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Who is Managing the Business Information?

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This article examines the work of the information manager. To that end the various areas in the Amsterdam Information Management Model - the enneahedron - will be used to give a multi-faceted view of the field of activity of the information manager. According to our line of reasoning, the core of the enneahedron represents the viewpoint of the information manager, based on which eight different aspects of information management will be considered. Each of these eight aspects will be described and typified briefly and concisely. Then we will outline three examples of working situations derived from practice. From this, it appears that the eight aspects distinguished in these situations correspond to the areas of interest of information management. Thus, it will be clear that the enneahedron can be used as a pattern-card of activities for information management and can give a faithful picture of the activities of information managers. The level at which information management gets attention in an organisation naturally colours the nature of the various activities. We would suggest that, for answering the title question, it does not matter whether we consider the field of operations of the information manager or that of his boss, the CIO. The difference is one of responsibilities. It is unthinkable that in an information-intensive organisation, the CIO is not responsible for ICT operations but it is possible that he has no executive (management) role in this. Therefore, together with the principles of responsibility, authority and delegation, the enneahedron gives a good picture of the various areas of interest of information managers, whether this concerns the CIO or one of 'his' team. Neither do any essentially new elements arise here. The advantage of the enneahedron approach lies in the cohesion that the different areas of operation apparently have.

Keywords: information management, organization concepts, management roles

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Who is managing the business information?

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1. Introduction and justification

1.1 The field of activity of the information manager

Certainly in larger, information-intensive organisations, information management lies at various levels. For example, how systems are administrated, how databases are kept consistent, how developments are guided along the right path and how the information needs of the organisation are translated into applicable systems may all be arranged at departmental or unit level. But there will also be attention paid to questions of information provision at Board level; this responsibility is frequently assigned to a CIO - Chief Information Officer - who has final responsibility for such things as the application portfolio and the technical facilities and is additionally responsible for the information policy and for updating the technology.

It is clear that information is increasingly important in almost all parts of an organisation. However, this omnipresence of information in the organisation does not mean that, at the highest level, the CIO will take charge of almost the entire information organisation. It does, however, mean that the information aspect plays various roles and that assigning the various responsibilities is therefore a major organisational problem. Where so many processes are information-intensive and therefore take place to some extent in the field of information management, defining the field of activity of information managers is an interesting question. To be able to do this, there must be a clear picture of the nature of the activities that have to be conducted in information management.

The field of activity and the individual activities of the information manager at all levels in the organisation are the subject of this paper. First of all, we shall consider the field of activity as an inseparable aspect of the organisation's activities and also of its products and services. To do this, we will use the Amsterdam Information Management (AIM) model and we shall also include the

practical experiences of information managers. We shall analyse and interpret various practical situations using this AIM model in narrative form.

1.2 The structure of the article

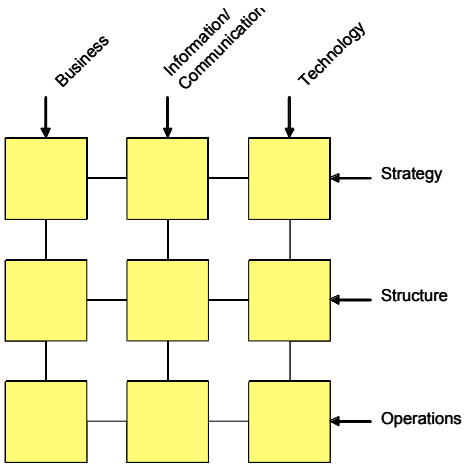
We should like to demonstrate that the AIM model can be used to clearly identify and describe the various activities of information managers. Following a brief explanation of the AIM enneahedron (in §2), there will be a taxonomy of activities. Using a number of cases (in §4) the main features of this taxonomy will be tested and commented upon. To a certain extent this taxonomy is biased by the organisational form and we elaborate on this in §5. Finally, we shall indicate (in §6) some of the consequences that this approach has for information management and a few concluding remarks will be made (in §7).

2. The Amsterdam Information Management Model

In information-intensive organisations, information management is an important job. Formal and informal applications have to be equal to their tasks and for this the computer and network facilities must be robust and adequate. So an information manager must have a good view of both applications and technology. But also in the case of changes, it must be possible to have a clear, faithful picture of information management issues. For this, a framework has been developed that is several times more detailed than the frequently cited model for 'strategic alignment' (Henderson, 1993; Ciborra, 1998; Ciborra 2003).

This information management framework consists of three columns (activity or 'business', information & communication, and technology) through which information problems can be considered, and three rows (strategy, structure and operations) that enable a more finely tuned positioning of organisation problems (Abcouwer, 1997; Maes, 1999). The combination of these two dimensions leads to the enneahedron that can function as a generic framework for examining information management.

Information management plays a double role in information-intensive companies: business changes have to be supported by applying information and communication technology but they can also be initiated using the same technology. Information management supports and catalyses at the same time. Falling behind in a technological sense fossilises information provision and probably postpones painful cleanup operations even further. Falling behind in a business sense is not an option. The LAT[1] relationship between business activity and technology requires well-considered actions.



