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VALUE MANAGEMENT

THE MAIN INNOVATIONS IN VM

- 1940s – focus on function
- circa1945 – five step ‘job plan’
- 1960 – Function Analysis model (FAST)
- 1960s – ‘Combinex’ method (MAUT)
- Late 60s – Quality Function Deployment

FUNCTION MODEL

- Function
  - Activity appropriate to any person or thing
    - Originates from Latin *fungi:* perform or discharge
- We describe functions using a couplet
  - Verb : Noun combination
    - Exchange goods
    - Attract prospects
    - Display merchandise
    - Protect assets
    - Identify owner

Park 1998 Value Engineering a Plan for Invention

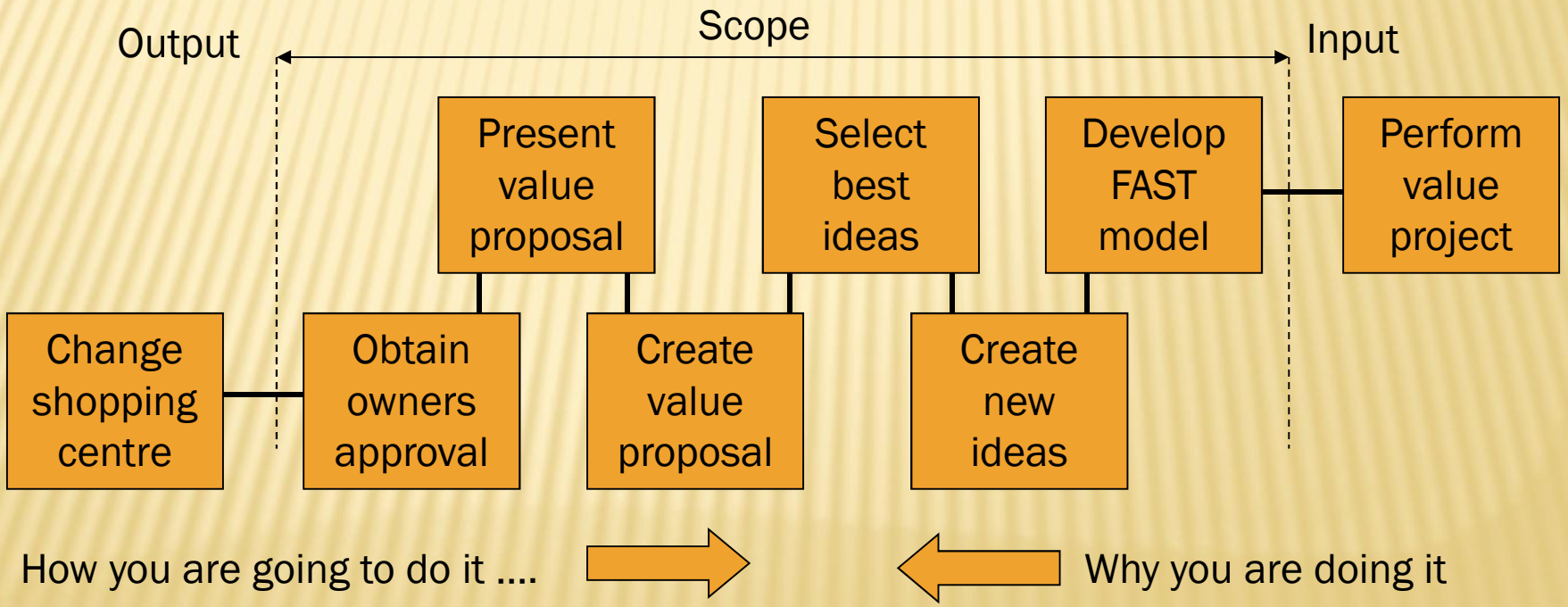
THE 'JOB PLAN'

- Information
  - Gather information and develop FAST models
- Creative
  - Brainstorm what else will do the job?
- Evaluation
  - Select the best ideas
- Planning
  - Develop the best ideas
- Report
  - Present ideas to sponsor
- Implementation

