The step-by-step realisation of Information management in Dutch government and education organizations.

Summary.

This study examines the implementation of information management in government organizations. It uses the Amsterdam Information management Model (AIM), which is derived from the strategic alignment model as developed by Henderson and Venkatraman (Henderson et al 1993). The decision was made to use the AIM model because this model draws a clear distinction between the information provision and the ICT of an organization. The AIM model looks at the information provision of the organization, at its alignment to the demand from the business processes and at its support by ICT. In doing so, it explicitly distinguishes between information management and information and communication technology (ICT) management.

The study attempts to provide an answer regarding the manner in which government organizations realise information management (IM) in practice. The study shows that not all aspects that are of importance to IM are given attention in every day practice. In the investigated government organizations, within information management there is often a lack of attention as far as the structure level of IM tasks are concerned, whilst the strategic function rarely receives the attention it requires in the field of ICT management.

Furthermore, the study reveals that more attention to the demand function is important in many organizations. This becomes especially clear in situations where organizations recognize that the information management function is of growing importance for achieving success. The AIM model identifies roles, aiming at alignment of the existing demand in the organizations (the demand organization) and the ICT functions are those functions that represent the ICT supply.

1. Introduction.

Governance of ICT provision at organizational level (mostly called IT governance) needs to be geared to the objectives of the organization. This governance aims to make sure that the value of ICT is as optimal as possible in view of the possible risks involved. In governing IT, a third aim is to operate within the requirements of compliance regulations, as applicable to the industry in which one works (Applegate et al 2009). In this IT governance one uses an ICT portfolio and decides within the rules as set by the architecture for ICT (Dhillon et al 2010).
This article discusses this architecture and how it is aligned with the organization's goals. Section two of the article explains the theory regarding the alignment and the architecture of the information provision, as well as the ICT provision of an organization. This section ends with four research questions. Next, section three describes the set-up of the study. In section four, the research results are presented. Based on these results, section five presents the conclusions of the study. Section six consists of a brief critical discussion about the set-up of the study as well as a critical dissertation on the results.

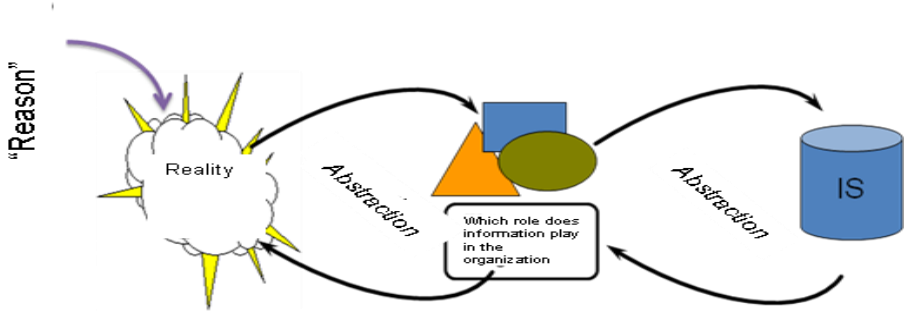

Figure 1: *An organization seen from the perspective of information provision (Abcouwer et al 2006)*

2. The theory behind the study.

2.1. Alignment.

The fact that modern ICT would have a major influence on organizations was recognized at an early stage. Leavitt and Whisler for example, observed as early as 1958 that Information technology would soon spread (Leavitt et al. 1958). As one of the main cause for this they stated: "One important reason for expecting fast changes in current practices is that information technology will make centralization much easier" (p. 43). In their view, modern information technology encroaches on one of the dilemmas that organizations grapple with, namely the impact of technology on how organizations act. Therefore, it makes sense that the alignment (as we often the process of linking business with IT) is a central issue for the management of organizations. This is also proved by the
various studies that have been published over the years. (see for this study amongst other (Luftman et al. 2008; 2006; 2004), (Herbert et al. 1986), (Brancheau et al. 1987), (Brancheau et al. 1996), (Nath 1989) or http:\\www.simnet.org). Furthermore, Luftman states that the issue has been in the top 10 of issues that are considered important ICT subjects by the management of organizations and that the subject has been in first of second place uninterrupted ever since 1994.

The alignment between business and IT can be viewed along two different lines. On the one hand, there is the necessity for paying attention to the organization's goals and performance, to the role that is to be played by information and communication and how these things are realized in operational systems (see figure 1). On the other hand, there has to be attention for the relationship between the formulated goals and the structure in which one works on the realization of these goals. This relationship is shown in figure 2 (Abcouwer et al. 2006).