The aim of developing the generic information management model is not to provide a 'better' framework for advisors' and managers' checklists. It mostly concerns the distinction between the various strategic, structural and operational problems faced by information managers, and the distinction in technology, the significance of this technology and its application. And it is now exactly those categories added to Henderson and Venkatraman's tetrahedron - the IC column and the structure row - that play a central role in the influencing process mentioned.

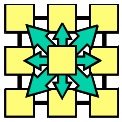
The four vertices of the enneahedron can be influenced by an information manager only to a limited extent. The topmost vertices of the information management enneahedron fall outside the

[1] LAT, acronym for Living Apart Together.

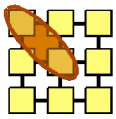
information manager's sphere of influence: it's not what he's about! It is true that the bottom (operational) vertices can be influenced but demands for continuity apply there that limit changeability. On the other hand, stimuli for change in information provision will certainly come from the four vertices! After all, strategy and new technology provide new challenges and system and process updates represent just as many stimuli for changes in the way in which information and communication are deployed in the organisation - the middle column - and for structural modifications to provisions - the middle row.

3. The AIM model and 'its' model manager

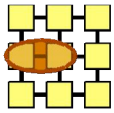
The Amsterdam Information Management model displays the information management aspect from a business perspective while other aspects, such as HRM or financial management could also be particularised in this way. Each of the two dimensions of business and information bring sub-areas with them which will be the subject of management. The business axis in the enneahedron distinguishes between strategy, structure and operations and the management disciplines involved are therefore strategic management, structural management or organisational and automation management, and operational management. In the information aspect domain, the axis in the enneahedron is divided into business management, information management and technology management (Brandt, 1991). The information management model is the basis for describing aspects of the work of information managers.



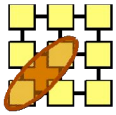
The enneahedron spanned by these two axes can now serve for investigating the fields of activity of a 'model manager' in more detail. We have postulated that the heart of the enneahedron represents the viewpoint of the INFORMATION MANAGER as it is the locus of the functional ICT support of the business, which is covered by the information architecture. We have opted to typify the other fields of activity as roles and we give them characteristic names that could be used more or less as a sort of archetype.



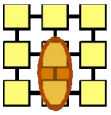
The ICT PARTNER IN STRATEGY is a member of the management team with business responsibilities. Through his ICT profession, he discovers strategic opportunities in his field of activity, investigates strategic observations as to their ICT implications and assesses the opportunities and risks of large, long-term programmes.



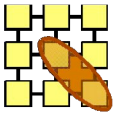
The ALIGNMENT MANAGER is responsible for ensuring that business activities run in accordance with the organisation's structure. But he is also co-responsible for this structure, certainly in the case of information-intensive organisations that simply cannot function without ICT (Winterink, 2003). After all, alignment (aligning business and information facilities) does not call for a unilateral approach and this concerns not only information management's assignment but also the possibilities offered by the technical facilities and their 'tuning'. The alignment role of the information manager is probably the final justification of his position.



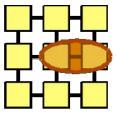
The BUSINESS PARTNER has an eye for the processes and process-management in the organisation. He is an active participant who is actively involved in process design and supplies applications that improve processes and insight into this, and which also help to implement non-primary activities more effectively.



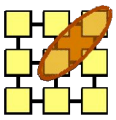
USER AMBASSADOR is certainly not an honorary position. He has to pay full attention to the actual use of the facilities for which he is responsible. What is the status of the actual use of business applications, of desktop facilities, of the intranet, or Internet at the workstation? What projects are in progress and what is the level of satisfaction regarding team-support software? Are the facilities for knowledge sharing functioning adequately and are they being used effectively or are there signs of 'lazy' use? Obvious support facilities such as helpdesks must work faultlessly and generate stimuli for improving the service but, also for less obvious issues such as the progress of outsourced services, SLA conformity must be continuously monitored. This ambassador has a lot of responsibility.



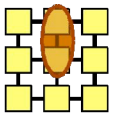
The APPLICATION MANAGER is not someone in grey overalls but a manager who administers tens if not hundreds of applications and is therefore responsible for the daily operation of all ICT resources used in the organisation and on which it depends. His main responsibility is to ensure that the executive organisation has a solid safety net for everyday problems and is capable of performing its tasks.



The ICT FACILITIES MANAGER is an important man in an information-intensive organisation! (Truijens, 2003) He is concerned with ensuring that the technical facilities constitute a reliable whole, that configurations and networks are structured orderly and adequately, that the application/database structures are reliable and stable and that the relationships in the application portfolio are suitable and manageable. He must also ensure that the networking facilities and those for personal computer use are supplied with the right technology and the right software package, and that these facilities (can) work together with those of business software. In short, he is concerned with the structure and interpretation of the technical facilities, from the computer centre to the workstation and from ERP to desktop facilities.



