**Q. What do you mean by information gathering?**

Ans: Information gathering: 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. Additionally, the methodology and tools for information gathering require training and experience that the analyst is expected to have. This means that information gathering is neither easy nor routine. Much preparation, experience and training are required.

Q. What kinds of information do we need for analysis? Or, what categories of information are available for analysis?

Ans: There are three categories of information available for analysis:

- Information about the organization
- Information about user staff
- Information about the work flow.
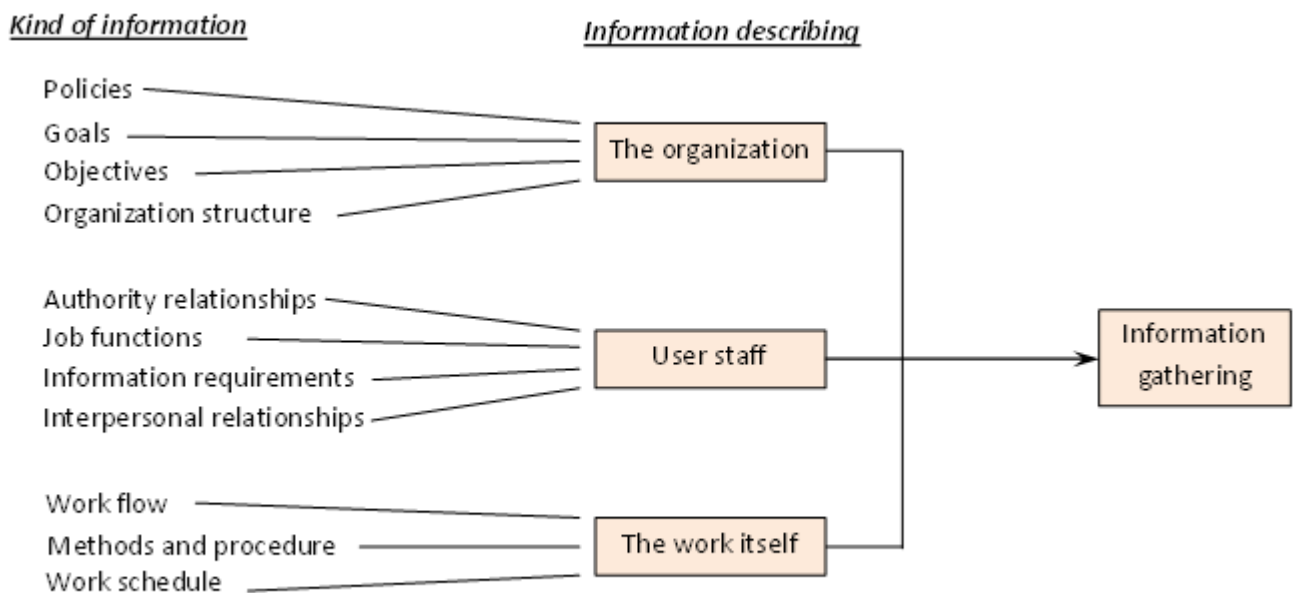
Fig: *Categories of information*

Information about the organization: Information about the organization's policies, goals, objectives and structure explains the kind of environment that promotes the introduction of computer based systems. Company policies are guidelines that determine the conduct of business. Policies are translated into rules and procedures for achieving goals.

After policies and goals are set, a firm is organized to meet these goals. The organization structure via the organization chart indicates management directions and orientation.

Information about user staff: Another kind of information for analysis is knowledge about the people who run the present system the job functions and information requirements the relationships of their jobs to the existing system and the interpersonal network that holds the user group together. We are actually focusing on people's roles authority relationships job status and functions information requirements and interpersonal relationships. Information of this kind highlights the organization chart and establishes a basic for determining the importance of the existing system for the organization.

Information about work flow: Work flow focuses on what happen to the data through various points in a system. This can be shown by a data flow diagram or a system flowchart. A data flow diagram represents the information generated at each processing point in the system and the direction it takes from source to destination. In contrast a system flowchart describes the physical system. The information

available from such charts explains the procedures used for performing tasks and work schedules.

Q. Where does information originate? Or, Information is available from internal and external sources. Under what circumstances would the analyst depend more heavily on external than internal information? Why? Or, what are external or internal sources of information?

Ans: Information is gathered from two principal sources – personnel or written documents from within the organization and the from the organizations environment. The primary external sources are:

- Vendors.
- Government documents.
- Newspapers and professional journals.

