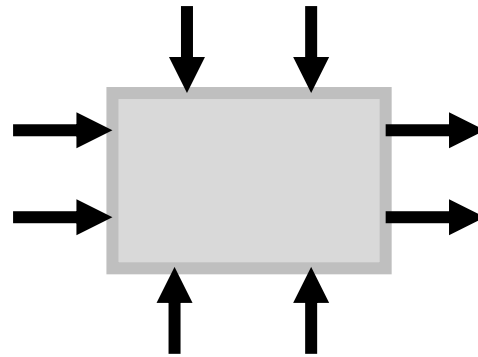


Continuous Improvement Toolkit

IDEFO



Managing Risk

PDPC

FMEA RAID Logs

Fault Tree Analysis

Risk Assessment*

Decision Tree

Traffic Light Assessment

Lean Measures

KPIs

OEE

Capability Indices

MSA

RTY

Descriptive Statistics

Cost of Quality

Probability Distributions

ANOVA

Reliability Analysis

Graphical Analysis

Hypothesis Testing

Understanding Cause & Effect

Understanding Performance

Run Charts

Scatter Plot

Correlation

Regression

Bottleneck Analysis

Visual Management

Control Charts

5 Whys

Chi-Square Test

Multi-Vari Charts

Flow

Value Analysis

5S

Benchmarking

Sampling

Fishbone Diagram

Relations Mapping*

Wastes Analysis

SMED

Focus groups

Interviews

Brainstorming

Analogy

SCAMPER***

Time Value Map

Process Redesign

Photography

Check Sheets

Nominal Group Technique

Mind Mapping*

IDEFO

Value Stream Mapping

SIPOC

Measles Charts

Surveys

Affinity Diagram

Attribute Analysis

Flow Process Chart

Process Mapping

Data Collection

Critical Incident Technique

Lateral Thinking

Visioning

Flowcharting

Service Blueprints

Observations

Creating Ideas**

Designing & Analyzing Processes

Deciding & Selecting

Pros and Cons

Importance-Urgency Mapping

RACI Matrix

Stakeholders Analysis

Break-even Analysis

Cost -Benefit Analysis

PEST

PERT/CPM

Activity Diagram

Force Field Analysis

Pugh Matrix

Voting

SWOT

Roadmaps

Project Charter

Gantt Chart

Risk Assessment*

Decision Tree

QFD

Matrix Diagram

TPN Analysis

PDCA

Control Planning

Gap Analysis

Traffic Light Assessment

Kano Analysis

Prioritization Matrix

Hoshin Kanri

Kaizen

How-How Diagram

Lean Measures

KPIs

Critical-to Tree

Paired Comparison

Tree Diagram**

Standard work

OEE

Capability Indices

Cause & Effect Matrix

Pareto Analysis

Simulation

TPM

Identifying & Implementing Solutions***

MSA

RTY

Descriptive Statistics

Confidence Intervals

Understanding Cause & Effect

Mistake Proofing

Cost of Quality

Probability Distributions

ANOVA

Reliability Analysis

Graphical Analysis

Hypothesis Testing

Design of Experiments

Pull Systems

JIT

Ergonomics

Understanding Performance

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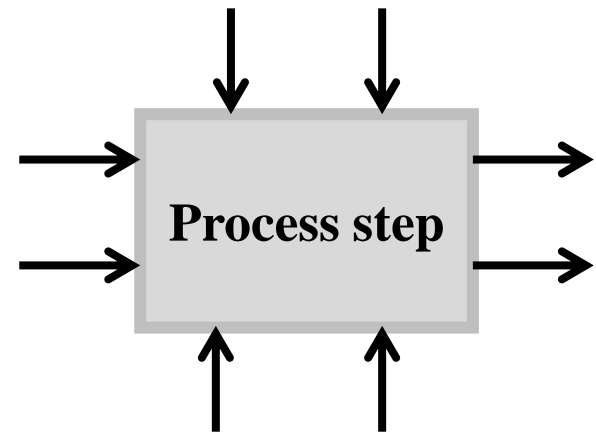
Observations