The ICT TRENDWATCHER is the manager who keeps up to date with technical developments and new trends associated with these. He is concerned with new technology, new forms of deploying technology and new methods of construction, but also with trends such as 'off-shoring'.



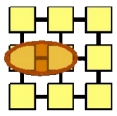
The INFORMATION POLICY MAKER is a heavyweight in information management who outlines and implements policy regarding the ‘information household’ (Gels, 1996). He is not just concerned with preferred technology or supplier policy or with the information component in the strategy but also with the place of information provision in the organisation, supporting operational processes, the extent to which co-ordination problems are tackled and the way in which this takes place. He is also concerned with the basic principles of support for permanent and ad hoc joint ventures and the degree of freedom in the personal use of ICT resources and the way in which this is interpreted. Moreover, policy concerning 'sourcing' will comprise guidelines both with regard to personnel and more technical areas.

So we have distinguished eight information management roles and have described the activities involved more or less in accordance with the aspects identified in the Amsterdam Information Management Model. In the following section, these roles will be tested against practical situations.

4. The information manager and the nature of his activities

In describing three practical situations, a narrative style has been used to make clear that the various areas under attention actually give a reasonable view of the activities and responsibilities of an information manager. Prior to this, it should be said that in these 'short stories' the leitmotiv is information management and common management responsibilities (such as HRM or Finance) do not receive any special attention.

4.1 A pharmaceutical wholesale company[2]



SITUATION

A pharmaceutical wholesale company that has to process tens of thousands of order lines a day has a few systems with obsolete components for order processing, warehouse support and transport. Orders from pharmacists and chemists have to be tested quickly as to whether the products are 'in stock' or 'can be supplied within the desired time', the warehouse has to be provided with packing lists in order to make orders ready, the order-picking installations have to be directed and transport must be arranged, including loading and route planning so that the orders can be delivered within the agreed time. The organisation recognises the fact that this is impossible without applying modern ICT.

[2] Summary of interviews with drs. Erwin van Vroenhoven RA RE, IT & Logistics Manager of Interpharmgroep BV, in 2000.

Integrating the various systems has been done 'in house' over the years but this is, of course, not an unshakeable principle in the case of replacing the 'home made' system.

The wholesaler's Logistics Manager is responsible for IS and ICT and the personnel involved in this: roughly twenty-five ICT specialists and ten part-time employees for order processing. Because of his 'logistics hat', he is also responsible for a dozen warehouse employees and a few drivers. 'His' machinery consists of a few larger computer systems, PCs, all sorts of automated warehouse systems and delivery vans. System update is an essential part of his job package.

APPROACH

Various basic principles were formulated in search of sensible updating of systems in the logistics chain, partly derived from the business objectives:

- Every health risk must be eliminated,
- Excellent service to their 'own' and other chemists and good information supplied to chemists and their customers,
- Speed of delivery and punctuality are the most important competitive weapons.

The quality requirements are largely determined by the performance of automated equipment so large demands are put on information quality and system availability.

Various ERP-like packages have been considered, not just the 'well-known brands' but also newcomers that stand out in terms of order acceptation and processing or in warehouse management and transport planning. A complicating factor is that various ERP packages score highly on *different* cardinal points. Moreover, some candidate packages function very well but are recent developments and therefore have no proven track record.

The policy problem is now whether the company itself will take on the role of 'system integrator' and will tackle compatibility problems between packages of different origin or whether it will opt for one package (supplier) and satisfy itself with less functionality. In addition to this, freedom of platform choice, scalability and availability also play a significant role, of course.

An internal working group under the leadership of the Information Manager/Logistics Manager opts for two different systems that consult 'each other's data' and also decides in favour of a double configuration based on considerations of availability. The new, promising, but less well-known supplier collaborates on a pilot scheme to acquire experience prior to implementation and to resolve structural problems together. In the meantime, the existing software is frozen and preparations are made for conversion.
A great deal of time is set aside for the instruction and training of the users immediately involved. A number of processes will have to be changed (to a limited degree) and all sorts of end-user functions will also change. But the most important change - the look and feel of the system - also takes some getting used to.
For this reason, that part of the update is implemented and 'tuned' earlier.

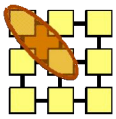
Finally, the implementation and linking of the two chosen packages and the double computer configuration is realised within the set time and completely with the company's own personnel. Perhaps that is the greatest achievement - not entirely accidentally because the information manager himself has a background as a consultant and has directed a lot of ERP implementations in detail already.
In summarised form, the following applies:

- From a strategic analysis, it was clear that operational management could not progress without ICT (the strategic perspective);
- An analysis of the technical possibilities was started which led to the chosen architecture (the architecture perspective);

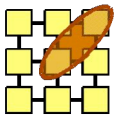
- Because of the need for permanent availability, a lot of attention was devoted to the operational functioning of the facilities (the operational excellence perspective);
- In which fitting this into the organisation through the close interweaving of ICT and operational management was a central issue (the organisational perspective).

