ASG-MethodManager®
Strategic Information Planning - Manager Method

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Preface

This *ASG-MethodManager Srategic Information Planning - Manager Method* describes ASG-MethodManager's (herein called MethodManager) implementation of the Manager Method for Strategic Information Planning.

MethodManager is repository-driven. The concept of the repository grew out of the original concept of the data dictionary, on which the dictionary element of the Manager Family of Program Products was based. This concept has expanded significantly since its introduction. Different vendors have concentrated on different aspects of the functionality now attached to the data dictionary concept. These vendors have introduced different terms to differentiate their dictionary products from those of other vendors. Thus there is now available in the market place a range of different vendor products, using terms such as catalog, directory, encyclopedia, knowledge base, lexicon, or repository. ASG's Manager Products have consistently remained in the forefront of this expanding technology, providing the full range of functionality in a Corporate Dictionary/Repository which can peacefully coexist with the more specialized and focused dictionary products of other vendors. Thus, in the context of ASG's Manager Products, the terms dictionary and repository are synonymous. In MethodManager environments the term repository is used, for consistency with the terminology of the AD/Cycle environment.

However, there will be circumstances in which you will also see the term *dictionary*; for example, in messages, or when working in Expert Mode, or when accessing InfoSystem. This arises where MethodManager utilizes functionality inherent in other Manager Products which have been formed into being an integral part of MethodManager. In those products, ASG chose to use dictionary as still most aptly describing the broad functionality ASG's Manager Products provides, and the environment which the Manager Family creates. In the words of Webster's Ninth Collegiate Dictionary's most appropriate definition of a dictionary:

> "4: a list (as of phrases synonyms or hyphenation instructions) stored in machine-readable form (as on a disk) for references by an automatic system (as for information retrieval or computerized typesetting)."

This publication is intended for the members of the team undertaking a Strategic Information Planning exercise, using the Manager Method, to ensure that the organization's information delivery mechanisms reflect real business needs and priorities.

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ASG welcomes your comments, as a preferred or prospective customer, on this publication or on MethodManager product.

About this Publication

This publication consists of these chapters:

- Chapter 1, "Introduction," provides an overview of the Strategic Information Planning (SIP) method.
- Chapter 2, "Phase 1 - Gaining Commitment," provides activities and subactivities for the first phase of SIP.
- Chapter 3, "Phase 2 - Short Strategy Study," provides activities and subactivities for the second phase of SIP.

Publication Conventions

Allen Systems Group, Inc. uses these conventions in technical publications:

Convention	Represents
ALL CAPITALS	Directory, path, file, dataset, member, database, program, command, and parameter names.
Initial Capitals on Each Word	Window, field, field group, check box, button, panel (or screen), option names, and names of keys. A plus sign (+) is inserted for key combinations (e.g., Alt+Tab).
`lowercase italic monospace`	Information that you provide according to your particular situation. For example, you would replace *`filename`* with the actual name of the file.
`Monospace`	Characters you must type exactly as they are shown. Code, JCL, file listings, or command/statement syntax. Also used for denoting brief examples in a paragraph.

1 Introduction

Senior executives invest in application development in order to better support business activities and make their businesses more profitable. Achieving return-on-investment (ROI) has become a responsibility for those involved in application development who for their part must decide how to do it.

For application development to improve the profitability of a business you need a mechanism to make the development life cycle sensitive to, and driven by, business considerations.

Using the Manager Method for Strategic Information Planning will make your application development effort business-driven, increase the value it delivers, and provide a clear direction for its effective use; it helps you align your Application Development strategy to your business strategy.

The Manager Method for Strategic Information Planning is embodied in a suite of interactive functions that guide users through a strategic information planning exercise and are supported by in-context help and online tutorial; collectively, these latter features are called the Strategic Information Planning (SIP) model.

This online approach to strategic information planning makes it easy for you to keep a Strategic Information Plan up-to-date and consistent with any changes that occur in your organization. The online tutorial is tailorable so you can combine the latest planning methodologies and techniques with your business' existing standards and practices.

MethodManager's Dictionary/Repository Information Model (MDRIM) enables you to model the organization, functions, and data that your business relies on, in the repository. Collectively known as the Enterprise Model, these Models are mapped against business factors such as goals and critical success criteria and against existing systems.

Affinity analysis functions automate the process of analyzing this information by grouping entities associated with particular subject-areas. For example, you can identify those systems which most support your business strategy by applying the affinity analysis functions to matrices of systems against goals.

The SIP method and its associated model exploit the best of IBM's Business Systems Planning (BSP) and they use MethodManager's cooperative processing environment to get the best of Workstation diagramming (to build an enterprise model, for example) and mainframe tools; the mainframe repository is used as the single point of control.

You can tailor all aspects of the SIP model and you can tailor the MDRIM to suit your organization's particular needs or the needs of a particular project. The SIP model is a Life Cycle Model defined by ASG using the facilities for building automated life cycles (Life Cycle Models) provided by MethodManager's LifeCycle SERVICES: the name of the Life Cycle Model is LC-MMR-SIP. Refer to *ASG-MethodManager Administration* for details of creating and tailoring Life Cycle Models.

A DOCUMENT member type called DC-MMR-SIP is provided in the Administration repository that enables you to reproduce the contents of publication using the supplied Documentation Functions. If you tailor the SIP model you can easily customize the documentation too.

2 Phase 1 - Gaining Commitment

Gaining commitment is the first phase of a Strategic Information Planning (SIP) study. It consists of activities aimed at securing the willingness of management to commit resources to the study and to heed and act on its findings and recommendations. Without that commitment, the study will either be dropped before its conclusion or its findings disregarded by less senior managers.

By publicizing its commitment, senior management makes known their recognition that the study is of importance to the whole enterprise's long-term prospects and is not just of local or passing interest.

Therefore, there is a need to secure this commitment before tying up resources in a study. These are the resources required:

Key people's time. The success of the study, and the quality of its findings and recommendations, depends on obtaining the views of executives about the business.

Manpower. The study requires enough people to fill administration and project management roles.

Activities in Gaining Commitment

The process of gaining commitment culminates in a presentation designed to spell out to senior executives the objectives, the benefits, expected outputs, and resources required for an SIP study. The aim is to get executives to understand the need for a study and to commit to its initiation, its completion, and the implementation of its recommendations.

One way to begin gaining this commitment is to arrange for an executive visit to a site which has successfully completed an SIP study. Another way is to arrange a study orientation session for executives. These are the activities in gaining executive commitment:

Establish the scope of the study. Determine the range of organizational and business units to be studied.

Establish the goals of the study. Agree and state goals for the study, in terms of the business requirements of the enterprise.

Develop the business reasons for the study. Justify the need for a study in terms of business goals.

Define the role of the team leader and of the team members. Determine which people in the enterprise should participate in the study.

Develop the project schedule and cost estimates. Determine the time and other resources required, and produce a work plan.

Perform a risk analysis. Assess the risks involved in undertaking a study and determine means of minimizing them.

Make a presentation to management. Present the proposal to executives and secure the allocation of resources to the study. Senior management signals its commitment by publishing a letter announcing the start of the study which emphasizes its importance to the enterprise as a whole, and stresses the need for other management to participate and contribute.

Activity 1 - Establish Scope Of Study

The goal is to determine factors which establish the scope of the study.

Several factors determine the scope of a proposed study. These factors need to be defined, discussed, and agreed before seeking commitment.

Establishing the scope of the study consists of a series of subactivities that address these issues:

- Which business areas or organizational units will be directly studied?
- How long is the study likely to take?
- What resources, in terms of time and effort, will be required to carry out the study?
- What are the aims and goals of the study, and how do those goals fit the present and future business requirements of the enterprise?
- For this enterprise, what are the likely benefits of an SIP study?
- What obstacles are there to the successful completion of a study?
- Does the enterprise have the right level of expertise to carry out a successful SIP study, or will it be necessary to seek outside assistance? Who are the best people in this enterprise for carrying out the study?
- What are the risks involved in initiating a study now? How can these risks be minimized?

Subactivity 1 - Establish Business Areas

The goal is to determine the scope of the study and determine the boundaries of the business units allocated to each team member for study.

It is the responsibility of the chief sponsor to determine the scope of the study.

The boundaries of the business units which are studied must be clearly defined, so that the team knows exactly what to study. Once the area to be studied and the boundaries of the units within it have been defined, the study can begin.

Note:

Although the scope of the study has to be delineated, any results or reconditions resulting from your work must be seen as impacting the whole organization.

The study may embrace more than one organizational unit. SIP is most beneficial when dealing with multiple business functions because it is designed to identify requirements for data sharing and integration across organizational, departmental, or functional areas.

The study may focus on:

- A major operating division
- A group of divisions
- The whole enterprise

Prerequisite: None	Optional
Deliverable: Business Areas established	Optional

Subactivity 2 - Set Goals for Study

The goal is to provide a definition of the expected state or position of the enterprise after the study, by stating the goals of the study.

In the context of SIP, a goal is a statement or position that an organizational unit wishes to attain. A goal can be permanent and ongoing (strategic) or short-term.

Ensure the goals you set are:

- Written
- Clear and concise
- Worded to make it easy to determine how well they have been met
- Specific to the enterprise

You may state the goals of an SIP study on different levels. They can be tailored to fit the particular enterprise being studied.

Level I

- Tie information systems development to strategic business goals
- Identify and understand the current use of data and information in the enterprise
- Increase executive confidence in the systems, their quality, availability, and effectiveness
- Define an Information Architecture for the enterprise, based on business requirements
- Provide a plan for the implementation of the architecture based on business priorities
- Identify data as a corporate resource

Level 2

- Establish organizational responsibilities for functions and data
- Provide formal means that enable management to set Information Systems (IS) priorities which are independent of departmental interests
- Heighten and broaden management awareness of the goals of the enterprise as well as awareness of obstacles to attaining them
- Lay foundations for long-life Information Systems capable of surviving change and which protect the organization's investment in Information Systems resources
- Enable management to plan Information Systems resources that support the business goals of the enterprise
- Improve relationships between the Information Systems and user departments

Inputs
The information collected about the enterprise's current information structure.

The information collected about the enterprise's current business methods and business needs.

Outputs
A written list of goals for the study.

Prerequisite: None	Optional
Deliverable: Study Goals Set	Optional

Subactivity 3 - Develop Business Reasons

The goal is to build a good business-orientated justification for doing the SIP study, one which convinces participating executives that they must be fully committed to the study.

Those promoting an SIP study should meet a senior executive to reach agreement on the justification for the study. The justification should include the possible benefits of the study any possible obstacles.

The goals of any proposed SIP study should also be identified and discussed. You should present both the goals and the justification to executives at the end of this phase as part of the request for commitment.

You may wish to use these considerations to form the basis of justification:

Potential Benefits. These are potential benefits of an SIP. (They are not presented in any order of importance; the importance of each depends on the particular enterprise.)

- Improved use of information and data processing resources
- A better understanding of future Information Systems needs based on business-related priorities
- Greater management confidence in the quality and timeliness of information provided by Information Systems resources
- Better planning and monitoring of Information Systems implementation from a business perspective
- A systematic approach for setting priorities for the implementation of Information Systems, addressing business priorities of the whole enterprise rather than those of specific functional areas
- Coordination of Information Systems with the goals and budget of the enterprise

It is also likely that those who take part in the study will emerge with a better understanding of how the whole enterprise works.

General Goals of an SIP Study. These are goals of an SIP study:

- Define an Information Systems architecture supporting the business goals of the enterprise
- Address the needs of all management levels
- Provide data consistency throughout the enterprise, based on a realization that data and information are resources to be managed
- Implement systems capable of surviving change and therefore provide a better return on investment in Information Systems resources
- Develop a tactical plan for the orderly implementation of systems, based on clearly determined business priorities

Possible Obstacles. Any of these factors may be a reason for not going ahead with a study at a given time:

- There is major reorganization in progress
- The organizational units within the proposed scope of the study are widely scattered geographically, so that participating in the study would involve too much travel for the team members
- The number of executives to be interviewed would be greater than 20
- There is too great a degree of autonomy within each individual organizational unit to allow the results to benefit the whole enterprise

Prerequisite: None	Optional
Deliverable: Business Reasons Development	Optional

Subactivity 4 - Perform Risk Analysis

The goal is to produce an assessment of the possible risks involved in doing this study and the likelihood of them occurring, and to agree on action to minimize each risk.

Before committing any resources to the study, management should be aware of the risks involved.

A risk analysis should form part of the presentation made to management at the end of this phase, and should form part of the Final Report. You should use your organization's usual method of analyzing risks in projects before key people begin to commit their time and energy to it.

