System Planning and the Initial Investigation

Strategic MIS Planning

Determines the basic objectives for the user to achieve the strategies and policies needed to achieve the objectives, and the tactical plans to implement the strategies.

At first, set the MIS objectives and in next step MIS policies are defined and which in turn, are translated into long-range (conceptual), medium-range (Managerial) and short-range (operational) plans for implementation.

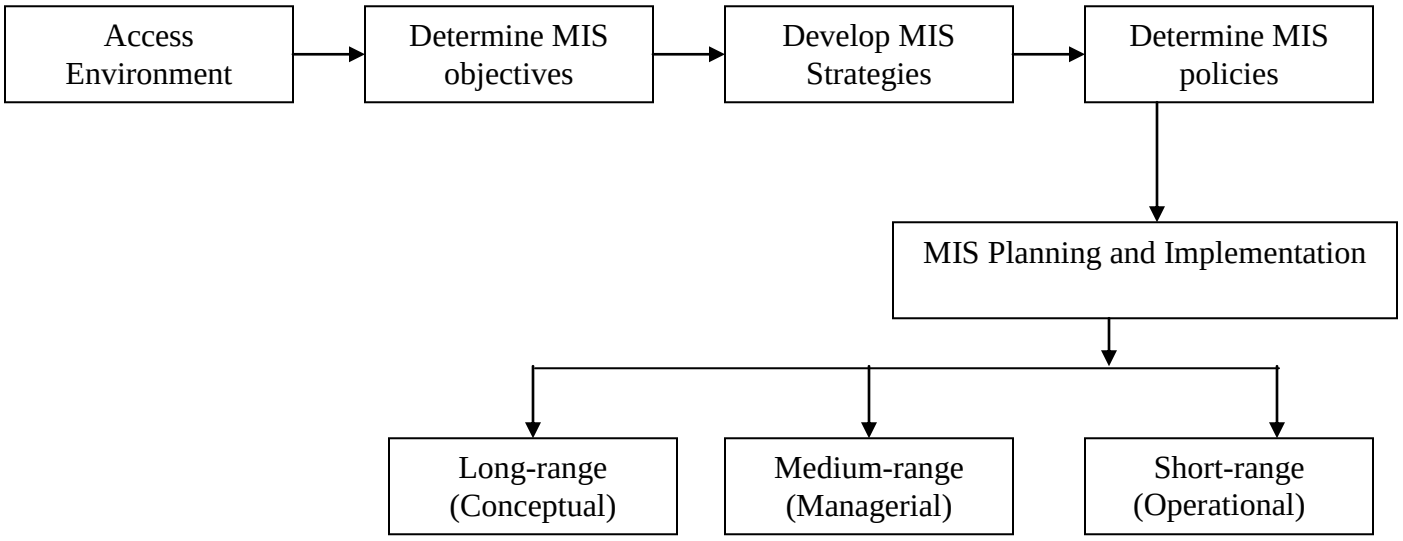


Fig: MIS Strategic Planning – Conceptual Model

Long Range Planning: General Courses of action to achieve strategic objectives.

Medium Range Planning: Action priorities, standards, procedures, and goals to achieve strategic objectives.

Short Range Planning: Performance targets, task schedules to achieve strategic objectives.

Managerial and Operational Planning

Managerial MIS planning integrates strategies with operational plans. It is a process in which specific functional strategies are to be carried out to achieve long-range plans. Examples are: Operating expense budget, Human Resource budget of each computer application etc.

The MIS operating plan requires the heaviest user involvement to define the system's requirements.

Initial Investigation

The Initial Investigation has the objective of determining whether the user's request has potential merit. The major steps are defining user requirements, studying the present system to verify the problem and defining the performance expected by the candidate system to meet user requirements.

When the initial investigation is completed, the user receives a system proposal summarizing the findings and recommendations of the analyst.

Steps in Initial Investigation

a) Needs Identification
b) Determining user's information requirements
c) Problem definition and project initiation
d) Background Analysis
e) Fact Finding
f) Fact Analysis
g) Determination of Feasibility

a) Needs Identification

User need identification and analysis is concerned with what the user needs not what they want. This step is used to help the user and analyst understand the real problem rather than its symptom.

b) Determining User's Information Requirements

User's information requirements can be determined from 3 key strategies.