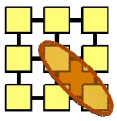
4.2 An internet company for financial services[3]

SITUATION

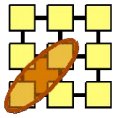


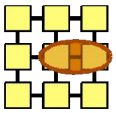
A financial institution with an extensive branch network is also one of the first Internet banks in the Netherlands. Because of this early start and the favourable possibilities of transaction functionality for payment traffic and share management, a large group of clients went online. An office network is expensive and the added value cannot be derived from common-or-garden products provided by every bank. In addition these products are constantly subject to price pressure. It is obvious that the services of the office network will be upgraded: for high-value advice, there are still plenty of experts close to home but for 'commodity' products, other channels will be preferable. For this reason, telephony and the Internet are becoming very important, not just for transaction processing but also for standard advice and sales. The popularity of the Internet is regarded as a major asset and it is thought that the flow of visitors can shortly be approached commercially via the Internet. The question is how this second wave should be directed and implemented.



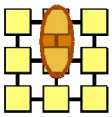


The dialectics of progress has also left its mark. The software of the internet site needs to be renewed. At the time of the Internet start-up, a lot of this had to be developed in-house, the available, older telebanking software (for dial-up systems) was used for reasons of speed and a decision was made to use limited external security software. However, over time, the maintenance susceptibility of all of this increased and that therefore applies also to the exploitation costs. Now there are many more corporate units that want to be visible and offer their services on the internet and there are also many frameworks available, both from well-known suppliers and open source. There are also standard packages for content management, security, page distribution, etc. What it boils down to is that the software has to be cleaned up and perhaps that components have to be replaced by packages. In addition to this, the software must be expanded so that the site can feature more commercial activities.

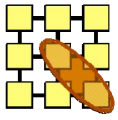




APPROACH



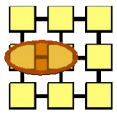
A working group of own personnel, including the information manager of the Internet domain, and external experts arrive at a new software architecture that re-divides the institution's Internet domain into different sites, defines overall domain standards, redesigns page production and distribution, and selects products for content management and security (Fielding, 2000). In addition to this, the working group came up with new choices for the deployable platforms and the middleware to be used.



The management processes applying to the existing sites in the institution's Internet domain will be redesigned. System management will be centralised to guarantee availability but also to implement those components and agreements that go beyond the site and to subject them to change management - for example, navigation, the design of pop-ups and commercial banners. Helpdesks and call centres will be centralised and relationships will be standardised according to fulfilment (for processing offer requests, sending product brochures and settling consultancy agreements with specific offices). Deploying content management requires setting up an authoring and editing function and means centralisation of final editing.
The actual use of the Internet functions will be monitored with a (purchased) statistics package to any required level of detail. This will not only make it possible to round off the sales chain by

[3] Based on a recent project by one of the authors regarding the restructuring and redesign of the biggest European financial services site, that has led up to 50% cost cutting, including a mirror site, optimal scalability and support of all relevant internet standards.

measuring the immediate response to offers but also to accumulate experience regarding the way of informing and the popularity of certain sources and types of information. In addition to this, 'user panels' will be maintained and the 'usability lab' will be deployed in the case of major changes.



The organisation of the Internet domain and of the more product-orientated sites within can no longer merely be structured along the lines of the present product-market units. An 'Internet board' will be set up to weigh up and decide on issues that transcend products and services (such as security), and to fine-tune interventions at domain level and establish development priorities. The concentration of change management mentioned earlier will also become the responsibility of the board.

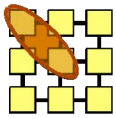
Updating the Internet channel has been approached from various perspectives:

- Organisational aspects have been identified and tackled,
- Architecture has been examined extensively from both an applicational and technical viewpoint,
- Operational aspects in the field of management, availability and security are cornerstones of the new structure, and
- Strategic aspects have been worked out and placed in a broader framework.

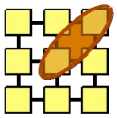
In short, updating the present Internet sites is primarily a technical intervention to increase stability and availability and to lower the costs of management and exploitation. But the intended update also represents a development that other financial service providers also go through: from transaction site to virtual office.

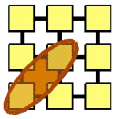
4.3 A large municipality in the Netherlands[4]

SITUATION

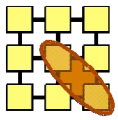


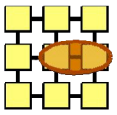
The College of Mayor and Aldermen of our example municipality has taken the strategic decision that the municipality will have to act in a more customer-oriented manner. In a brainstorming session, a group of involved parties has developed scenarios as to how citizens, as customers of the municipality, could be advised, informed and helped. From the various scenarios, it emerged that the citizens' interaction with the municipality will increasingly take place via the Internet. Various scenarios therefore anticipated the creation of new functions on the municipality's website - apparently the Internet was becoming a strategic medium.