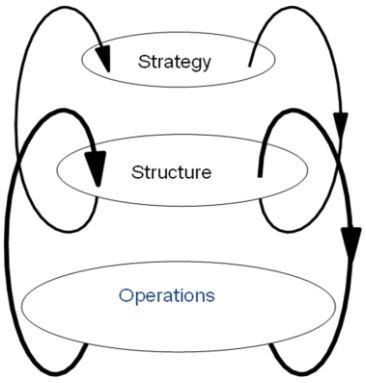

Figure 2: *The organizational coherence between goals at the different levels in the organization.*

The AIM model is created by combining these two dimensions (see figure 3) (Abcouwer et al. 1997; Abcouwer et al. 2006; Maes 2007; Maes 2003). Within the model, two questions take central stage:

- one policy question, on how the organization's goals are supported by making use of the possibilities as offered by ICT (the centre column) and
- one architecture question, on how the information provision should be set up for it to be able to support the organization optimally in the realisation of its goals (the centre row). In this, the alignment between the architecture of the information provision and the organization's structure takes central stage.

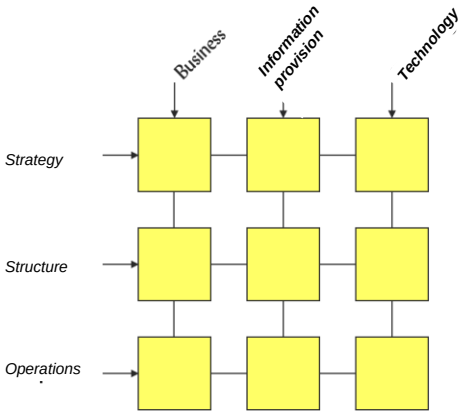

Figure 3: *The Amsterdam Information management model (Abcouwer et al. 1997)*

Therefore, these two central questions can be positioned on the two central axes of the AIM model. This implies that the four corner domains can be considered as the exogenous variables that delimit the IM playing field. For this demarcation, the attention needs to be focused on the strategic goals of the organizations (upper left), on the strategic opportunities as offered by modern ICT (upper right), on the way in which the business professionals work on realization of the goals (bottom left) as well as on the system that they have at their disposal in this (bottom right).

Notable in all this, is that the four points of special interest are the building blocks for the strategic alignment model (SAM) as proposed by Henderson et al. (1993). The model shows how the strategy of an organization and its support by ICT can be aligned to one another.