I. Asking
II. Getting Information from existing information system
III. Prototyping

i. **Asking:** information is obtained from users by simply asking them about the requirements. Some of the asking methods are:
   - **Questions:** May be open-ended or closed.
   - **Brainstorming:** Technique used for generating new ideas and obtaining general information requirements.
   - **Group Consensus:** Participants are asked for their expectations regarding specific variables.

ii. **Getting Information from existing Information System:** Also called as data analysis approach. It simply asks the users what information is currently needed/ received and what other information is required. This method is ideal for making structured decisions.

iii. **Prototyping:** Prototyping is suitable in environments where it is difficult to formulate a concrete model for defining information requirements and where the information needs of the user are evolving.

Prototyping strategy is appropriate for high uncertainty information requirements determination**.**

c) Problem Definition and Project Initiation

The problem must be stated clearly, understood and agreed upon by the user and the analyst. Emphasis should be on the logical requirements of the problem rather than the physical requirements**.**

d) Background Analysis

Once the project is initiated analyst begins to learn about the setting, the existing system and the physical processes related to the revised system.

e) Fact Finding

It includes a review of written documents, on-site observations, interviews and questionnaires.

f) Fact Analysis

It evaluates the elements related to the inputs and outputs of a given system. DFD, Flowcharts, Decision Tables and other charts prepared during this stage.

g) Determination of Feasibility

The outcome of the initial investigation is to determine whether an alternative system is feasible. Feasibility study is carried out to select the best system that meets the performance requirements.

Approval of document initiates a feasibility study, which leads to the selection of the best candidate system.

Information Gathering

The analyst must know what information to gather, where to find it, how to collect it and what to make of it.
The proper use of tools for gathering information is the key to successful analysis. The tools are the traditional interview, questionnaire and on-site observation.

By the end of this chapter you will know:-

- ➔ What categorizes of information are available for system analysis.
- ➔ The sources of information
- ➔ How to arrange an interview
- ➔ The types of interview and questionnaire
- ➔ How to conduct a questionnaire

Information Gathering is an art and science. The approach and manner in which information is gathered require persons with sensitivity, common sense and knowledge of what and when to gather and what channels to use in securing information.

What kinds of Information we need???

1) Information about the organization/firm
2) Information about the user staff
3) Information about the work flow

Information about the organization **It Includes:**

➔ Company Policies
➔ Goals of organization
➔ Objectives of organization
➔ Structure of organization

Information about the user staff **It Includes:**

➔ Authority Relationship
➔ Job Functions
➔ Information Requirements
➔ Interpersonal Relationships

Information about the Work Flow **It Includes:**

➔ work flow
➔ methods & procedure
➔ work schedules

Where does information originate from???

Information is gathered from **(a)** Personnel or written documents from within the organization
(b) From organization's environment

External Sources

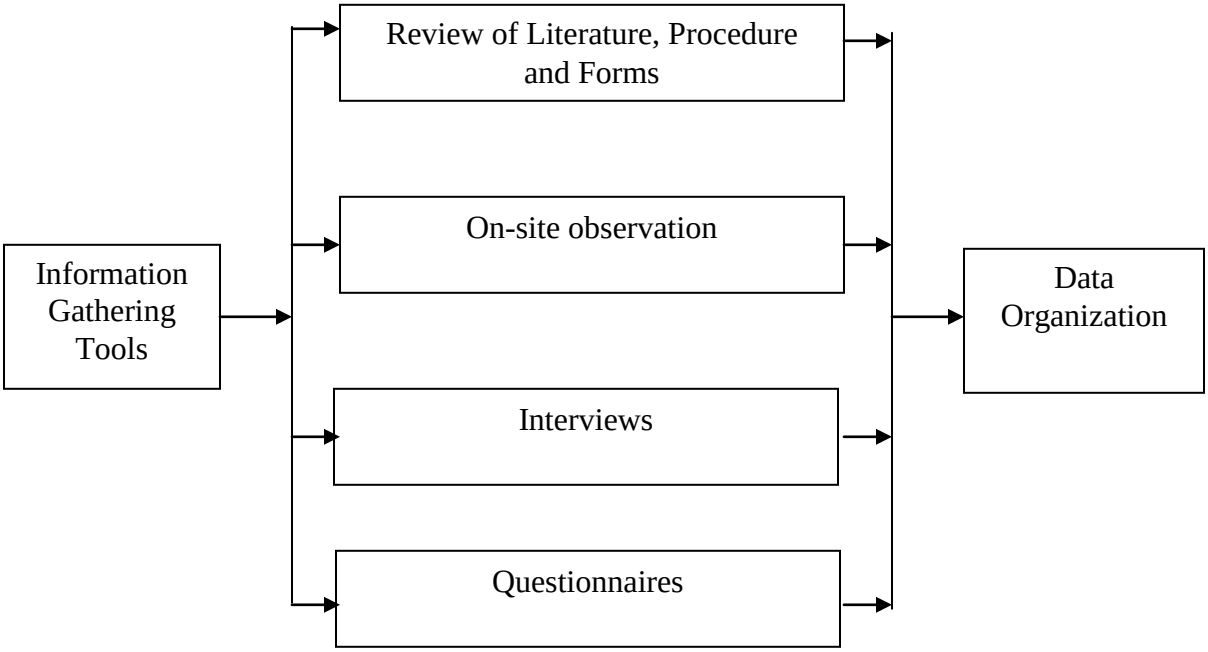
I. Vendors
II. Governmental documents
III. Newspapers and professional journals