You may wish to consider presenting the risk analysis as a table, stating the risk, followed by the planned action to alleviate it, followed by a risk level for the risk. (The risk level is an assessment the likelihood of the risk materializing in the first place and of its potential for damaging the study's progress or acceptance.)

Outputs

A Risk Analysis report.

Prerequisite: None	Optional
Deliverable: Risk Analysis	Optional

Activity 2 - Define the Study Roles

The goal is to produce a profile of the type of people who will do the best work in the study team, including a profile of the team leader.

These general guidelines can help you define these roles in the context of your own enterprise and eventually to select the team members and the team leader:

- Team leaders:
  - Be at vice-president or equivalent rank in the enterprise
  - Be knowledgeable in enterprise matters
  - Be knowledgeable about the benefits, principles and methods of strategic data planning
  - Have a broad perspective of the enterprise
  - Have first-hand knowledge of how the various departments of the enterprise interact
  - Know where to find detailed information about the business

- Team members:
  - — Be from upper and middle management
  - — Be a representative from a functional area within the enterprise
  - — Have several years experience within the organization, with sound knowledge of their own area, and an awareness of the enterprise as a whole
  - — Be able to understand and deal analytically with problems
  - — Be willing to show commitment to conclusions and recommendations that will have a long-term impact on the enterprise
  - — Enjoy the recognition and respect of other managers to ensure that their opinions will carry considerable weight

Once the presentation has been made and the study proposal approved, the team members and the team leader can be appointed. Thinking along the above lines lends weight to the proposal and smooth the selection of the team.

Inputs
An appraisal of what needs to be done for the study to succeed.

Outputs
A list of the numbers of people needed, the roles they must undertake, and the qualities and experience they must have.

Prerequisite: None	Optional
Deliverable: Study Roles Definition	Optional

Activity 3 - Develop Schedule for Study

The goal is to produce a scheduled work plan for the study, as a project in its own right. To develop cost estimates so that the cost (in dollars) of the study can be estimated.

The plan should account for each of these broad sets of activities:

- Constructing the Organizational Model
- Constructing the Entity Model
- Constructing the Functional Model
- Deriving the Information Architecture
- Developing the Application Portfolio
- Interviewing Executives
- Determining Architecture Priorities
- Presenting the Final Report

These activities may be further broken down into subactivities to produce a more detailed scheduled work plan later. The later work plan will cover all the activities and subactivities of the study, from initiation to the final report.

Develop Cost Estimates

Use your normal methods for costing projects. The aim is to arrive at a dollar figure representing the cost of resources that the enterprise is expected to contribute to the study.

These resources will be mainly the time devoted to the study by team members, but other relevant costs include the cost of setting up briefing meetings, the cost of any new automated tools required for project planning (if none already exist), and the cost of hiring outside consultants.

Prerequisite: None	Optional
Deliverable: Study Scheduling	Optional

Activity 4 - Make a Presentation to Management

The goal is to secure management's commitment to the study proposal.

Before the study begins it is important to ensure that executives understand the study, its goals, its outputs, and what will be expected of them during the interviewing program. Arrange a meeting to present the study proposal to executives and to generate a positive response.

The study proposal should cover these topics:

- The identified goals of the study
- The business reasons for the study
- Risk analysis that has to be done
- The degree of commitment that has already been gained

This presentation is prepared by the team and given by the team leader. It should inform executives about SIP and its rationale, and provide details of the study, such as why it is being done at this time, who it involves, and how it benefits the whole enterprise.

Subactivity 1 - Preparing the Presentation

The goal is to prepare and present a briefing presentation for all the executives who will be interviewed as part of the study, and for any others who wish to attend. Do this before the study begins.

Prepare a handout for distribution at the presentation outlining the major topics to be discussed. The handout should cover in outline:

- A high level overview of SIP
- The business reasons for proposing
- The scope of the study (that is, the parts of the enterprise to which the study will apply)
- A review of the study schedule
- Specific information about what will be output from the study (that is, the study report containing the Information Architecture and a Tactical Implementation Plan)
- The degree to which executives will be expected to participate
- A schedule for the start and completion of the interviewing

Prerequisite: None	Optional
Deliverable: Presentation Prepared	Optional

Subactivity 2 - Making the Presentation

The goal is to convince participating executives of the value of the study.

The presentation to executives should explain the objectives, advantages, expected output, and resource requirements of the study. In addition, the executives will have more understanding of the need for the study if one of these activities is undertaken:

- A visit to another enterprise which has successfully completed an SIP study
- An executive orientation session
- An executive planning session

The presentation to executives should be scheduled to last approximately 1 to 2 hours. The Executive Sponsor should open the meeting with an offer of commitment and support for the proposed study.

Distribute the prepared handout.

Prerequisite: None	Optional
Deliverable: Presentation Made	Optional

Activity 5 - Review Study Proposals

The goal is to produce a final version of the study proposal.

As a result of feedback from the presentation, it may be necessary to refine the study proposal. For example, it may become apparent that the scope of the study (the business areas to be covered) should be either expanded or contracted.

This is also the time to make any minor changes to the study goals in the light of feedback gained from the presentation.

At this stage, there may be temporary blocks to the granting of executive commitment to the study. This may be because the study proposal is unclear in certain areas. You should take steps to remove these blocks before proceeding.

Inputs
Feedback from executives.

Outputs
Final version of study proposal.

Prerequisite: None	Optional
Deliverable: Study Proposal Review	Optional

Confirm Commitment

The goal is to resolve any outstanding issues with management and ensure that executives are told the purpose of the study.

These are some of the points you may need to settle at this stage:

- Resource and manpower allocation
- Extra funding that may be necessary

Compose a study announcement letter to be signed by the Chief Executive Officer (CEO) to be distributed to executives who control the functional areas covered by the study. The letter should include:

- The objectives and scope of the proposed study
- A list identifying the team leader and team members
- The potential value of the study to the enterprise
- The need for executives to be involved and to contribute

Outputs
A study announcement letter.

Prerequisite: None	Optional
Deliverable: Commitment Confirmation	Optional

3 Phase 2 - Short Strategy Study

The Short Strategy study is a set of activities whose success largely depends on the knowledge members bring to the team about their particular functional areas. Therefore, the choice of team members and of the team leader is of paramount importance.

The team will gather additional information about the areas within the scope of the study. This information will come from existing documentation, such as plans and budgets, and from a series of interviews with executives. The fact-gathering focuses on the business functions of the enterprise and on the entities created and used by the functions. The team also examines current Information Systems (IS) support for the functions and takes into account any plans for future IS support.

The output from this phase is an Information Architecture for the organizational units covered by the study. The general flow of activities in the Short Strategy study are outlined in this chapter.

Note:

Presenting the flow of activities as a sequence does not imply that they should be done strictly sequentially or that one has to be finished before the next activity can begin. In practice, phases and activities are done in parallel and there may be many iterations.

Preparing for the Study

This consists of a set of activities to prepare for the study. These include a briefing and orientation session for the study team and a review of the study's goals. At this stage, you should produce an outline of the structure and content of the study's final report. This outline will be fleshed out as the study progresses.

Provision should also be made for the interviews which take place towards the end of the phase. So preparation for the study includes selection and orientation of the interviewees, and the outline of a schedule for the interviews.

A work plan for the study and project controls are also set up.

Establish the Business Perspectives

This consists of a series of activities to establish the business perspectives which will guide the study team. These perspectives are based on the sponsor's view of the enterprise. The chief activity is a review of the business and IS facts gathered so far.

Constructing the Organizational Model

The Organizational Model identifies and describes those organizational units which come within the scope of the study.

An organizational unit in Strategic Information Planning, is any unit which can be considered as a separate for the purpose of assigning operations, duties, responsibilities, and authorities. Examples of organizational units are:

- HEAD OF MARKETING
- PERSONNEL

The Organizational Model defines, describes, and records each unit, its relationships to other units, and the entities and functions for which it is responsible. This Model is built in the repository.

Constructing the Functional Model

This activity involves the development of the Functional Model which is a picture of the business functions or processes (for example, MARKETING or CAPACITY PLANNING) that need to be carried out by the organizational units within the scope of the study. The Functional Model identifies, records, and describes each function and its relationships with other functions. Any known data about entities used or created by the function is also recorded at this stage. The Functional Model is built by defining and describing the business functions in the repository.

Constructing the Entity Model

In developing the Entity Model the team identifies, describes, and records definitions of the entities used or created by the business functions. An entity is any object or concept of interest about which data can be held (e.g., CUSTOMER and PRODUCT). The Entity Model results from an analysis of the data needs of the area under investigation.

The entity model is built by defining and describing entities and their associations in repository. An association is a business-based relationship between one entity and another, for example:

CUSTOMER ORDERS PRODUCT

Developing the Information Architecture

The team now works to produce an Information Architecture, a synthesis of the information provided by the Functional Model and Entity Model.

All three models are ideally constructed and refined in parallel.

Of special interest is the natural grouping of entities into subject-areas. Subject-areas arise where entities are interrelated either by their associations, or through the fact that they are created or used by common functions or organizational units. Subject-areas indicate where individual systems or databases may be required.

Having established the Information Architecture, the team embarks on a set of activities which more precisely identify application areas for development. This exercise takes into account:

- Business requirements
- Current use of data
- Ways in which the functional areas are currently supported by Information Systems
- Plans for future support of the functions by systems
- Views and opinions supplied by other knowledgeable executives during interviews

Interviewing Executives

The Organizational Model, the Functional Model, and the Entity Model will have been built from facts gathered by the team and from the team members' own knowledge of the enterprise and of their own functional areas.

The study now continues with interviews of selected executives. The interview schedule will have been worked out during the preparation period, and the interviewees will have been briefed as to what to expect. During the interviews, the team obtains perspectives on the enterprise from the point of view of the executives responsible for the functional areas. For example, the team tries to identify the critical success factors (CSFs) for a given functional area. A CSF is an activity or set of decisions whose results, if satisfactory, will ensure successful performance for the enterprise.

Interviewing plays an important part in an SIP study because executive perception of the business, for example CSFs, must be taken into account, but may not normally be obtainable from documents.

The interviews also provide an opportunity for the team to confirm and expand on the facts gathered so far and thereby refine the Information Architecture.

Determining Architecture Priorities

Providing that the analysis of interview results is done in some consistent way, they can be used together with the Information Architecture to evaluate and prioritize systems for the purposes of Tactical Implementation Planning (TIP) and Application Development. The purpose of TIP, which may be the next phase in SIP, is to formulate an action plan for implementing the Information Architecture.

Interim results of the study are now published to reflect the findings so far and to obtain management commitment for further activities in the study. Publishing results at this stage also indicates to executives that their contributions to the study are being taken seriously, and increases their positive commitment.

Activity 1 - Prepare for the Study

The goal is to be adequately prepared before the study begins.

In order to prepare for the study, the team should attend a briefing and orientation session and review the study's goals. At this stage, the team should produce an outline of the structure and content of the Final Report. This outline will be refined as the study progresses.

Provision, should also be made for the interviews which take place towards the end of the phase. Therefore, preparation for the study includes selection and orientation of the interviewees, and the outline of a schedule for the interviews. The team should also set up a work plan and project controls for the study.

Subactivity 1 - Orient the Team Goal

The goal is to acquaint the team members with:

- The results of the study so far
- The IS activity currently going on within the organization
- The preliminary plans for conducting the study

This should be a half- or full-day session, given by the Sponsor and the team leader. There should also be a contribution from the Information Systems (IS) Director.

If any executives cannot attend this presentation, schedule another presentation which they will be able to attend. Otherwise the team leader should arrange to make a personal call on those executives.

The presentation should include an overview of SIP, its concepts, the methods used, and the expected output (that is, the various matrices and charts) produced. There should be some explanation of the expected major outcomes from the study, namely the Information Architecture, the Tactical Implementation Plan, and the Final Report. Where possible, reference should be made to other recent studies in other enterprises.

The Sponsor's Contribution

The Sponsor should present the study as an exercise which will stimulate and record the best thinking of all the executives in the enterprise. Hence the need for interviews and the commitment of all functional areas. The final recommendations of the study team will be based on the needs of the whole business, not just those of particular areas.

The Team Leader's Contribution

The Team Leader should introduce the study team and emphasize the business reasons for carrying out the study. The Team Leader should review these items:

- Activities to date
- The business reasons for conducting a study now
- The goals of the study
- The study's scope (that is, the parts of the enterprise to which the study will apply)
- The specific outputs from the study
- The expected executive participation
- The enterprise's decision making process, its key people and major problems
- The user's view of Information Systems (IS) support
- The image of the IS department

The orientation is also an opportunity for the Team Leader to address matters that would not normally be documented (e.g., policies, sensitive issues, changes planned or in progress).

