

# Analisa Sistem Informasi

## Pertemuan 2

### Tujuan

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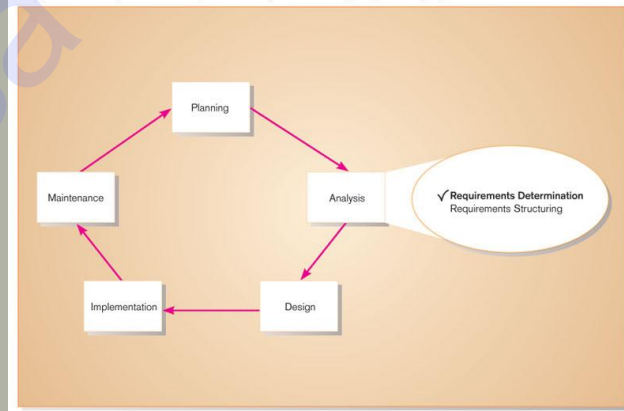
- Mahasiswa mampu menerapkan metode dalam elisitasi informasi.

## Pustaka

- Prentice Hall, 2005, *Modern Systems Analysis and Design Fourth Edition*, Jeffrey A. Hoffer , Joey F. George, Joseph S. Valacich,
- IIBA. 2009. *A Guide to the Business Analysis Body of Knowledge. Ontario, Canada: IIBA*

## System Requirements Determination

Figure 6-1 Systems development life cycle with analysis phase highlighted



## Elicitation

- Elicitation describes how we work with stakeholders to find out what their needs are and ensure that we have correctly and completely understood their needs.
- **Purpose**
- Explore, identify and document stakeholder needs.

Tasks	Purpose	Inputs	Outputs
Prepare for Elicitation	Prepare for elicitation by ensuring all needed resources are organized and scheduled for conducting the elicitation activities.	<ul style="list-style-type: none"> <li>• Stakeholder list</li> <li>• Stakeholder roles and responsibility designation</li> <li>• Either (Defined Business Problem/ Opportunity) or (Business Case and Solution Scope)</li> <li>• Elicitation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Scheduled resources</li> <li>• Supporting materials</li> </ul>
Conduct Elicitation	Meet with stakeholder(s) to elicit information regarding their needs	<ul style="list-style-type: none"> <li>• Supporting materials</li> <li>• Either (Defined Business Problem/ Opportunity) or (Business Case and Solution Scope)</li> <li>• Organizational standards</li> </ul>	<ul style="list-style-type: none"> <li>• Elicitation activity results</li> <li>• Assumptions, constraints, risks, issues</li> <li>• Documentation based on technique (e.g., interview notes, workshop results, survey responses, etc.)</li> </ul>
Document Elicitation Results	Record the information provided by stakeholders for use in analysis.	<ul style="list-style-type: none"> <li>• Elicitation activity results</li> </ul>	<ul style="list-style-type: none"> <li>• Stated requirements</li> </ul>
Confirm Elicitation Results	Validate that the stakeholder's intentions have been correctly captured and understood.	<ul style="list-style-type: none"> <li>• Stated requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Validated stated requirements</li> </ul>

## Characteristics for Successful Requirements Determination

- Impertinence (kebengalan)
- Impartiality (keadilan)
- Relaxing constraints
- Attention to details (teliti pada detail)
- Reframing (membangkitkan ulang)

## Deliverables of Requirements Determination

- From interviews and observations
  - Interview transcripts, observation notes, meeting minutes
- From existing written documents
  - Mission and strategy statements, business forms, procedure manuals, job descriptions, training manuals, system documentation, flowcharts
- From computerized sources
  - JAD session results, CASE repositories, system prototype displays and reports

## Traditional Requirements Determination Methods

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- Interviewing individuals
- Interviewing groups
- Observing workers
- Studying business documents

## What is Interviewing?

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- Dialogue with user or manager to obtain their requirements
- Two forms:
  - Open-ended: conversational, questions with no specific answers in mind
  - Closed-ended: structured, questions with limited range of possible answers

## Guidelines for Effective Interviewing

- Plan the interview.
  - Prepare interviewee: appointment, priming questions.
  - Prepare agenda, checklist, questions.
- Listen carefully and take notes (tape record if permitted).
- Review notes within 48 hours.
- Be neutral.
- Seek diverse views.

Figure 6-2 Typical interview guide

Interview Outline	
Interviewee: <i>Name of person being interviewed</i>	Interviewer: <i>Name of person leading interview</i>
Location/Medium: <i>Office, conference room, or phone number</i>	Appointment Date: <i>Start Time End Time</i>
Objectives: <i>What data to collect On what to gain agreement What areas to explore</i>	Reminders: <i>Background/experience of interviewee Known opinions of interviewee</i>
Agenda: <i>Introduction Background on Project Overview of Interview Topics to Be Covered Permission to Tape Record Topic 1 Questions Topic 2 Questions ... Summary of Major Points Questions from Interviewee Closing</i>	Approximate Time: <i>1 minute 2 minutes 1 minute 5 minutes 7 minutes ... 2 minutes 5 minutes 1 minute</i>
General Observations: <i>Interviewee seemed busy—probably need to call in a few days for follow-up questions since he gave only short answers. PC was turned off—probably not a regular PC user.</i>	
Unresolved Issues, Topics not Covered: <i>He needs to look up sales figures from 1999. He raised the issue of how to handle returned goods, but we did not have time to discuss.</i>	
Interviewer:	Date:
Questions:	Notes:
When to ask question, if conditional Question: 1 <i>Have you used the current sales tracking system? If so, how often?</i>	Answer <i>Yes, I ask for a report on my product line weekly.</i>  Observations <i>Seemed amiable—may be overestimating usage frequency.</i>
If yes, go to Question 2	
Question: 2 <i>What do you like least about the system?</i>	Answer <i>Sales are shown in units, not dollars.</i>  Observations <i>System can show sales in dollars, but user does not know this.</i>

- Interview Guide is a document for developing, planning and conducting an interview.
- Each question in an interview guide can include both verbal and non-verbal information.

