1.9. MIP: Managing the Information Provision

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Here, you will find a process model for management of internal provision of information. This model states how the information needs of organisational processes can be translated into IT facilities, which can be used in the organisation. In considering internal provision of information, service is of the essence. The model is defined in terms of processes and acts as a stepping stone for discussions concerning many other process models used for fleshing out IT management.

Introduction

In recent years, the approach to IT Management has taken a turn for the better. Until the early 90's, the focus was on developing applications, building systems and networks. Models such as ITIL[1], ISM[2] and IPW[3] helped lay more emphasis on continuous delivery and adjustment of IT facilities for[4] the customer organisation. The model for management of internal provision of information builds on that thought.
The purpose of the model is to:

- Create insight into the inter-relationships of the processes involved in provision of information, by narrowing down the complexity to a few process groups.
- Create an understanding with which to achieve the provision of information.

The model was set up because of the existing need for a model, which provides clear insight into the relationship between various organisational processes and their support, by means of simple IT facilities. It can be used for putting the IT organisation into practice, determining the players in the 'management' field and in applying various other models for fleshing out IT management.
In fact, MIP 'recycles' ITIL for the purpose of functional management (solving functionality incidents, changing functionality, etc.). So where MIP provides added value, is in the separation and modulation of information, copy, type and functionality (specification) management. In other words, better modulated configuration management. In doing so, the management/ planning & control cycle of: Change (planning + changing) and Rest (exploitation + evaluation) is applied at every level. It is important to pass on and control the necessary changes from the higher levels down to the lower levels, through the configuration abstraction levels, in a structured and controlled manner.

[1] ITIL: the Information Technology Infrastructure Library.
[2] ISM: Integrated Service Management.
[3] IPW is a trademark of Quint Wellington Redwood and PTT Telecom.
[4] Note: 'organisation' here refers to customer/buyer of IT facilities, which could, in principle, also be the IT organisation itself with respect to its own information service.

Request for support
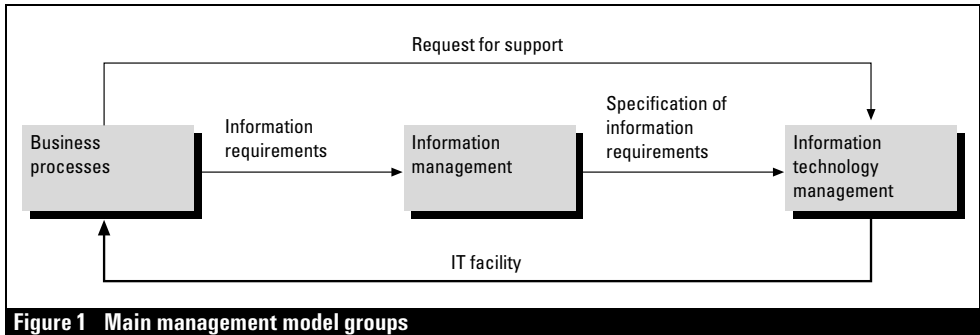
Figure 1   Main management model groups

Overview

The model consists of three main process groups:
- Business Processes;
- Information Management;
- Information Technology Management.

The organisation requires information in order to plan and control its services, activities and to apply resources. Deployment of IT facilities (application software, office applications, data storage processing tools etc.) provides this information.

In order to obtain an optimal connection between business processes and various IT facilities, it is necessary for the information needs in an organisation to be managed in a structured manner.

Therefore, three main groups are created in the management model (Figure 1).

With regard to the primary processes, the management model remains limited to the indication of connecting levels that are necessary to be able to determine the information needs and to deliver IT facilities in the supporting field.

To ensure an optimum link between the IT facility, IT products and services and the business process, *insight is required into* the principal organisation objects, functions and processes. This insight enables continuous identification, specification, completion and provision of the information needed for the business process. Within the Information Management process,

objects and information needed from those objects are maintained in structured information models and specified, where possible, on a component basis to the IT service provider, so that they can be incorporated into the IT facilities portfolio.

These main groups can each be further decomposed to Strategic, Tactical and Operational processes. This division produces the 3 × 3 matrix for management of the information provision (Figure 2).

The main task of management of the information provision of is to deliver, through IT facilities, the right messages, in the right context, at the right moment, to the right business function in order to support it in planning and control of its activities and services. All other processes aim to ensure that the implementation runs smoothly.

The IT facility is provided by the *IT Facilities Delivery and Maintenance* process. This process ensures that the facility is available to the users in accordance with agreements. If the existing facilities are no longer adequate, they will be altered or extended to include new facilities.