The IS Director's Contribution

The IS Director presents a view of IS support within the organization. This part of the presentation should aim to cover the current status of projects, methods of project control, and the history of the major projects begun in the last two years. It should also cover current activities, major planned changes, and major problems.

Planning the Preparation Period

Preparation for the study contains a number of subactivities which need to be scheduled and assigned to individual team members. These are the subactivities:

- Outlining the Final Report
- Determining the facts to be gathered
- Selecting and orienting interviewees
- Setting up project management controls
- Developing a work plan for the Study

These tasks can be scheduled and assigned among members of the team.

Inputs

Contributions from the team leader, IS Director, and Executive Sponsor.

Outputs
A more informed study team.

Prerequisite: None	Optional
Deliverable: Team Orientation	Optional

Subactivity 2 - Educate the Team

The goal is to smooth the entry of the team members into the study, and to provide understanding of the methods of SIP and of the nature and uses of the output.

The team leader should establish an education plan, which allows for daily reviews to check progress and understanding.

It is recommended that all members attend the same education sessions so as to reach a common level of understanding and to promote team cohesion.

Prerequisite: None	Optional
Deliverable: Team Education	Optional

Subactivity 3 - Review Study Goals

The goal is to revise the current list of generalized goals, and produce a complete list of goals which are specific to the study and your organization.

In specifying the goals, the team should draw on each team member's knowledge of their own areas and on their wider knowledge of the business.

Each team member should ensure that they understand the goals and agree on the expected outputs which will address these goals. The team leader should establish whether, for example, the team is to limit its attention to management issues or whether to include operational (day-to-day) issues in its investigation.

Inputs
Provisional list of goals.
The specialized knowledge of the team members.

Outputs
A complete list of goals specific to the organization.

Prerequisite: None	Optional
Deliverable: Study Goals Review	Optional

Subactivity 4 - Outline Final Report

The goal is to establish an outline of the Final Report, providing a predetermined structure into which information can be fitted and within which team members can conduct investigations.

The culmination of the study is a presentation of executives.

The presentation covers:

- The study's findings
- Recommendations on how to implement the Information Architecture
- A Tactical Implementation Plan

This material will be published in the form of a Final Report.

The outline serves these purposes:

- It defines the contents of the report
- It establishes the sequence of the sections

The outline also makes it easy to distribute the work of producing the Final Report. In other words, specific team members can be given responsibility for delivering a given section.

Inputs
The categories of information ascertained so far.

Outputs
An Outline Report.

Prerequisite: None	Optional
Deliverable: Report Outline	Mandatory

Subactivity 5 - Determine Facts

The goal is to assemble a library of business facts and Information System facts.

These facts are to be gathered, recorded, and referenced during the study:

- General business facts
- Information Systems (IS) facts

Both sets of facts help the team determine whether the enterprise can implement future recommendations of the study. (There is MethodManager support for matching the business priorities to the organization's Information Systems capacity.)

MethodManager provides the capability to set up an index of REPORT members for keeping track of existing documentation, together with a catalog facility to aid retrieval. As a general principle, all necessary information should be available in one place, except for information that will be obtained through interviews.

You may chart and display the facts. MethodManager allows you to regenerate the output as often as you want.

Business Facts

These are the categories of business facts you should be concerned with:

- Environmental for example, government or economic factors. These are outside the scope of the study, but should be made available as background material for understanding the goals and objectives of the enterprise.
- Goals, for example, company goals. There is MethodManager support for recording facts about goals via the GOAL member type.
- Organizational for example, charts showing people, positions, expected budgets and so on. There is MethodManager support for recording these facts, via the ORGANIZATIONAL-UNIT member type.
- Planning, for example, calendars and business plans showing major projects.
- Measurement and control, for example, business reports relating to policies and monitoring.
- Operations, for example, geographical locations and functions.
- Information Systems support; that is, information on the availability of facilities such as data processing, programming. terminal, information center provision, and data administration.

Information Systems Facts

These are facts about the current Information Systems and future plans for supporting business functions with information systems. There is MethodManager support for defining and describing Systems in the repository via the SYSTEM member type.

In the course of the study, the team will be concerned with these three categories:

- Existing systems
- Planned systems
- Systems planned as a result of the study

Inputs

All existing documentation about the business and information systems within the enterprise.

Outputs

A library of business and information systems facts.

Prerequisite: None	Optional
Deliverable: Fact Determination	Optional

Subactivity 6 - Select and Orient Interviewees

The goal is to assemble a list of interviewees from the top two layers of the organizational structure. Cover these topics to carry out the final orientation presentation:

- An executive level overview of SIP, including the concept of critical success factors
- The scope of the study
- The goals of the study
- The type of interview executives can expect to have
- The kind of answers expected from them

Interviews with selected executives will take place towards the end of the Short Strategy Study phase. The purpose of the interviews is to validate the work of the team, to help determine Information Systems (IS) goals and values, and to secure further positive executive support for the study and its findings. Therefore, the interviews provide the business understanding necessary for IS planning.

Planning the interview exercise should be part of preparation for the study.

Select prospective interviewees by making a preliminary list of executives to be interviewed. The list can be refined as the team increases its understanding of the Organizational and Functional Models. The provisional list can be entered and refined as PERSON members of the repository.

Each interviewee should be responsible for a major functional area within the scope of the study or should occupy a major staff position. Quality is more important than quantity, so avoid interviewing a large number of interviewees, and avoid selecting interviewees who are likely to be concerned only with the detail of their functional area.

Prepare a briefing for those selected for interview. Executives other than prospective interviewees may attend. Prepare the orientation session (to be given by the team leader), and review the preparations with the Sponsor.

The Sponsor should reaffirm commitment by opening the orientation session. The session should last approximately 1 to 2 hours.

Inputs

A list of prospective interviewees.
A chart of the functional areas of the enterprise.

Outputs

A list of executive interviewees.

Prerequisite: None	Optional
Deliverable: Interviewee Selection	Optional

Subactivity 7 - Set Project Management Controls

The goal is to produce a preliminary study plan, including a chart to show the flow of study activities.

Use the methods of project management and control already in use in your organization to develop a preliminary study work plan to cover all activities and their schedules, from preparation to the final report. Use a decomposition technique to arrive at lower levels of detail. Individual tasks should be allocated to team members.

Produce a chart showing the general flow of the study activities, together with:

- Control points
- Major events
- Outputs
- Schedules

The major input to this subactivity should be from the team leader, because it requires good knowledge of the phases and outputs of SIP.

Inputs
List of study activities.

Outputs
A preliminary study plan.

Prerequisite: None	Optional
Deliverable: Project Management Control	Optional

Activity 2 - Construct the Organizational Model

The goal is to develop the Organizational Model and identify, describe, and define the organizational units within the scope of the study together with their goals, critical success factors (CFSs), locations, and requirements.

The Organizational Model is a hierarchical representation of all the organizational units concerned, together with their goals, CSFs, locations, and requirements. It is built up from definitions of ORGANIZATIONAL-UNIT, GOAL, CSF, LOCATION, and REQUIREMENT members in the repository. The model is hierarchical because one ORGANIZATIONAL-UNIT may contain another, and one GOAL may contain another GOAL as a sub-goal.

The information contained in the Organizational Model will later help you to identify which parts of the enterprise are responsible for which functions and ultimately to decide on the priority order in which the Information Architecture should be implemented.

You will later enhance this model (during the interviewing period) to include critical success factors and to include the requirements of the organizational units.

Subactivity 1 - Identify and Define Organizational Units

The goal is to identify the organizational units within the enterprise, with a written definition of each one.

An organizational unit is a distinct part of the enterprise. The team's best source of information about organizational units is an up-to-date organization chart. This information should be supplemented by the team members' knowledge of the structure of the enterprise.

Note:

At a certain level, the term *organizational unit* may refer to the whole enterprise, which breaks down into other units.

These are examples of organizational units:

- Product Development
- Marketing
- Manufacturing
- Eastern Division
- Corporate Headquarters

One organizational unit may be defined as containing other organizational units.

The location of each organizational unit is also defined in the repository.

Inputs

An up-to-date organization chart.

Outputs

- ORGANIZATIONAL-UNIT and LOCATION members in the repository
- Organizational Decomposition Structure Diagram showing the hierarchy of organizational units
- Organizational unit/Location Matrix

Prerequisite:	None	Optional
Deliverable:	Org-Unit Definition	Mandatory
	Location Definition	Mandatory
	Goal Definition	Mandatory
	Org Hierarchy Diagram	Optional
	Org Hierarchy Diagram	Optional
	Indented List of Org-Units	Optional
	Org-Unit/Location Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 2 - Identify and Define Goals

The goal is to produce a definition of the enterprise's business goals as being permanent, ongoing, long-term, or short-term.

In Strategic Information Planning terms, a goal is a state or position that an enterprise wishes to attain. If a goal is permanent, then it amounts to a statement of part of the enterprise's mission. If it is long term, then it is part of the enterprise's strategy. A short term goal is part of the tactical planning.

How to Formulate Goals

The following are guidelines on how to formulate goals. If the goal-setting exercise is done well, the payoff extends beyond the duration of the SIP study, since checks can later be made by others outside the team as to how well a given goal is being achieved.

First, goals must be written and recorded. This makes it easier for everyone to agree on the wording. Use GOAL members to define the business goals in the repository. A GOAL may be defined as having other GOALS as subgoals. A goal also implies a function, in that functions may be carried out to help achieve the goal. Therefore, the definition of a GOAL in the repository can be defined as implying FUNCTION members. Goals can also be related to critical success factors (CSF) and to REQUIREMENT members.

Second, the wording of statements describing goals should be consistent. A good goal statement contains 3 elements, namely:

- An action
- A time constraint
- And a cost or resource constraint

It has a general format:

To < *achievement-verb clause* > on/by < *date-clause* > at a cost not exceeding < *cost- or resource-related clause* >.

This format has the merit that it makes the statement verifiable in terms of the enterprise's resources and other factors. The more precisely you can state these factors in goal statements, the easier it is to check whether the goals have been met.

You should carefully examine each goal with this criterion in mind. For example, you might consider which of these are good goal statements and which are bad or unhelpful:

- To attain recognized market dominance for Product XYZ within the next 5 years at a cost not exceeding 15 percent of each year's revenue.
- To produce the best design for polycarbon washers by the end of the current year.
- To complete the current phase of the XYZ plan by next March at an increase in the labour requirement of 18 man-months
- To reduce by 12 percent the Division's need for contract labour within the next 3 years without increasing our training budget by more than 5 percent per year.
- To maintain our position as leading suppliers of XYZ to the ABC sector.

Inputs

Information received from management about its goals (e.g., the Strategic Business Plan, Departmental plans).

Outputs

- GOAL members in the repository
- Goal Decomposition Structure Diagram showing the hierarchy of goals.

Prerequisite:	None	Optional
Deliverable:	Goal Definition	Mandatory
	Goal Hierarchy Diagram	Optional
	Goal Hierarchy Diagram	Optional
	Indented List of Goals	Optional

Subactivity 3 - Relate Organizational Units to Goals

The goal is to define which organizational units have which goals.

Now that goals and organizational units have been defined, the relationships between the two should be defined.

This is clearly an iterative process; as you define the organizational units, you define them as being related to goals. In this subactivity, the team now goes back and firms up on the nature of those relationships. The guideline is that if an organizational unit contributes to the effort of achieving a goal, then the organizational unit has that goal, and the goal is owned by the organizational unit.

Use the Organizational Unit/Goal Matrix in this subactivity. It helps the team to:

- Identify organizational units which have goals in common
- Suggest which units may need to pool their planning and resources to accomplish the goals more efficiently
- Help identify which unit should have responsibility for ensuring that a given goal is accomplished
- Weed out units which may have been identified as having a given goal but which turn out to have no real responsibility for accomplishing it

The matrix is refined by redefining or removing GOALs and ORGANIZATIONAL UNITs in the repository.

Inputs

- Organizational Decomposition Structure Diagram showing the hierarchy of organizational units
- Goal Decomposition Structure Diagram showing the hierarchy of goals
- Definitions of GOAL and ORGANIZATIONAL-UNIT members
- Information about the relationships between the two

Outputs

- Improved definitions in the repository
- Organizational unit/Goal Matrix

Prerequisite:	Goal Definition	Mandatory
	Org-Unit Definition	Mandatory
	Indented List of Goals	Optional
	Indented List of Org-Units	Optional
Deliverable:	Goal Definition	Mandatory
	Org-Unit Definition	Mandatory
	Org-Unit/Goal Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity Q - Validate Organizational Model

The goal is to validate the Organizational Model as defined in this phase for consistency.

The organizational units, locations, and goals defined in this phase are now examined to find missing definitions, invalid hierarchies, or inconsistent relationships.