Park 1998 Value Engineering a Plan for Invention

FAST MODEL

- FAST
  - Function Analysis Systems Technique



Park 1998 Value Engineering a Plan for Invention

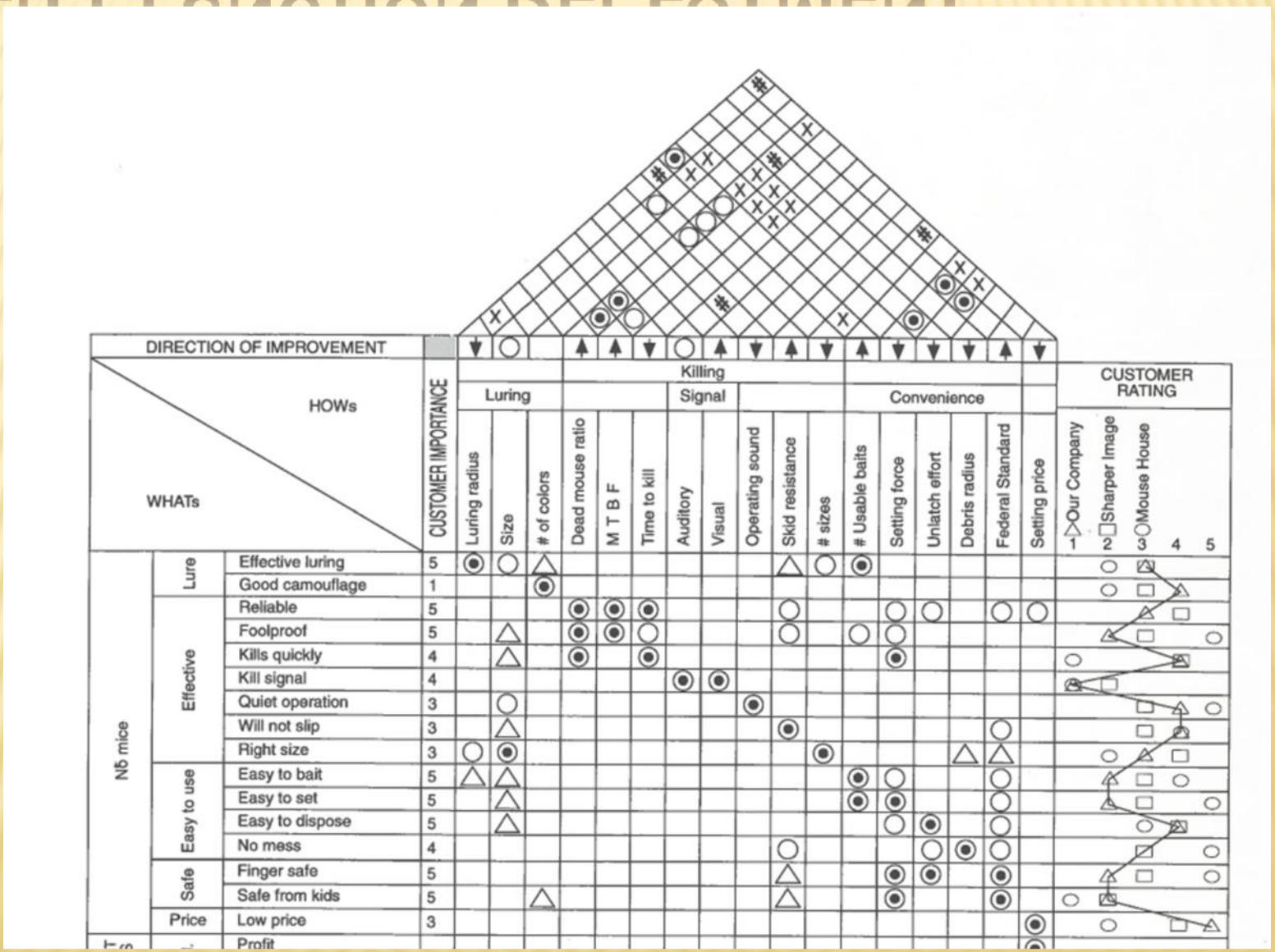
COMBINEX

Benefits	PERFORMANCE	ENDURANCE	MOBILITY	INITIAL ECONOMY	FIELD ECONOMY	
Weights	0.20	0.18	0.22	0.23	0.17	
Old design	70 14	73 13	72 16	70 16	75 13	Merit 72
High performance design	89 18	79 14	76 17	88 20	81 14	83
High endurance design	76 15	89 16	74 16	71 16	87 15	78
High mobility design	70 14	72 13	88 19	75 17	70 12	75

Figure 8-4 The COMBINEX scoreboard as used in selecting a field radar.

Fallon 1980 Value Analysis.

QUALITY FUNCTION DEPLOYMENT



Cohen 1995 Quality Function Deployment How to Make QFD Work for You

WHY USE THE VM APPROACH

INNOVATION CLASSIFICATION

- Product
  - Innovation reflected as a change in the end product or service of the organization
- Process
  - Innovation in the way products or services are produced

