Frameworks for IT Management
13 Generic Framework for Information Management

This information management framework consists of three domains through which information problems can be considered: activity or 'business', information and communication, and technology. There are also three layers: strategy, structure and operations. They enable a more fine-tuned positioning of organizational problems. 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.

Owner of the copyright: University of Amsterdam
Distribution: The framework is used in Dutch IT management consultancy.
Origin/history: The Generic Framework for Information Management is a re-interpretation of the Strategic Alignment Model by Henderson and Venkatraman and has been produced in PrimaVera: the Program for Research in Information Management at the University of Amsterdam (Abcouwer, Maes and Truijens, 1997).
When: 1997
Participants in the committee: University of Amsterdam

By Rolf Akker

13.1 Origin/history
The Generic Framework for Information Management was first published in August 1997 in the article Contouren van een generiek model voor informatiemanagement, by A.W. Abcouwer, R. Maes and J. Truijens. It is a re-interpretation of the Strategic Alignment Model by Henderson and Venkatraman. The framework has been produced in PrimaVera: the Program for Research in Information Management at the University of Amsterdam (Abcouwer, Maes and Truijens, 1997).

13.2 Where is the Generic Framework for Information Management used?
The Generic Framework for Information Management is a model for interrelating the different components of information management. It is used in the area of business-IT alignment and sourcing. It can be useful to consider IT governance issues as well. It is a high-level view of the entire field of information management; its main application is in the analysis of organizational and responsibility issues.
KPN, the Royal Dutch Telecom company, uses the framework in its approach to IT governance. The framework is being used more and more in Dutch IT management consultancy, offering a high-level framework for analysis.

The framework is used to support strategic discussions in three different ways:

- **descriptive, orientation** - the framework offers a map of the entire information management domain, to be used for positioning specific information management issues that are being discussed in the organization, avoiding technical jargon
- **specification, design** - the framework is used to re-organize the information management organization, e.g. specifying the role of the Chief Information Officer (CIO), or determining the responsibility of the retained organization in the case of outsourcing
- **prescriptive, normative** - the map is used as a diagnostic instrument to find gaps in an organization's information management, specifically aimed at identifying missing interrelationships between the various components of the framework.

### 13.3 Description and core graphics

The Generic Framework for Information Management was derived from the Strategic Alignment Model from Henderson and Venkatraman (Figure 13.1).

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**Figure 13.1 Strategic Alignment Model from Henderson and Venkatraman**

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This framework extends this model from a 2x2 matrix into a 3x3 matrix, by:
- replacing the External domains of (infra)structure and processes with the two tiers of Structure and Operations, resulting in a three-row framework: Strategy, Structure and Operations
- adding a middle column representing the internal and external information and communication aspects, resulting in a three-column framework: Business, Information/Communication and Technology.

The resulting Generic Framework for Information Management is shown in Figure 13.2.

![Figure 13.2 The Generic Framework for Information Management](image-url)

The Generic Framework for Information Management defines Information Management as follows.

*Information Management is the balanced management of the elements represented by the central components of the map, including their internal and external relations.*

This is shown in Figure 13.3.

Business-IT alignment, sourcing and IT Governance are strategic issues and they are the responsibility of senior business and/or IT management. Strikingly, the middle column (Information and Communication) seems to attract little attention in world literature. This is remarkable because the model is very generic and abstract, and can be used in all situations and in all regions where business-IT alignment and IT governance are major issues.
13.4 Approach/how to
To apply the framework three aspects need to be considered.
1. **The content of the cells** - which activities are carried out in the individual cells, who is carrying out the activities, and what is the result of the activities.
2. **The relationship between the cells** - the framework is balanced due to the relations between the cells in the framework. Managing all of the relationships between cells in the framework establishes a well balanced business-IT alignment. The relationships can be formalized by a formal handover of information and/or activities, but also by a committee of representatives of both cells involved in the relationship. This is the area of IT governance.
3. **The relative position of the Information and Communication (I&C) domain** - There are three archetypes of positions for I&C:
   a. *stuck-in-the-middle* - I&C is positioned at equal distance from the business and the technology domain, in many instances emblematic for organizations trying to implement I&C as a liaison function. The result is fairly often an I&C function ‘stuck in the middle’: missionaries talking to a brick wall at the business side, renegades for the IT side, and peacekeeping troops in the middle, missing a clear identity in their own mindset
   b. *extension of the IT function* - The responsibilities of the business side have been delegated to the technology domain, where the IT services are produced. This is a disastrous approach: management tends to be expressing itself in terms of technology, not in terms of business values. The information service provider is now controlled by itself, which leaves the business vulnerable in its relationships with suppliers
c. **extension of the business function** - here, information is considered to be a business asset, and the relationship with IT can be a contractual one: IT is a supportive function, to be managed as such and conceivably governed via outsourcing. Moreover, I&C is a shared business responsibility, where I&C as a separate function is only accommodating and stimulating, but never leading.

