INFORMATION GATHERING

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INFORMATION GATHERING

MOTIVATION

The Information system designed for an organization must meet the requirements of the end users of the organization. To obtain what an end user expects from the Information System the designer must gain complete knowledge of the organization's working. It is important for the student to know the information gathering techniques so that no information is overlooked and the nature and functions of an organization are clearly understood. The main purpose of gathering information is to determine the information requirements of an organization. Information requirements are often not stated precisely by management. It is the analyst's responsibility to prepare a precise Systems Requirements Specifications (SRS), which is easily understood (SRS) by users, as SRS document is a vital document before starting a project

LEARNING GOALS

At the end of this module you will learn:
- Strategy to gather information for computerization.
- Various sources of information.
- Methods of searching for information.
- Interviewing techniques to gather information from line managers to top management.
- Methods of consensus for formulating requirements.

LEARNING UNIT 1

Information gathering, strategies, methods

INFORMATION GATHERING STRATEGIES

A strategy should be evolved by the analyst to gather information. The strategy consists of identifying information sources, evolving a method of obtaining information from the identified sources and using an information flow model of organization

INFORMATION SOURCES

The main sources of information are users of the system, forms and documents used in the organization, procedure manuals, rule books etc, reports used by the organization and existing computer programs(If Any).

INFORMATION GATHERING METHODS

Searching for information
Information can be gathered by interviewing top-level management, middle level management and operational staff. Besides Interviews group discussions also help the analyst to gather information. It is not possible to obtain all information in a single interview, more than one interview is thus required.

PLANNING AN INTERVIEW

Before starting the interview the analyst must make a list of people to be interviewed and in what order, plan and note down a list of questions to be asked, plan several interviews with same person-mainly to clarify doubts and interview groups as appropriate.

INTERVIEWING TECHNIQUE

There are some guidelines to ensure a successful interview:

Make an prior appointment with the person to be interviewed and meet him at the allotted time. Read background material and go prepared with the checklist. State purpose of interview. Be punctual and pay attention to what user says. Do not use computer jargon. Obtain both quantitative and qualitative Information. Discriminate between essential and desirable requirements. State what you understand and get it confirmed. Do not prolong interview and summarize the information gathered by you during the interview and verify this with the user

USE OF QUESTIONNAIRES

Questionnaires are useful for collecting statistical data. Sometimes the questionnaires are not promptly replied and several follow-ups/personal interviews may be required to get questionnaires back from respondents But if the questionnaires are short the probability of getting the reply is high When data has to be collected form large number of people questionnaires are useful.

OTHER METHODS OF INFORMATION GATHERING

Other methods of information search are:

- Systems used in other similar organization
- Observe workflow in workplace
- Repository of systems developed for similar organizations available.

LEARNING UNIT 2

System requirements specification, classification of requirements as strategic, tactical, operational and statutory

SYSTEM REQUIREMENTS SPECIFICATION (SRS)

SRS is obtained after excessive discussions with the user.
System requirements specification specifies <u>what</u> Information requirements will be provided. It does not specify <u>how</u> the system will be designed.
Developing SRS is most important and difficult task of a Systems analyst

How SRS is developed
Analyst examines the current system, finds out the shortcomings of the system as seen by the user. He then develops an SRS which is understandable by the user and which can be used for detailed design of the system.

Ideal characteristics of SRS
▪Complete and Unambiguous.
▪Specifies operational, tactical, and strategic information requirements
▪Eliminates possible later disputes between users and Analyst
▪Uses Graphical aids understood by users who are not computer literate and will also be useful in design.
▪Jargon Free.

DEVELOPING A DOCUMENT FLOW DIAGRAM

EXAMPLE WORD STATEMENT

"Our company receives many items from several vendors each accompanied by a delivery note. A receiving office receives the item and checks the delivery note with corresponding order. Any discrepancy is reported to purchase office. The items received along with items received note (with details of items) is sent to the inspection office."

ENTITIES IDENTIFIED-Vendors, Receiving office, Inspection office
DOCUMENTS IDENTIFIED-Delivery note, discrepancy note, Items
                         Received note.