The purpose of *Functional Support for Use (or application) of IT Facilities* process group is to allow users to fully utilise the IT facilities on offer. This process supports colleagues carrying out business processes by helping them with the use of IT facilities and the translation of information requirements into automation terms.

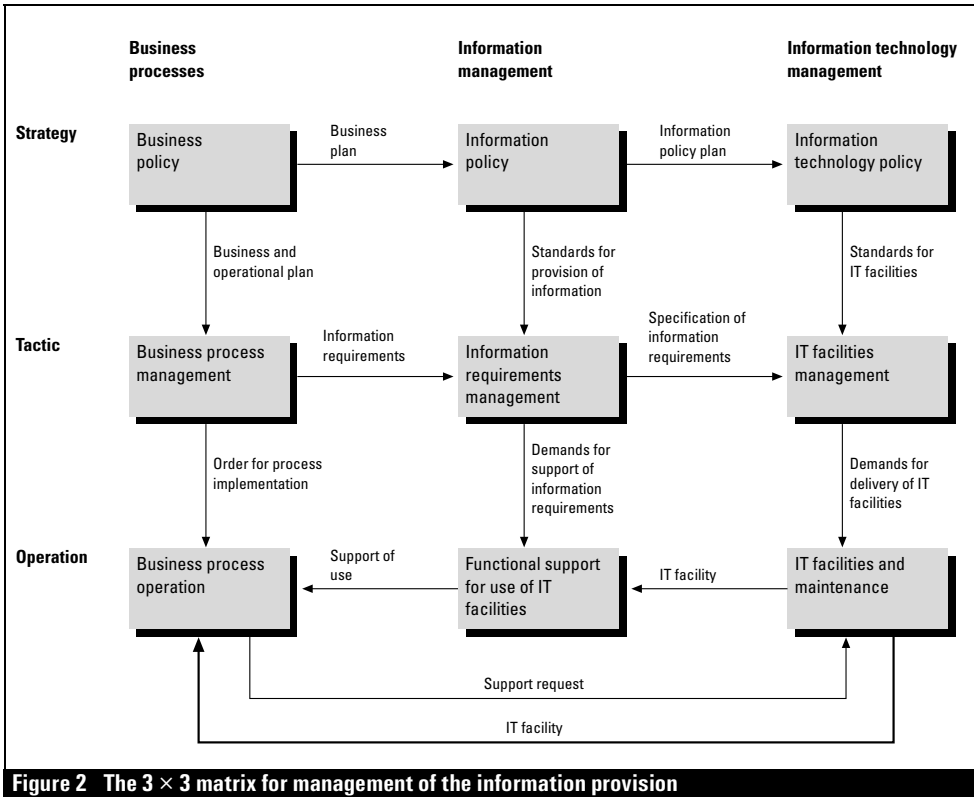The process group *Information Requirements Management* exists on a tactical level. All of the

Figure 2   The 3 × 3 matrix for management of the information provision

organisation's information requirements are managed here. The management poses information questions. The *Information Requirements Management* process analyses these questions, compares them to existing information requirements and assigns them a priority (according to information planning guidelines from the Information Policy). Finally, it specifies the information requirements that require fleshing out.
The specified information requirements are passed on to the *IT Facilities Management* process. This process explores the ways in which the information requirements can be achieved, the consequences (if any) and the price of meeting those requirements. Furthermore, this process involves the setting up of agreements concerning the delivery of the IT facilities, in the form of Service Level Agreements (SLAs) and it controls the service with respect to these IT facilities.

Standards for this process are set by means of the *Information Technology Policy* process. The strategic framework is determined in the *Information Policy* and *Information Technology Policy* process groups. The input for these processes is the Strategic Policy of the organisation, in the form of a business plan, for instance. Examples of this framework include prioritisation in new facilities development, choices in development methods (e.g. data or process orientated) and supplier choices.

Business processes

In the 'Managing the Information Provision' model, the processes, which are relevant to the coming about of the IT facilities are highlighted in the centre and right-hand columns. All remaining business processes can be found in the left-hand

column. Of these remaining business processes, only the interfaces with processes for provision of information are considered:

1. Objectives for the organisation are set down on the basis of the *Business Policy*. These objectives act as input when setting up an Information Policy and Plan. In most cases, the most significant document in this framework will be the business plan.
2. Tactical Management (*business process management*) indicates the information, which is necessary in order to control and implement a process efficiently.
3. From the operation (*business process implementation*) arises the request for support of the implementation of a business process. One solution for this demand is to provide information by means of an IT facility, but another is to provide some training or alternative solutions.