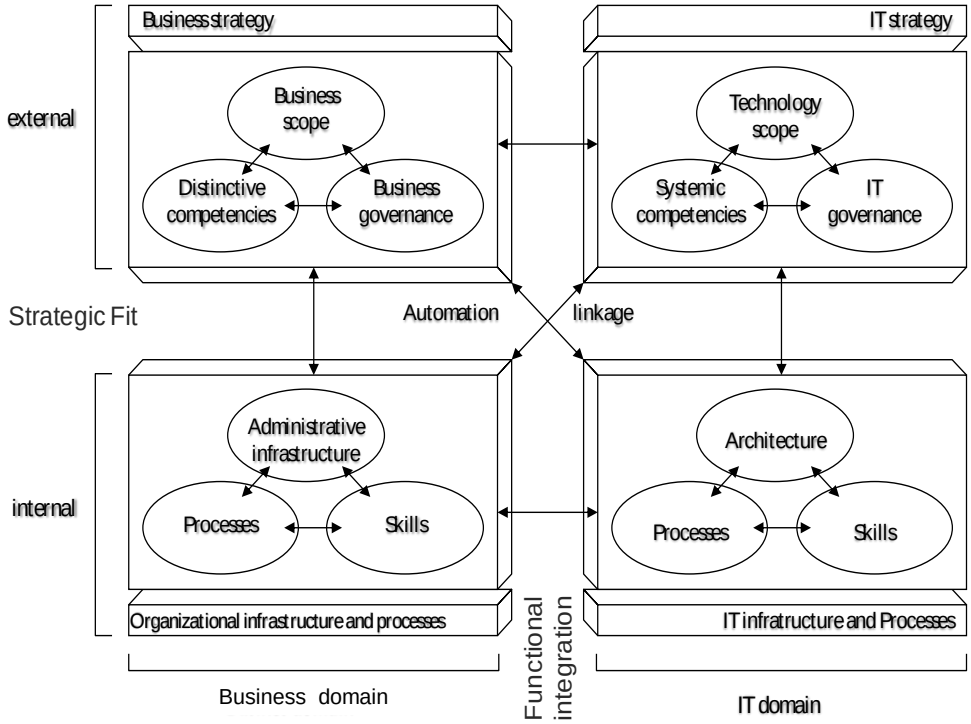

Figure 4: *The Strategic alignment model by Henderson et al.*

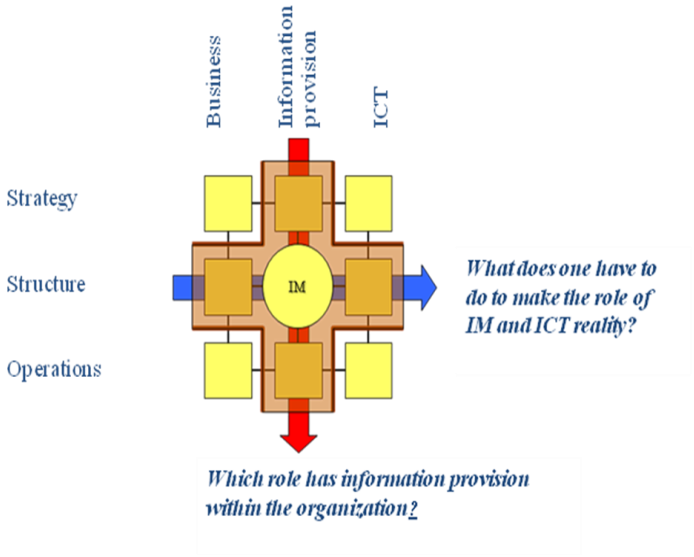

Figure 5: *The additional row and column within the AIM model as compared with the SAM model.*

In the SAM (figure 4), the attention is mainly focused on the issue of how the four individual corner domains of the model have to be designed. However, the issues that are relevant to the information management are found on the connecting lines between the corner domains. After all:

1. set-up aspects form the connecting link between strategy (objectives) and operations and
2. the interpretation of ICT has its consequences for the performance of the tasks of an organization, namely via the generated information and the supported communication.

For that reason, the AIM model adds an extra column and row to the SAM (see figure 5).

2.2. A first interpretation of the AIM model.

As said in the previous section, the AIM focuses on the role of information provision within the organization. This means that the centre column forms the moment of truth in which the information provision has to prove it contributes positively to the operations management in business terms. For that reason, this study focuses on the centre and right column in the AIM model. After all, the centre and right column regard the information provision of the organization, as well as the technological implementation
in terms of systems and applications. Each domain in those two columns of the AIM model requires the governance, organization and execution of a number of activities.

In order to be able to carry out these activities, one needs to have an organization at one's disposal, which requires governance. Besides, the activities in each domain are influenced by the products and services that result in activities in other domains of the AIM model. In other words, one is able to consider three subjects per domain. These are:

- which products and services each domain of the AIM model delivers;
- who takes care of the activities in a domain and who governs these and
- what impact other domains have on the activities of a given domain.