Inputs

The organizational units, locations, and goal definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined Goals	Optional
	Undefined Locations	Optional
	Undefined Org-Units	Optional
	Goals Without Org-Units	Optional
	Locations Without Org-Units	Optional

Org-Units Without Goals	Optional
Org-Units without Locations	Optional
Invalid Goal Hierarchy	Optional
Invalid Location Hierarchy	Optional
Invalid Org-Unit Hierarchy	Optional
Org-Unit Definition	Mandatory
Location Definition	Mandatory
Goal Definition	Mandatory

Activity 3 - Construct the Functional Model

The goal is to develop a Functional Model and identify, describe, and define the functions within the scope of the study together with their relationships to goals, organizational units, locations, and critical success factors.

A function is a group of logically related activities and decisions required to manage the resources of the enterprise.

These are examples of functions at the strategic level:

- PRODUCT PLANNING
- MARKETING
- MANUFACTURE
- FINANCIAL CONTROL

These are reasons for constructing the Functional Model:

- Constructing and refining the Functional Model is a key activity in SIP; the model serves to identify opportunities for the use of Information Systems that support the business.
- If a given function must be performed by the business, then for the purposes of SIP, it is immaterial who or what performs the function. Therefore, constructing the Functional Model, which is a logical model, ensures that the organization's Information Systems strategy will be unaffected by organizational changes.
- In constructing and refining the Model, the team achieves a greater understanding of how the business accomplishes its overall objectives and goals.

These are additional benefits of this activity:

- The Model serves as a basis for defining the required Information Architecture.
- The Model guides the definition of the data requirements of the enterprise (the Entity Model) because in defining a given function you also specify some of the data required for the function to be carried out.

Steps in Constructing the Functional Model

Start by identifying those functions that can be identified without additional research. Define them as FUNCTION members of the repository. Then use a process of functional decomposition to explore the enterprise's business activities and identify and define other functions and sub-functions. Initially, treat each function independently of who or what part of the enterprise performs it. At a later stage, you will explicitly relate particular functions to organizational units.

Repeat this process as many times as is necessary to produce a complete picture of the functions of the area under study. What is required is an overall picture rather than excessive detail.

Constructing the Functional Model is an iterative process. As the Short Strategy Study phase progresses and the team's understanding of the areas within its scope increases, there will be a need to return to this activity to refine the model by changing previous definitions, by defining further functions, or by deleting redundant ones.

Subactivity 1 - Identify and Define Functions

The goal is to define and rationalize the business functions of the enterprise, and increase the team's understanding of how the enterprise is managed and controlled.

At the outset, team members must be prepared to record definitions as they are established. Each member should also understand the concept of product and resource life cycles.

1. Begin by establishing product and resource life cycles for the areas within the scope of the study.

2. Identify the functions associated with the stages of the life cycle of each product or resource. (Identifying a function simply means giving it a name at this stage.) Not all functions will be associated with a product or resource; for example, functions that are related to strategic management and control. These functions also need to be identified.

   Use a decomposition technique to identify further functions and subfunctions. Take care not to waste time defining functions at a level which is too detailed for the purposes of SIP. You are seeking to identify what must be done at a business level rather than at an operational, day-to-day level.

3. Write a description of each function in the repository. Define them as FUNCTION members. Relate FUNCTIONs to LOCATIONs in cases where the relationships are known.

   Note:

   In defining functions you will also be specifying to some degree the data needs of each function, so you are already determining some of the key data requirements of the Information Architecture.

A useful guideline for defining a function is to use a verb/object format where possible for both the name and the description. For example, instead of ENGINEERING, use ENGINEERING PRODUCT. This helps to distinguish between similar functions, and further to distinguish between organizational units and functions.

These are examples of functions:

- PLAN-PRODUCTION
- PURCHASE-RAW-NATERIALS

These are examples of function descriptions:

PLAN-PRODUCTION. The activity of planning for and coordinating materials, personnel, and machinery in order to produce the finished products needed to meet forecast requirements.

SCHEDULING. The scheduling of labor and material needs to meet production and shipping requirements.

The location of each function can also be defined in the repository.

Inputs

Existing descriptions of the area covered by the Study.

Outputs

- FUNCTION and LOCATION members in the repository
- Functional Decomposition Structure Diagram showing the hierarchy of functions
- Function/Location Matrix

Prerequisite:	Location Definition	Mandatory
Deliverable:	Function Definition	Mandatory
	Location Definition	Mandatory
	Function Hierarchy Diagram	Optional
	Function Hierarchy Diagram	Optional
	Indented List of Functions	Optional
	Indented List of Locations	Optional
	Function/Location Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 2 - Relate Functions to Organizational Model

The goal is to define:

- Which organizational units perform which functions and their degree of responsibility for each function.
- Which goals imply which functions.

The Functional Model is a hierarchy of functions and subfunctions built from FUNCTION definitions.

The Organizational Model is a hierarchy of organizational units built from ORGANIZATIONAL-UNIT definitions. It has associated with it a hierarchy of goals built from GOAL definitions.

You record the relation of functions to organizational units by updating the ORGANIZATIONAL-UNIT members in the repository. One ORGANIZATIONAL-UNIT may perform more than one FUNCTION.

Group organizational units into single units where possible. You can do this in cases where several organizational units of different scope are doing the same job. For example, you could group a Sales Administration Head Office with the regional offices which it supervises.

A given organizational unit may have the major responsibility and decision-making role in a function, or it may have a major involvement or just some involvement. Defining its role will help to determine what information you need from the interviews and any problem areas which need to be clarified. If an organizational unit has major responsibility for a function, an executive from it should be interviewed.

The Function/Organizational Unit Matrix is a graphical representation of the ways in which functions relate to organizational units. It can be used to review progress in the building of the relationships.

You record the relation of functions to goals by updating the GOAL members in the repository. One GOAL may imply more than one FUNCTION.

The Function/Goal Matrix is a graphical representation of the ways in which functions relate to goals. It can be used to review progress in the building of the relationships.

Inputs

- Function/Location Matrix
- Organizational Unit/Location Matrix
- Functional Decomposition Structure Diagram showing the hierarchy of functions
- Organizational Unit Decomposition Structure Diagram showing the hierarchy of organizational units
- Goal Decomposition Structure Diagram showing the hierarchy of goals

Outputs

- A list of organizational units which have major responsibility for a function but for which no interviewee has been selected
- Organizational Unit/Function Matrix and report
- Function/Goal and Goal/Function Matrices and report
- Organizational unit/Location Matrix and report
- Function/Location Matrix and report

Prerequisite:	Indented List of Functions	Optional
	Indented List of Org-Units	Optional
	Indented List of Goals	Optional
	Org-Unit/Location Matrix)	Optional
	Function/Location Matrix	Optional
	Org-Unit Definition	Mandatory
	Goal definition	Mandatory
	Function Definition	Mandatory
Deliverable:	Org-Unit Definition	Mandatory
	Goal Definition	Mandatory
	Function Definition	Mandatory
	Org-Unit/Function Matrix	Optional
	Function/Goal Matrix	Optional
	Goal/Function Matrix	Optional
	Org-Unit/Location Matrix	Optional
	Function/Location Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 3 - Publish Results

The goal is to refine the version of the Functional Model.

Now that you have defined the functions and related them to organizational units and locations, you can extract these items from the repository:

- A list of business functions
- A description of any function identified
- A function versus organizational unit matrix

Use these outputs to refine the Functional Model by identifying further functions, by improving existing definitions, or by deleting redundant ones. Make the outputs available to the whole team and invite comments on the completeness (not the detail) of the Model.

Inputs

- A list of business functions
- A description of any function identified
- A Function/Organizational Unit Matrix

Outputs

A refined Functional Model.

Prerequisite:	Function Definition	Mandatory
	Org-Unit/Function Matrix	Optional
	Snapshot of WBSA	Optional
Deliverable:	Function Definition	Mandatory

Subactivity Q - Validate Functional Model

The goal is to validate the Functional Model as defined in this activity for consistency.

The functions defined in this activity are now examined to find missing definitions and missing or inconsistent relationships.

Inputs

The functions, organizational units, and location definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined Functions	Optional
	Functions Without Locations	Optional
	Functions Without Goals	Optional
	Functions Without Org-Units	Optional
	Goals Without Functions	Optional
	Locations Without Functions	Optional
	Org-Units Without Functions	Optional
	Invalid Function Hierarchy	Optional
	Inconsistent Orgs Funs Locs	Optional
	Inconsistent Orgs Goals Funs	Optional
	Function Definition	Mandatory

Activity 4 - Construct the Entity Model

The goal is to construct the Entity Model for the area under investigation by identifying and defining entities and their interrelationships.

In SIP, the Entity Model is the collection of entities identified by the study team as being of lasting interest to the enterprise. The Entity Model also shows how individual entities relate to each other and their connection with the Functional Model and the Organizational Model.

In constructing the Functional Model, you increased your understanding of what the business does. Now, in constructing the Entity Model, you aim to increase your understanding of the things and facts the business needs in order to operate. In the next activity, you will be bringing these two sets of findings together by specifying which functions in the Functional Model create, use, or update which entities.

Purpose of the Entity Model

The Entity Model helps provide the foundation for the Information Architecture by establishing the data requirements of the area under study.

Views of the Model can be obtained to communicate and summarize the results for the benefit both of team members and executives.

More specifically, you will use the information contained in the Model for Affinity Analysis in these stages:

- To discover how entities are naturally grouped by their interrelationships
- To discover how entities are naturally grouped through being created, used, or updated by common functions

These groupings help identify subject-areas and ultimately provide the basis for ongoing database design and detailed Application Development.

Entity Analysis is the method used in constructing and validating the Entity Model.

Steps in Constructing the Entity Model

Constructing the Entity Model includes these steps:

1. Identify an Initial set of entities; name and describe them
2. Define them in the repository
3. Refine the Model by defining more entities or removing redundant ones. Also, define the interrelationships between entities
4. Repeat the cycle until the team is satisfied that the Model is complete

Subactivity 1 - Identify and Define Entities

The goal is to produce a basic Entity Model.

This activity is the first stage in building an Entity Model for the enterprise.

An entity is any thing or concept about which data or information can be recorded. Examples of entities at the SIP level:

- CUSTOMER
- CLIENT
- DIVISION
- RAW-MATERIALS
- SUPPLIER
- SHIPMENT

Entity Analysis is the method used for identifying, describing, and specifying entities.

How to Identify and Define Entities

One way to get started on identifying entities is to write a concise description of what the business does, for example:

> The company manages and invests deposits on behalf of clients. Our earnings come from commissions charged to clients.

Stop the description at some point, identify nouns that seem to be good candidates for entities. From the above example, these words suggest three entities:

> CLIENT, DEPOSIT, COMMISSION

Entity Categories

Another way of structuring your thinking about entities is to use these categories (examples are shown to the right of each category):

Category	Example
People:	EMPLOYEE, CUSTOMER, CLIENT, SUPPLIER
Places:	REGION, RETAIL STORE, WAREHOUSE
Things:	EQUIPMENT, PART, PRODUCT
Concepts:	PLAN, JOB, LEGAL REQUIREMENT, DESIGN
Events:	CUSTOMER ORDER, SHIPMENT, TENDER, REQUEST, PURCHASE ORDER

Use these steps:

1. Identify and name an initial set of entities.

2. Group or split the entities in the light of the team's discussions about what the entity definitions mean. Make sure that you have arrived at a useful number of entities. The number should be comprehensive enough to represent the scope of the study and be at the same level and importance.

3. Name the entities as you identify them.

4. Record their definitions in the repository after the team has agreed on the definition.

As the investigation progresses and your understanding increases, refine the Model. The refining is formally done in the next subactivity, but any known information can be supplied now, by:

- Adding any known associations between entities
- Adding any known attributes of entities (avoid getting sidetracked by discussion of the detail)
- Describing each entity in complete sentences (not in note form, which would make the definitions difficult to understand by others)

Inputs
Existing descriptions of what the business does, in terms of people, places, things, concepts, and events.

Outputs
ENTITY members in the repository.

Prerequisite:	None	Optional
Deliverable:	Entity Definition	Mandatory
	Entity Definition Diagram	Optional

Subactivity 2 - Define Associations of Entities

The goal is to add information about the relationships between entities to the Entity Model.

In this subactivity, the team should specify the way in which entities are related one to another and record the relationships as associations between entities.

These are the kinds of associations of interest to the team:

- A one-association from one entity to another. For example, a one-association from EMPLOYEE to DEPARTMENT means that an employee belongs to only one department. Similarly, a one-association from OFFICE to REGION specifies that an office belongs in one region.
- A multi-association from one entity to another. For example, a multi-association from CUSTOMER to ORDER implies that you would normally expect a customer to place more than one order.
- You can define an entity as having subentities. Stating that A is a subentity of B is like stating that A is a subtype of B. For example, the entity PLAN can have as subentities STRATEGY-PLAN, TACTICAL-PLAN, FINANCIAL-PLAN, and so on.