Only the principal inputs and outputs of the described processes are dealt with. In almost all cases, it is a matter of full interaction instead of a one-way-flow.

Information Management

The Information Management process group translates the demands brought forward in the organisation processes into requirements or tasks that can be met with IT facilities. Given the questions of those responsible for a process and given the information plan, the most important step is that of prioritising the requests for information facilities.
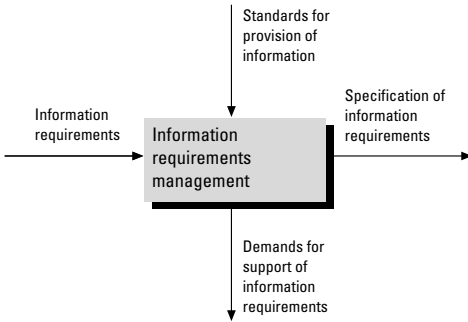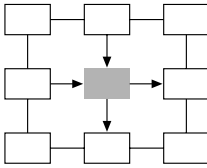

Information policy
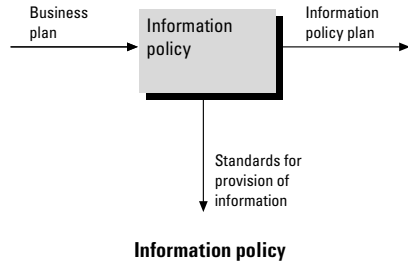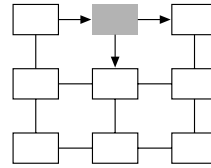
Process outline/activities

This process translates the organisation's objectives and strategy into standards and plans for the information infrastructure. It also draws up guidelines that the adjoining processes should comply with.

Output process

• The Information Policy and Plan contain a framework which determines whether or not requests for IT facilities should be honoured. This framework can be set up as a blueprint for the information infrastructure. In more dynamic situations, it is more likely that a structure will be set up, which determines the urgency and priority on a case-to-case basis.

• The Information Policy provides guidelines for the way in which information requirements are to be modelled. An important guideline in this framework could be that the needs should suit the corporate data model. The long-term vision and priorities of automation are captured in the Information Plan.

Information requirements management

Process outline

This process looks at ways in which the information requirements of the organisation processes can be fulfilled. In doing so, the various requirements are interrelated and it is determined on the basis of the Information Policy, which requirements are suitable or unsuitable for automation. Requirements which are suitable for automation are then modelled and specified in greater detail.

Activities

This process focuses on carrying out information analysis and analysis of the processes that are necessary in order to collect and record the information. The information analysis not only concentrates on the information required for a specific question, but that information is then also analysed in relation to other (existing) databanks. A corporate information model is of great value to the successful implementation of this process. After it is determined which information is necessary, and which processes can be used to collect and record information, it is possible to determine on the basis of the Information Policy, whether these requirements are of sufficient priority to be supported by an automated tool.

If this is the case, the requirements are then specified in greater detail so as to be translated into an IT facility.

Output process

1. Information requirements specification
The functional specification consists of a description of the acquired data (entities, attributes and relationships), the necessary transactions with, and the presentation of this data.
The transactions are specified in functions, control and behaviour in time, process rules and organisation. It is possible to limit the specification of the transactions to that of facilities with which the user (him/herself) can define the transaction.
The necessary behaviour and support is specified in relation to the transactions and the general IT facilities:
• availability and performance;
• technical support and delivery.

2. Demands for information requirements support.
The following demands are made for *Functional Support for Use of IT Facilities*:
• business help desk opening hours and response times;
• handling method and times for user-incidents;
• demands for user training;
• handling method and times for amendments;
• the deployment and use of facilities in order to be able to adapt functionality, communication and presentation;
• handling method and times for production orders.

