

Unit 15 – Information management



Unit 15 - Learning Objectives

To gain an understanding of the following:

- Sources of information
- Gathering data and assessing its integrity
- Organising, storing, and retrieving information
- Processing information and data
- Developing systems for security and confidentiality of information
- Understanding the importance of version control

Document Control

An appreciation and understanding of the specific nature of document control and communications and the importance of keeping records of project activities is essential to the success of the project.

Project documentation can be defined as that information either in paper or electronic form, which is essential to control all aspects of a project from initial conception through to completion and project closure.

The communication of information through the availability of up-to-date project documentation at the point of use, with clear identification, indication of its current status and changes since its inception, is essential for the efficient operation of a project.

Information management changes during the project life cycle in terms of understanding what is needed, who to disseminate information to, when to issue information and when to destroy it. However, pertinent information must adhere to the communication plan.

Further complexity arises when considering commercial confidentiality and statutory obligations such as information security and freedom of information. Information management in a project needs to integrate with the organisation's information management process.

Configuration management is a good method of controlling the integrity of plans and documents throughout the project life cycle. A configuration management process is described later in this module.

Information Management

The following description of information management is taken from the APM Body of Knowledge

Information management is the collection, storage, dissemination, archiving and appropriate destruction of project information. Information reporting takes information and presents it in an appropriate format which includes the formal communication of project information to stakeholders.

Information management describes the means by which an organisation efficiently plans, collects, creates, organises, uses, controls, disseminates and disposes of its information, both structured records and unstructured information.

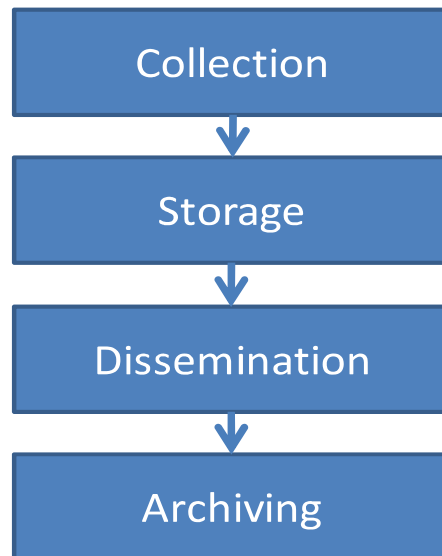
Through this it ensures that the value of that information is identified and exploited to the fullest extent, both in support of its internal operations and in adding value to its service delivery functions.

Projects generate, utilise and absorb significant quantities of information. It is important that there is an appropriate process in place to manage the information. In managing information, consideration also needs to be given to communication and formal reporting to stakeholders. Without the availability of appropriate, timely and accurate information,

projects would necessarily be chaotic and any decisions taken would be merely arbitrary, even capricious.

Information Management Process

The following diagram is an example of a simple information management process.



Collection

All appropriate project-related information must be collected e.g. end of phase reports, risk logs. The methods used to collect information must be determined to prevent information from being missed. The project manager has overall responsibility for information management but it is important that others contribute.

Information may be collected from many sources including

- Internal project workforce
- External project workforce e.g. contractors and sub-contractors
- Suppliers
- Client
- End users
- Other internal teams or departments e.g. finance, accounts, HR, procurement.

Project managers should make it clear to everyone involved in the project what information they will be expected to provide, in what format, when and how often. For the internal workforce this can be achieved through their individual key work objectives e.g. specifying that production of performance data is required as well as performing the allocated work packages or tasks. For external contractors this requirement e.g. for regular performance related data could form part of the contractual obligation.

Storage

All information relating to the project must be stored so that members of the project management and project team who need access to the information are able to gain that

access. It is highly likely that project information will be stored electronically. Some project information will be sensitive or confidential in nature some will not. This should not be left to chance. It is therefore important to decide:

- What information should be stored securely
- How should it be stored to limit access
- Who should be authorised to access it
- What information is suitable for general release e.g. to aid good communications

Finding the answers to these questions will create the secure environment needed for the project information. The responsibility for managing information during the project lies with the project manager however ultimately the organisation has overall accountability for the security of information.

