organizations need to adopt towards their product development.



**Model 4**

From the model it is clear that, for example, the development of the supply of cadastral information using Internet technology involves four issues, i.e.:

- the technical development of the product
- the development of rapid and simple access to the product
- the preparation of the organization ready for the provision of good service (e.g. manuals and a helpdesk)
- a pricing that takes account both of the cost price and the practical value to the customer.

The management of the customers' expectations is of crucial importance to customer satisfaction: for example, the publication of a date of implementation that subsequently transpires to have been too ambitious will result in dissatisfied customers.

## 6. ACHIEVING COST RECOVERY

Government budgeting systems are based on annual plans for the expenditure and revenue of government agencies. These budgets, which are assigned a definitive status subsequent to approval from the country's parliament, pertain to:

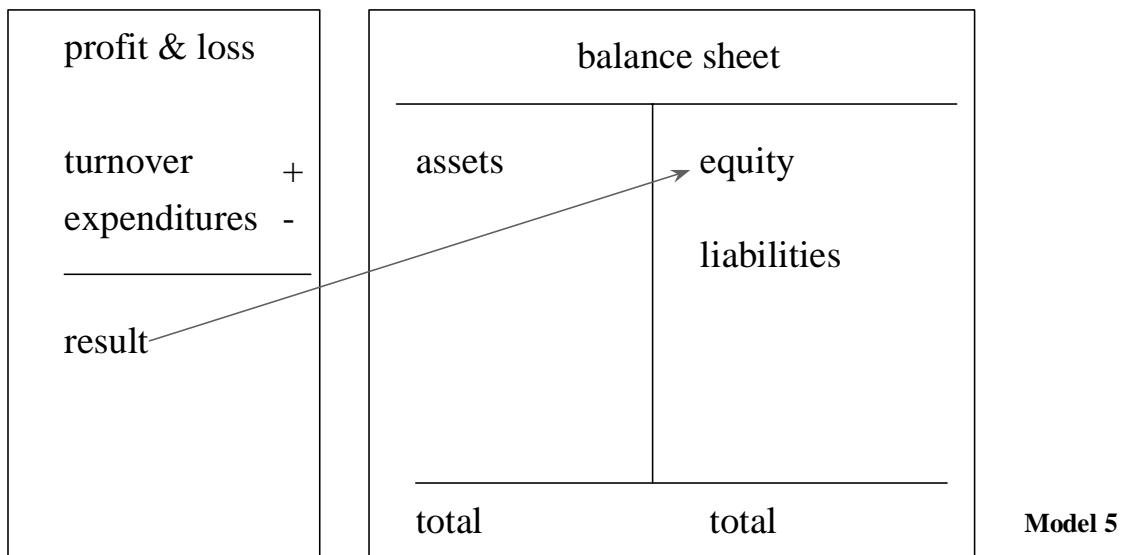
1. *the expenses incurred in a specific financial year for human resources and materials*
2. *the revenues from products and services in the same specific financial year.*

In essence the system is comprised of a cash administration system which provides a precise insight into the cash flow – i.e. without regard to the time at which the workforce and the resources are deployed, and without regard to the time of the delivery of products and services. The fixed budgets specify ceilings for the incoming and outgoing cash. Investments in, for example, computer hardware, instruments and other goods are booked to the relevant financial year; consequently they are not subjected to depreciation procedures. The 'cost recovery' concept cannot readily be deployed in this situation; in fact it can be interpreted

solely in terms of the budgeting system, as a result of which *cost recovery* should then be understood as the *recovery of expenditures*.

These conceptual problems could be avoided by offering land administration organizations an opportunity to transfer to a cost-benefit financial system as used in business.

We have in fact implemented a cost-benefit financial system at our organization, and land administration organizations in other countries are also exhibiting similar developments.



The cost-benefit approach is based on long-term financial management. Land administration organizations which are permitted to employ cost-benefit financial management have usually been privatized to some extent (i.e. transformed into an agency, independent public body, or government-owned company). It will be self-evident that the annual cash-flow budgets are of importance to the just-in-time availability of cash; however the cash-flow budget is regarded as an auxiliary budget that is derived from a carefully-considered planning of expenditure and revenue. Although investments (such as software and hardware, surveying equipment, vehicles) are funded from the cash-flow budget (in analogy with the government budgeting system) account is also taken of the reduction of the value of those investments during their useful life (in contrast to the government budgeting system) by the deployment of a depreciation method. This constitutes the first pillar of prime-cost determination. The second pillar is comprised of the maintenance of precise records of the utilization of human resources (the amount of time involved in the issue of a title, making a record of a deed, modifying the registers, updating the map) and other expenditure. As comprehensive as possible records should be kept of this 'other' expenditure (such as housekeeping, housing, travelling

expenses, training and schooling). The third pillar pertains to the maintenance of records of the quantities of products and services supplied by the organization. The fourth pillar entails the determination of the relationship between the costs and the products and services.