Information requirements support
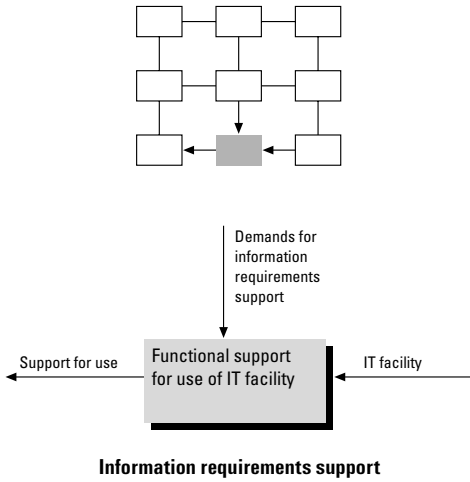
Process outline

This process provides *Implementation of Business Processes* with direct support in the use of IT facilities. The process in implementation poses questions regarding the functionality of the service and simple change requests to *Functional Support for Use of IT Facilities*. Functional questions are answered here. Requests for change (delivery of standard copies, simple queries and the like) are transformed into orders for *IT Facilities Delivery and Maintenance*.

Requests for change relating to information are transferred to *Information Requirements Management* and decided upon after consulting with management.

Activities

Incident management
- to accept and register 'functional incidents';
- to diagnose incidents (is the user unsure about how to use the service, or does the service fail to work);
- to help the user find a solution through giving advice;
- to report an incident in the IT facility to the IT facility's incident management;
- to monitor fault progression.

Problem management
- to classify registered functional incidents and problems;
- to investigate the causes of functional incidents and problems;
- to develop suggestions for removing the causes. For example, these suggestions could be functionality changes, user interface improvements or organising training.

Change management
- to deal directly with requests for functionality communication and presentation changes (building queries, modifying screens and fields, etc.);
- to hand out orders for simple changes (quick services);
- to implement new functionality in the user organisation (acceptance tests, training, data conversion etc.).

Production
- training;
- report production;
- to provide and/or deal with processing orders;
- to maintain core data and user settings.

This process is very similar to the *Delivery and maintenance of IT facilities* process (functionality versus technology) and should be completed coherently.

Information Technology Management

In the process group Information Technology Management, the existing services are kept in existence according to set service levels, developing new services if necessary.

Information technology policy

IT facility management
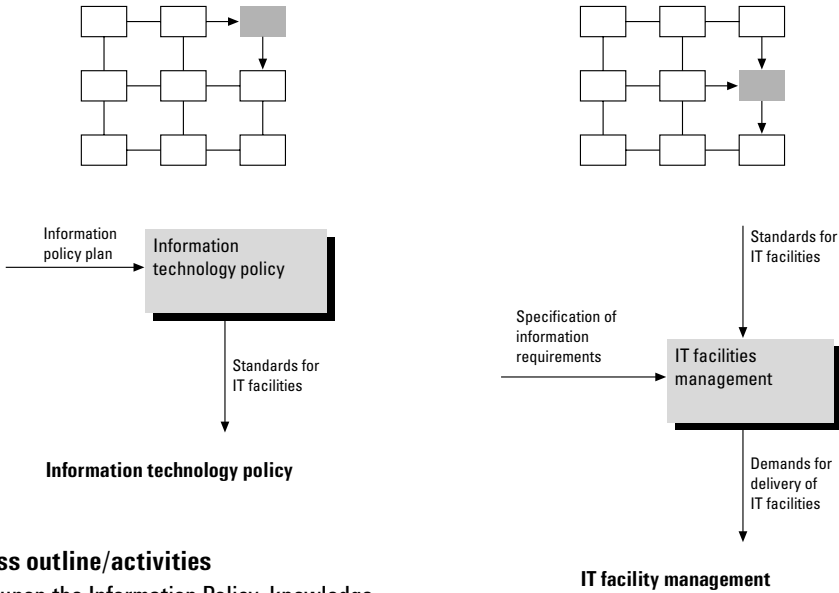
Process outline/activities

Based upon the Information Policy, knowledge of information technology, new technological advances and existing IT facilities, this process creates standards and plans for management and development of the IT facilities.

Output process

The standards concern:

- current and desired system architecture;
- current and desired data structure (what data where);
- current and desired infrastructure;
- management methods (e.g. ITIL, IPW, ISM);
- development methods;
- hardware and software to be used;
- generic set-up and quality parameters for service levels;
- guidelines in accordance with the decision of how and when new technology is to be used.

Process outline

IT Facilities Management meets information requirements with IT facilities, according to the same architecture as was specified for that process. After IT facilities have been defined, this process ensures that the facilities continue to be provided according to the agreed service levels.

Activities

The *IT Facilities Management* and *IT Facilities Delivery and Maintenance* processes contain tactical and operational processes, as documented in the ITIL/IPW/ISM standards.
The most significant activity in this process is the integration of several components into a single IT facility which meets the information requirements. The components include technical infrastructure, application software and processes, and services. The various components will be delivered often by various internal and external parties.