The primary internal sources are:

- Financial reports.
- Personnel staff.
- Professional staff.
- System documentation or manuals.
- The user or user staff.
- Reports and transaction documents.

External source: External sources of information are government documents, technical newspapers, and professional journals. Computer world, for example, provides weekly information about new hardware, hardware installations, software developments and trends in the field. Articles are also published in system development, documentation and EDP journals such as communications of the ACM and Journal for System Management. They provide invaluable updates in the systems area.

Internal source: Internal sources of information are limited to the user staff, company personnel and various reports. User personnel are the front – line contacts for acquiring and validating information about a system. An important source of information is the key employee who has been in the user area for years and is familiar with present activities and applications.

Q. Mention the fact finding tools and explain them. Or, what traditional information – gathering tools are available for the analyst? Explain each tool briefly.

Ans: Fact finding tools: Some traditional information – gathering tools are –

- Review of the documents
- Onsite observation
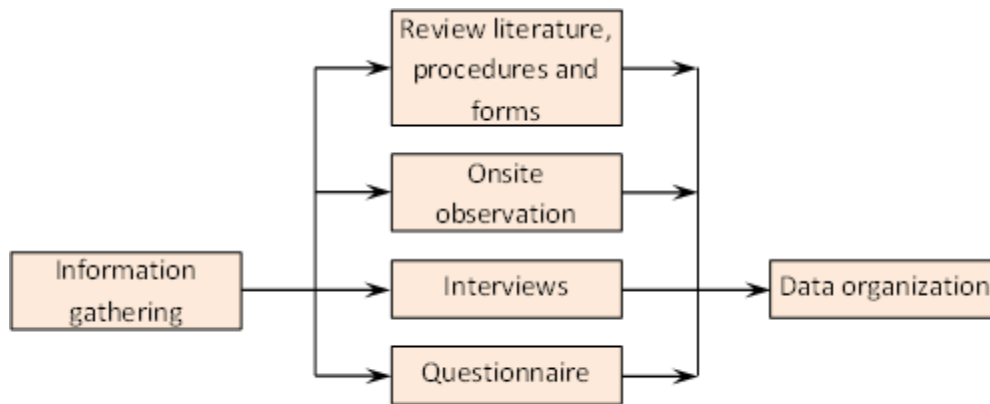- Interviews
- Questionnaires

Fig: *Information gathering method*

Review of the documents: When available al documentation on data carriers is organized and evaluated. Included in procedures manual are the requirements of the system, which helps in determining to what extent they are met by the present system. Unfortunately most manuals are not up to date or may not be readable. Day – to – day problems may have forced changes that are not reflected in the manual. Up – to – date manuals save hours of information gathering time. Unfortunately, in many cases, manuals do not exist or are seriously out of date.

On – site observation: Another fact finding method used by the systems analyst is onsite observation. The purpose of on – site observation is to get as close as possible to the real system being studied. On –site observation is the most difficult fact finding technique. It requires intrusion into the user's area and can cause adverse reaction by the user's staff if not handled properly. The analyst observes the physical layout of the current system, the location and movement of people and the work flow.

Interviews: The 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. The interview is the oldest and most often used device for gathering information in systems work. It has qualities that behavioral and on – site observations do not poses. It can be used for two main purposes:

- As an explanatory device to identify relations or verify information, and
- To capture information as it exists.

Questionnaires: In contrast to the interview is the questionnaire, which is a term, used for almost any tool that has questions to which individuals respond. It is usually associated with self – administered tools with items of the closed or fixed alternative type. By its nature, a questionnaire offers the following advantages:

- It is economical and requires less skill to administer then the interview.
- Unlike the interview, which generally questions one subject at a time, a questionnaire can e administered to large numbers of individuals simultaneously.
- The standardized wording and order of the questions and the standardized instructions for reporting responses ensure uniformity of questions.
- The respondents feel gather confidence in the anonymity of a questionnaire than in that of an interview.
- The questionnaire places less pressure on subjects for immediate responses.

The principal disadvantage is a low percentage of natures. Another disadvantage is that many people have difficulty expressing themselves in writing, especially when responding to easy questions.