These definitions serve these two purposes:

- They serve to refine and communicate the team's understanding of the organization's data requirements. They also help make sure the entities have been clearly delineated and understood.
- The information about associations between entities is the basis for Affinity Analysis, which allows the emergence of common data areas (subject-areas), which in turn suggest databases and applications.

Inputs

Information about entities and their relationships.

Outputs

- Improved definitions in the repository
- Entity/Entity Matrix

Prerequisite:	Entity Definition	Mandatory
Deliverable:	Entity Definition	Mandatory
	Entity Relationship Diagram	Optional
	Entity/Entity Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 3 - Derive Entity Subject Areas

The goal is to identify opportunities for data sharing by establishing natural groupings (clusters) of entities based on the relationships between them.

An entity cluster is a group of entities that emerge, after Affinity Analysis, as having a more or less strong degree of bonding between and amongst themselves. In SIP, clustering of entities can be looked at from these standpoints:

- How closely entities relate to one another, through the associations defined between and amongst themselves.
- How closely they relate to one another by virtue of being involved in the same functions.

In this subactivity, you are concerned with the first standpoint. Here, you make a first attempt at clustering, based only on entity associations as you have defined them. You will be interested in what entities naturally belong together and in the degree of cohesion between them. This enables you to verify that your entity definitions make sense, and to refine the Entity Model.

You can cluster entities by function usage in a later activity as part of deriving the Information Architecture, after the functions have been related to entities.

Inputs

The Entity Model as held in the repository.

Outputs

- Improved definitions in the repository
- Entity/Entity Matrix (unclustered)
- Entity Cluster Report
- Entity/Entity Matrix (clustered) showing potential subject-areas

Prerequisite:	Entity Definition	Mandatory
Deliverable:	Entity Definition	Mandatory
	Entity Cluster Diagram	Optional
	Entity Cluster Diagram	Optional
	Entity/Entity Matrix	Optional
	Affinity Graph of Entities	Optional
	Entity Clusters	Optional
	Clustered Entity/Entity Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 4 - Refine Entity Model

The goal is to produce a refined version of the Entity Model.

Refining the Entity Model is an iterative process of defining entities, extracting and discussing the matrices and reports, and refining the Model as a result.

Refine the Model by:

- Defining new entities or deleting unwanted ones
- Defining or deleting relationships between entities
- Renaming entities

You should ideally refine the Entity Model in parallel with the refinement of the Functional Model.

Inputs

- The Entity Model as held in the repository
- Additional information about entities

Outputs

- Improved definitions in the repository
- Entity/Entity matrix (unclustered)

Prerequisite:	Entity Definition	Mandatory
Deliverable:	Entity Definition	Mandatory
	Entity Relationship Diagram	Optional
	Entity/Entity Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity Q - Validate Entity Model

The goal is to validate the Entity Model as defined in this activity for consistency.

The entities defined in this activity are now examined to find missing definitions, and missing or inconsistent relationships.

Inputs
The entity and subject-area definitions.

Outputs
Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined Entities	Optional
	Entities Without Subject Areas	Optional
	Invalid Entity Hierarchy	Optional
	One Way Associations only	Optional

Overlapping Subject-areas	Optional
Entity Definition	Mandatory
Subject-area Definition	Mandatory

Activity 5 - Define Information Architecture

The goal is to define the Information Architecture based on the merging of the Functional Model and the Entity Model.

The team has been working on identifying and defining entities and functions. This work has resulted in a Functional Model and an Entity Model. The Functional Model contains information about the activities the business needs to carry out in order to operate; the Entity Model contains information about the objects, both concrete and abstract, that the business deals with. You have progressively refined the models as a result of Affinity Analysis on the Entity Model.

Follow these steps to define the Information Architecture:

1. Establish links between functions and entities by specifying which functions use which entities.

2. Perform Affinity Analysis on the Functional Model and the Entity Model. From this analysis emerges a grouping of entities based on their use by common functions. The basic idea is that entities that are created, deleted, or updated by a given function or set of functions form a cluster. The clusters are a preliminary guide to the extent of data sharing within the enterprise.

3. Refine the clusters to form subject-areas and define the flow of information (the data flows) between the subject-areas.

The major tool for defining and refining the Information Architecture is the Function/Entity Matrix, which is available both before and after Affinity Analysis.

Subactivity 1 - Relate Functions to Entities

The goal is to set up relations between the functions and the entities.

The Entity Model has now been constructed and refined by repeated Affinity Analysis and team discussion. You have also constructed the Functional Model and refined it by grouping and splitting the functions.

These activities took place in parallel, without any cross-referencing. In practice, investigation of the entities reveals information about the functional aspect of an enterprise. Similarly, refinement of the functions increases understanding of the data aspect.

Once you are satisfied that both models are comprehensive, you must proceed to establish links between functions and entities. These links are determined by the use functions make of the entities.

A function can use an entity by:

- Outputting (that is, creating) completely new information about it
- Inputting (that is, reading) existing information about it
- Deleting all existing information about it
- Updating existing information about it

Note:

You must now think not so much about the entities themselves, but about the information associated with entities.

For example, given an entity COURSE and a function STAFF-DEVELOPMENT, you would expect STAFF-DEVELOPMENT to create, delete, and update information about the entity COURSE.

You should record the relation functions to entities in the repository by refining the definition of FUNCTION members so that they reference ENTITY members. Use the Function/Entity matrix available to aid you in defining and refining the relationships between functions and entities.

Inputs

- The Entity Model as held in the repository
- The Functional Model as held in the repository
- Functional Decomposition Structure Diagram showing the hierarchy of functions
- Function/Location Matrix

Outputs

Function/Entity Matrix.

Prerequisite:	Entity Definition	Mandatory
	Function Definition	Mandatory
	Indented List of Functions	Optional
	Function/Location Matrix	Optional
Deliverable:	Entity Definition	Mandatory
	Function Definition	Mandatory
	Function/Entity Matrix	Optional
	Entity/Function Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 2 - Refine Entity Subject Areas

The goal is to identify and define subject-areas by refining the entity clusters.

A subject-area is a grouping of entities logically related because of their involvement in similar business functions. It may also be a set of entities naturally grouped by the associations that hold among them; this can be the basis for establishing a first-cut set of subject-areas, to be refined later.

Affinity Analysis is the prime method for identifying subject-areas. Clusters of entities are derived in two stages:

1. By examining entities and the associations between them for the first pass, clusters of entities are identified by Affinity Analysis based on Entity/Entity Matrices. This is done in conjunction with Entity Analysis and the refinement of the Entity Model.

   You should study these clusters and, if necessary, refine them before documenting them as subject-areas.

   In the Workstation environment you can use a different method to derive a first-cut set of subject-areas, which does not require Afinity Analysis. That is, study an entity-association diagram and look for natural groupings of entities (for example, an area containing few crossing lines suggests a boundary between two subject-areas).

2. By investigating the usage of entities by functions. Refinement of subject-areas proceeds with Affinity Analysis of the usage of entities by the business functions, this time with the focus on Function/Entity Matrices. Do this in conjunction with Functional Analysis and Design and refinement of the Functional Model.

The basis for this second approach to subject-areas is that a set of entities used in common by a given function or set of functions can also be considered to be a subject-area.

Finally, the subject-areas identified in the first approach (entity against entity) must be reconciled with the subject-areas identified in the second approach (functions against entities).

Inputs

- Function/Entity Matrix (unclustered)
- Entity Clusters (derived from Entity/Entity Matrix)
- Entity Relationship Diagram (if in workstation environment)

Outputs

- Function/Entity Matrix (clustered)
- Entity Clusters (derived from Function/Entity Matrix)
- SUBJECT-AREA members in the repository
- Function/Subject Area Matrix

Prerequisite:	Function/Entity Matrix	Optional
	Entity Clusters	Optional
Deliverable:	Entity Definition	Mandatory
	Subject-Area Definition	Mandatory

	Snapshot of WBSA	Optional
	Affinity Graph of Entities	Optional
	Entity Clusters	Optional
	Clustered Function/Entity Matrix	Optional
	Function/Subject Area Matrix	Optional

Subactivity 3 - Refine Function Clusters

The goal is to refine the function clusters.

The process of decomposing functions effectively creates clusters of functions. The clusters consist of the subfunctions beneath a higher-level function. However, this process does not necessarily lead to the optimum decomposition; a particular function may be decomposed into more than one set of subfunctions.

Affinity Analysis provides a means of checking the function clusters derived through decomposition.

It is used on Function/Entity Matrices to identify clusters of functions based on the usage that the functions make of the of the entities.

You can compare the function clusters identified by Affinity Analysis with those in the decomposition structure. Any changes are then incorporated in the repository by amending the decomposition structure of the functions.

Inputs

- Function/Entity Matrix (unclustered)
- Functional Decomposition Structure Diagram showing the hierarchy of functions

Outputs

- Function/Entity Matrix (clustered)
- Function Clusters (derived from Function/Entity Matrix)
- Improved FUNCTION members in the repository

Prerequisite:	Function/Entity Matrix	Optional
	Indented List of Functions	Optional
Deliverable:	Function Definition	Mandatory
	Snapshot of WBSA	Optional
	Affinity Graph of Functions	Optional
	Function Clusters	Optional
	Clustered Function/Entity Matrix	Optional

Subactivity 4 - Refine Information Architecture

The goal to refine the Functional and Entity Models in association with each other.

You have an Organizational Model, an initial Functional Model, and an initial Entity Model

Now, you should take a further step in developing the Information Architecture. This involves refining all the models so that, for example, the Functional Model takes proper account of the Entity Model and vice versa.

A further step in developing the information Architecture is to refine all the models so that for example, the Functional Model takes proper account of the Entity Model and vice versa.

Inputs

- The Entity Model as held in the repository
- The Functional Model as held in the repository

Outputs

A more refined version of the Entity and Functional Models.

Prerequisite:	Entity Definition	Mandatory
	Function Definition	Mandatory
Deliverable:	Entity Definition	Mandatory
	Function Definition	Mandatory

Subactivity Q - Validate Information Architecture

The goal is to validate the Information Architecture defined in this activity for consistency.

The functions and entities defined in this activity are now examined to find missing definitions and inconsistent relationships.

Inputs

Entity, subject-area, and function definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined Entities	Optional
	Undefined Functions	Optional
	Entities Without Functions	Optional
	Entities Without Subject Areas	Optional
	Invalid Function Hierarchy	Optional

Entities not Output	Optional
Overlapping Subject-Areas	Optional
Function Definition	Mandatory
Entity Definition	Mandatory
Subject-Area Definition	Mandatory

Activity 6 - Develop Applications Portfolio

The goal of this activity is to document systems, current and planned, and the functions they are intended to support to help determine the Information Architecture priorities.

The team has until now been looking at business functions and the entities required by the functions. It is now necessary to move towards greater understanding of how Information Systems (IS) currently support the business functions and an examination of current plans for future systems.

Output from this activity will compliment the analyzed results of executive interviews to determine the Information Architecture priorities.

You should document systems in two stages:

- First, document the use of the current data, to show what business entities are currently being supported by automated systems.
- Second, identify and document all those systems which do not yet exist, but are required to support the functions in the Functional Model.

At the end of this activity, you will need to review the Models to check that all functions are or will be implemented through a system.

Subactivity 1 - Review Current Systems Support

The goal is to establish and document which functions are currently receiving Information System support.

Do this by:

- Relating the existing and planned systems to the functions
- Identifying which functions are receiving no Information System support
- Identifying overlapping Information Systems

Inputs

Descriptions of the existing and planned systems.

Outputs

- Existing and planned SYSTEM members in the repository
- System Decomposition Structure Diagram showing the hierarchy of systems
- System/Function Matrix

Prerequisite:	System Definition	Mandatory
Deliverable:	System Definition	Mandatory
	Indented list of System	Optional
	System Hierarchy Diagram	Optional
	System Hierarchy Diagram	Optional
	System/Function Matrix	Optional
	System/Org-Unit Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 2 - Define Current Use of Data

The goal is to complete the team's understanding of current systems and to identify areas where work needs to be done.

You can achieve this by looking at the extent to which entities (rather than functions) are supported by existing or planned automated systems. Subject-areas can be compared with the databases and files currently in use in order to discover any mismatches or discrepancies. For example, if a subject-area is not catered for by any existing file, database, or collection of files, then this suggests work to be done. You may then incorporate recommendations in the Final Report as to how this work should form part of Application Development.

The outcome of this subactivity is the team's appreciation of:

- What systems currently use what data
- The extent of data sharing

Information gathered here will help you prioritize systems within Information Architecture.

