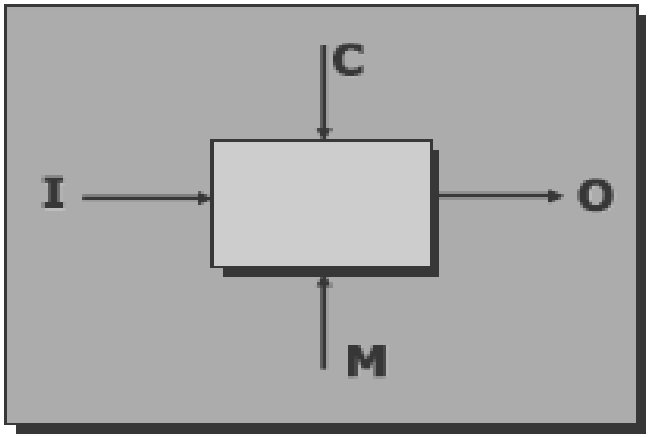
Lecture 10B

Strategic Alignment, Activity and Workflow Modeling, and Business Rules

IDEF0 Model Components



Input to activity
Control over activity
Output from activity
Mechanism performing activity

8.8 ICOM is an acronym for input, control, output, and mechanism.

IDEF0 Model Components

ICOM Input Arrow

- An ICOM input arrow represents the information or material that is provided as input, to be used by the activity or transformed into relevant outputs.
- The input arrow always points to the left side of the activity box
- If the output produced by the activity is tangible, the input must be tangible as well.
- Inputs may also represent intangibles, such as ideas. Although inputs are considered optional, they do trigger the activity so it is best to show them on the diagram.

IDEF0 Model Components

ICOM Control Arrow

- An ICOM control arrow represents a governance or other constraint on the operation of an activity. These can be policies, business rules, regulations, or other things that guide or regulate the activity. A control arrow always points to the top of the activity box.
- Every activity must have at least one control. A control is really a special type of input. An activity may have no input,but it must have a control; this is mandatory.
- An ICOM is considered a control in these situations:
- It shows when to produce an output.
- It shows how to produce an output.
- It dictates which output to produce.

IDEF0 Model Components

ICOM Output Arrow

- An ICOM output arrow represents a result of an activity.
- It always points away from the right side of the activity box.
- An output is an end of a chain of events.
- There must be at least one output to an activity.
- An output is a purpose of the activity; it is mandatory that at least one output must exist.
- If an activity is identified that does not have any output, it is definitely a candidate for elimination.
- From a purely IDEF0 perspective, an activity cannot be modeled if it does not have an identifiable output that is distinct from the input.

IDEF0 Model Components

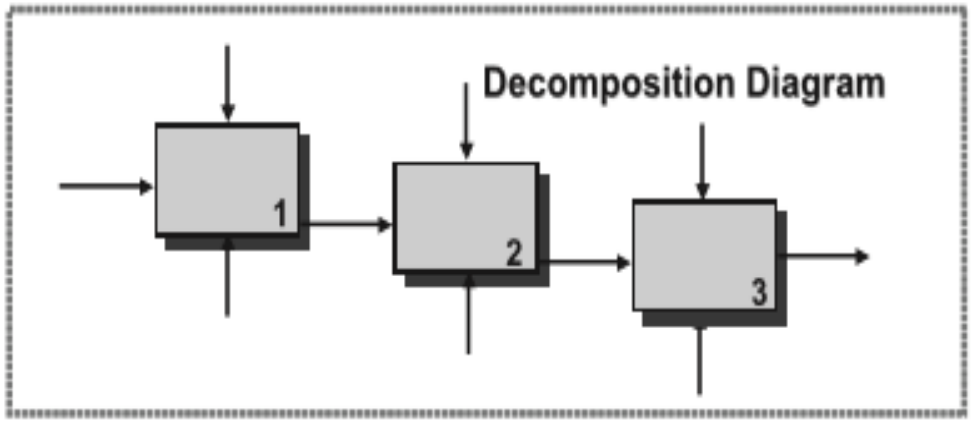
ICOM Mechanism Arrow

- An ICOM mechanism arrow represents resources, such as people, equipment, or machines, that are needed to perform or support an activity.
- A mechanism arrow always points to the bottom of an activity box.
- Mechanisms are the non consumable resources used to do the actual processing of the activity.
- Consumable resources are usually identified as input.
- An activity uses resources to transform inputs into outputs under the constraints imposed by controls.
- Mechanisms form the basis of activity-based costing and the various economic analyses that are associated with ABC.

IDEF0 Model Components

Activity Maps as Decomposition Diagrams.