In the event of any breach of security it is the organisation which would face the consequences. It is therefore important that others contribute to the decisions on the aforementioned questions and should include the sponsor, steering group, project team and in some instances the external client. Any procedures developed will have to comply with legal requirements such as the Data Protection Act.

Dissemination

The information that has been collected must be disseminated to the correct people. This can be done using a variety of mediums, use of email, formal written reports, face-to-face meetings, newsletters etc. Reporting procedures should be part of the communication plan and should specify what format the reports should take as well as the frequency. The following three formats should be considered

Report everything – on the plus side reports of this type are detailed and thorough but are cumbersome and time consuming for the project manager to compile each week/month. The volume of information may also be overwhelming for the reader and important matters could be overlooked because of the scale of the reports.

Exception reporting – at the opposite end of the scale and means that reports are only provided when things are not going to plan (or are outside of agreed tolerances), for example, if things are too far ahead of or too far behind schedule, if you have over-spent or under-spent or if the quality of the deliverables is better or worse than planned. Reporting by exception as a method is useful in reducing the burden of reporting, but it is important to note that it requires a level of trust between the project manager and the stakeholders. There must be a clear understanding when using this method that no news is good news and that anything to the contrary will be reported and not simply ignored.

R.A.G. (Red Amber Green) – this method lies somewhere between the other two and is a compromise but effective method. All information required for project reports is agreed and set out in a table format including any performance indicators cost, time, quality etc. In the same way as in exception reporting tolerances will be agreed for each area. The project manager is then able to provide an abbreviated project report in the following way

- Green – performance is on plan
- Amber – performance is not on plan but within tolerance
- Red – performance is outside of tolerance

Any red areas will be supported by a narrative which should address the causes and proposed recovery plan. Some organisations may expect a brief narrative for amber areas particularly if monthly reports indicate the situation is worsening rather than improving.

This is a format often preferred by stakeholders as everything is available but attention is focussed on the areas of most concern.

Archiving (and Appropriate Destruction)

Project Archiving is an essential part of the Project Close-out process. Although a project's 'Lessons Learned' may have been disseminated, a future project manager or other members of staff may wish to reference information from previous projects.

This information may include, but not be limited to:

- Cost Variances.
- Schedule Variances.
- Durations to help build Norms information.
- Contractor or sub-contractor performance.
- Individual performance records.
- Contract information to support dispute resolution.
- Detail of risks, referenced from the Corporate Risk Register.
- Project Plans.
- Risk Plans.

Who is involved in information management?

Three main roles are involved:

- The owner of the information, who is responsible for a specific item of information and accountable for its accuracy, availability and security.
- The custodian of the information, who is responsible for maintaining the underpinning IT and service delivery facilities.
- The user (both internal and external), whose access and use of the information are specified by the owner and enforced by the custodian, where appropriate.

Management is responsible for the governance of information as a corporate asset. These requirements apply to all the information assets of the organisation.

Outcomes from effective management of information

Information is a key resource of the organisation along with people, finances and material assets; information is a business issue.

Through effective management of the organisation's information resources and information systems corporate managers can:

- Add value to the services delivered to customers.
- Reduce risks to the business.
- Reduce the costs of business processes and service delivery.
- Stimulate innovation in internal business processes and external service delivery.

Knowledge management

Knowledge management is another important aspect of information management. It is about making information usable, so that some form of action can be taken on the basis of that knowledge. It is often the product of project and post-project reviews incorporating lessons learned from each. Reference to this material by project managers assists with future project management, develops the individual and increases the organisations project maturity.

Knowledge management comprises:

- Intellectual capital (knowledge assets held by the organisation, including the expert knowledge of individuals).
- Computer-supported collaborative work (ways of facilitating exchanges of knowledge amongst working groups).
- Employee empowerment (ways of enabling individuals to benefit from the organisation's collective knowledge).

Configuration Management

Configuration management comprises the technical and administrative activities concerned with the creation, maintenance and controlled change of the configuration throughout the project life cycle.

A configuration is the functional and physical characteristics of the final deliverable as defined in technical documents and achieved in the execution of project plans. These plans should contain all items that can be identified as being relevant to the project and that should only be modified after relevant authorisation.

management can therefore be regarded as asset control and is essential whether one or more versions of a deliverable will be created. At its simplest, configuration management must involve version control (APM BoK).