Administrative

Change impacting on policy, resource allocation, or organization structure

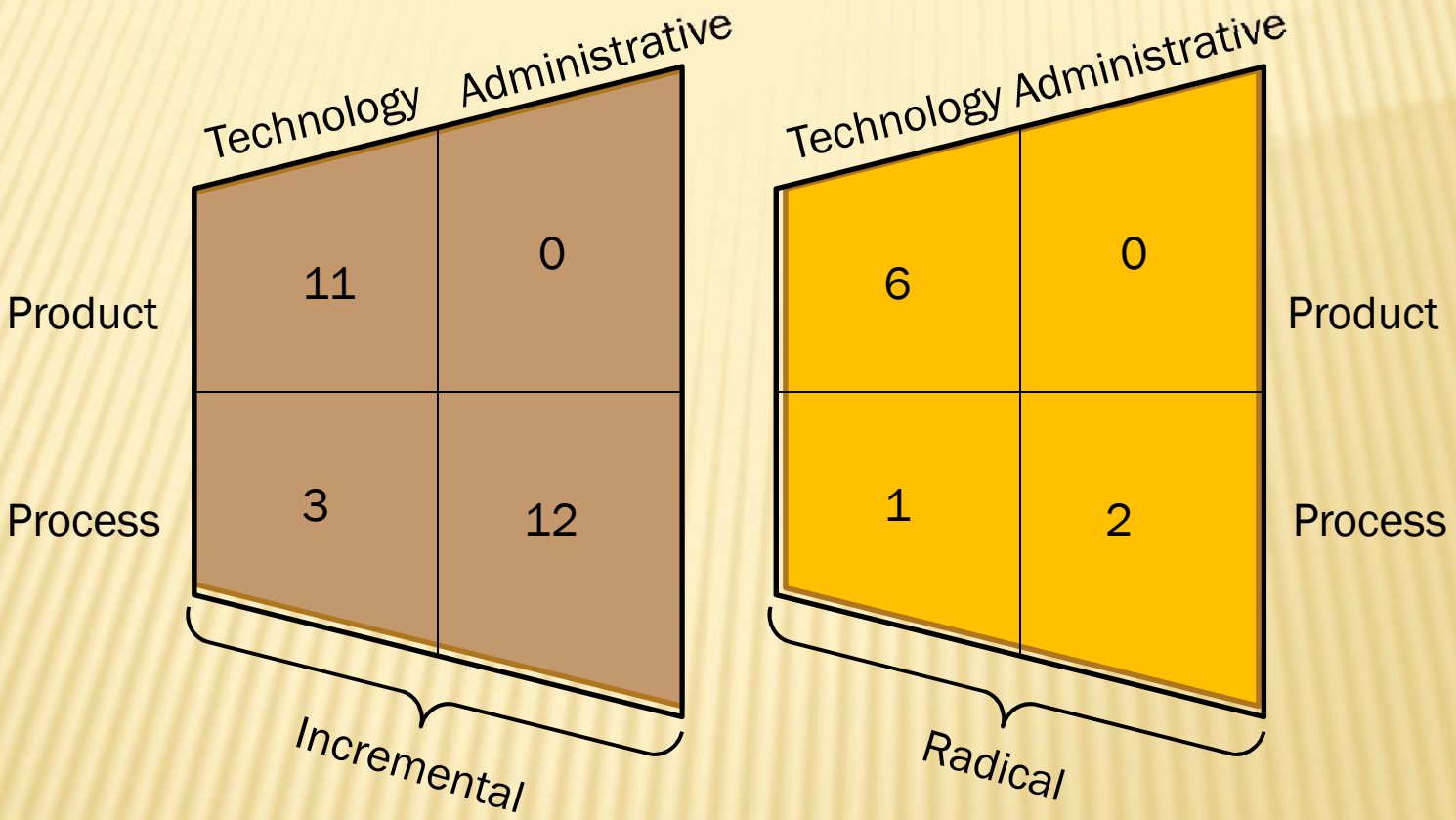
Technological

Adoption of an idea that influences the basic output of the organization

- Incremental
  - Enhancement that reinforces the existing technological order
- Radical
  - Innovation that requires change to the organization and its support network

Cooper 1998 A multidimensional approach to the adoption of innovation

INNOVATIONS ARISING FROM VM



Thirty five value analysis case studies mapped into coopers innovation classification model.

INNOVATION EXAMPLES

DES MOINES PARKWAY

The original design for a major road development was opposed by residents of the city CBD.

A multi-disciplinary meeting of 150 concerned members of the public were engaged in a VE redesign exercise. They were randomly assigned to groups of eight people each with a facilitator.

The groups were tasked with developing an acceptable design parameters.

From the exercise clear guidance was available to create a new design which was significantly different from earlier proposals.

Greenfield 1998 Value engineering unites a community

PARK AND RIDE FACILITY

Design for a park and ride facility failed to address the likelihood of low demand and also safety issues.

Attracting users was key to success and the VE team identified methods of doing this.

Ideas included incorporation of commercial space (convenience stores, news-stands, dry-cleaners etc.).

This idea changes the nature of the facility from a modal switch to a value adding centre in its own right.

Adams and Lenzer 1997 Facets of FAST

SUPPLIER COOPERATION EXAMPLES

- Magnetic pole piece study
  - The method of fabrication of pole magnets was studied and a new approach was arrived at with a cost reduction of 35%.
- Pre-clean chamber pin
  - Existing pins are made from fused quartz. A VE study identified and tested a lower cost material with similar properties to fused quartz that was a suitable substitute.