Using these a document flow diagram is drawn

Delayed Items   Delivered Items

| Vendor | | Receiving Office | | Inspection office |

Delivery note   Items Received note

Discrepancy note

· · · · · ▶ Indicates Physical flow of items

| Purchase Office |

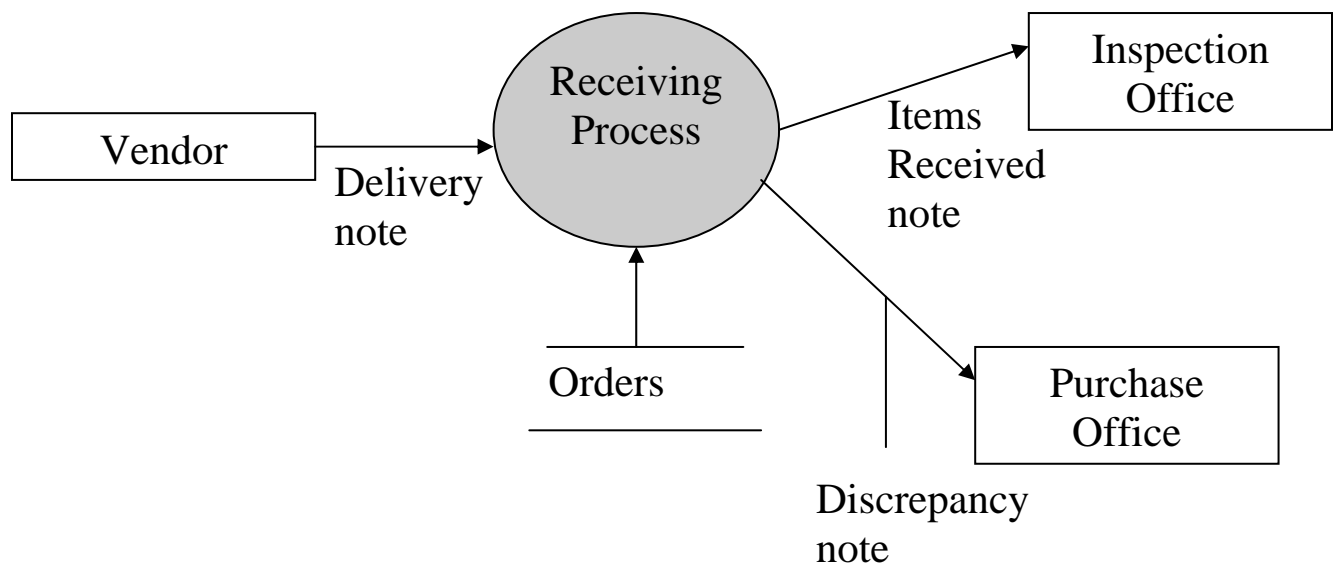───────▶ Indicates Documents
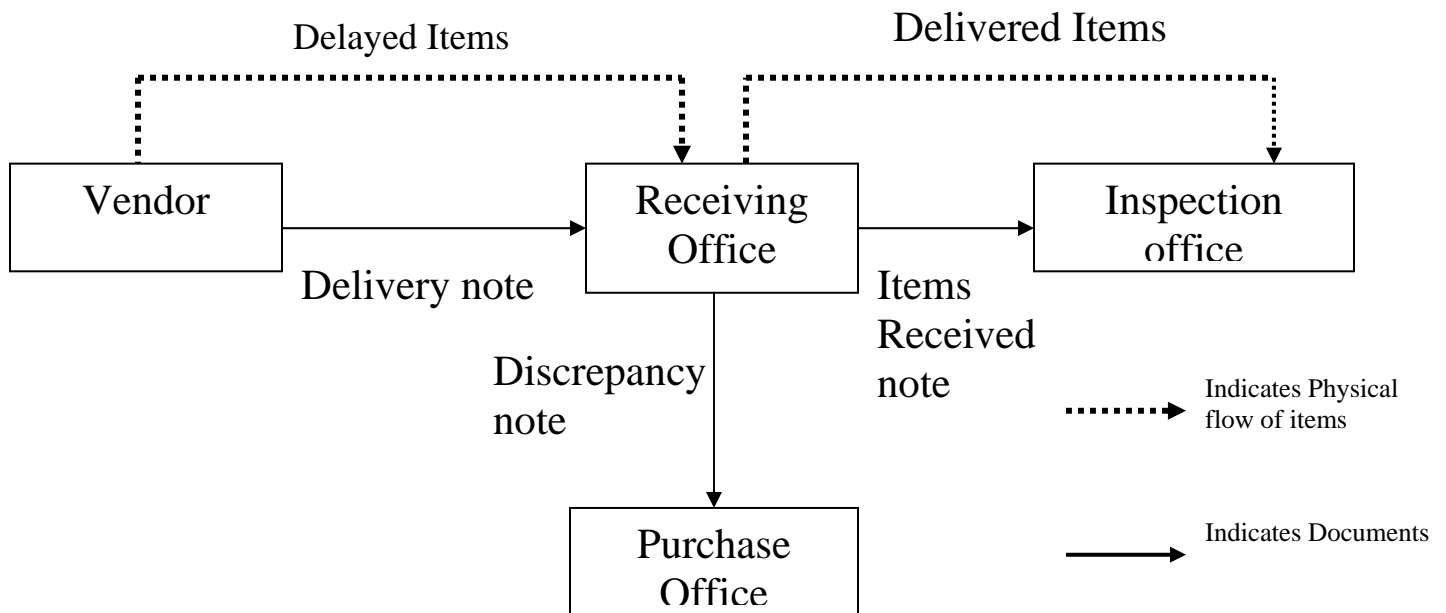
The diagram is interpreted as follows:
1) Vendors deliver items to receiving office accompanied by a delivery note
2) Receiving Office sends items to inspection office along with an items received note
3) Receiving office sends discrepancy note to Purchase office
  ENTITIES: Vendor, Receiving office, Inspection office and purchase office
  DOCUMENTS: Delivery note, Items received note and discrepancy note