Q. Write down the comparison between interviews and questionnaires.
Ans: The comparison between interviews and questionnaires are given below:

Characteristics	Interviews	Questionnaire
1. Information Richness:	Rich and detailed.	Medium to low.
2. Time required:	Large amount of time and can be extensive.	Low to moderate.
3. Expense:	Can be high.	Moderate.
4. Change for follow up and probing: examine (something) with the hands	Good.	Limited.
5. Confidentiality:	Interviewee is known to interviewer.	Responded can be unknown.
6. Potential audience:	Limited number.	Can be quite large.

Q. Describe four alternative observation methods.

Ans: Four alternative observation methods are:

- **Natural or contrived:** A natural observation occurs in a setting such as the employee's place of work; a contrived observation is set up by the observer in a place like a laboratory. *(imagined)*
- **Obtrusive or unobtrusive:** An obtrusive observation takes place when the respondent knows he/she is being observed; an unobtrusive observation takes place in a contrived way such as behind a one way mirror.
- **Direct or indirect:** A direct observation takes place when the analyst actually observes the subject or the system at work. In an indirect observation, the analyst uses mechanical devices such as cameras and videotapes to capture information.
- **Structured or unstructured:** In a structured observation, the observer looks for and records a specific action such as the number of soup cans a shopper picks up before choosing one. Unstructured methods place the observer in a situation to observe whatever might be pertinent at the time. *(relevent)*

Q. What are the steps for a successful interview?   2016 3a

Ans: In an interview, the following steps should be taken:

- Set the stage for the interview.
- Establish rapport; put the interviewee at ease.
- Phrase questions clearly and succinctly. *(briefly)* *(Saying)*
- Be a good listener; avoid arguments.
- Evaluate the outcome of the interview.
- **Stage settings:** This is an "ice breaking" relaxed informal phase where the analyst opens the interview by focusing on
  - The purpose of the interview
  - Why the subject was selected and
  - The confidential nature of the interview.
- **Establishing rapport:** In one respect, data collection is an imposition on user staff time and an intrusion into their privacy. Even though the procedure is authorized by management in advance, many staff members are reluctant to participate. *(unwilling)*
- **Asking the questions:** Except in unstructured interviews it is important that each question is asked exactly as it is worded. Rewording or impromptu explanation may provoke a different answer or bias the response. The questions must also be asked in the same order as they appear

on the interview schedule. Reversing the sequence could destroy the comparability of the interviews. Finally, each question must be asked unless the respondent in answering a previous question has already answered the next one.

- **Obtaining and recording the response:** The analyst is listening, is interested, and understands what the respondent is trying to say and is making an effort to gain more information. The information received during the interview is recorded for latter analysis.
- **Data recording and the notebook:** Many system studies fail because of poor data recording. Care must be taken to record the data, their source and the time of collection. If there is no record of a conversation the analyst runs the risk of not remembering enough details.

Q. Define different types of interviews and questionnaires.
Ans: Interviews and questionnaire is two types –

- **The unstructured alternative:** The unstructured interview is a relatively nondirective information gathering technique. It allows respondents to answer questions freely in their own words. The responses are spontaneous rather than forced. They are self-revealing and personal rather than general and superficial. The role of the analyst as an interviewer is to encourage the respondent to talk freely and serve as a catalyst to the expression of feelings and opinions.
- **The structure alternative:** In the structured approach the questions are presented with exactly the same wording and in the same order to all subjects. If the analyst asks a subject, "Would you like to see a computerized approach to solving your accounts receivable problem?" and asks another subject, "How do you feel about computers handling accounts receivable?" The responses may not be the same even though the subjects both have the same opinion.

Q. Define five major variety of closed question.
Ans: There are five major varieties of closed questions:

- Fill in the blanks questions request specific information. These responses can then be statistically analyzed. yes/no question
- Dichotomous questions that offer two answers have advantages similar to those of the multiple chose type. The problem is making certain that a reliable response can be answered by yes or no; otherwise an additional choice should be included.
- Ranking scales questions ask the respondent to rank a list of items in order of importance or preference. The first question asks the respondent to rank five statements on the basis of how they describe his/her present job.
- Multiple choice questions offer respondents specific answer choices. This offers the advantage of faster tabulation and less analyst bias due to the order in which the answers are given. Respondents have a favorable bias toward the first alternative item.
- Rating scales questions are an extension of the multiple choice design. The respondent is offered a range of responses along a single dimension. The respondent is asked to rate various aspects of his/her job on a scale of 1 – 5.