

Week-02-L-04

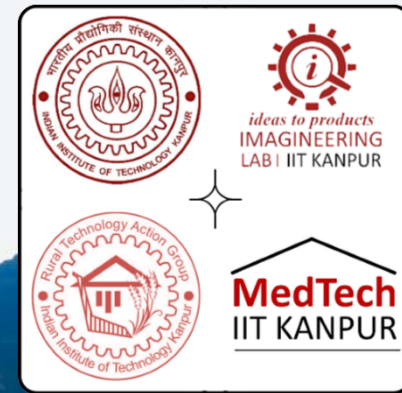
Value Engineering Agricultural Plan

Information & Function Phase

Function Analysis

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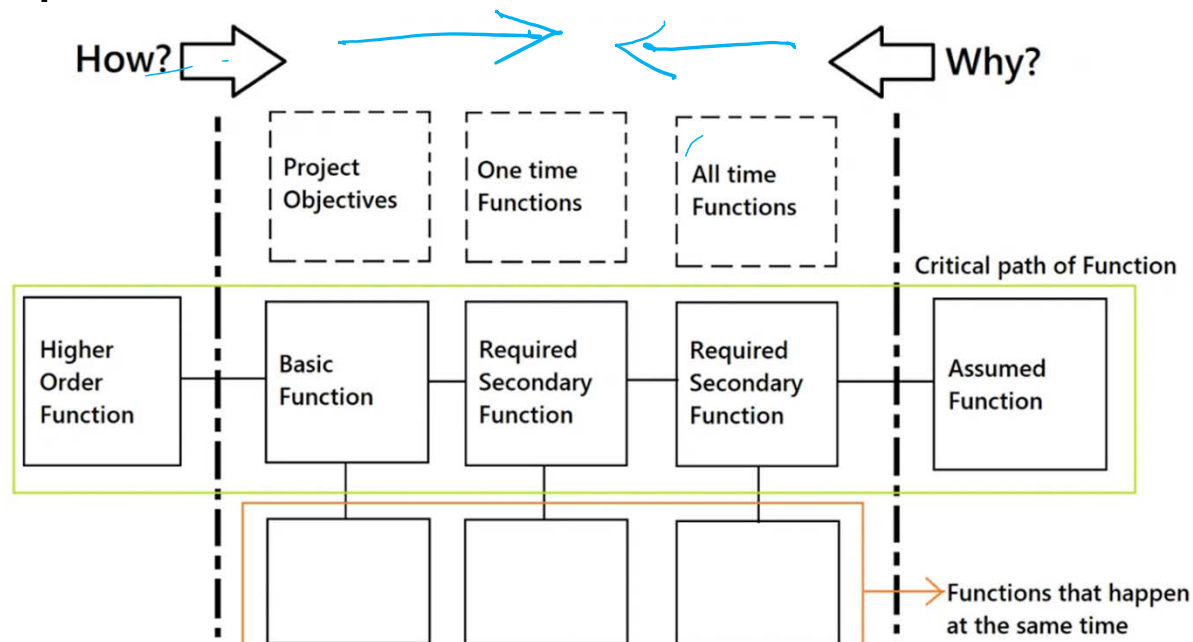


Function Analysis

- It promotes creative problem-solving by shifting focus from expected solutions to essential performance requirements.
- Verb-noun definitions help individuals or teams clearly understand project, product, or service needs without specific solution references. Using two-word function descriptions facilitates effective team communication.

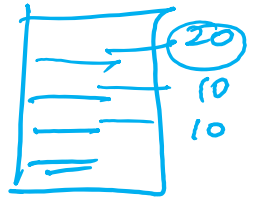
Developing Function Relationships

- As value studies grew more complex, function analysis techniques evolved into two major types: hierarchy and function analysis system technique (FAST) models.
- These models depict relationships of functions within the project, allowing for more effective analysis and value improvement.



Assigning Cost & Measurement Criteria

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- Relating cost to functions is crucial in function analysis.
- A function cost worksheet helps in this process, indicating where unnecessary costs exist within the project.
- The procedure includes listing functions, associated parts, and their costs, determining the cost allocation to each function, and calculating the total cost allocated to each function.
- Function-cost relationships guide the team to identify the best areas for value improvement.