Inputs

- Descriptions of the existing files and databases
- ENTITY and SUBJECT-AREA members in the repository

Outputs

- FILE and DATABASE members In the repository
- System/File Matrix
- List of subject-areas which are not supported by existing systems
- Recommendations for subject-areas which need systems support

Prerequisite:	File Definition	Mandatory
	Entity Definition	Mandatory
	Subject-Area Definition	Mandatory
Deliverable:	System Definition	Mandatory
	File Definition	Mandatory
	System/File Matrix	Optional
	System/Subject Area Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity 3 - Identify Proposed New Systems

The goal is to identify potential required systems and define them as proposed new systems (newly-planned).

Clusters of functions, each consisting of a function and its subfunctions, suggest individual application areas or systems. A comparison of current and planned systems with these clusters will show you know the function clusters which are not currently implemented and for which new systems could be developed.

Document these systems in SYSTEM members, indicating in the DISPOSITION clause that they have been identified during the study and are therefore newly-planned.

Later, in the Tactical Implementation phase of the study, the same clause can be updated, if necessary, to indicate that a system has been adopted for implementation in Application Development.

Inputs

For existing and planned systems:

- System Decomposition Structure Diagram showing the hierarchy of systems
- System/Function Matrix
- System/Entity Matrix
- System/Subject Area Matrix
- System/Organizational Unit Matrix
- System/Location Matrix

Outputs

- Newly-planned SYSTEM members in the repository and for all systems (existing, planned, and newly-planned):
  - — System Decomposition Structure Diagram showing the hierarchy of systems
  - — System/Function Matrix
  - — System/Entity Matrix
  - — System/Subject Area Matrix
  - — System/Organizational Unit Matrix
  - — System/Location Matrix

Prerequisite:	Indented list of Systems	Optional
	System/Function Matrix	Optional
	System/Entity Matrix	Optional
	System/Subject Area Matrix	Optional
	System/Org-Unit Matrix	Optional
	System/Location Matrix	Optional
Deliverable:	System Definition	Mandatory
	Indented list of Systems	Optional
	System Hierarchy Diagram	Optional
	System Hierarchy Diagram	Optional
	System/Function Matrix	Optional
	System/Entity Matrix	Optional
	System/Subject Area Matrix	Optional
	System/Org-Unit Matrix	Optional
	System/Location Matrix	Optional
	Snapshot of WBSA	Optional

Subactivity Q - Validate Applications Portfolio

The goal is to validate the Applications Portfolio as defined in this activity for consistency.

The functions, systems, and files defined in this activity are now examined to find missing definitions and inconsistent relationships.

Inputs

The FUNCTIONS, SYSTEMS, and FILE definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined Files	Optional
	Undefined Functions	Optional
	Undefined Systems	Optional
	Files Without Systems	Optional
	Reports Without Systems	Optional
	Systems Without Functions	Optional
	File Definition	Mandatory
	Function Definition	Mandatory
	Report Definition	Mandatory
	System Definition	Mandatory

Activity 7 - Interview Executives

The goal is to validate the Models and more importantly to supplement the facts with the executives' perspectives on present and future requirements. This includes obtaining their opinions on the critical success factors for their individual functional areas and for the enterprise.

There is now an Organizational Model, a Functional Model, and an Entity Model in place. The team's work has resulted in a progressive refinement of the models. They represent the team's deliberations and findings on:

- The business goals
- How the goals are met by business functions
- What parts of the enterprise are involved in the functions
- What entities are involved in the functions
- How the functions are logically grouped
- How the entities are logically grouped

Adequate preparation for the interviews is crucial to their success. So too is the work of documenting each interview and analyzing the results afterwards. The interviews should be scheduled (as part of Gaining Commitment) and the schedule should have been published.

The results of the interviewing process will be analyzed and fed into the process of prioritizing the Information Architecture. It is important that both interviewers and interviewees are aware of the specific kinds of questions that will be asked and the kinds of answers that will be useful. Therefore, part of preparing for the interviews is to draw up a list of general and specific questions.

The number of interviewers depends on the size of the team. A small number of interviewers increases the confidence of interviewees.

Time should be set aside to prepare, conduct, and summarize each interview.

Subactivity 1 - Make General Preparations

The goal is to complete all the preparations for executive interviews.

Guided by the stated goals of the study and the outline of the Final Report, make a list of the expected output from the interviewing process, as shown in Outputs below. You can use this as a checklist during interviewing.

The team will later extract a set of information-related problems from the interview results. These problems will be stated as requirements to be accommodate by areas of the Information Architecture, and will be prioritized in terms of the value of their solution. Ensure that the interviewers understand how the requirements will be prioritized and are thus able to gear their fact-gathering to these priorities.

Confirm the Interview Schedule

Construct a matrix of organizational units against functions and use it in reviewing the list of executives to be interviewed.

The matrix will show what organizational units are involved in the functions. Determine which additional people, if any, need to be interviewed to determine the problems, goals, and information requirements for a given function. There is still a need to keep numbers to a minimum: quality and completeness are more useful than quantity and detail.

Confirm the new interviewee list and brief new interviewees.

Prepare the team leader's letter to the interviewees and confirm the time and place of the interviews. Send each interviewee a letter of notification. Five days notice is sufficient to ensure that the interviewees can make their own preparations.

Establish Procedures for Note-taking

In an interviewing team of four people, at least two should be responsible for taking notes to ensure accurate analysis and documentation of the interview.

Prepare a General Set of Questions

The interviews should be tightly structured to avoid wasting time. These sorts of questions should be put to all interviewees:

- Unspecific questions (to focus attention):
  - What are your goals or objectives?
  - What are your responsibilities?
  - What measurements do you apply?
  - What information do you need?

- Key specific questions (to highlight problems):
  - What are your business problems?
  - What changes do you foresee that would affect the infrastructure of the enterprise?
  - What are your critical success factors for your area of responsibility and for the enterprise as a whole?

The function or entity at the root of each problem should be identified as far as possible, so that the answers can be related to the Function/Entity Matrix.

Answers to the questions should be recorded in a format that allows them to be easily analyzed in terms of problems, their cause, and what is required to solve them. This is a suggested format:

> Because (the cause), the result is (the effect).

Record the answers in this format during the interview if possible, but certainly immediately after each interview. The format will allow you to analyze answers more easily, for example, by grouping all effects that have the same cause

The effect clauses contain value judgements for later analysis, and can form the basis for a quantified estimate of the value to the enterprise of solving each requirement.

Establish Administrative Procedures

Follow your usual arrangements for conducting important meetings; in particular, it is important to safeguard the interviews from interruptions and breaches of privacy and confidentiality.

Plan Related Activities

In addition to the interviews themselves, a number of related activities need to be carried out. These activities should be assigned to individual team members.

Activities include:

- Confirm interview schedules with interviewees
- Outline preliminary findings and conclusions
- Carry out a review of information resource management
- Begin planning the production of the Final Report
- Supervise refinement of the Models as a result of feedback from the interviews

Inputs

- The Study goals
- The outline of the Final Report
- Organizational Unit/Function Matrix

Outputs

- A list of points to be covered during the interviews:
  - Each executive's critical success factors (CSFs)
  - Problems (requirements) and opportunities identified, with potential solutions and the value of each solution
  - Executives' opinions on the impact of planned or unplanned changes
  - Validation and refinement of the Information Architecture
  - Better understanding of each executives information needs related to the Entity Model
  - Identification of potential inadequacies in current information resource management
- A letter to each interviewee containing:
  - The time, place, and expected length of the interview
  - The goals
  - The topics to be discussed
- A set of interview questions

Prerequisite:	Org-Unit/Function Matrix	Optional
	Snapshot of WBSA	Optional
Deliverable:	General Preparations Completed	Mandatory

Subactivity 2 - Prepare Each Interview

The goal is for the members of the team to decide their roles in conducting interviews. They must also become acquainted with each interviewee's working environment (their organizational unit) and problems, so that they can focus the interview on the interviewee's objectives.

Preparation for each interview should be done by those members of the team who will participate in the interview. One useful approach is to role-play the interview.

In addition, the interviewers should review the interviewee's organizational unit, his objectives and problems, and be familiar with the output from previous activities and how they impact the interviewee's areas of responsibility.

Assign Team Roles

Establish who will do what in the interview. A member of the interview team will be leading the discussion, or taking notes, or following the discussion ready to intervene as necessary (for example to clarify points). At least two other team members should be taking notes.

Pay attention to individual abilities when assigning interview team roles. A team member may be chosen to lead the discussion on the grounds that he has a good understanding of the interviewee's area of responsibility. On the other hand, a team member may be better at taking accurate notes quickly, and therefore would be more suitable as a note-taker.

Review the Executive's Organizational Unit

The person leading the discussion should be thoroughly familiar with the functions for which the interviewee's organizational unit is responsible, and with the way that the success of those functions is measured. Check the accuracy of the Function/ Organizational Unit Matrix and try to determine those areas that the interviewee is most likely to have key answers for.

Review the Executive's Goals and Problems

Before the interview, the team should try to determine the executive's goals from the goals already held in the Organizational Model in the repository and try to anticipate problems attaining them. This increases the team's ability to identify and discuss key problems.

Review the Output from Previous Stages

Review the Function/Organizational Unit Matrix thoroughly and become familiar with the extent of current and planned Information Systems support for the interviewee's area of responsibility.

Inputs
Background information about each interviewee.

Outputs
The probable goals of each executive interviewee.

Prerequisite:	General Preparations Completed	Mandatory
Deliverable:	Interview Prepared	Mandatory

Subactivity 3 - Conduct Each Interview

These are the purposes of the interview:

- To identify the interviewee's business problems and to state them as Information System requirements
- To help validate the Models
- To understand the interviewee's objectives, responsibilities, and information requirements
- To gain ideas about business directions and how these will affect information requirements
- To identify critical success factors (CSFs) for the interviewee's area of responsibility
- To confirm the goals extracted from the Organizational Model with the interviewee

Assume that the interviewee does not recall all of the points made in the executive orientation, see "Activities in Gaining Commitment" on page 3. Therefore, review the interview schedule, note the interviews that have taken place, and review the work done so far.

All issues identified during the preparation for the interviews should be covered by questions in each interview. The question(s) relating to the interviewee's business problems/requirements provide crucial data for drawing up conclusions and recommendations. The most significant portion of the interview time should be used to identify the interviewee's business problems.

Identify and Record Critical Success Factors

A critical success factor is an area of the business activity whose results, if satisfactory, will ensure successful competitive performance for the enterprise. It can be thought of as a key area where things must work successfully in order to achieve the goals of the enterprise as a whole (not just of a given functional area). To find out whether a candidate CSF really is critical, ask:

> If this factor does not work successfully, will the enterprise fail?

Ask the interviewee to name a limited number of critical success factors.

Some general (corporate-wide) CSFs will already have been identified or can be inferred from the exercise of setting goals for the study, which was done as part of the Gaining Commitment phase. In addition, there may be some CSFs inherent in the particular industry in which the enterprise is engaged. The interview is an opportunity to find out about CSFs for particular areas of the enterprise.

The chief value of CSFs is to focus attention on the Function/Entity Matrix.

One strategy might be to use the CSF approach for interviews of certain key executives, for example, the Chief Executive Officer (CEO), while reviewing the problem approach for other executives.

Inputs

- The probable goals of each interviewee
- A set of interview questions
- The interviewee's perspective of his or her area of business activity, and the CSFs peculiar to that area

Outputs

- A list of CSFs provided by each interviewee
- A list of business problems provided by each interviewee
- A definitive list of goals of each interviewee

Prerequisite:	Interview Prepared	Mandatory
Deliverable:	Interview Conducted	Mandatory

Subactivity 4 - Analyze Each Interview

Analyze the results of the interviews and identify these items:

- Goals
- Relevant measurements
- Critical Success Factors
- Requirements
- Changes

The analysis of each interview should be well-structured to facilitate integration with results of the other interviews.

The quality of this analysis is as important as the interview itself, and it may be necessary for the interview team to spend as much time on this subactivity as they spent on conducting the interview.

The primary focus should be on those business problems that are most likely to yield data for analysis during the rest of the study.

Analyzing Requirements

For the purposes of determining architecture priorities, problems identified in interviewing should be stated as requirements. The requirements can then be defined and described in the repository and linked to functions and systems. Requirements also arise out of goals and CSFs identified during interviewing.

This is a convenient format for approaching the analysis of requirements:

- Problem cause
- Problem result
- Entity or subject-area involved
- Function involved
- Value
- Requirement

Defining GOALs, REQUIREMENTs, and CSFs

This is the natural point at which to define GOAL, CSF (Critical Success Factor), and REQUIREMENT members in the repository. However some or all of these members may already have been identified and defined in the repository. In particular, some goals may have been defined when the Organizational Model was constructed. They should be reviewed in the light of the interviews.