Creating Ideas**

Designing & Analyzing Processes

- IDEF0

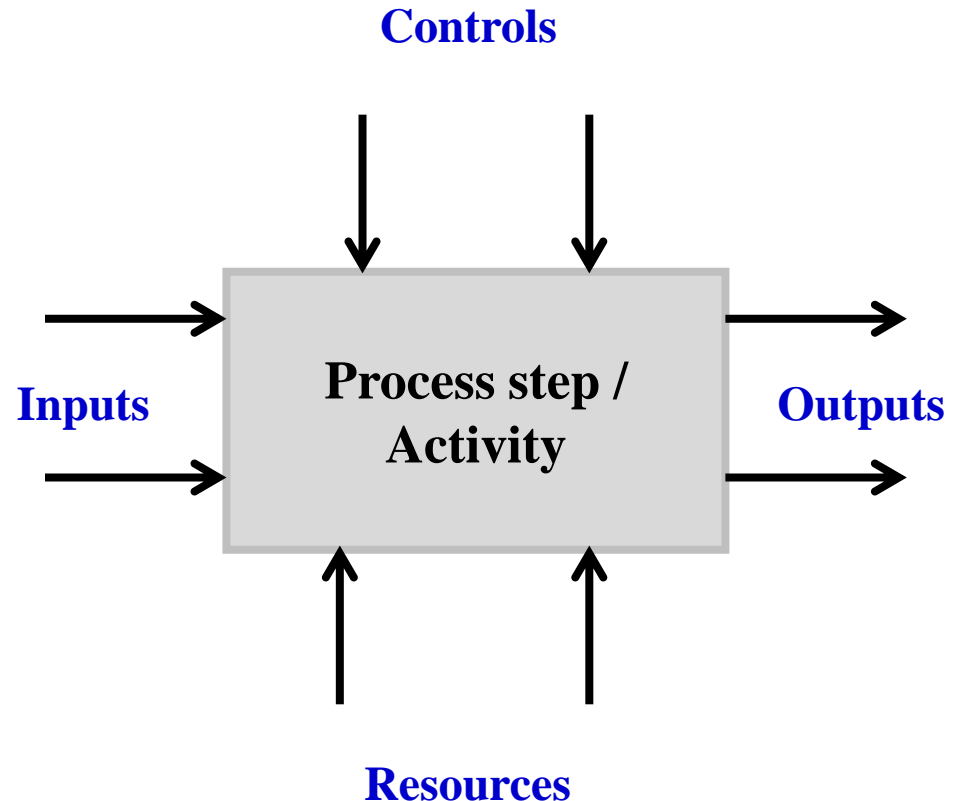
- ❑ A function modeling methodology.
- ❑ A detailed and clear description of a process or system.
- ❑ Used when formally describing a process.
- ❑ Ensures a detailed, clear and accurate result.
- ❑ For new systems, it may be used first to define the requirements.
- ❑ Uses just one box shape to define each activity or process and multiple arrows.



- IDEF0

Four Arrows Around the Box:

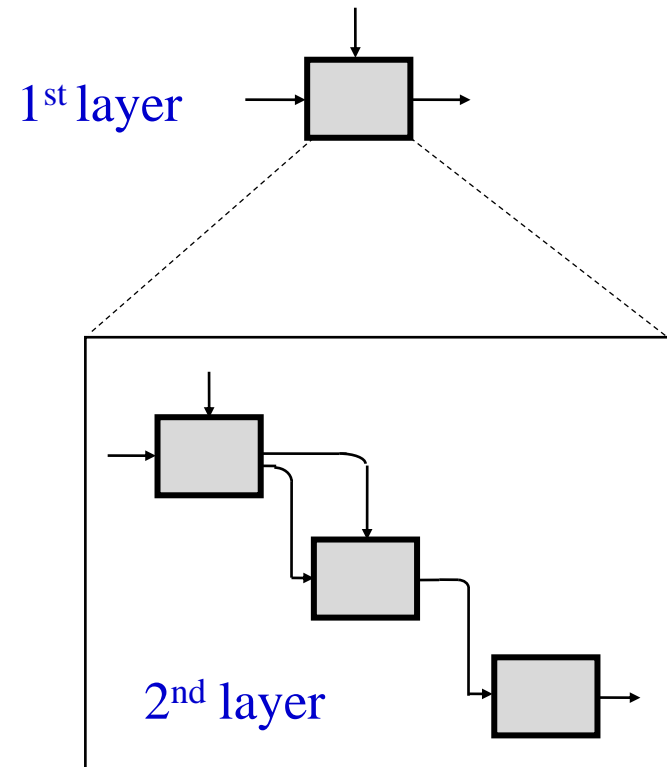
- ❑ **Inputs**
Raw material, feedback, ..
- ❑ **Controls**
Standards, specifications, customer requirements, ..
- ❑ **Resources**
People, tools, machines, ..
- ❑ **Outputs**