DATA FLOW DIAGRAM (DFD)

DFD has entities and data flows, DFD specifies processing performed by some of the entities. It specifies which entities generate documents and also indicate their flow. Data stores which are referred while processing data and in which processed data may be written or stored are also represented in the Diagram

Vendor → Delivery note → Receiving Process → Items Received note → Inspection Office

Receiving Process → Discrepancy note → Purchase Office

Orders → Receiving Process

•Entities are, originators of data and "consumers" of data
•Vendor, Inspection office and purchase office are entities in the above diagram
•Data flows are delivery note, items received note and discrepancy note
•A circle is used to depict a process
•A pair of parallel lines depict a store

Data elements in the data flow:

Delivery note:
Order no,Vendor code,Vendor name and address,Item name, Item code,Delivery date,Quantity supplied,units.

Items Received note:
Order no,Item name,Item code,Delivery date,quantity,supplied,units.

Discrepancy note:
Order no,Vendor code,Vendor name and address,Item name, Item code,Order date, Delivery date,quantity supplied,units, excess/deficiency,No of days late/early.

Receiving office order file
Order no,Order date,Item name,Item code,Vendor code,Vendor Name and address,Quantity ordered,delivery period.

PROCESSING RULE

The statements given below are shown to the user for his approval.

English statement
1.Compare order no in delivery note with that in order file. If no match return item to vendor.
2.If order no matches then compare item codes, if no match return item to the vendor.
3. If order number matches compare qty delivered with quantity ordered. If excess or deficient send discrepancy note to purchase office.
4. If order number matches compare date of delivery with expected date. If late or early send discrepancy note to purchase office.
5.In case3 and case4 send items received note to inspection office

MODULARIZING REQUIREMENTS SPECIFICATIONS

SRS Document now consists of Document flow diagrams(as many as needed), Data Flow Diagrams, Data elements of each data flow and Data store, processing rules carried out in each circle of DFD, a descriptive statement of operational,tactical,strategic information will be provided, a data dictionary which consolidates all data elements in the document and data store.

REFERENCES

1. Most of the material including the case study has been adapted from Chapter 4, Analysis and Design of Information Systems by V.Rajaraman published by Prentice Hall of India 2002 with permission from publisher.

2. Systems Analysis and Design, by K.E.Kendell and J.E.Kendell published by Pearson Education Asia 2002 discuss in detail fact gathering in pp.117-196. They cover interviewing, questionnaire use and observing an organization very thoroughly.