One of the proposals that emerged from the brainstorming session meant only a small addition to the website: citizens would be enabled to use their postal code to find out what activities the municipality had planned for their street. It was expected that this facility would prevent a lot of telephone calls of the "When will the street be swept?", "When will the dustman come round?" or "When will the pavement be weeded?" type. There would be many benefits. The only thing remaining was the realisation.

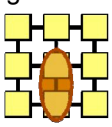




It seemed simple. All departments use their own planning systems but the basic information is already so standardised that it did not seem complicated to gather the desired data together and display it on the website in an understandable way. The architecture is simple, the systems are accessible and the data available, so it should be easy to build a new user view.

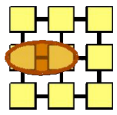
APPROACH

However, reality appeared to be more unwieldy than theory. After the proposal had been presented within the organisation it rapidly appeared that the separate departments were reluctant to display 'their' information in this way. For example, the refuse department declared its unwillingness to make information available. It was claimed that they had no desire to be called even more often by housewives wanting to know what had happened to the dustman in the case of a minimal adjustment to the schedule because it said on the website that he would come at nine thirty. And the street-cleaning department also had some objections because graffiti "artists" would now know when they were safe to spray walls to maximum effect

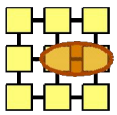


[4] Based on discussions with Bert Mulder, then ICT advisor to the Dutch Prliament, Mark Voogd, information manager for the Municipality of Dordrecht and Matt Kimball, Enterprise Portal Manager of the State Technology Office in Tallahassee, Florida.

because the street concerned had just be cleaned and would not be cleaned again in the month to come.

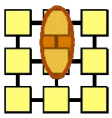


To put it briefly, a major part of the departments concerned refused to co-operate with the initiative for good reasons. There was apprehension that citizens would get too much insight into the activities of public departments. The opinion was expressed that it was better to keep 'the dirty linen' inside and it was said that the various systems were not sufficiently geared to each other in terms of functionality or could not support this method of information provision. The arguments became so heated that there were even threats to no longer use the basic systems with which this functionality would have to be realised. Apparently, there was a feeling that the intended benefits of this new public function would not balance the disadvantages irrevocably linked to making this sort of information public.



After this conflict of views had come to light, the information manager was asked how this proposal could be interpreted in such a way as to satisfy the reasonable wish to inform the citizens more effectively without bringing about the detrimental effects identified by the departments. He came to four conclusions.

1. The information systems used by the municipality are built to support the civil servants. Apparently, this means that they are not automatically suitable for making information available to citizens.
2. Integrating municipal information provision into one technical architecture does not automatically mean that organisational harmony has also been achieved. Concluding that there is an integrated architecture on the grounds of technical agreements amounts to ignoring the organisational architecture.
3. Allowing citizens access to the same information as is used for operational purposes has negative effects on operational excellence! After all, it is no longer possible to plan adequately and react quickly to incidents because, by making the information available, undertakings have been given that must be honoured: "you're cutting your own throat."
4. When information provision to citizens creates expectations that the organisation cannot satisfy operationally, the desired customer focus is damaged rather than served.



The proposal that seemed to have the attractiveness of a 'quick win' was apparently not well considered:

- The organisational perspective was incorrect (1),
- The architecture perspective was correct technically but not organisationally (2),
- The operational perspective was totally inadequate (3), and
- The strategic perspective appeared to be almost antithetical to the original principle (4).

As a result of these conclusions it was decided to abandon the intended expansion of the website for the time being. First an analysis will have to be made as to how an 'external' selection of operational data can be made based on the available 'internal' data. It is not expected that this can be achieved in the short term.

4.4 The three cases and the enneahedron

The role-logo's in the cases show that the information management roles are covering the various activities and responsibilities of information managers rather well. Apparently our AIM model is giving better insight in the complex job of information managers. Therefore it is plausible that the enneahedron can be used to differentiate the activities and responsibilities in an orderly way.

The precision of the description of activities and responsibilities can be enlarged if the type of organisation is taken into account. This is done in the next paragraph.