Consequently the prime cost is based on:

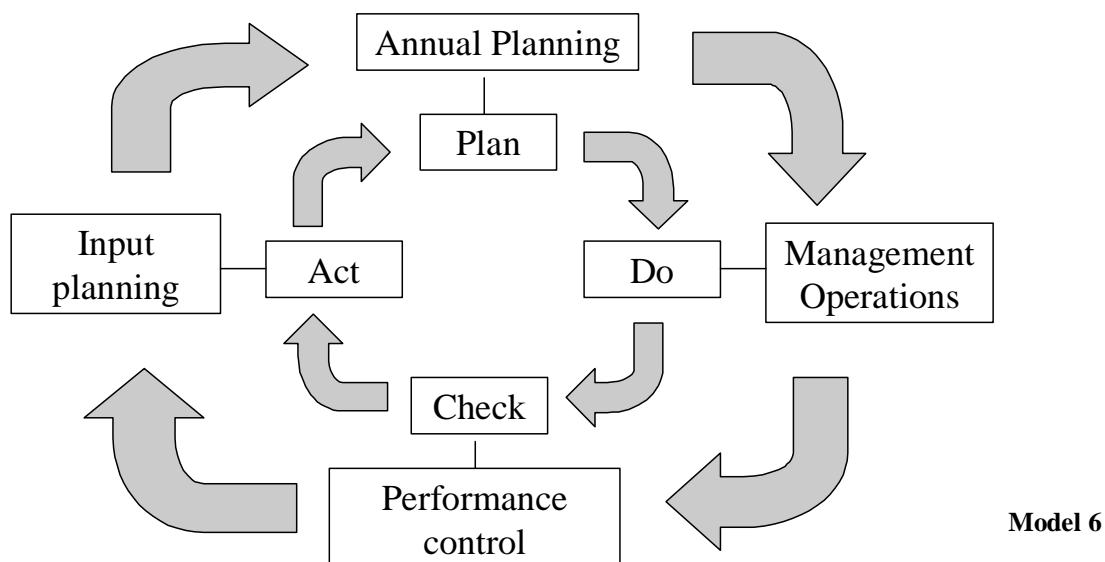
1. *the depreciation of the assets (investments)*
2. *records of the utilization of human resources, and of other expenditure*
3. *records of the products and services supplied by the organization*
4. *the relationship between 1, 2 and 3 in accordance with a fixed allocation model*

Information about the prime cost of the products and services will be a key element of the pricing policy. A simple approach is to set the prices at the level of the prime costs. Changes to the portfolio will exert an influence on the total costs – but also on the commensurate total revenues. In fact this is not a situation which can readily be achieved; prices will also need reflect market values, in turn resulting in a certain imbalance between movements in the costs and revenues. In contrast to the government budgeting system, forecasts can be drawn up for this imbalance by virtue of the ability to specify the resultant movements in prices. This indicates that the key issue for management is not the avoidance of budget overruns, but rather the avoidance of divergences in the prime costs. If the prices are not fixed at the level of the true costs then the ratio of the total costs/total revenues may not remain constant, i.e. they may not be independent of changing market conditions. In such situations it will then be necessary to employ another mechanism which is capable of accommodating the variations in the market in the manner required to provide for stable prices. One such mechanism suitable for this purpose involves the use of the profit and loss account and the balance sheet. The profit and loss account provides information about the expenditure and income in the relevant financial year. The income can also include a specific (or even fixed) allocation of government funds in situations in which the government is of the intention to maintain low prices. In contrast to the government budgeting system, reserves need to be included to account for the expenditure and income resulting from the delivery of products and services in the financial year following the year in which the work on those products and services was carried out (for example, making a record of a deed in the one year and issuing the title in the following year, or updating a cadastral map in the one year and effecting the legal subdivision in the following year). So as to provide for the stability of the cost prices it is also necessary to include forecasts for expenditure (on items such as land reform, cadastral reform and the re-engineering of systems) in financial provisions. The balance sheet, which contains specifications of the assets and liabilities, contains information about the reserves, provisions, and the financial impact of the work in progress. The flexibility required for the operations is provided by means of the equity; fluctuations of the equity between specific limits are permitted so as to accommodate the influence of changes in the portfolio on the figure for the equity in the profit and loss account. Prices may remain unchanged provided that the equity remains within the agreed range; however they must be adjusted once the equity transgresses the agreed limits.

Consequently ‘cost recovery’ should be understood the maintenance of the equity as specified in the balance sheet within a certain range, irrespective of any developments of relevance to the equity in the market (see also [Van der Molen, 2001]).

## 7. QUALITY ASSURANCE

The accommodation of the customers' requirements also implies that the organization will need to implement measures to ensure for compliance with the specifications – i.e. non-technical specifications, such as delivery times, correct invoices, correct addresses, and the appropriate resolution or settlement of problems and objections. Compliance with these specifications cannot be left to chance. This means that it will be necessary to implement guarantees for the quality based on quality assurance systems. Land administration organizations have a great deal of experience with systems of this nature, especially with respect to geometry. Systems of this nature in turn lead to the need for the management and staff to devote attention to quality, preferably within a system which has been granted the requisite certification.



This model clearly indicates that the traditional mechanisms for planning and control need to be expanded to include a variety of additional quality parameters. In analogy with the manner in which traditional management reports devote attention to the utilization of the budgets, the size of the workforce and absenteeism rates, it will also be necessary to report on quantifiable quality issues. Consequently quality issues are incorporated in the standard management-reporting cycle. [UN/ECE/WPLA, 1996] contains an excellent summary of the current situation in Québec, Greece, England & Wales, the Netherlands, Lithuania, Latvia, Poland, and Switzerland – and it certainly lists encouraging information! Our organization was awarded ISO certification last year. The challenge now confronting us is to retain our certification, a task which is anything but easy.

## 8. CONCLUSIONS

This article endeavours to explain the need to subject the incorporation of objectives pertaining to a customer orientation and cost recovery in the strategic plans of land administration organizations to careful consideration; these are certainly not decisions that should be made in a light-hearted manner. It would all appear to be so simple. However the need for fundamental and far-reaching changes becomes manifest once customers seriously come to expect that they will be assisted in the manner specified by their land administration organization – and the government has indicated its wish for the implementation of cost recovery. However the use of a number of simple models that have proven themselves to be of great value in practice will provide for the appropriate management of the process.

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## BIOGRAPHICAL NOTES

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