Configuration management process

Planning

Configuration management planning is the foundation for the configuration management process. Effective planning coordinates configuration management activities, in a specific context over the product life cycle. The output of configuration management planning is the configuration management plan.

The configuration management plan for a specific product should:

- Be documented and approved.
- Be controlled.
- Identify the configuration management procedures to be used.
- Make reference to relevant procedures of the organisation wherever possible.
- Describe the responsibilities and authorities for carrying out configuration management throughout the project life cycle.

The configuration management plan may be a stand-alone document, part of another document or composed of several documents.

In some situations the organisation will require a supplier to provide a configuration management plan. The organisation may wish to retain such plans, either as stand-alone documents or to incorporate them into its own configuration management plan.

Identification

The selection of configuration items and their inter-relationships should describe the product structure. Configuration items should be identified using established selection criteria. Configuration items should be selected, whose functional and physical characteristics can be managed separately to achieve the overall, end use performance of the item.

Selection criteria should consider:

- Statutory and regulatory requirements.
- Criticality in terms of risks and safety.
- New or modified technology, design or development.
- Interfaces with other configuration items.
- Procurement conditions.
- Support and service.

The number of configuration items selected should optimise the ability to control the product. The selection of configuration items must be initiated as early as possible in the product life cycle. The configuration items should be reviewed as the product evolves.

Control

After the initial release of product configuration information, all changes should be controlled. The potential impact of a change, customer requirements and the configuration baseline will affect the degree of control needed to process a proposed change or concession.

The process for controlling the change should be documented, and should include the following:

- A description of, justification for, and record of, the change.
- A categorisation of the change, in terms of complexity, resources and scheduling.
- An evaluation of the consequences of the change.
- Details of how the change should be authorised.
- Details of how the change should be implemented and verified.

Status Accounting

The configuration status accounting activity results in records and reports that relate to a product and its product configuration information. The organisation should perform configuration status accounting activities throughout the life cycle of the project, in order to support and enable an efficient configuration management process.

During the configuration identification and change control activities, configuration status accounting records will be created. These records allow for visibility, traceability and for the efficient management of the evolving configuration.

They typically include details of the project configuration information (identification number, title, effective dates, revision status, change history and its inclusion in any baseline), the product's configuration (part numbers, product design or build status), the status of release of new product configuration information and the processing of changes.

The evolving product configuration information should be recorded in a manner that identifies the cross-references and interrelationships necessary to provide the required reports.

To protect the integrity of the product configuration information and to provide a basis for the control of change, it is recommended that configuration items and related information be held in an environment that:

- Is commensurate with the conditions required (e.g. for computer hardware, software, data, documents, drawings).
- That provides protection from corruption or unauthorised change.
- That provides means for disaster recovery.
- That permits retrieval.

Audit

Configuration audits should be performed in accordance with documented procedures, to determine whether a product conforms to its requirements and product configuration information.

Normally there are two types of configuration audits:

- A functional configuration audit is a formal examination to verify that a configuration item has achieved the functional and performance characteristics specified in its product configuration information.
- A physical configuration audit is a formal examination to verify that a configuration item has achieved the physical characteristics specified in its product configuration information.

A configuration audit may be required before the formal acceptance of a configuration item. It is not intended to replace other forms of verification, review, test or inspection, but will be affected by the results of these activities.

Closeout

The function of the configuration process in the project closeout is to ensure that the acceptance criteria of the deliverables have been met, that the deliverables are fit for purpose.

Similarities between configuration Management and version control.

Configuration management is the administrative work that has to be done to create unique identities for configuration items, and to control changes as they occur.

Version control is similar, in the respect that it is a methodology of recording change, usually to plans or documents.

E.g. If you were building a house, the architects plan for the house would be a configuration item. If the plan was changed, you would need to operate change control and have a system to update and record the change. For this you would use version control to record the update. The original plan for the house could be version 1; the updated plan could be version 1.1.

Some people do relate configuration management to version control, but it is probably more accurate to describe it as very detailed change control.

Learning Objectives

You should now have an understanding of the following:

- Sources of information
- Gathering data and assessing its integrity
- Organising, storing, and retrieving information
- Processing information and data
- Developing systems for security and confidentiality of information
- Understanding the importance of version control