5. Organisational conceptions

5.1 A typology of organisations

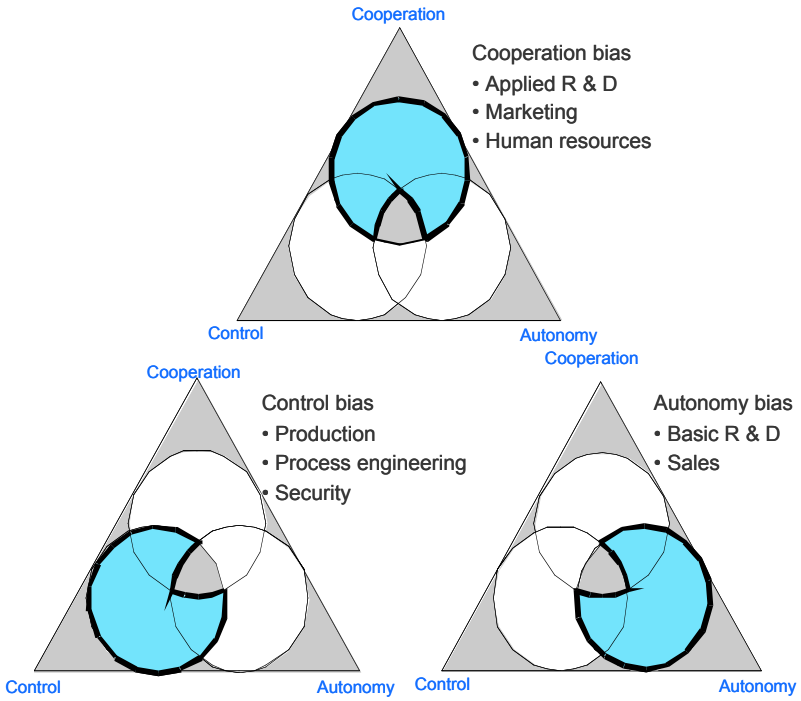
We will use an approach that is based on the principles of political philosophy (Gels, 1996; de Geus, 1989; Vroom, 1992; Keidel, 1995). This approach offers, in our opinion, a good foothold for our argument. We describe these types of management briefly and indicate a number of inherent weaknesses.

(1) If authority and control are the dominant forces in the practiced style of management in an organization or department, the staff will be inclined to act in a way that will bring about a reduction in uncertainty and instability. When changes occur, and by motivation of behaviour, the relatively safe and formal path of rationalisation will be given preference. This preference is also valid for the technocratic conception of reality, in which organisations and people are seen as useful instruments that must satisfy performance and efficiency criteria and are directed within a system of well-defined tasks and duties.
In an organisation that is arranged along these lines we can often speak of a restricted, or threatened individual freedom, and of rigidity and the threat of unmanageability.
RATIONALISATION is the control mechanism in this situation. Hierarchy is the most common organisation structure used together with this control mechanism.
Keywords: ***Control***, authority, rationalization, and directive.

(2) If, within the practiced style of management the consultation culture is dominant, then behaviour will be primarily directed at integration of changes and relationships. Security and stability will be sought in the attainment and maintenance of community. Creation and maintenance of good forms of consultation then also enjoy much attention. Personal contact and group consciousness play an important role. In (networks of) consultation group's decisions are prepared within a framework of guideline and responsibility is shared.
On the one hand the organisation derives certain mobility and flexibility from the framework of consultation and margins, on the other hand decision making can be slow. It is often difficult to know whether one can speak of pseudo-participation or of a situation which displays characteristics of collective compulsion.
In this situation we can characterise the control mechanism as INTEGRATION. Democracy and federalism are the traditional organisation structures used together with this control mechanism.
Keywords: ***Cooperation***, consultation and integration guideline.

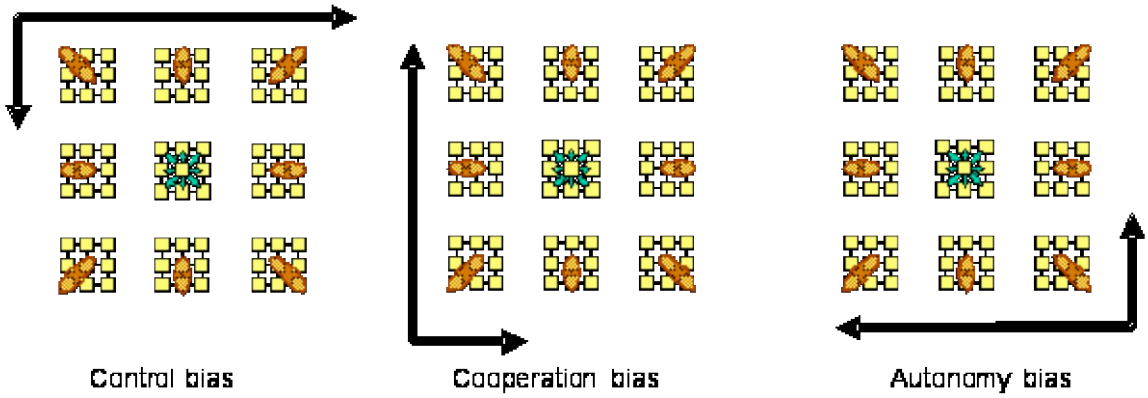
(3) If autonomy is the dominant management principle right down to the lowest levels, there will be a high degree of freedom in dealing with and incorporating changes. Security and stability are derived from professionalism and specialisation. Continuity is only assured by deployment and, therefore, the maintenance of a high level of development. Self-management and independence are then of great importance. Free access to sources of knowledge, the opportunity to gain more experience and the perfection of skills are essential.
Characteristic of a situation in which freedom is carried through to the lowest levels of the organization are vulnerability in a hostile environment and the danger of insufficient capacity for coordination and adjustment.
This situation can be characterised as a LIBERTARIAN control mechanism.
Keywords: ***Autonomy***, independence, deployment and advice.