Qureshi 1998 Value engineering with suppliers: A proactive approach

CHILDREN SERVICES REVIEW STUDY

West Dunbartonshire Council used Value Management for their crosscutting review of children's services when it became clear that established methods were not engaging the right people in such reviews.

Focusing on function from the customer perspective showed how service agencies in West Dunbartonshire could co-operate, in partnership, to improve children's services.

Value Management ensured from the outset that stakeholders pooled ideas and effectively shaped the review. Working together in a series of workshops was very effective and stimulating for those involved.

Bone and Robertson. 'Value management delivering service improvement'

BUILDING CONSTRUCTION COST OVER-RUNS

- The approach to construction design and execution along with inspection was examined.
- The study found that the process could be improved if design errors were found earlier in the construction process.
- Improvement involved including the inspection and maintenance role players in the design review prior to release of drawings to construction contractors.
- This reduced re-work in the construction phase

Paley 2006 Function analysis uncovers and eliminates unnecessary costs

SPANISH GREEN OLIVE PROCESSING PLANT

A green olive canning factory disposed of its liquid waste into local sewer systems.

In order to improve its environmental impact, a study was conducted of the entire canning process and an alternative evaporative disposal system was adopted to replace brine with a solid waste.

This material that was easier to dispose of and the change made the process plant a zero discharge operation.

Agbejule *et al*., 2004 Approaches to environmental value analysis of products, processes, and services

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