

INVESTIGATION TECHNIQUES

WHY IS THERE A NEED TO GATHER INFORMATION

There are several methods of gathering information and usually all or a combination of the following methods are used: Organisation charts, observation, interviewing, questionnaires, existing documentation, record searching, sampling and manuals or handbooks.

Business systems usually consist of many departments made up of people and the various systems that help them accomplish their tasks. Ideally everyone will agree on what tasks are being performed and how and why they are performed. In reality however there is often a difference in perspective between individuals and between departments. Using the various techniques to investigate acquaints the analyst with the company's personnel and practices. It provides the opportunity of discovering the strengths and weaknesses of current practices and highlights any trouble spots.

The analyst should ensure that approval is obtained from staff at higher levels in the organisation before contact is made with staff who report to them. Confidentiality and honesty are very important when dealing with the employees so that they learn to trust the analyst and see him/her as a reliable, objective person. The analyst should always encourage participation and welcome all information offered.

ORGANISATION CHARTS

An organisation chart helps in determining who to contact for interviews and learning the various functions performed in the department.

Each group included on the organisation chart should be described in terms of its function and responsibility.

For large organisations, organisation charts may need to be broken down to departmental charts to get a clear view of the people involved and the functions carried out within each department.

WHAT IS OBSERVATION

Observing is a useful technique for systems analysts to use to become familiar with the user's department. Observations is the purposeful and selective watching of events as they occur.

Advantages of Observation as a Fact-finding Technique

It provides a check on information gathered during interviews, giving another perspective e.g. a person may say one thing in an interview but do another.

Observation also acquaints you with the department. You become a familiar figure in the department. You learn how the system really works.

Disadvantages of Observation as a Fact-finding Technique

It gives information only on present events and activities, it gives no insight into historical trends.

If you are observing a complex system training may be needed prior to observation to understand what is going on.

The presence of an observer can affect operations i.e. things may be done strictly 'by the book'.

Observing is very time consuming.

Picking up clues

Many important clues can be picked up by the trained observer. These are:

Observation and Staff

The analyst should arrange to be introduced to the person and give an explanation of what is going to be done and why. Permission should always be obtained from management before arranging to observe staff members.

Office Conditions

Noise, Lighting, Temperature, Ventilation.

Layout

Is the work area cramped for space?

Do staff have easy access to filing cabinets, desks, computers etc?

Office Furniture

Is there enough filing equipment or are files stacked on the floor?

Is there a standard for filing equipment or just random assortment?

Supervision

Do the staff seem to get on with their work or do they chat and read magazines?

Are there frequent interruptions.

Work Load

Do the piles of documents waiting for attention stay constant, or do they fluctuate from morning to afternoon, day to day, week to week?

Pace of Work

Is the individuals pace of work normal, slow, or fast?

Bottlenecks

Are there operations at which there is constantly a heavy load of work waiting for attention?

Methods of Work

Are the methods employed the most efficient to get the job done quickly and accurately?

WHAT IS A QUESTIONNAIRE

A questionnaire is a document that is used to elicit information from a respondent without an interviewer having to be present.

Advantages of Questionnaires

The main advantage of the questionnaire is that data can be gathered from a large number of respondents in an economical fashion. The information gathered can be easily collated and compiled for statistical purposes.

Questionnaires allow the inclusion of all employees in a study, allowing them the opportunity to give details about their job, responsibilities and suggestions for improving the system. A questionnaire can thus cover a wide range of topics.

Disadvantages with Questionnaires

Questionnaires are difficult to design. If you word a question incorrectly, the data gathered may be useless. Responses may also be inadequate. Most people avoid putting their opinions and ideas in writing although they would verbalise them in an interview.

People may object to answering numerous time-consuming and tedious questions.

The questionnaire method is relatively slow because many people put off answering for some time.

Questionnaires are most valuable

- a) When a very small amount of information is required from a large number of people.
- b) When a systematic study is being made of all the activities of one unit of an

organisation.

- c) Often, questionnaires are the only practical method of obtaining information in a limited amount of time when the investigation covers a large number of branches in a large decentralised organisation.

Preparing a Questionnaire

There are a number of specific considerations which should be kept in mind when preparing a questionnaire:

- * Limit the number of questions and the amount of writing required by the recipient.
- * Arrange the questions in a logical sequence.
- * Write the questions in such a way that they do not imply an expected answer.
- * Avoid questions that might threaten the respondents or put them on the defensive.
- * Have the questions answered by someone prior to sending the questionnaire out to check the reactions of the respondent.
- * Obtain Management Approval. The employees' management should approve the questionnaire in advance.

Questionnaire Design

The important considerations to bear in mind when designing a questionnaire are:

- * Its purpose, recipients and timing
- * What specific information it is intended to gather
- * Their level of understanding intelligence and interest.

The questions should be phrased so as:

- Not to be Ambiguous
- Not to lead the Recipient to false answers and
- Not to prevent relevant answers from being included

The questionnaire itself should be in three sections.

Heading Section

Provides brief information about the questionnaire.

- * Allows the respondent to fill in the data, name and title.

Classification Section

- * Includes the data to be used for analysing the replies (e.g. Sex, Age, Location etc).

Subject Section

- * The specific questions forming the main body of the questionnaire.

EXISTING DOCUMENTATION

Examining existing documentation is an appropriate method of gathering data to learn about procedures.

Types of Documents

There are two types of documents

- * Existing Documents
- * Elicited Documents (those produced at the request of the analyst).

Documentation may be the only source of information about past procedures, policies and systems.

Existing documents that should be reviewed are:-

Input Procedures

Output Procedures

System Specifications

File Structures and Content

System Flowcharts

System Interface Procedures

Computer Operations Specification

Even if a system being investigated is not computerised there may still be existing documentation about the business system e.g. business consultant's reports or clerical procedures manuals.

Advantages of Viewing Existing Documentation

A major advantage of studying existing documentation is that it provides historical data, including a record of trends or changes in the system. If the system is well documented, the information is likely to be more precise and complete than information you could get through interviews or questionnaires.

Disadvantages of Viewing Existing Documentation

However a major disadvantage of studying existing documentation is that it relies heavily on how well the system has been documented. Certain information may not be available, complete or up-to-date. Also documentation is often bulky and voluminous making it time consuming to go through.

RECORD SEARCHING

A record search is the process of examining existing records and files.

It is used to establish quantitative information e.g.

Volumes

Frequencies

Trends

Ratios

Seasonality

Advantages of Record Searching

It helps in establishing how much reliance can be put on the estimates given by the staff or management of a department.

It may also indicate whether the departmental objectives are being achieved and whether information needed for decision making is available when required.

It may disclose exceptions and additions to the information obtained from interviews such as documents not mentioned or received and filed without any action.

Among existing records may be found written procedures, job descriptions or job specifications.

Disadvantages of Record Searching

It is often very time consuming to go through all existing records and also information is often missing from records.

WHAT IS SAMPLING

Where there is a high volume of documents or a number of recurring activities, it may not be necessary or practical to measure the total number. In this instance a sample is taken.

N.B. with sampling it is important not to draw conclusions from a non-representative sample.