- IDEF0

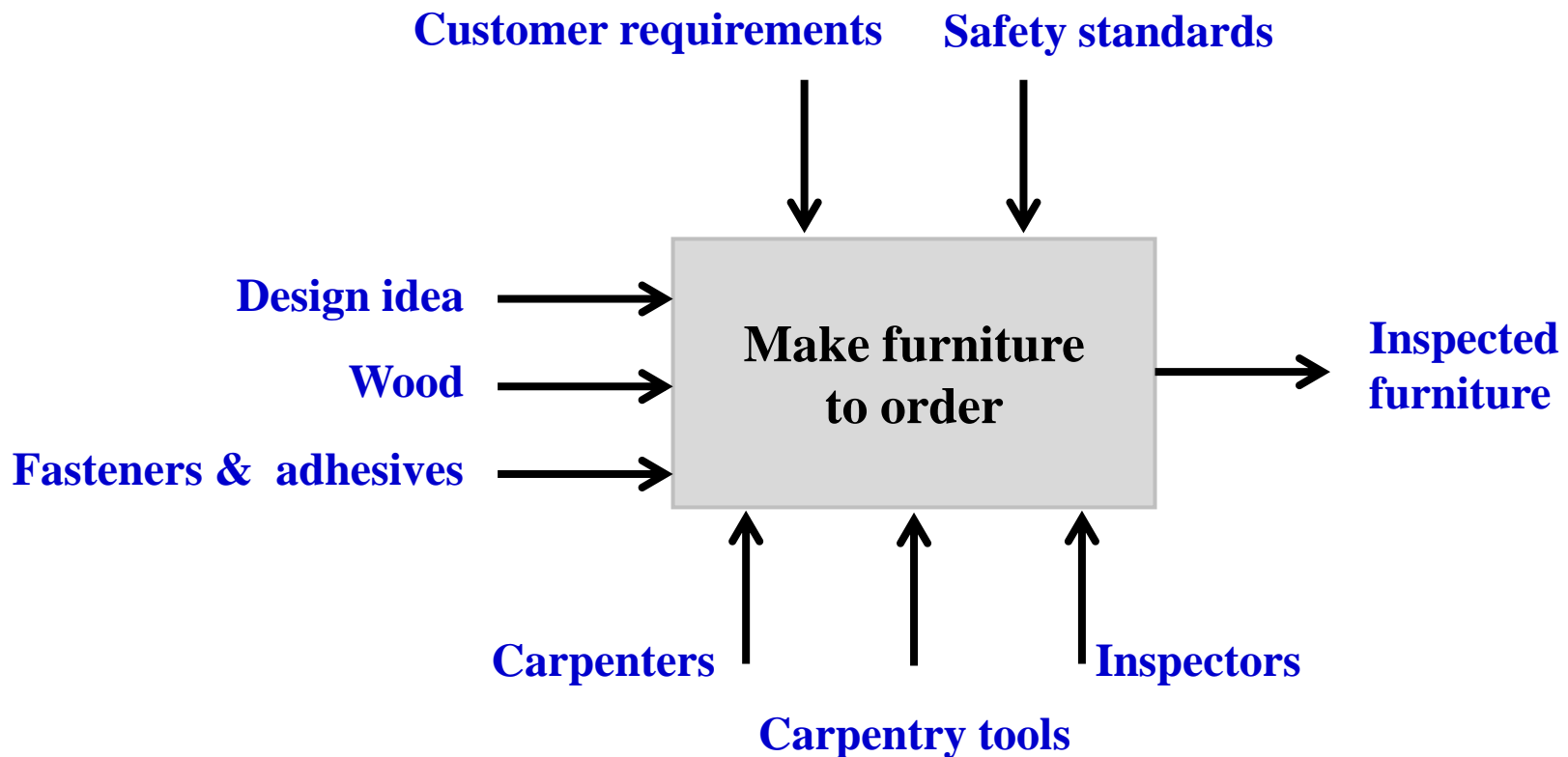
Top Down Modeling Approach:

- ❑ 1st layer is a single activity box that describes the function or process that is the subject of the model.
- ❑ 2nd layer is the decomposition of the first layer into major sub-activities.