Both Vroom and Keidel emphasize that the distinguished organization types do not exist in the pure form. It is an important management issue to find the right balance between these three organisation archetypes. But one can identify a certain bias in each type. In figure x a graphical representation of these three biases is given.



5.2 The three cases and the organisation typology

Looking at the three cases we may conclude that different biases are present. The pharmaceutical wholesale company had a control bias because the company focuses mainly on warehousing and operational excellence. The internet company for financial services originated from a company with local branches workimg in limited autonomy: here is cooperation the main issue. Looking at the company a cooperation bias may be discerned. In the case of the large municipality in the Netherlands an autonomy bias can be recognized because the different departments are acting on their own. These biases and the impact on the emphasis on the different information management roles are indicated in the figure below.



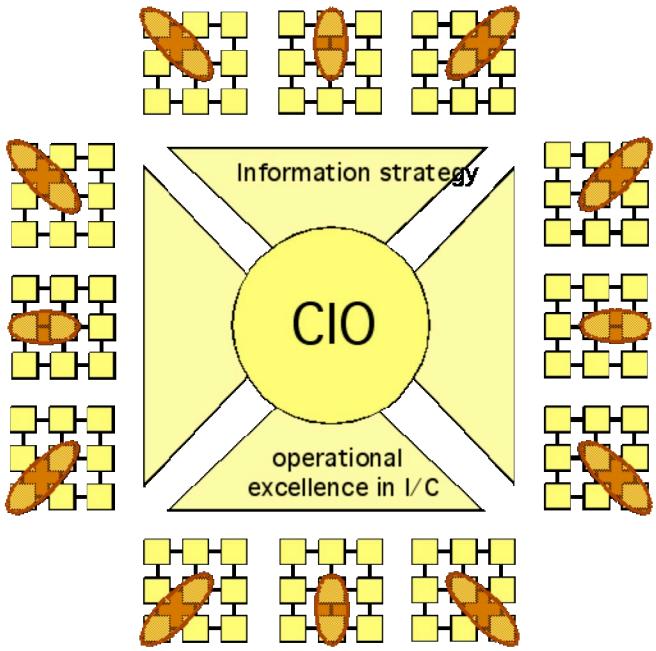
6. Consequences for information managament

6.1 Areas of interest for the information manager and CIO

The preceding cases show how important information management has become in many organisations and what roles the information manager and CIO actually fulfil. The cases also show

what perspectives (or areas of interest) are particularly significant. On the basis of the cases and the enneahedron, we can identify four of these:

- Information strategy,
- Organisation,
- I/C operational excellence and
- Architecture.



Here follows a brief description.

Information strategy

Two aspects come together in information strategy: business strategy and the strategic opportunities that technology can make available.

The information manager must have a view of the strategic direction chosen by the organisation (the business innovator role). After all, this direction serves as the compass by which the organisation steers. In this respect, based on his vision of the strategic possibilities of ICT, the information manager has a role in supplying information and advice about possible modifications and enrichment with regard to the organisation's strategy. For this, he must keep an eye on the modern trends in the development of technology (the trendwatcher role). With respect to the technology domain, he fulfils the role of clarifying the business strategy and, based on his knowledge of this, ensures that the technology domain has sufficient flexibility to be able to take advantage of future developments in the business domain.

Strategic choices with regard to the ICT domain must always focus on supporting the realisation of business objectives (the information policy-maker role).

Organisation

With regard to the organisation interest area, the information manager has a limited yet important role. After all, the importance of information as a production factor is still increasing. For this reason, the information manager must have insight into the organisation. He must be familiar with the strategic principles chosen in the organisation (the business innovator role) and he must know the structure of the organisation. This concerns both the structure of the line organisation and the way in which support departments are designed within the organisation (the business partner role).

A crucial factor in this respect is also the way in which responsibilities are conferred in the organisation. For example, is there a rigid hierarchical division of responsibilities or is the

organisation more focussed on co-operative working or even autonomy of the workers concerned? Each of the various approaches sets its own requirements in terms of quality and flexibility and thus on the structure of information provision and the interrelation of this with the organisation (the alignment manager role).

Architecture

Architecture questions are crucial for the information manager. They can be influenced from two sides.

At the strategic level, a major role is played by the vision regarding ICT updates and ICT developments and the extent to which the organisation leads or follows (the trendwatcher role). Requirements for the structure of information provision are also set on the basis of knowledge of the common objectives of the organisation - among other things, the necessary flexibility in information provision can be achieved by designing a well facilitated information infrastructure (the ICT facilities manager).

