



EIN 3236 Lecture 5

Process Flowcharting / Process Mapping

Chapter 4

Karen E. Schmahl Ph.D., P.E.







Introduction

A flowchart provides a picture of the steps that are needed to create a deliverable.

Why create a flowchart



- Improve understanding of processes
- Communicate process with others
- Maintain consistency of application
- Identify opportunities for improvement

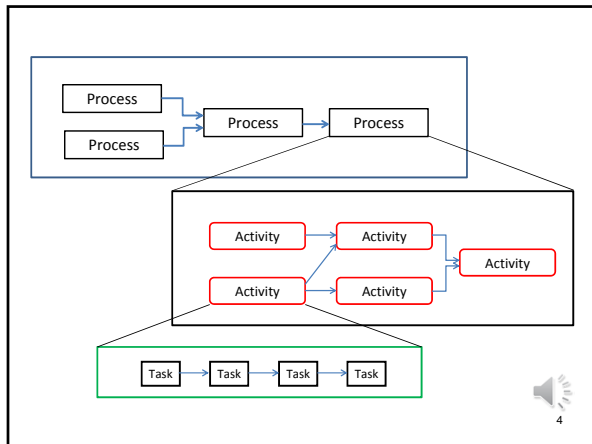



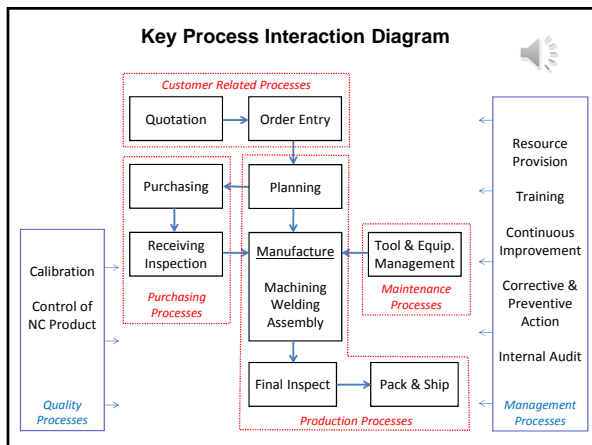
When to create a flowchart

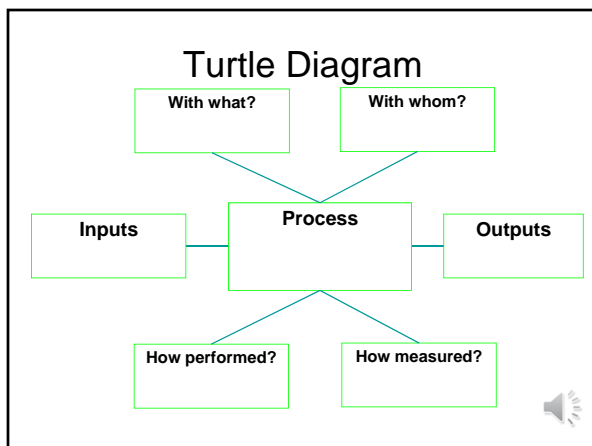
When there is need to understand the process and relationships between the steps of the process

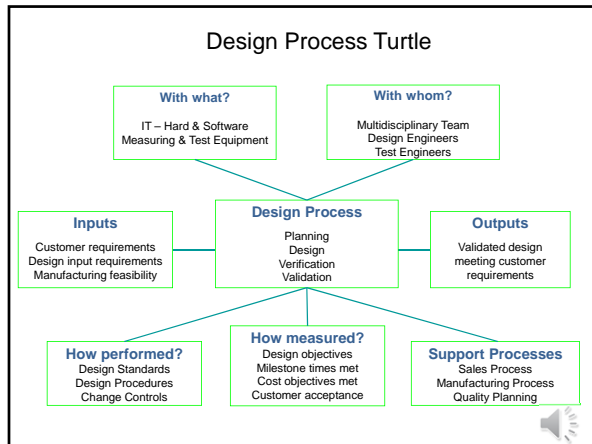
- Key processes within a management system
- Transactions between departments
- Procedures within a department
- Problem solving/corrective actions
- Improvement projects









Introduction

In 6 sigma projects, a flowchart provides a complete pictorial sequence of what happens from start to finish of a procedure.

- Procedure documentation
- Manufacturing processes
- Work instructions
- Product development steps

COLLEGE OF ENGINEERING

Introduction

- SIPOC (suppliers, inputs, process, outputs, and customers) is a high-level process map that adds supplier and customer to the IPO.
- SIPOC can be useful as a communication tool that helps team members view the project the same way and helps management know where the team is focusing its efforts.
- For each category of SIPOC the team creates a list.

COLLEGE OF ENGINEERING

SIPOC Example

SUPPLIERS	INPUTS	PROCESS	OUTPUTS	CUSTOMERS
Computer owner	Computer	Process Description: Repair of computer Customer drops off computer ↓ Diagnostics performed. ↓ Estimate repair cost and time ↓ Get customer approval for repairs ↓ Perform repairs ↓ Test/verify repairs ↓ Customer picks up computer.	Repaired Computer	Computer owner
Parts Suppliers	Components		Invoice	
Software suppliers	Software			





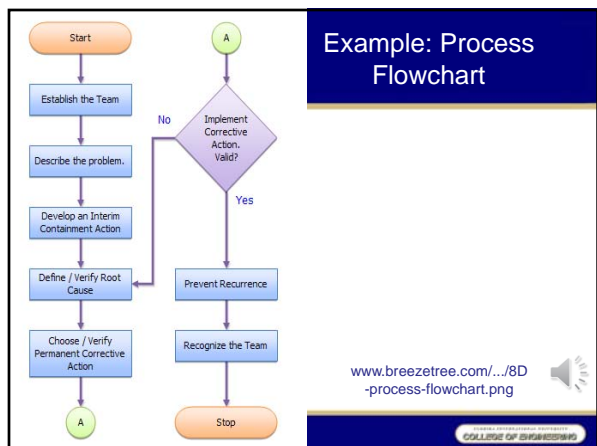
4.2 Description


Standard symbols:

	Terminal: Start / End
	Decision Symbol
	Activity Symbol
	Connector (On-page or off-page)




COLLEGE OF ENGINEERING






4.3 Defining a Process and Determining KPIVs / KPOVs

- Consider and describe the purpose and the process that is to be evaluated.
- Define all steps to create a product or service deliverable.




COLLEGE OF ENGINEERING



4.5 Focusing Efforts After Process Documentation


- Baseline for start of project
- Brainstorming sessions
 - Value-add / no-value-add steps
 - Causes of a problem/issue
 - Inhibitors to success.
- SOP for the process are examined to minimize the impact of the identified causes.
- New procedures created to institutionalize the process.




COLLEGE OF ENGINEERING

Why are flowcharts so important?

- Provides view of overall process
- Understanding gained in creation
- Communication tool with others
- Sets a baseline for large improvement projects
i.e. Lean/value stream mapping (Chapter 44)
- In any problem solving situation makes sure all aspects of process are considered.





Related Assignments

None with this section

UNIVERSITY OF MARYLAND SYSTEM
COLLEGE OF ENGINEERING