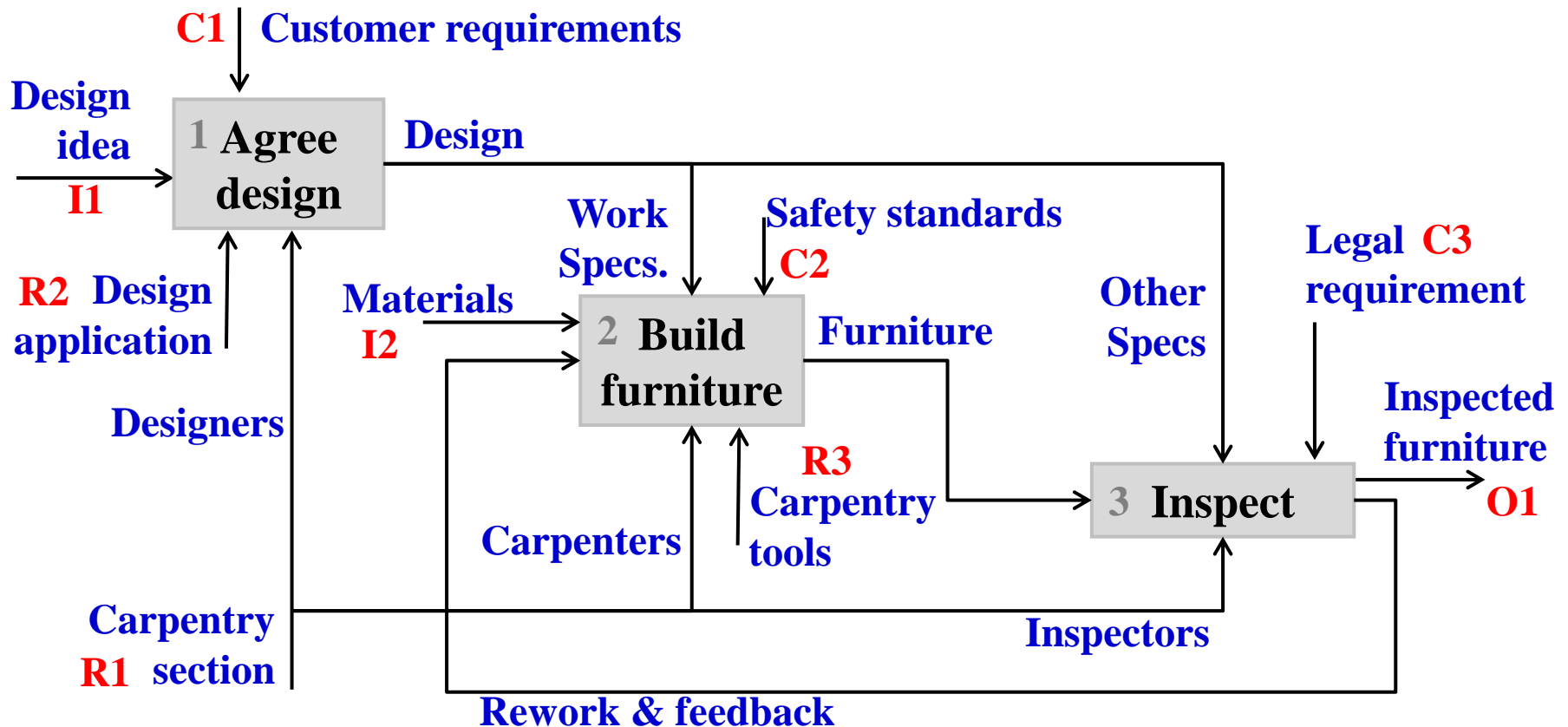
- IDEF0

Example – The Furniture Making Process (High-level)



- IDEF0

Example – The Furniture Making Process (Detailed)



- IDEF0

IDEF Family:

- ❑ IDEF0: for Function Modeling.
- ❑ IDEF1: for Information Modeling.
- ❑ IDEF1x: for Data Modeling.
- ❑ IDEF3: for Process Modeling.
- ❑ IDEF4: for Object-Oriented Design.
- ❑ IDEF5: for Ontology Description Capture.