## Disadvantages of Individual Interviews

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- Interview one person at a time
- Advantages
  - Easier to schedule than group interviews
- Disadvantages
  - Contradictions and inconsistencies between interviewees
  - Follow-up discussions are time consuming

## Group Interviews

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- Interview several key people together
- Advantages
  - More effective use of time
  - Can hear agreements and disagreements at once
  - Opportunity for synergies
- Disadvantages
  - More difficult to schedule than individual interviews

## Nominal Group Technique (NGT)

- A facilitated process that supports idea generation by groups.
- Process
  - Members come together as a group, but initially work separately.
  - Each person writes ideas.
  - Facilitator reads ideas out loud, and they are written on blackboard.
  - Group discusses the ideas.
  - Ideas are prioritized, combined, selected, reduced.

## Other Approaches

- What is **Direct Observation**?
  - Watching users do their jobs
  - Can provide more accurate information than self-reporting (like questionnaires and interviews)
- What is **Document Analysis**?
  - Review of existing business documents
  - Can give a historical and “formal” view of system requirements



## Analyzing Procedures and Other Documents

- Types of information to be discovered:
  - Problems with existing system
  - Opportunity to meet new need
  - Organizational direction
  - Names of key individuals
  - Values of organization
  - Special information processing circumstances
  - Reasons for current system design
  - Rules for processing data

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## Analyzing Procedures and Other Documents (cont.)

- Four types of useful documents
  - Written work procedures
    - Describes how a job is performed
    - Includes data and information used and created in the process of performing the job or task
  - Business form
    - Explicitly indicate data flow in or out of a system
  - Report
    - Enables the analyst to work backwards from the report to the data that generated it
  - Description of current information system

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**Figure 6-3** Example of a procedure

**GUIDE FOR PREPARATION OF INVENTION DISCLOSURE**  
(See **FACULTY** and **STAFF MANUALS** for detailed Patent Policy and routing procedures.)

(1) DISCLOSE ONLY ONE INVENTION PER FORM.

(2) PREPARE COMPLETE DISCLOSURE.

The disclosure of your invention is adequate for patent purposes **ONLY** if it enables a person skilled in the art to understand the invention.

(3) CONSIDER THE FOLLOWING IN PREPARING A COMPLETE DISCLOSURE:

- (a) All essential elements of the invention, their relationship to one another, and their mode of operation.
- (b) Equivalents that can be substituted for any elements.
- (c) List of features believed to be new.
- (d) Advantages this invention has over the prior art.
- (e) Whether the invention has been built and/or tested.

(4) PROVIDE APPROPRIATE ADDITIONAL MATERIAL.

Drawings and descriptive material should be provided as needed to clarify the disclosure. Each page of this material must be signed and dated by each inventor and properly witnessed. A copy of any current and/or planned publication relating to the invention should be included.

(4) INDICATE PRIOR KNOWLEDGE AND INFORMATION.

Pertinent publications, patents or previous devices, and related research or engineering activities should be identified.

(5) HAVE DISCLOSURE WITNESSED.

Persons other than coinventors should serve as witnesses and should sign each sheet of the disclosure only after reading and understanding the disclosure.

(7) FORWARD ORIGINAL PLUS ONE COPY (two copies if supported by grant/contract) TO VICE PRESIDENT FOR RESEARCH VIA DEPARTMENT HEAD AND DEAN.

**Written work procedure is a business document that formally describes work processes, provides useful information regarding system functionality and logic.**

## Potential Problems with Procedure Documents

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- May involve duplication of effort
- May have missing procedures
- May be out of date
- May contradict information obtained through interviews

## Formal vs. Informal Systems

### ○ Formal

- The official way a system works as described in organization's documentation
- Procedure documents describe formal system

### ○ Informal

- The way a system actually works in practice
- Interviews and observation reveal informal system


Figure 6-4 A blank invoice form

**SOFTWARE SELECTIONS, INC.**  
1234 COMPANY BLVD.  
ANY TOWN, ANY STATE 00001  
1234 567-8900

**INVOICE**

TO: \_\_\_\_\_

SALESPERSON: \_\_\_\_\_ DATE OF INVOICE: \_\_\_\_\_  
SHIP TO: \_\_\_\_\_

CUSTOMER ID	INVOICE NUMBER	INVOICE DATE	PURCHASE ORDER ID	TAX EXEMPTION ID
QUANTITY	DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT
				

Thank You

BALANCE DUE: \_\_\_\_\_

FORM 0001

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**Business form is a document that contains useful information regarding data organizations and possible screen layouts.**

**Table 6-4** Comparison of Observation and Document Analysis

<i>Characteristic</i>	<i>Observation</i>	<i>Document Analysis</i>
<b>Information Richness</b>	High (many channels)	Low (passive) and old
<b>Time Required</b>	Can be extensive	Low to moderate
<b>Expense</b>	Can be high	Low to moderate
<b>Chance for Follow-up and Probing</b>	Good: probing and clarification questions can be asked during or after observation	Limited: probing possible only if original author is available
<b>Confidentiality</b>	Observee is known to interviewer; observee may change behavior when observed	Depends on nature of document; does not change simply by being read
<b>Involvement of Subject</b>	Interviewees may or may not be involved and committed depending on whether they know if they are being observed	None, no clear commitment
<b>Potential Audience</b>	Limited numbers and limited time (snapshot) of each	Potentially biased by which documents were kept or because document not created for this purpose