Part of the analysis is to ensure that:

- Goals are correctly related to organizational units
- Csfs are correctly related to goals
- Requirements are correctly related to goals
- Functions are correctly related to organizational units, goals, CSFs, and requirements
- Systems are correctly related to requirements and functions

When you are defining these member types, ensure that the CORPORATE-RATING clause, if it is used, contains a meaningful value. The clause is to be used for ranking CSFs, requirements, and goals in the context of the whole enterprise; therefore, take care that the values are not chosen entirely subjectively. The values in this clause will be used later in generating the System Priority Report.

Inputs

- The results of the interviews
- Existing definitions in the repository

Outputs

- CSF and REQUIREMERT members In the repository
- Improved definitions in the repository
- CSF/Function Matrix
- CSF/Goal Matrix
- Goal/Function Matrix
- Goal/Requirement Matrix
- Requirement/Function Matrix
- Requirement/System Matrix
- CSF Priority Table
- Goal Priority Table
- Requirement Priority Table

Prerequisite:	Interview Conducted	Mandatory
	Goal Definition	Mandatory
	Function Definition	Mandatory
	System Definition	Mandatory
Deliverable:	CSF Definition	Mandatory
	Goal Definition	Mandatory
	Function Definition	Mandatory
	Requirement Definition	Mandatory
	System Definition	Mandatory
	Indented List of Functions	Optional
	Indented List of Goals	Optional
	Indented List of Requirements	Optional
	Indented list of Systems	Optional
	CSF/Function Matrix	Optional
	CSF/Goal Matrix	Optional
	Function/CSF Matrix	Optional
	Function/Goal Matrix	Optional

Function/Requirement Matrix	Optional
Goal/CSF Matrix	Optional
Goal/Function Matrix	Optional
Goal/Requirement Matrix	Optional
Requirement/Function Matrix	Optional
Requirement/Goal Matrix	Optional
Requirement/System Matrix	Optional
Snapshot of WBSA	Optional
Priority table of CSFs	Optional
Priority table of Goals	Optional
Priority Table of Requirements	Optional

Subactivity Q - Validate Executive Interviews

The goal is to validate the results of the executive interviews as defined in this activity for consistency.

The CSFs and Requirements as defined in this activity are now examined to find missing definitions and inconsistent relationships.

Inputs

The CFS, REQUIREMENT, FUNCTION, SYSTEM, and GOAL member definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined CSFs	Optional
	Undefined Requirements	Optional
	CSFs Without Functions	Optional
	CSFs Without Goals	Optional
	CSFs Without Groups or Items	Optional
	Functions Without CSFs	Optional
	Functions Without Goals	Optional
	Functions Without Reqs	Optional
	Goals Without CSFs	Optional
	Goals Without Functions	Optional
	Goals Without Requirements	Optional

Requirements without Functions	Optional
Requirements Without Goals	Optional
Requirements Without Systems	Optional
Systems Without Requirements	Optional
Inconsistent Goals Funs CSFs	Optional
Inconsistent Goals Reqs Funs	Optional
Inconsistent Orgs Goals Funs	Optional
Inconsistent Reqs Sys Funs	Optional
CSF Definition	Mandatory
Function Definition	Mandatory
Goal Definition	Mandatory
Requirement Definition	Mandatory
System Definition	Mandatory

Activity 8 - Determine Architecture Priorities

The goal is to develop the various parts of the Information Architecture.

Before beginning the Final Report detailing the results of the study, the team must examine the information for completeness and accuracy. Any areas found to be incomplete must be finished. It is vital that relationships between members are stated correctly because the architecture priorities depend on these relationships. The findings, conclusions, and recommendations from the SIP study will only have value if they are based on accurate information.

To determine the (new or enhanced) systems which are needed to support the requirements, an analysis should be made of the functions which will be affected by meeting the requirements. You should use matrices to check these links:

System vs. Function
Requirement vs. System
Requirement vs. Function

You should reach a consensus about findings and conclusions to ensure general support for all the recommendations. All the findings and conclusions arising from the study should be related to requirements. These are the areas to be addressed:

- Goals
- Organizations
- Measurement and control
- Operations
- Current information systems support

This is also a good time to estimate the investment needed to carry out the recommendations arising from the study. It can take the form of an economic appraisal of the Net Present Value (MPV) of current systems and the Return On Investment (ROI) for proposed systems architecture to evaluate the benefits of carrying out the study.

In order to develop the Information Architecture, the team should take into account these factors when prioritizing each system:

- Potential benefits (long-term and short-term)
- Impact (any change beneficial to the enterprise or its employees)
- Probability of success (risks, length of implementation)
- Likely demand

In addition, the relationships between high-priority and low-priority systems must be taken into account when deciding the sequence for developing parts of the architecture. For example, a high-priority system may depend on the output from a low-priority system.

Subactivity 1 - Review the Fact-gathering for Completeness

The goal is to determine the quality of findings and conclusions. These depend on the completeness and accuracy of definitions in the repository.

Before proceeding to develop findings and conclusions, check the definitions in the repository for completeness and accuracy.

You should check the definitions for any incomplete descriptions. If you find that relationships between members of the repository have been overlooked or inaccurately defined, it may be necessary to return and redefine the architecture priorities.

The Quality Control facilities should be used to check the completeness of the definitions.

Inputs

Existing definitions in the repository.

Outputs

Improved and additional definitions in the repository.

Prerequisite:	CSF Definition	Mandatory
	Entity Definition	Mandatory
	Function Definition	Mandatory
	File Definition	Mandatory
	Goal Definition	Mandatory
	Location Definition	Mandatory
	Org-Unit Definition	Mandatory
	Requirement Definition	Mandatory
	Subject-Area Definition	Mandatory
	System Definition	Mandatory
Deliverable:	CSF Definition	Mandatory
	Entity Definition	Mandatory
	Function Definition	Mandatory
	File Definition	Mandatory
	Goal Definition	Mandatory
	Location Definition	Mandatory
	Org-Unit Definition	Mandatory
	Requirement Definition	Mandatory
	Subject-Area Definition	Mandatory
	System Definition	Mandatory

Subactivity 2 - Analyze Functions, Requirements, Entities, and Systems

The goal is to determine the systems (new ones or enhanced existing ones) required to support the requirements.

An analysis of affected functions should be done to determine which functions are affected by the requirements being met.

Do this by checking and updating the links between REQUIREMENTs and FUNCTIONs, working with a matrix of Requirements against Functions. Then check that the links from FUNCTIONs to SYSTEMs are in place, working with a matrix of Functions against Systems. Links must now be established in the repository between REQUIREMENT and FUNCTION members and between FUNCTION and SYSTEM members. These links must be in place for the production of a System Priority Report, which indicates the systems that have high priority based on the corporate rating of the requirements, goals, and CSFs the systems support.

It is also useful at this stage to extract and consult a Requirement/System Matrix.

Inputs

Existing definitions in the repository.

Outputs

- Improved definitions in the repository in particular, with all links established between:
  - — Requirements and Functions
  - — Requirements and Systems
  - — Functions and Systems
- Requirement/Function Matrix
- Requirement/System Matrix
- System/Entity Matrix
- System/Function Matrix

Prerequisite:	Function Definition	Mandatory
	Requirement Definition	Mandatory
	Entity Definition	Mandatory
	System Definition	Mandatory
Deliverable:	Function Definition	Mandatory
	Requirement Definition	Mandatory
	Entity Definition	Mandatory
	System Definition	Mandatory
	Requirement/Function Matrix	Optional
	Requirement/System Matrix	Optional
	System/Entity Matrix	Optional
	System/Function Matrix	Optional
	Snapshot of WBSA	Optional
	Requirement Hierarchy Diagram	Optional
	System Hierarchy Diagram	Optional
	System Hierarchy Diagram	Optional

Subactivity 3 - Determine Findings and Conclusions

The goal is to produce a list of findings and conclusions based on the team's reports.

The findings and conclusions should closely relate to the requirements identified as a result of interviewing. In addition, use the relevant section in the report outline to develop findings and conclusions logically. The following sample questions could be addressed in developing the findings and conclusions.

Goals

Do well-defined goals exist for the enterprise as a whole and for each individual major function?

Do these goals provide direction for Information Systems planning?

To what degree are the goals being met by current Information Systems?

Organization

How well are responsibilities defined?

How well are management philosophies understood?

Planning

What is the degree of formalized planning?

What is the relationship between long-range (strategic), short-range, and operational planning?

Are the business plans adequate as a basis for Information Systems planning?

Measurement and Control

Are present measurements adequate for controlling the enterprise?

What additional measurements could be used if more or better information were available?

What measurements help in controlling the critical success factors and the goals?

Operations

What major difficulties exist in performing the operational processes (e.g., sales, production, distribution)?

Current Information Systems Support

What major information requirements are not being met?

What is the general state of the information being received by users, in terms of timeliness, accuracy, format, accessibility, usability, and additional required manual processing?

What is the current systems architecture (e.g., centralized/distributed, vertical/horizontal integration)?

What is the current systems design (for example, database or discrete files)?

What Information Systems plan is currently under way?

Writing Findings and Conclusions Statements

The writing of findings and conclusion statements must be done by the team leader and selected team members.

Consensus must be achieved on every statement, otherwise the manager of a team member may feel entitled to reject the entire information Plan.

The statements should be directly related to requirements identified after the executive interviews.

Write each statement so that it leads logically to a recommendation but do not confuse the two.

Inputs
The requirements defined during the study.

Outputs
A list of recommendations based on the requirements.

Prerequisite: Requirement Definition	Mandatory
Deliverable: Conclusion Determination	Mandatory

Subactivity 4 - Perform a High Level Economic Appraisal Goal

The goal is to prepare an estimate of the investment required for proposed high priority systems, and an estimate of the benefits of carrying out the study's recommendations.

Do this calculating a rough Net Present Value (NPV) or Return on Investment (ROI), or by any other commonly available method.

The appraisal should form part of the Final Report to lend credibility to the recommendations and to ease decision-making.

Prerequisite: None	Optional
Deliverable: High Level Economic Appraisal	Optional

Subactivity 5 - Review Prioritization Criteria

The goal is to set a framework for prioritizing the Information Architecture.

Do this in such a way as to take due account of the less tangible, but sometimes crucial factors discussed briefly in this panel.

The Final Report should identify a first-cut coherent set of systems to make up that part of the Information Architecture which will be developed first.

Three or four prioritization criteria should be identified and the prioritization done partly on the basis of those criteria. Use the CORPORATE-RATING clause in the relevant REQUIREMENT, GOAL, and GSF members to prioritize the criteria you have identified.

Existing methods for evaluating projects should be used. These categories of criteria are suggested as a starting point:

- Potential benefits
- Impact
- Probability of success
- Likely demand

Potential Benefits

The relative value of each of the potential systems must be determined. This means taking stock of near- and long-term tangible and intangible benefits and any competitive advantages that would result from each system. A more detailed economic appraisal of each system, taken as a project, can also be done. At this stage it is sufficient to refer to major benefits that may have been identified during interviewing, and to convert intangible benefits to tangible ones by estimation.

Impact

Impact is any beneficial change to the business brought about by an application system. Such impact needs to be described and quantified, with reference to its effect on the quality of goods and services, the number of departments and employees affected, and the ways in which they will be affected.

Probability of Success

It is hardly worth recommending the development of a system if a little thought indicates that the chances of completing it are small.

These factors determine the chances of success:

- The political climate within the enterprise
- The proposed system's technical, technological, or organizational complexity
- The availability of required data and other systems
- Projected length of implementation
- Risks
- Available resources

Likely Demand

This means associating the proposed system with a recognized demand within the enterprise. A demand exists where an application or an enhancement to an existing application can clearly be seen to support corporate goals.

Inputs

The organization's existing standards for project evaluation.

Outputs
A set of prioritization criteria.

Prerequisite: None	Optional
Deliverable: Prioritization Criteria	Mandatory

Subactivity 6 - Review System and Data Priorities

The goal is to establish the sequence in which systems should be developed, according to the way that they interact.

When proposing a first-cut set of application systems for implementation, the team will need to be alert to cases where high priority systems require low priority systems or enhancements to be in place.

An example of this is where a low priority application system needs to be in place or to be enhanced in order to provide input data to a high priority one. Such relatively low priority systems need to be included in the set of systems to be implemented first and their inclusion needs to be explained to management in the Final Report.

Although the System Priority Table is a useful tool for helping establish priorities among systems from the viewpoint of goals, requirements, and CSFs, the priorities need to be reviewed in terms of other factors (for example, potential benefits) identified when establishing the prioritization criteria.