![Diagram](A) ![Diagram](B) ![Diagram](C)

**Figure 13.4** Stuck-in-the-middle (A), extension of the IT function (B) and extension of the business function (C)

### 13.5 Relevance to IT management

The framework is especially important in the area of business–IT alignment. The intermediate structure row and information/knowledge/communication column are key to a successful alignment of business and IT. Hence, they should be considered as independent variables in their own right.

The framework primarily provides a reference frame for the positioning of information management issues at organization and/or business unit levels. From a normative point of view, the framework states that each of the nine areas and their mutual relations should be addressed. The central axes of the framework are core to information management.

The framework contributes to the role of the CIO. The authors position the CIO (and the information manager) as the primary role responsible (the navigator) for the area highlighted in Figure 13.5, including the relationships with the adjacent areas. The framework further helps to make the different roles of the CIO explicit; the natural operating base of the CIO is the strategic information/communication component (top level of middle column). The following global roles for the CIO can be derived (see Figure 13.5).

1. **Information strategist** – this is the direct area of responsibility for the CIO. Central to this role is the definition and control of the information strategy, taking into account the business requirements and the IT opportunities. Here, fully exploiting information as a business resource is vital. Outlining the organization of information management itself is also part of this sub-role.
2. **Co-creator/advisor business strategy** - the CIO is a member of the board of an information-intensive organization. He/she co-defines and co-structures the business strategy, where his/her primary line of approach is to make strategic decisions about most of the information
factor and of the business opportunities and risks of IT. In less information-intensive organizations, the CIO is advisor to the board.

3. **IT portfolio manager** - the CIO is responsible for the relationship with the (external or internal) IT provider(s). To this end, he/she defines a long-term strategy for IT services and is in charge of the control of performance and costs of the existing suppliers. He/she also keeps up with developments in the IT supply market.

4. **Organization architect** - The CIO and his/her team develop the overall, integrated organizational architecture covering the three columns of the map. The information architecture, a blueprint for the information/communication power of the organization, needs special attention. They ensure a flexible and scalable infrastructure and steer migration planning.

5. **Business advisor** - quite often, this role is neglected. The success of a CIO, however, is to a high degree dependent on their peer relationship with the business unit managers and their inspiring and coordinating power towards the information managers at business unit level. Together, they assist in redesigning business processes, developing business cases, roll-out, training and so on. The CIO and his/her team should be considered as part of the business, not as separate entities with separate agendas.

6. **Trend watcher** - The CIO keeps himself/herself informed about the external world: he/she keeps a close track of developments in the use of information, both at the organizational level and at the level of society as a whole; he/she assesses IT developments for their true value, and so on.

The framework provides some clarifying interpretations of information management:
- from the right to the left information is **produced**, **interpreted** and **used**. In the column at the right data is recognized, in the middle column information is recognized ("the interpretation of"


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data) and in the left column knowledge is recognized (‘Making decisions based on information’). Information Management relates to all three

- for each of the three columns distinctive expertise is required (from the left to the right: business domain expertise, information expertise and technology expertise). Information management is primarily concerned with information expertise, but cannot do without the other two areas of expertise
- technology introduces a new syntax, while the business column represents pragmatism. Therefore, it is the task of information management to provide practical meaning to this technology.

13.6 Strengths and weaknesses
The model proves its value the most in the area of business-IT alignment and in IT governance. It is also very useful in the positioning of other frameworks, such as BiSL, ASL and ITIL into one coherent framework for information management (see section 1.6 about cross-references).

The greatest strength of the Generic Framework for Information Management is that it is very helpful in discussing information management at enterprise level, illustrating how different aspects of an organization fit together.

The weakness of the Generic Information Management Model is that it does not provide an instant solution and that it always requires more detailed frameworks, to support any implementation.