In addition to this, information provision must be efficient and it must be possible to give availability guarantees (the application manager). In this, capacity questions - also with a view to the future - play a major role. Usually, these requirements can be realised only if standardisation and market conformity are used as the leading design principles.

Operational excellence in I/C

Information provision focuses on supporting the organisation to achieve its objectives. The quality and availability of this support is closely related to the way in which the organisation's design choices are made and what the information manager must monitor (the business partner role). Finally, the business functions and processes must be supported flexibly and efficiently, which puts great demands on the quality of information provision (the user-support role). The extent to which the operational excellence of information provision is achieved is shown by the durability of the processes, systems and platforms and the continuity of the service provided by information provision (the application manager role).

6.2 The information manager as linking pin

The field of activity in which the information manager has to work is characterised by the four areas of interest identified above. Integrating these four areas into a cohesive and consistent approach requires a lot of attention. This integration is mainly achieved via the structure row and the information & communication column.

The structure row requires the information manager to balance the information architecture. The organisation structure derives from the prevailing line and support organisation in which the various organisation concepts are the determining factor. The component parts of the organisation must be able to function and co-operate optimally and information provision must be developed in association with this, both with regard to business functionality and the internal consistency of the application portfolio. But there is also reciprocity: on the one hand, information provision must be geared to the needs of the organisation while, on the other hand, information provision provides opportunities for the organisation, and a decision will have to be made as to how to use this.

But choices also have to be made in the area of realising information provision, such as about the approach to system acquisition and methods of system development if a decision is made to develop in house. Many of the choices concern standardisation and uniformity:

- Standardisation with regard to architectural elements such as the systems, databases, application environments, network technologies and middleware used;
- Uniformity in the field of service and change processes, release schedules and the implementation processes as carried out by implementation teams.

Integration is also expressed via the information & communication column. Based on the strategic choices made with regard to the deployment of ICT in the organisation, information and communication processes can be defined that can provide the organisation with optimum support. An important basic principle in this respect is the aim of achieving cohesion between the various processes in order to enable optimum co-operation. After all, these information and communication processes express the organisation's competences.

The operational side of the enneahedron also shows the balance in information management. To a certain extent, the organisation's competences determine the amount of room available for strategic decision-making. It is up to the information manager to formulate suitable strategic options for management based on the operational excellence competences.

Within the information & communication column, a balance can be found between steering the organisation and it's ICT on the one hand, and thinking on the basis of the organisation's available capabilities and the existing information provision on the other. By designing integration of the identified areas of interest on the basis of the centre face of the enneahedron, it is possible to handle the deployment of modern ICT in the organisation in a balanced way.

6.3 Viewing level, position and information managers' activities

To conclude, there is the question that arose in the introduction: at what level in the organisation does the information manager operate? In the three practical situations presented, in which all sorts of information management problems play a part, this position differs. It depends on the problem in question and on the prevailing organisational structure and size as to where the responsibility for these problems lies.

Because of the nature and size of the organisation, this question is clearest in the case of the wholesaler example. There, the information manager's role lies with the board-member responsible. The organisation can therefore be typified as a 'tight', rational organisation in which activities are very closely geared to each other and are directed centrally. In such a situation, information management will also be handled centrally and at a high level in the organisation's hierarchy.

In the example of the Internet bank, this was an issue that, in the first instance, concerned the domain architect and (to an equal degree) the domain programme manager but, thanks to new commercial ambitions and the subordination of product/market units to general rules and agreements, it became primarily a business issue and was handled at a higher level. Whereas, in the first instance, the Internet initiatives were started de-centrally, the increasing importance to the organisation led to steering taking place more centrally. However, in this new situation, the question remained as to what extent central steering of development was possible in view of the enormous diversity of areas of application. Because of the need for all components to function correctly and to honour the wishes of users, a well developed decentralised information management will remain necessary.

In the municipality example there is an internal conflict of interests in information management. On the one hand, in his role as user support, the information manager must support the various departments as well as possible and allow the application to function optimally (as application manager) while, on the other hand, because of the strategic decision to develop public information on the Internet, he is obliged to think in terms of integrating the different systems. This example makes it clear that in this conflict of interests, central leadership - in this case the alderman and politics - is not always capable of realising its policy entirely.

7. Some final remarks

It appears that information management boils down to balancing and integrating four areas of interest: information strategy, operational excellence, organisation and architecture. This integration takes place mostly along the lines of the information & communication column and the structure row of the enneahedron. This focus on the most central axes of the enneahedron appears to give the information manager a firm foothold in the structuring of his tasks and responsibilities within the organisation.
Wherever the responsibility for information provision may lie, the three examples show that in the casuistry of information-intensive organisations, the various aspects distinguished in the enneahedron almost always play a role. The enneahedron apparently supplies a fairly complete gamut of aspects.
As appears from the three practical cases, the involvement of information managers can depend on various factors:

- The level at which information management lies,
- The weight and impact of one or more dominant aspects,
- The size and type of organisation.

But the eight information management aspects mentioned are always relevant.

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