In identifying the first set of systems for implementation, you must notice cases where one entity can only be used if another entity or subject area is available. For example, a function cannot output an entity if it first needs as input another entity which does not exist.

Review Data Priorities

Construct a subject area precedence table based on which functions input and output which entities. This table is useful in refining the first set of systems, because it will show up cases where low priority systems must be in place to provide data for higher priority systems. If any low priority systems are included in the first set for this reason it should be explained in the Final Report.

Within MethodManager you can also produce these priority tables:

- A CSF priority table
- A goal priority table
- A requirement priority table
- A system priority table

The tables show the priorities assigned to members, and also show where priorities have not been assigned.

Each table can be sorted in a number of ways, the simplest being an alphabetical list of member names. They can also be sorted on each type of priority assigned to the members, such as the corporate rating or the hierarchy. This is particularly useful in the System Priority Table, which not only deals with system priorities, but also takes into account the priorities assigned to CSFs, goals and requirements.

Inputs

- The set of prioritization criteria
- Information about the enterprise's business priorities
- CSF priority table
- Goal priority table
- Requirement priority table
- System priority table

Outputs

- System priority table
- A list of systems prioritized for Application Development

Prerequisite:	Prioritization Criteria	Mandatory
	Priority table of CSFs	Optional
	Priority table of Goals	Optional
	Priority Table of Requirements	Optional
	Priority Table of Systems	Optional
Deliverable:	Priority Table of Systems	Optional
	CSF Definition	Mandatory
	Goal Definition	Mandatory
	Requirement Definition	Mandatory
	System Definition	Mandatory

Subactivity Q - Validate Architecture Priorities

The goal is to validate the data collected so far for consistency so that the system priorities are determined from sound data.

Repeat the validations you have carried out throughout this phase to ensure that the data collected is now consistent.

Inputs

The member definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined CSFs	Optional
	Undefined Entities	Optional
	Undefined Files	Optional
	Undefined Functions	Optional
	Undefined Goals	Optional
	Undefined Locations	Optional
	Undefined Org-Units	Optional
	Undefined Requirements	Optional
	Undefined Systems	Optional
	CSFs Without Functions	Optional
	CSFs Without Goals	Optional
	CSFs Without Groups or Items	Optional
	Entities Without Functions	Optional
	Entities Without Subject Areas	Optional
	Files Without Systems	Optional
	Functions Without CSFs	Optional
	Functions Without Goals	Optional
	Functions Without Locations	Optional
	Functions Without Org-Units	Optional
	Functions Without Reqs	Optional
	Goals Without CSFs	Optional
	Goals Without Functions	Optional
	Goals Without Org-Units	Optional
	Goals Without Requirements	Optional
	Locations Without Functions	Optional
	Locations Without Org-Units	Optional
	Org-Units Without Functions	Optional
	Org-Units Without Goals	Optional
	Org-Units without Locations	Optional

Reports Without Systems	Optional
Requirements without Functions	Optional
Requirements Without Goals	Optional
Requirements Without Systems	Optional
Systems Without Functions	Optional
Systems Without Requirements	Optional
Invalid Entity Hierarchy	Optional
Invalid Function Hierarchy	Optional
Invalid Goal Hierarchy	Optional
Invalid Location Hierarchy	Optional
Invalid Org-Unit Hierarchy	Optional
Entities not Output	Optional
One Way Associations only	Optional
Overlapping Subject-Areas	Optional
Inconsistent Goals Funs CSFs	Optional
Inconsistent Goals Reqs Funs	Optional
Inconsistent Orgs Funs Locs	Optional
Inconsistent Orgs Goals Funs	Optional
Inconsistent Reqs Sys Funs	Optional
CSF Definition	Mandatory
Entity Definition	Mandatory
File Definition	Mandatory
Function Definition	Mandatory
Goal Definition	Mandatory
Location Definition	Mandatory
Org-Unit Definition	Mandatory
Report Definition	Mandatory
Requirement Definition	Mandatory
Subject-Area Definition	Mandatory
System Definition	Mandatory

Activity 9 - Report the Results of the Study

The goal is to write and report the results of the study.

The structure of the SIP Final Report was agreed before the study began and has provided guidelines for the study team to follow in conducting their investigation. The task of producing the Final Report is the culmination of the SIP Study involving the whole study team.

You should review the report structure with the benefit of the information which the study team has collected. Irrelevant headings can be removed, and any new headings must be added.

From the information the study team has collected, recommendations can be put together about the future structure and Information Architecture of the enterprise. These recommendations should be included in the report.

Finally, the Executive Sponsor should approve the proposed structure and contents of the report. If it contains anything which is politically sensitive or which will mean great changes to the structure of the enterprise, he must advise on the best way to present it.

At this stage the Final Report can be written. The team leader is responsible for the background overview. Other team members should write the sections of the report which they investigated.

The Final Report should be presented by the team leader, preferably in the presence of the Executive Sponsor. Anyone who is interested may attend, but especially executives who took part in the study and those concerned with DP development.

The presentation of the Final Report should be fairly concise and should not turn into a feedback session. A feedback session can be arranged afterwards.

Finally, the report should be modified where necessary in response to the feedback received, and published.

Subactivity 1 - Review Report Outline and Categories

The goal is to establish the structure of the Final Report.

Review the outline of the report and modify the information where necessary. It will probably need to be changed in places. For example, headings which seemed important when the outline was decided may now be irrelevant. Since the report should be a consensus of the whole study team, each member must review each section of it to see that the final document incorporates all their comments.

Any areas which are incomplete should be identified and finished before putting the report together.

The report must be structured to have the correct emphasis for the environment in which it is presented. For example, a manufacturing enterprise will not have the same priorities and concerns as an insurance company.

If any supplementary documentation has been produced, such as a detailed report on one part of the enterprise, you should decide whether to include it as an appendix in the report or to keep it separate and restrict its circulation.

This activity should also include a second cut at determining the categories of report findings and conclusions. Eventually the findings must be grouped by category.

Inputs

- The original report outline
- The information collected in the course of the study

Outputs

- The revised structure of the Final Report

Prerequisite: Report Outline	Mandatory
Deliverable: Revised Report Outline	Mandatory

Subactivity 2 - Develop Recommendations

The goal is to produce the recommendations which will be included in the Final Report.

This draws together all the work which has been done so far in the study. All the information available, including any facts derived from matrices, should be made use of in developing recommendations.

The recommendations must be checked to ensure their comprehensiveness. It is important that they address all the major goals, CSFs, and requirements of the enterprise.

Each recommendation is likely to give rise to an associated project. Recommendations from the study will center on the areas listed in "Information Architecture" on page 69.

Information Architecture

The Information Architecture must be accepted as the basis for development and for all future IS planning. Interim improvements should be made to bring current applications into line and appropriate changes should be made to applications under development. Areas of Information Architecture should be put in order of priority for getting IS resources.

Information resource management. Administration of the organizations's data resources must be enhanced. The information planning process must be improved to use resources and support the business more effectively. A control system must be introduced to measure the success of implementing information resource management.

End-user computing. Functional staff will be better able to make decisions if the quality of available business data is improved.

The most significant recommendations should be summarized in the first few pages of the report, for the benefit of top management.

Inputs

A list of findings.
A list of conclusions based on the requirements.
All the CSFs, goals, and requirements defined in the study.

Outputs

A list of recommendations.

Prerequisite:	Conclusion Determination	Mandatory
	CSF Definition	Mandatory
	Goal Definition	Mandatory
	Requirement Definition	Mandatory
Deliverable:	Recommendations	Mandatory

Subactivity 3 - Prepare Report

The goal is to produce a report which will finally commit executives to the study, and confirm their involvement in carrying out its recommendations.

By this time, these activities will have been completed:

- The definition of Information Architecture
- The identification of architecture priorities
- The review and assessment of Information Systems management
- The development of recommendations and an action plan

The Executive Sponsor should review the conclusions, recommendations, and action plan before the Final Report is written. Controversial areas, or radical changes to the business, should be discussed with the sponsor to see how they can be presented.

The study team leader will usually write the background and overview for the report, with much of the overview being derived from the original orientation information. The team members have already been given responsibility for sections of the report. Any changes to the original report outline should be finalized by this stage and the team members should have gathered most of information they need. They can now complete the assigned sections of the report.

Inputs

- The structure of the Final Report
- The executive sponsor's appraisal
- The input from the team members

Output
The Final Report of the Strategic Information Planning Study.

Prerequisite: Revised Report Outline	Mandatory
Deliverable: Report	Mandatory

Subactivity 4 - Present the Report to Executives

The goal is to report to management the findings and recommendations of the study, and to secure approval of the action plan.

The report should be presented by the team leader (with the Sponsor present if possible to set the scene) and team members. The presentation should take 2 hours at most.

The audience should include everyone who makes decisions for DP, the executives who were interviewed for the study, and anyone else who is interested. This should gain a wide base of acceptance for the outcome of the study.

There may be a case for making several presentations, one to each of the groups named in the previous paragraph

The presentation should not be a feedback session, but strictly a report of the results of the study.

Inputs
The findings and conclusions from the SIP Study.
The recommendations from the SIP Study.

Outputs
The study presentation.

Prerequisite:	Recommendations	Mandatory
	Conclusion Determination	Mandatory
	Report	Mandatory
Deliverable:	Presentation	Mandatory

Subactivity 5 - Review and Refine the Report

The goal is to produce the final version of the Final Report.

After the report has been presented, there is likely to be feedback from the people concerned with it.

As a result of this, it may be necessary to go back and include material that executives have said they would like to see in the report, or to add any new material arising from feedback.

The report will then be complete.

Output

The final version of the Final Report of the Strategic Information Planning Study.

Prerequisite: Report	Mandatory
Deliverable: Final Version of the Report	Mandatory

Subactivity 6 - Publish the Study Report

The goal is to ensure that a copy of the Final Report is available to everyone interested in the Strategic Information Planning study.

This is an administrative activity, consisting of collating, binding, and circulating the finished report.

The report must be distributed to these people:

- Executives
- First line of reporting in functional areas
- Other areas not directly involved
- Corporate HQ
- External/internal auditors

Now that agreement has been secured from all concerned, the action plan can start to be implemented.

Outputs

Published final version of Final Report.

Prerequisite: Final Version of the Report	Mandatory
Deliverable: Published Report	Mandatory

Subactivity Q - Validate Short Strategy Study

The goal is to validate the data collected during the phase for consistency.

Repeat the validations you have done throughout this phase to ensure the data collected is now consistent.

Inputs

The member definitions.

Outputs

Improved consistency in the definitions.

Prerequisite:	None	Optional
Deliverable:	Undefined CSFs	Optional
	Undefined Entities	Optional
	Undefined Files	Optional
	Undefined Functions	Optional
	Undefined Goals	Optional
	Undefined Locations	Optional
	Undefined Org-Units	Optional
	Undefined Requirements	Optional
	Undefined Systems	Optional
	CSFs Without Functions	Optional
	CSFs Without Goals	Optional
	CSFs Without Groups or Items	Optional
	Entities Without Functions	Optional
	Entities Without Subject Areas	Optional
	Files Without Systems	Optional
	Functions Without CSFs	Optional
	Functions Without Goals	Optional
	Functions Without Locations	Optional
	Functions Without Org-Units	Optional
	Functions Without Reqs	Optional
	Goals Without CSFs	Optional
	Goals Without Functions	Optional
	Goals Without Org-Units	Optional
	Goals Without Requirements	Optional
	Locations Without Functions	Optional
	Locations Without Org-Units	Optional
	Org-Units Without Functions	Optional
	Org-Units Without Goals	Optional
	Org-Units without Locations	Optional

Reports Without Systems	Optional
Requirements without Functions	Optional
Requirements Without Goals	Optional
Requirements Without Systems	Optional
Systems Without Functions	Optional
Systems Without Requirements	Optional
Invalid Entity Hierarchy	Optional
Invalid Function Hierarchy	Optional
Invalid Goal Hierarchy	Optional
Invalid Location Hierarchy	Optional
Invalid Org-Unit Hierarchy	Optional
Entities not Output	Optional
One Way Associations only	Optional
Overlapping Subject-Areas	Optional
Inconsistent Goals Funs CSFs	Optional
Inconsistent Goals Reqs Funs	Optional
Inconsistent Orgs Funs Locs	Optional
Inconsistent Orgs Goals Funs	Optional
Inconsistent Reqs Sys Funs	Optional
CSF Definition	Mandatory
Entity Definition	Mandatory
File Definition	Mandatory
Function Definition	Mandatory
Goal Definition	Mandatory
Location Definition	Mandatory
Org-Unit Definition	Mandatory
Report Definition	Mandatory
Requirement Definition	Mandatory
Subject-Area Definition	Mandatory
System Definition	Mandatory