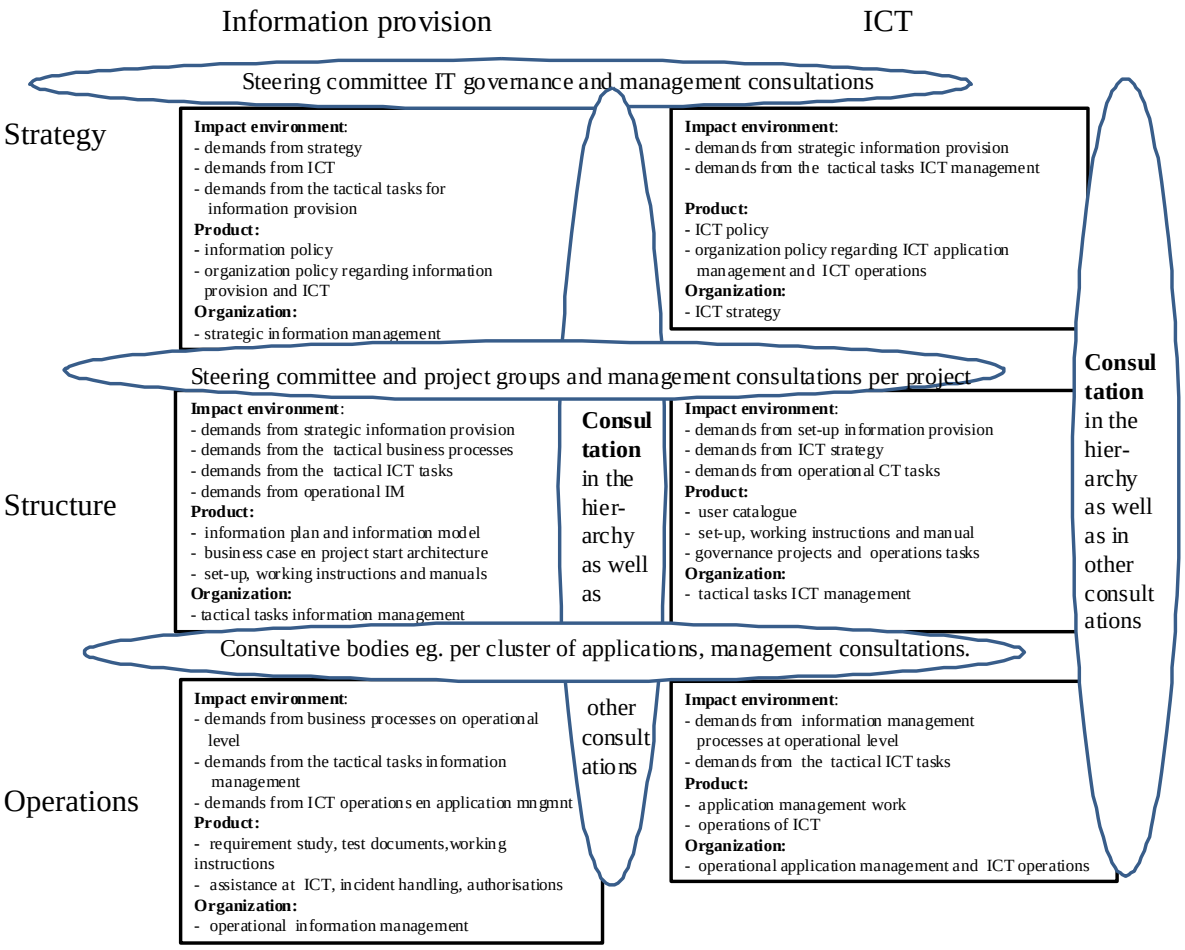

Figure 6: *The interpretation of the information provision and ICT domains of the AIM model (the ovals outline the connections, the oblongs outline the six domains in the information provision and the ICT column)*

The study elaborates these three subjects for the information provision and ICT domains of the AIM model and for the horizontal and vertical connections that are necessary in an organization in order to arrive at alignment of the activities between the various different domains. In figure 6, this elaboration is given in more detail. In section 2.3, the two columns, information provision and ICT, will be worked out per column.

Upon closer consideration of the columns in the AIM model, it turns out that the centre column in the model concerns directional tasks, tasks concerning structuring and operations that are related to the information provision of an organization. The column on the far right concerns the ICT related tasks at various levels. In organizations using ready-made packages that outsource their ICT exploitations to third parties (Beulen et al. 2006), only those tasks are present that are required for managing this ICT and for implementing the packages and releases. These tasks can be positioned in the centre column: the column concerning the organization's information provision. One may also call this the information management column.

2.3. The interpretation of the six domains and the alignment between and across the domains.

This section deals with the elaboration of the information provision and ICT domains of the AIM model and the alignment of work in each of those domains to activities in each of the other domains.

One possible method for defining the processes in the information provision domains, is the Business information Systems Library (BiSL) (Pols, Van der, 2007). This method defines the processes that have to be performed in the field of information provision at strategic level, at structuring level and at operations level. The BiSL method is a best practice. The method shows that organizational issues and issues concerning contents have to be dealt with at strategic level. With regard to the organization, this involves examination of the relationship with customers, the demands of the sector, the manner in which one provides one's ICT, and so on. As far as content is concerned, one examines for example the life cycle of the portfolio, the new possibilities of the technology and one manages the portfolio and all at the strategy level. As regards the tasks at the structure level, the method indicates that one plans, estimates, decides on one's requirements and manages the contracts related to ICT provision. At the operations level, also known as functional management, one takes care of the day-to-day support for using ICT and commits to changes. This is where the demands to ICT are formulated, the administrative organization is defined, where testing takes place and where the implementation of ICT provisions is prepared for and carried out.

At the ICT side, one finds application management and the operational processes. The ASL method (Pols, Van der, 2009), just like the above-mentioned BiSL method, describes the application management processes, whilst ITIL shows the processes for an exploitation organization (OGC, 2007)

As far as the processes in each of the six domains are concerned, these processes may have relationships with processes in other domains of the AIM model. Weill et al. (2004) describe how making connections may lead to better IT governance. These connections can be found at every horizontal level in the organization. At the strategy level, a steering committee is often involved in taking care of the alignment of business processes to the information provision as required for these and the ICT. At the structure level, this often concerns project groups. At the operations level, one finds the consultations, committees and working groups with all those immediately concerned regarding the support of business processes by ICT. Apart from horizontal connections, there are also vertical connections in organizations. These may involve meetings, committees and consultations within the hierarchy; meetings, committees and consultations regarding alignment etc.