- Decomposition diagrams such as activity maps show the partitioning of a modeled parent activity at a higher level into its component subactivities at the next lower level.
- They can be used to document the interrelationships between activities at any level of detail.
- They can be used to identify strengths and deficiencies in the As-Is model. They can also be used to specify improvement opportunities in the To-Be model.
- Decomposition diagrams such as activity maps are mandatory in an activity model. They comprise three to nine (with an average of six) activities on one page, showing sub activities for the relevant parent activity.
- The syntax used for activity maps specifies that fewer than three sub activities may not need to be decomposed; they can be included at a higher level


Decomposition Diagram
1
2
3

IDEF0 Model Components

Activity Map Feedback Loops

- An activity map shows the activities in a logical sequence.
- There may be times when there is an interruption, such as when an activity is repeated or is skipped altogether.
- In addition to outputs from one activity becoming inputs for another activity, they can also be used in feedback loops.
- A feedback loop always originates from the right side of an activity box, as an output. It turns backward and indicates that the output of one activity becomes an input, a control or a mechanism to another activity.
- A2, A3, and A4 all generate an output of Operational Experience that feeds back to A1 as an input.
- • A3 generates an output of Asset Status that feeds back to A2 as a control.

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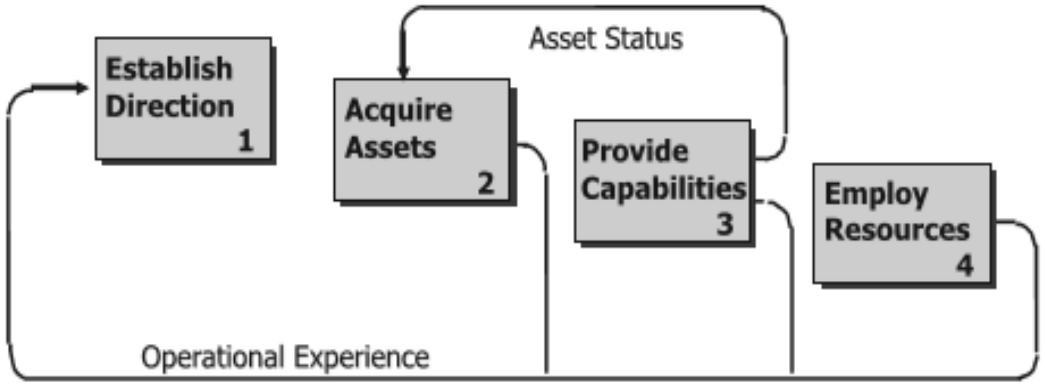
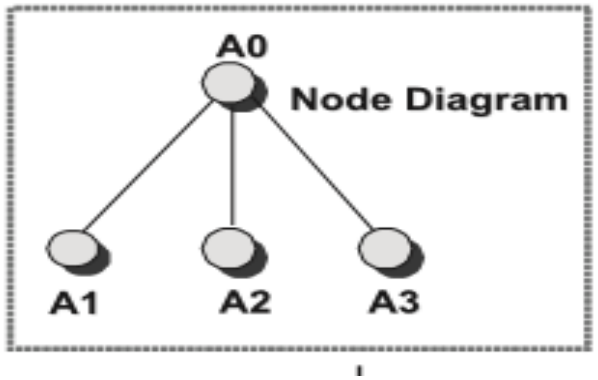
- A control feedback is shown as “up and over.” An input feedback is shown as “down and under.” This same “down and under” convention is also used for a mechanism feedback



IDEF0 Model Components

Node Diagram or Activity Hierarchy

- A node diagram or activity hierarchy diagram graphically represents the parent–child relationships between nodes of an IDEF0 model.
- The node diagram shows complex hierarchical relationships between parent and child activities. Each activity is labeled by the relevant hierarchy level number suffixed by a sub activity number.



IDEF0 Model Components

- Another format is shown here:
- A0 Maintain Organization Property
- A2 Provide Maintenance Resources
- A21 Provide Maintenance Equipment
- A211 Schedule Equipment
- A212 Evaluate Equipment Requirements
- **A213** Request Additional Equipment
- **A214** Assign Equipment

IDEF0 Model Components

- This is called an activity hierarchy.
- It is based on a hierarchical format such as that used by Windows Explorer, with the ability to expand and collapse hierarchical levels. In this format,It can communicate hierarchical levels to any depth, while providing a mple room to display a meaningful name for each activity that has been expanded.

Assignment

1….Roll number(1-15)

- Context Diagram of functional-production investment building.

2…..Roll number(16-30….last session 15)

- Node Diagram of functional-production investment building.

3……Roll number(31-58)

- Decomposition Diagram of functional-production investment building.