Topic 5 Techniques Associated with Requirements Capture

1. Stakeholders analysis

1.1 Stakeholders

- Groups or organisations whose roles, views and contributions should be taken into account when an information system is being analysed.

1.2 Types of Stakeholders

- Management
- Admin Staff
- Staff in the various departments e.g. Finance, Production, Marketing etc.
- Technicians
- Cleaners

1.3 Purpose of Stakeholder Analysis

- It enables the analysis of people, groups or organizations whose roles, views, and contributions should be taken into account.
- They have knowledge of the organization, current system, etc.
- They have the ability to affect decision making

1.4 Outcome of Stakeholder Analysis or Key Tasks for Stakeholder Analysis

- Stakeholders need to be identified
- Their power, influence and interest need to be established.
- The most important stakeholders need to be identified and understood so that their responses are likely to be anticipated.
- Time and resources need to be devoted to maintaining important stakeholder involvement and commitment.

1.5 Stakeholder Characteristics or Purpose of Identifying Stakeholders

- Identify knowledge of the information system, department, organisation, etc.
- Identify their interests related to the system, etc.
- Identify whether they are for or against system development
- Identify alliances or potential alliances with other stakeholders
- Identify their ability to affect decision-making
- Identify the extent to which they will be affected by development of the system

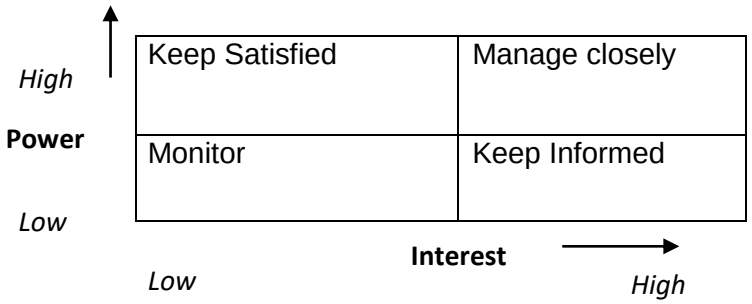
1.6 Methods of documenting the results of stakeholder analysis

- Stakeholder matrix or power/influences/interest grid
- Stakeholder report

2. Stakeholder Matrix

2.1 Stakeholder Analysis Matrix

- This can be used to discover the key stakeholders and find out how they feel about the development of the information system and how they are likely to react to its development
- It can also be used to decide how to engage and communicate with the stakeholders
- High Power, High Interest people must be fully engaged and managed closely.
- High Power, Less Interest people must be kept fully informed and satisfied
- Less Power, High Interest people should be kept informed and spoken with to ensure that they have no major concerns
- Less Power, Less Interest people must be spoken with and monitored



2.2 Advantages of Stakeholder Analysis Matrix

- It helps to determine the people/stakeholders who have power, influence and interest.
- It helps to determine who are the most influential people/stakeholders
- It helps to determine who are the least influential people/stakeholders
- It helps to determine who people/stakeholders need to be consulted and kept informed during information gathering.

2.3 Disadvantages of Stakeholder Analysis Matrix or Problems of requirement gathering/capturing

- Stakeholders might not have time to be involved.
- Not all stakeholders might be involved.
- Stakeholders might not really know what they want from the system.
- It might be difficult to gather information from stakeholders, e.g. they are too busy to attend interview, complete questionnaires or are reluctant to be observed at work.

- Stakeholders may be reluctant to participate that they may lose their job as a result of changes
- Some stakeholders might be reluctant to participate because they may be fearful that they may lose their jobs as a result of changes.
- There might not be enough time to gather all of the information sought.
- There might be a lack of resources to gather all of the information sought.

3. CATWOE

3.1 Purpose of CATWOE Analysis

- C=Customer/Client, A=Actor/Agent, T=Transformations, W=World View,O=Owner, E=Environment
- It is used to prompt thinking about what the business is trying to achieve
- It can be help to identify and categorise all the people, process, and external factors involved in the information system being analysed
- It can be used when the needs of the users need to be taken into account in order to enhance information system productivity and quality assurance
- It can encourage open discussion of problems, perceptions and needs
- It can help to voice different perspectives
- It can facilitate joint problem solving, user participation and commitment
- It can bring sectors of an organisation together

3.2 Customers/Clients

- Customer is a person who buys goods or services from a shop or business.
- May or may not have problems with an existing system.
- Their reactions to a new/updated system can be helpful to analysis

3.3 Actors/Agents

- The people directly involved with the information system
- They undertake activities associated with the information system.
- e.g. the system user

3.4 Transformations

- It refers to what happens to the data and what processes will be affected by development of the system
- E.g. the inputs, outputs, and other processes

3.5 World view

- What is going on in and outside the organization and that may be influencing development of system

- A system analyst needs to consider if there will be other impacts as a result of system development and if so, what they will be.