2.4. Research questions.

This study - on the manner of implementation of the AIM model - wishes to examine how the six information provision and ICT domains of the AIM model are designed in thirteen large Dutch organizations in the year 2010. The research questions are:

a. How are the three domains in the field of information provision in the AIM model interpreted as regards organization and governance and which products and/or services do they yield?
b. How are the three domains in the field of ICT in the AIM model interpreted as regards organization and governance and which products and/or services does this yield?
c. How is the interpretation of the information provision and ICT domains influenced by the organization's wishes?
d. How are the tasks of the various domains aligned to each other and to the organization's wishes?

3. Research method.

The study was carried out by means of in-depth interviews. These in-depth interviews were held with employees in the field of information provision and ICT in the thirteen organizations. The interview consisted of standard questionnaires, which were sent to the interviewees in advance.

The questions for the interviews were formulated by a working group mainly composed of lecturers of the Fontys university of applied sciences. The questions were based on the theory on the AIM. The interviewed organizations include six organizations in education and seven government organizations outside the world

of education. The first concern the universities of Twente, Tilburg and Eindhoven as well as three universities of applied sciences, namely the Fontys University, the Inholland University and the Hogeschool of Arnhem and of Nijmegen. The second group of government organizations concerns the Police Force, one large government organization that deals with taxation and tax collecting, ProRail, the service Uitvoering Onderwijs, the Kadaster, the Ymere housing corporation and a pension agency.

The researchers chose to use organizations in the public sector for their interviews because - in the Netherlands - these organizations often deploy the AIM model in their set-up of information provision and ICT. The profusion of education organizations in the population is an immediate result of the collaboration with the university computer centres foundation (Surf foundation). This foundation set great store by having a status quo from the enterprise architecture and the organization/ICT alignment of all institutes attached to it. This meant that 10% of the organizations in the Netherlands that are attached to this foundation took part in this study.

The interviews were conducted by students of the Fontys University of Applied Sciences. They were prepared for interviewing people on this subject by means of lectures and two trial interviews. For these trials, they interviewed members of working group and staff working in the field of information provision and the ICT Services department of the Fontys University of Applied Sciences. After this, each group of students visited at least two external organizations. In each organization, they interviewed one person in the information provision domain and one person in the ICT domain. All investigated organizations employ more than 1300 staff.

The results of the study are shown in three tables. The first two tables show per table the situation regarding the interpretation of the domains for each of the two types of organizations. The third table provides an overall view of the alignment between the domains in horizontal and vertical direction.

4. Research results.

4.1. The interpretation of the information provision domains.

Figure 7 shows the detail of the domains of the investigated 13 organizations. From this figure, it emerges that:

a. In the majority of organizations, the demands on information provision originate from the business plan. There is an information plan and an IT governance board in over 60% of these organizations. In over 60% of cases, information management has been set up at strategic level.
   There seems to be a difference between universities and other organizations. In the first type of organization, the set-up of information management and an IT governance board is present in several organizations. Furthermore, the information provision is in all cases controlled by the universities from the general organization plan.

b. At structuring level, 94% of the organizations make use of steering committees and project groups. In over 50% of all cases, the impact on the work of these groups does not seem to be coming from the strategic domain for the information provision but sooner from ICT and from the organization's pursuit of customer satisfaction and efficiency. In less than 50% of all cases, the work involved in the set-up of information provision does not seem to be carried out by a structural information management organization.

   In real terms, this means that the tasks as recognized in theory are not always structurally interpreted at a structure level. This concerns the structural planning in the field of information provision, estimation across projects and current facilities, perpetual definition of requirements and controlling contracts with ICT.

The three domains of information provision, the centre column in the AIM model.