Establishing Function Worth

- Worth is defined as "the lowest overall cost to perform a function without regard to criteria or codes."
- Comparing function cost to function worth helps identify areas with the greatest potential for value improvement.
- Dimensioning function models with cost and performance parameters highlights functions in need of improvement.
- Techniques for developing function worth include comparing functions to the simplest method or product and assessing primary material costs associated with the function.
- The value index reflects the relationship between cost and worth, aiming for a value ratio of 1.

$$\text{Value} = \frac{\text{Worth}}{\text{Cost}}$$

Selecting Functions for Study

- Establishing function worth often reveals obvious choices for improvement.
- Creating a value index allows the team to assess value as the relationship between cost and worth.
- Selection of areas for focus should align with project objectives and goals, which may prioritize factors like time or quality over cost.

Example: Pencil

- A pencil may be used to make a list, sketch a diagram, or mark a board for cutting but what must the pencil do in each of these applications? What is the basic function of the pencil?

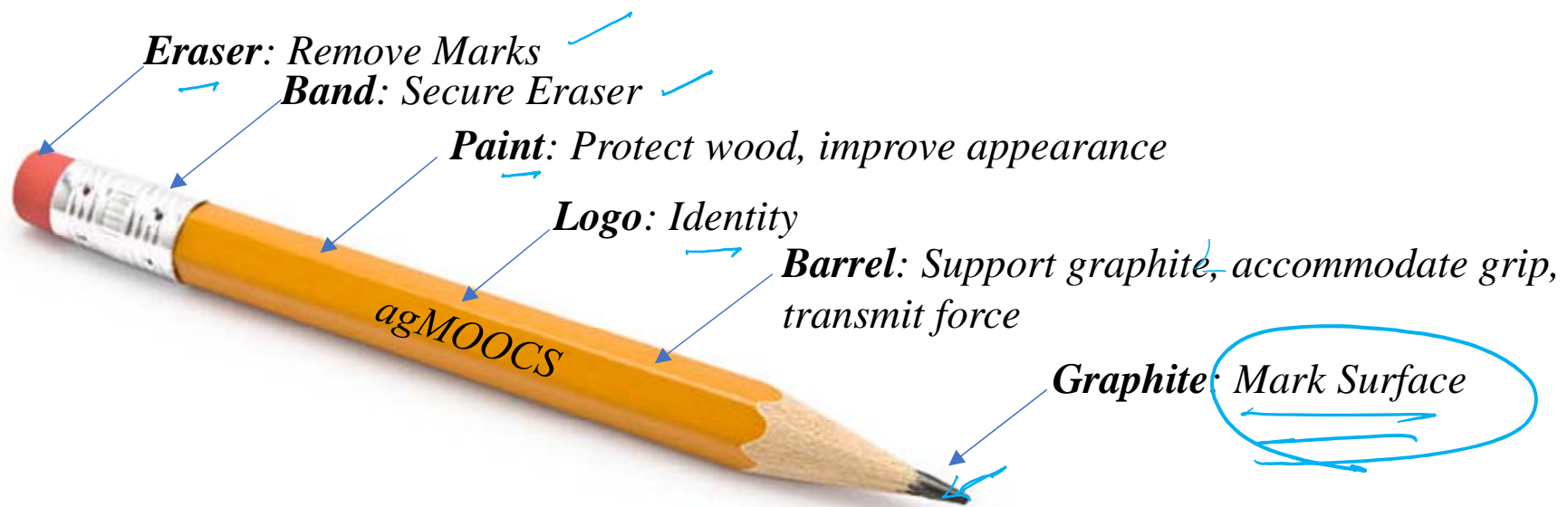
making

writing

drawing

- The verb-noun definition for the function of a pencil could be to "mark surface". If the pencil does not "mark surface" it cannot achieve its basic purpose or function. The verb "mark" is an active verb and the noun "surface" is measurable and can be described.

Example: Pencil



Summary

- The primary aim of the function analysis phase is to achieve a comprehensive comprehension of the project's objectives through function analysis.
- Once this level of understanding is attained, function analysis aids the team in pinpointing areas where value study resources can be optimally utilized, aligning with the project's study objectives.
- This phase stands out as the most distinctive aspect of the value methodology, ensuring that the subsequent stages of the job plan address and resolve the actual problems rather than just the symptoms.

Thank You