13.7 Cross-references/relationships
Although the Generic Framework for Information Management is not necessarily an instrument that can be applied to organizations in the way that ITIL does, the other management frameworks in this book can be related to it. In this case the Generic Framework for Information Management can be used as an umbrella-framework. It helps to position the other frameworks within an organization. Together, this can be visually depicted as in Figure 13.6.

13.7.1 ITIL
ITIL is primarily known as the ITIL Service Support and ITIL Service Delivery books; ITIL belongs to the technology domain. From the two core books, ITIL Service Delivery can be mainly positioned at the structure level and ITIL Service Support at the operations level.

13.7.2 ISO 27001
Information management is also about information security. Determining the necessary level of information security, planning to implement and pursuing the right level of information security are important issues in information management. ISO 27001 can be positioned at the strategy, the structure and the operations level in the Information/Communication domain of the framework.
13.7.3 PRINCE2
PRINCE2 is all about how projects are handled. Although primarily intended for the technology domain, it can be applied to the business and information/communication domains as well. PRINCE2 is an instrument used on the operations level in the three domains of the framework.

13.7.4 IPMA Competence Baseline
IPMA Competence Baseline is about the competences necessary for handling projects. IPMA can be used at the operations level in the three domains of the framework.

13.7.5 PMBoK
The PMBoK describes how projects need to be carried out; it is an instrument that can be used on the operations level of all three domains in the framework.

13.7.6 CobIT
CobIT enables clear policy development and good practice for IT control throughout organizations. Because CobIT covers both the technology and the information/communication domains, it can be used in the strategy and structure levels of these domains.

13.7.7 MSP
MSP describes how programs need to be carried out. It is an instrument that can be used on the structure level of all three domains in the framework.

Figure 13.6 Graphical representation of the cross-references with other frameworks
13.7.8 M_o_R
‘Management of Risk’ involves all the activities required to identify and control the exposure to risk that may have an impact on the business. Strategy, structure and operations activities are required in the information/communication and technology domains.

13.7.9 COPC
COPC is a standard for all contact center operations. Although the business domain may have its own contact center, COPC in regards to the Generic Framework for Information Management is limited to the operations level in the information/communication and technology domains.

13.7.10 ISPL
The Information Services Procurement Library (ISPL) is a practical approach to the procurement of IT services in the broadest sense of the word. This instrument can be used at the structure level of the information/communication and technology domains.

13.7.11 ITS-CMM
The ITS-CMM enables IT service providers to assess their capabilities and provides them with direction and steps for further improvement in the delivery of IT services. It can be positioned at the structure and operations level of the technology domain.

13.7.12 ASL
ASL offers a framework for application management. Because ASL covers the strategy, structure and operations level, it can be positioned at all three levels of the technology domain.

13.7.13 BiSL
BiSL can be positioned at the strategy, structure and operations level of the information/communication domain, because it manages the provision of functionality into the business processes.

13.7.14 MIP: Managing the Information Provision
MIP was published in the annual Best Practices collection of itSMF in the Netherlands (MIP: Van der Hoven, Hegger and Van Bon, 1998). MIP is a framework that looks quite similar to the Generic Framework for Information Management, but it has some essential differences. It uses different descriptions for the additional row and column in the framework. The vertical dimension uses the traditional three-tier management paradigm: Strategy - Tactics - Operations, or Aim - Specify - Operate. The horizontal dimension uses the SOD principle (Separation of Duties): the middle column represents the business in translating the business requirements into information technology specifications. This middle column manages the contract with the IT service provider, and manages the specifications of (integrated) information systems.

The MIP framework was developed in the same year that the Generic Framework for Information Management was created. It was published in Dutch in 1998, and in English in 2000 and 2002. These publications show the inputs and outputs of each of the nine cells, emphasizing the relationships between these cells in an integrated approach of information management.
Both MIP and the Generic Framework for Information Management are used to support strategic discussions on information management issues. The most important difference is in the way that the additional row/column is defined and specified, and the more practical way that MIP addresses Information Management issues (Figure 13.7).

### Figure 13.7 The 3x3 matrix for Management of Information Provision (MIP)

#### 13.8 Links and literature
- cms.dordrecht.nl/Dordrecht/up/ZqbpoxxGC_IMdordrecht031112.pdf
- imwww.fee.uva.nl/~pv/html/working_papers.cfm
- imwww.fee.uva.nl/~pv/PDFdocs/99-03.pdf
- www.rikmaes.nl
- www.tongatapu.net.to/compstud/mmedia/local_issues/ITAlignment.pdf
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