	Strategy			Structure			Operations		
Organizations:	**Impact other domains**	**Products and services**	**Organization and control**	**Impact other domains**	**Products and services**	**Organization and control**	**Impact other domains**	**Products and services**	**Organization and control**
Universities (6x) (both scientific as well as universities of applied sciences)	In 84% the policy plan is the guideline for information management. In 16% this is ICT.	In all organizations there is an information plan.	In 67% of all cases there is an IT Governance board. In all cases there is an information management department. In 33% this is part of the ICT department.	In half the organizations there are standards for data, and standards coming from architecture and from the information and ICT strategy. In the other half the demands are made by ICT and often project oriented.	In all cases no link between strategic IM and operational functional management. In 50% there is an information model project. In 33% a project start architecture.	In 67% of the cases there is a steering comm. and a project group for large projects. This reports to the IT Governance board. In 33% of the cases these tasks are performed by the information management department.	In all organizations demands from security, integrity and reliability are the main thing. In 50% of all organizations one works on achieving more uniformity. In 50% audits of ICT demanded in annual plans.	In all organizations functional management is strongly operationally aimed or under development. No support of functional management yet when drawing up requirements for ICT support.	In 50% of all cases the functional management at faculties and boards. Every organization wide system has a committee to realise coordination. In 50% of all cases functional management in part of the service company, eg finance, staff etc.
Other authorities: (7x) (with primary process information provision (3x) and with different primary process (4x).	In information intensive organizations demands from business plan. In the four other ones these come from the process or these are initially aimed at house in order.	In 56% there is an information policy and an information plan. In one there is an information laboratory. In another organization one uses scenarios.	In 56% there is an IT governance board. In 42% there is a department information management. In 14% this department is a part of the ICT department.	In 42% demands made by enterprise architecture and made by the information plan. In 58% demands aimed at efficiency and customer satisfaction.	In 85% of all organizations one works with project start architectures. In all organizations one works according to an agreed method. Sometimes there is an information model present.	Steering committees and project groups for coordination of activities present in all organizations. In 56% of the organizations there is information management. In 14% there is a central demand organization. In 28% process owner assigned.	In 70% explicit demands are made by security, integrity and confidentiality. In 28% demands come from SLA's and in 14% relatively strong demands for data management made by legislation.	In 85% functional management is set up. In 42% this is both centrally as well as decentrally set up. In 14% support from ICT. ICT provides daily operational support. In 14% IT performs also tasks regarding change-management.	In 85% of all organizations there is functional management. In 42% this is both centrally as well as decentrally set up.

Figure 7. : *Interpretation of the information provision domains*

The three ICT domains, the column at the far right in the Amsterdam Information model (AIM model).

	Strategy			Structure			Operations		
Organizations:	**Impact other domains**	**Products and services**	**Organization and control**	**Impact other domains**	**Products and services**	**Organization and control**	**Impact other domains**	**Products and services**	**Organization and control**
Universities (6x) (both scientific as well as universities of applied sciences)	In all organizations is information management under development. There is a trend towards integral information. Now the demands come sometimes from SLA's, sometimes from the process owners, sometimes only from the projects.	In all organizations there is a automation plan or an ICT architecture document. This sets the standards.	In 84% of all cases the making lies with ICT. In 16% with information management.	In 50% demands from architecture and budget. In 100% demands from procurement laws. In 50% demands come from central plan of the organization or from managers of the different parts of the organization. Also demands come from the automation plan.	In all cases the architecture is fixed and within this projects according to standards. In 50% services catalogue and projects always in conformity with rules laid down in manuals.	In all cases steering committees and project groups for large projects set up. Work usually done by ICT.	In 50% of all organization work with standards and demands from the reliability integrity and confidentiality strategy. In 50% demands mainly from organization plan and from the ICT tactical tasks.	In all cases operations executed and management tasks with reports. In 16% still own development and maintenance of applications.	Operations and management tasks by ICT. Project leaders often responsible for certain fields. In 16% still own development and maintenance of applications.
Other authorities: (7x) with primary process informationi provision (3x) and with different primary process (4x).	Requirements from demand in 56% of all organizations. Sometimes recorded in SLA's. In 14% recorded in annual plan.	In 100% of all organizations a ICT blueprint, an automation plan or a concept concern architecture.	Varies. In 56% the ICT management performs this task. In 14% the CIO office does this. It seems as if the ICT organization gives this part structurally less attention.	Sometimes from architecture, sometimes from Corporate Information Plan (CIP), sometimes from demand/supply model with catalogue. In 28% explicit demands from reliability, integrity and confidentiality. In 14% from chain and emphasis on standardisation and consolidation.	In 85% roadmap with reference architectures. Cooperation conform prescribed rules set up in 14% or all organizations. In 56% use of catalogus.	In all cases there is an ICT supply organization that for alignment makes use of governance, project organization and use of committees to achieve coordination	In 72% of all organizations have connection and operations conditions. These are aimed at arriving at standardization.	In all cases arriving at working applications and infrastructural provisions with reports.	ICT management with often set-up supply side that works according methods like ITIL and ASL. Sometimes this also does (part) of functional management.

Figure 8. : Interpretation of the ICT domains of the AIM.