Output process

Agreements and reports for the benefit of Information Requirements Management
The way in which the information requirements are met with IT facilities is specified in a service level agreement by means of *Information Requirements Management.* This agreement specifies:
• functionality (which operations should be executed with what data?);
• behaviour (the where, what and when of data);
• support (batch processing, fault fixing, implementation of changes and the like).

Specifications for the purpose of IT Facilities Management and Maintenance
Specifications are given for each individual component belonging to the IT facility, regarding:
• functionality;
• behaviour;
• support.

Naturally, the agreements with the suppliers of various components should provide sufficient guarantees that the agreements concerning the entire IT facility can be lived up to.

Demands for delivery of IT facilities

IT facilities

IT facilities delivery and maintenance

IT facilities delivery and maintenance
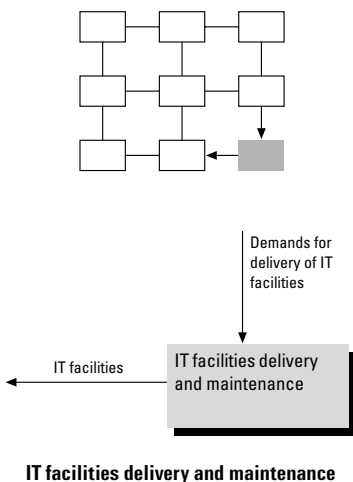
Process outline
This process provides the Implementation Business processes with IT facilities directly and through *Functional Support for Use of IT Facility*. This is determined via the *IT Facilities Management* process. The process structure can be based on ITIL, IPW and ISM.

Activities
The actual delivery takes place on the basis of the IT facility agreed upon in the *IT Facilities Management* process. Therefore, the primary activity is to maintain the IT facilities as they were initially agreed upon.
However, it is possible that the delivery of an IT facility no longer meets the agreed service level. The incident process is then triggered. This process drives the service back to the required level as quickly as possible.
If necessary, the underlying causes of the disruption can then be investigated in the problem handling process.
Finally, the change process makes alterations to the IT facilities agreed upon so as to ensure that the IT facility remains in keeping with the organisation processes.
In this respect, introduction of a new IT facility would be considered as an initial change. Such major changes usually take place in the context of a project, however, naturally, they do remain part of a process.
Regarding the change processes, an important distinction is made regarding the IPW model. Recent versions of the IPW model talk of 'development and maintenance (projects)' and 'implementation management'. In the above process model, these processes have been replaced with 'implementation of type changes' and 'implementation of copy changes'. Both processes are applicable to either software changes or hardware changes, or another component of the information system.
It is of critical importance that only tried and tested copies are installed in the production environment. If there is a type available, which is

certified in this manner, it is possible to implement copies of that type directly.
If not, a new type or version of an existing type should be developed first.

Output process

IT copies

- hardware, systems software, network, databases, and application software copies provided by the production environment to users which, individually and/or collectively, deliver the agreed functionality and behaviour.
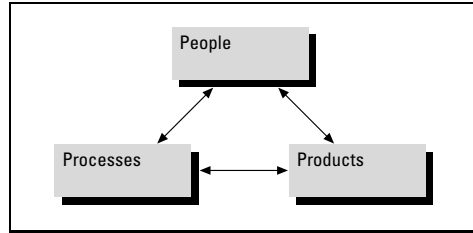
IT support

- handling change requests through to delivery of existing or yet to be developed IT copies;
- execution of production orders;
- handling and solving IT incidents.

Conclusions

The MIP model's 3 × 3 matrix provides a foundation for management issues such as:

- installation and connection of IT management processes and organisations;
- outsourcing;
- suitability and cover of other methods.

Figure 3   ISM's organisation paradigm

The comparison between other process models and MIP provides a context for those models. In this way, the operational ITIL processes from the Service Support set can be found in the *IT Facilities Delivery and Maintenance* unit at the bottom right. The tactical ITIL processes from the Service Delivery set are placed in the process unit at the centre right: *IT facilities management,* and the strategic ITIL processes from the Managers set are placed in the process unit at the top right: *Information Technology Policy.*
Assigning a destination to elements from the triple maintenance model (Looijen) and process models such as ITPM, IPW, and ISM (refer to the relevant contributions elsewhere in this Guide) is also fairly straightforward.
The MIP model does not imply anything about the organisation. It does outline the processes (process groups) which require fleshing out. Therefore, entirely in keeping with ISM's organisation paradigm, MIP only fleshes out the process infrastructure (see Figure 3).