Internal Sources

I. Financial reports
II. Personnel staffs
III. Professional staffs
IV. System documentation and manuals
V. User/ user staff
VI. Reports and transaction docs.

Information Gathering Tools

The primary information gathering tools are documentations, on-site observations, review of literature, interviews and questionnaires.



a) Review of Literature, Procedure and Forms

Search the literature through professional references & procedure manuals, textbooks, company studies, government publications.

b) On-site observation

It is the process of recognizing & noting people, objects and occurrences to obtain information. The major objective of on-site observation is to get close to the "real" system being studied.

The methods used may be natural/contrived, obtrusive/unobtrusive, direct/indirect, and structured/unstructured.

The main limitation of observation is the difficulty of observing attitudes and motivation and the many unproductive hours that often are spent in observing one-time activities.

c) Interviews

Interview is a face-to-face interpersonal role situation in which a person called the interviewer asks a person being interviewed questions designed to gather information about a problem area.

It can be used for two purposes-

i) As an exploratory device to identify relations or verify information.

ii) To capture information as it exists.

Advantages of interviews

- ➔ more flexible
- ➔ Offers better opportunity to evaluate validity of information gathered.
- ➔ Effective technique for eliciting information about complex subjects.
- ➔ People enjoy being interviewed
- ➔ Useful for illiterate persons too.

Drawbacks of Interviews

- ➔ long preparation time
- ➔ long time to conduct
- ➔ expensive

steps for successful interview

- Set the stage for interview
- Establish rapport
- Asking the questions
- Obtaining and recording the response

- Evaluate the outcome of interview.

d) Questionnaires

Questionnaire is a self-administered tool that is more economical and requires fewer skills to administer than the interview.

Advantages of questionnaires

➔ Economical and requires less skill to administer
➔ Can be administered to larger no of individual simultaneously
➔ Uniform questions
➔ Respondents feel greater confident
➔ Respondents have time to think to give their answers
➔ Inexpensive and less time.

Drawbacks of Questionnaires

➔ Low percentage of returns
➔ Lack of response from some can bias results
➔ Respondents can be unknown
➔ Respondents is passive
➔ Information collected is less rich

Types of interviews and questionnaires

An interview or questionnaire may be structured or unstructured.

1) Unstructured: a non-directive information gathering technique. It allows respondents to answer questions freely in their own words.

Advantages

- Provides for greater creativity and spontaneity in interviewing
- Facilitates deeper understanding of the feelings and standing of the interviewee.
- Offers greater flexibility in conducting an overall interview

Disadvantages

- More information of questionable use is gathered
- Takes more time to conduct (so it is costly)
- Requires extensive training & experience for effective results

2) Structured: Requires a specific response to open-ended or closed questions. The questions are presented with exactly the same wording & in the same order to all subjects.

Advantages

- Easy to administer & evaluate due to standardization
- Requires limited training
- Easy to train new staffs.

Disadvantages

- High initial preparation cost
- Standardization of questions tends to reduce spontaneity
- Mechanizes interviewing which makes it impractical for all interview settings.

Open-ended questions

- Requires no response direction or specific response
- Often used in interviews because scoring takes time

- In questionnaire, it is written with space provided for the response.

Example:

- List the three most frequently used menu options.
- What is your opinion regarding the "no smoking" policy?

Closed Questions

- Responses are presented as a set of alternatives
- Quick to analyze but are costly to prepare
- Answers are given in a frame of reference consistent with the line of inquiry.

Forms of closed questions are

- Fill-in-the blank Questions
- Dichotomous (Yes/No) Questions
- Ranking Scales Questions
- Multiple Choice Questions
- Rating Scales Questions