The difference between the universities and the other government organizations lies in working from project start architecture and in working according to an agreed method.

c. At operational level, functional management seems to be set up in 95% of the organizations. In the universities, this functional management is set up strongly operational. Functional management does not contribute to the creation of an administrative organization or to drawing up requirements for ICT provisions. In 77% of the organizations, demands are made to functional management from other domains in the AIM model. This concerns demands regarding reliability, integrity of data and confidentiality of data (administrative information provision). In over 25%, there are demands in order to achieve a higher degree of standardization of ICT and uniformization of data.
The universities seem to lay more emphasis on the administrative information provision aspects of the information provision, as compared to the other organizations (100% as opposed to 70%).

Looking at the domains for information provision, they seem to be present mainly at strategic and operational level. The functional management, that takes place at operational level, is further on strongly operational and less focused on making demands on new ICT provisions or on making and managing working instructions.

4.2. The interpretation of the ICT domains.

Figure 8 shows how the domains in the field of ICT are interpreted in the investigated 13 organizations. From this, it emerges that:

a. At strategical level in the universities, the demands originate from varying directions. At this level, the current information management in the organization is still under development. Therefore, requirements regarding ICT are not always given. In the other government organizations, the ICT requirements are more clearly made from the demand side.

All investigated organizations have an automation plan, an ICT blueprint and/or an ICT architecture document. In universities, drawing up these documents is in 84% of all cases, a task for the ICT department. In the other organizations, ICT management takes care of this in 56% of all cases. From a structural point of view, the ICT organization does not seem to pay any attention to the work in this domain.

b. At structuring level, the demands are in 100% of all cases instigated by the procurement laws. In addition, these originate in the universities in 50% of all cases from the organization plan, from the managers of the divisions or from the automation plan. In the remaining organizations, these originate from the architecture, from the information plan or from the products/services catalogue. In 28%, there are demands from an administrative information provision perspective and in 14%, these are a result of collaboration in the chains. The product of the domain is in almost all cases (93%) an architecture, in which projects are executed methodically. In 54 % of all cases, a products/services catalogue is used.

In all cases, there is a supply organization, which uses steering committees, project groups and other regular forms of consultation for alignment.

c. In the universities, the demands to development, management and exploitation of ICT provision originate in 50% of all cases from the administrative information provision strategy and in 50% from the organization plan and the ICT plan. In the other government organizations, the demands to the operational tasks for the development, maintenance and operations of ICT come in 72% of all cases from the connection and operations conditions. It seems thus that the universities make demands on their ICT provision in a less clear manner.

At operational level, ICT tasks are performed and reported on. Development and maintenance of own

applications still takes place in 7% of all organizations. The other ICT organizations work more methodically and sometimes parts of the functional management are also executed in these.

When looking at the ICT column in the AIM model, it seems that the structure and operational domains have a clear governance and organization. With regard to the strategic domain, this is less often the case. Furthermore, one may establish that the universities usually utilize standard packages and therefore hardly or not at all have set up application management.

4.3. Governance across the domains: horizontal and vertical.

Figure 9 shows the formal alignment between the domains of the AIM model. From this figure, it transpires that:

a. with regard to alignment at horizontal level one may establish that:

a.1. at the strategy level, there is an IT governance board in over half the cases.
a.2. at set-up level steering committees and project groups are used in well over 80% of all cases. With regard to this, the universities lag behind. They have these in only 67% of all cases. In the other organizations, this is 100%.
a.3.and at the operational level there is in virtually 100% of all cases managerial consultation between functional management and the ICT supply organization.

b. with regard to alignment at vertical level one may establish that:

b.1. in the field of information management, the functional management in universities is decentrally organized, whilst the strategic information management is positioned centrally. There is no hierarchic link between the strategy level and the operations level of information management.

This is different from the situation in the other investigated organizations. In those, there is a link between the structure level and the operations level in information management. There is no hierarchic link from structural information management with strategic information management.

b.2. as regards the vertical alignment between the ICT domains, one may establish that the strategy, structure and operations levels of the AIM model are positioned in the same hierarchic organization. With respect to this, the set up of the strategic domain varies.

Looking at the governance, one may observe that there is horizontal governance at strategic level in over half the cases; that horizontal governance is set up strongly project oriented at the structure level and uses steering committees and working groups and that at operational level, this is generally set up after management consultations and using working groups and committees. Looking at vertical governance, it becomes clear that as far as information management is concerned, it rarely goes from strategic to operational level. Vertical governance in the field of ICT is always present from the strategic to the structuring level. However, there is a problem with this because the set-up of the strategic level varies.

5. Conclusions: answers to the research questions.

The conclusions of the study are discussed in the order of the asked research questions. These research questions and their answers are:

a. *How are the three domains in the field of information provision in the AIM model interpreted as regards organization and governance and which products and/or services does this yield?*

Horizontal and vertical alignment between the domains.