3.6 Owners

- It refers to who owns the organization
- The role of owner will play in the system development
- Whether the owner will help or hinder the analysis
- Whether or not there are other stakeholders who could make a claim of ownership or part ownership of the organization

3.7 Environment

- An analyst needs to be aware of environmental factors
- These can be local, regional, international
- They can include financial, legal, ethical factors
- They need to be investigated for associated constraints and limitations
- These will need to be defined and documented

3.8 Environmental Constraints

- Ethical constraints
- Legal constraints
- Financial constraints
- Resource constraints
- Demographic constraints
- Technological constraints

3.9 Advantages of CATWOE

- Open discussion
- Joint problem solving
- Staff, customers, and stakeholders are more likely to understand and support information system development if they take part in defining a problem and discussing how it could be improved
- It allows a problem defining to be formulated and reformulated if required, allowing flexibility in the definition and suggested solution
- Complex human problem situations in an organisation can be considered
- Beneficial if an organisation has several goals
- Beneficial if there are a considerable number of stakeholders
- Beneficial if staff, customers and stakeholders have different views and opinions

3.10 Disadvantages of CATWOE

- May not be appropriate for complex systems in large organization due to economic and time constraints
- Can take a long time to reach agreement
- It can be difficult to manage
- It may be that an analyst focuses more on user and less on the technical specifications.
- Lack of training
- Lack of effectiveness in terms of processes and jobs

REVIEW QUESTIONS

March 2014

- Discuss what is meant by the term Customer when using CATWOE. Why identify Customers in CATWOE. (3)
- Explain THREE (3) disadvantages of using CATWOE.(3)
- Describe TWO (2) advantages of identifying stakeholders in an organization. (2)
- Explain how a stakeholder matrix can aid analysis. What does it illustrate? (4)

June 2014

- Explain Four (4) benefits of using CATWOE as an analysis technique. (4)
- Explain why you would recommend stakeholder analysis as an analysis technique.(4)
- Describe FOUR (4) stakeholder characteristics. (4)
- Recommend TWO (2) methods of documenting the results of stakeholder analysis. (2)

September 2014

- Identify TWO (2) environmental constraints encountered in CATWOE analysis.(2)

December 2014

- Provide FOUR (4) reasons to recommend CATWOE analysis. (4)
- Define the term ‘Customer’ as used in CATWOE analysis and briefly explain why customers need to be identified. (3)
- Suggest FOUR (4) benefits of identifying an organization’s stakeholders prior to analyzing an information system at the organization. (4)
- Provide THREE (3) reasons why a managing director might object to CATWOE analysis undertaken at their organization. (3)
- Identify THREE (3) types of influence that managers might have over the development of an organization’s information system. (3)
- State THREE (3) problems that a systems analyst might encounter when trying to identify stakeholders at an organization. (3)

March 2015

- Define and explain what is meant by the term Environment when using CATWOE. (3)
- Explain why you would recommend CATWOE as an analysis technique. (4)
- Identify TWO (2) typical stakeholders in an organization. (2)
- Explain FOUR (4) purposes of identifying stakeholders in an organization. (4)
- Describe Four (4) problems that a systems analyst might face when undertaking analysis and requirements capture at an organization. (4)

September 2015

- State FOUR (4) aspects of an information system that can be determined during the transformation element of the CATWOE Analysis. (4)
- Identify TWO (2) weakness of an organization that can be determined during CATWOE analysis. (2)
- Identify FOUR (4) barriers to effective CATWOE analysis. (4)
- Suggest Four (4) advantages of constructing a stakeholder matrix during the analysis of an organization. (4)

December 2015

- Sample Identify TWO (2) stakeholders associated with a manufacturing organization. (2)
- Sample Identify THREE (3) groups of people in an organization who could be involved if a people oriented methodology is adopted for analysis. (3)
- Sample Explain how constructing a stakeholder matrix helps a Systems Analyst to collect information in an organization. (4)
- Identify TWO (2) obstacles that can limit the success of stakeholder analysis. (2)

March 2016

- Identify Four (4) outcomes of using CATWOE. (4)
- Briefly explain THREE (3) advantages of collecting information about customers when undertaking CATWOE analysis. (3)
- State THREE (3) problems that can be discovered by CATWOE analysis. Outline FOUR (4) successful outcomes of constructing a stakeholder matrix. (4)
- Suggest THREE (3) reasons why stakeholder analysis can sometimes be ineffective. (3)
- State THREE (3) stakeholders that could be identified during the analysis of an information system at a bank. (3)