	Horizontal alignment between domains:		**Vertical alignment between domains:**	
Organizations:	**Strategic level**	**Structural**	**Operational** level:	**Information provision domains:**	**ICT domains:**
Universities (6x) (both scientific as well as applied science universities)	IT governance board in 67% of cases present.	67% of all organizations have steering committees and project groups for large projects. Information managers regularly consult with ICT. In all cases	Committees for coordination of activities for applications in all cases with members from operational information management (functional management) and ICT.	No hierarchy in information provision line: in all cases functional management is being organised in the different departments of the organization.	All tasks in central ICT department in all investigated organizations. These work highly operational, as a result the strategic domain is less defined.
Other authorities: (7x) (with primary process information provision (3x) and with other primary process (4x)	In 56% of all cases there is an IT governance board.	In all cases steering committees and project groups.	In 85% of all organizations there are Committees for coordination of activities with members from operational information management and ICT.	In 56% there is a direct link between the information management at tactical level and functional management. There is no hierarchic link with the strategy.	All tasks in central ICT department in all investigated organizations. Interpretation of the more strategic domain varies.

Figure 9: *Governance across the domains.*

In the field of information provision, the study teaches that the organization in this field is fleshed out mainly operationally. The interpretation of the structuring and strategy domains starts to come about. The set-up of the strategic domain is linked with the fact that more than 50% of all organizations do have an IT governance board. The strategic information management function fulfils a role in the support of the IT governance board. The interpretation of the structuring domain is as a rule project oriented. The study did not come across a structural interpretation of this domain.

b. *How are the three domains in the field of ICT in the AIM model interpreted as regards organization and governance and which products and/or services does this yield?*

In the field of the ICT provision, the study teaches us that the interpretation of the strategic domain often varies. In most organizations, the ICT function concentrates on the activities of the structuring and operational domain. The tasks of the strategic domain are sometimes performed by ICT; sometimes the information management takes care of these.

c. *How is the interpretation of the information provision and ICT domains influenced by the organization's wishes?*

The study shows that in 93% of all organizations, the demands to the information provision are made at policy level from the policy plan or the business plan. The demands to the structuring of the information provision are less univocal. The demands to the operational domain especially exist in the field of administrative information provision.

d. *How are the tasks of the various domains aligned to each other and to the organization's wishes?*

To this purpose, one uses opportunities for consultation and working in committees and working groups at horizontal level and at vertical level. Let us start with the horizontal connections. In more than 50% of the investigated organizations, there is an IT governance board. In more than 80% of all organizations, one works with steering committees and project groups. In 100% of all cases, alignment consultations take place at operational level.

At vertical level, all alignment takes place in one single part of the organization.

Looking at the study in its entirety and examining the results, the following attracts attention. The three information management and the three ICT domains in the AIM model are sometimes called the three demand and the three supply domains respectively. The demand domains state the demand for ICT and the supply domains ensure that this demand is realized. In a world where sourcing is the order of the day, the set-up of a demand side seems important to larger organizations. After all, the supply side goes increasingly more to the suppliers of ICT.

The study teaches that many organizations have not fully interpreted these three demand domains as far as organization is concerned and that direct or functional governance from the top of the demand organization to the bottom of the demand organization is still in its infancy in many organizations. It often goes via the operational board, in which functional management functions report.

Furthermore, it becomes clear that the demand side is under development at strategic level and that functional management is set up at operational level in many organizations. The missing link seems to pay structural attention to the structure level of demand management.

For the supply organization, it applies that it performs all the tasks of the right column of the AIM model. The level of execution varies. The operational domains and structuring domains are often interpreted and the set-up of the strategic domain is less structural in nature.

6. Discussion.

This study into architecture and alignment between the wishes of the organization was limited to large government organizations that usually stated in advance that they use the AIM model. The limitation to government organizations may have had a favourable effect on the set-up of the information management function. In The Netherlands, there are currently many organizations in governments involved in the set-up of this function in conformity with the BiSL method. That does not alter the fact that the set-up of a demand organization is also under discussion in non-government organizations.

The research method consisted of in-depth interviews. This limited the number of organizations that could take part in the study. However, this also enabled the researchers to discuss the various domains of the AIM model in depth with the interviewees. In doing this, it turned out that although the theory of the AIM model is fairly univocal, the detailed interpretation of the domains in the model does present some problems. This has influenced the quality of the study. Nevertheless, the trend that emerges and the situation as far as the interpretation of the domains and their alignment to each other are concerned are recognizable.

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