Lean Management

Lean Metrics

Agenda

- Overview
- OEE
- FPY, RTY
- Days in Inventory
- Schedule Adherence, Attainment
- Lean Accounting

Overview

- ✓ Overview
- ✓ Manufacturing growth
- ✓ Measurements challenges
- ✓ Lean metrics
- ✓ Lean implementation effectiveness

OEE

- ✓ Overview
- ✓ Two top-level metrics
  - OEE (Overall Equipment Effectiveness)
  - TEEP (Total Effective Equipment Performance)
- ✓ Four underlying metrics
  - Loading
  - Availability
  - Performance
  - Quality

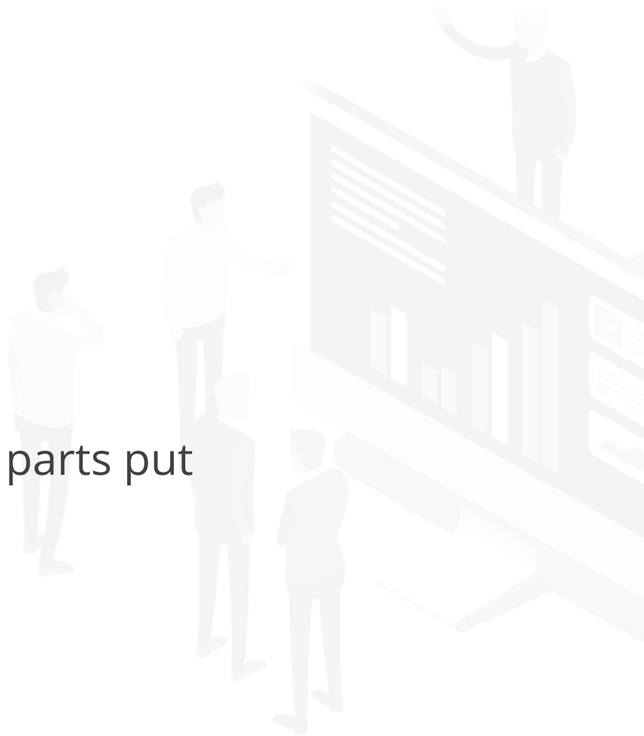
FPY and RTY

- ✓ First Pass Yield (FPY)
  - FPY = (Defect-Free Output in First Pass) / (Total Input)

- ✓ Rolled Throughput Yield (RTY)
  - RTY = FPY(a) X FPY (b) X FPY (c) X FPY (d)...

  (where a, b, c... are sub-processes)

- ✓ First Time Yield (FTY)
  - FTY = (number of units leaving the process as good parts) / (number parts put into the process)



Days in Inventory

- ✓ Efficiency Ratio
- ✓ Formula
  - Days in Inventory = Avg Inventory / (COGS / Days)
- ✓ High ratio
- ✓ Low ratio
- ✓ Inventory turnover ratio

Schedule Adherence, Attainment

- ✓ Timelines measure
- ✓ Supply chain metric
- ✓ Over production and schedule adherence
- ✓ Schedule adherence = (total plan - sum of deviations) / total plan
- ✓ Schedule attainment
- ✓ Achieving schedule attainment

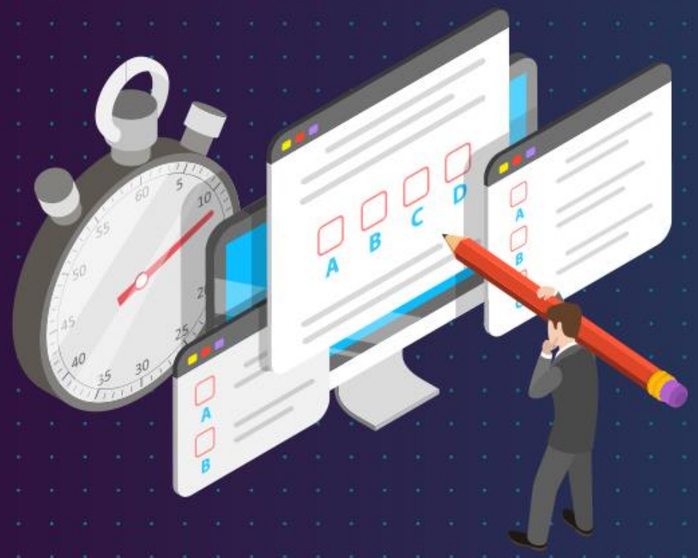
Lean Accounting

- ✓ Overview
- ✓ Challenges with traditional accounting
- ✓ Traditional accounting makes improvement look like losses
- ✓ Why lean accounting

- ✓ Lean accounting vision
- Provide accurate, timely, and understandable information
- Use lean tools to eliminate waste
- Comply with generally accepted accounting principles (GAAP)
- Empowering people for continuous improvement

Key Takeaways

- Background
- Efficiency
- Yield
- Inventory
- Schedule
- Accounting



Knowledge Check

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1

How is first pass yield calculated (FPY)?

A. FPY = (Output in first pass) / (Total output)

B. FPY = (Defect-free output in first pass) / (Total input)

C. FPY = (Defect-free output) / (Total pass)

D. FPY = (Defect-free output in first pass) / (Total output)

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D. FPY = (Defect-free output in first pass) / (Total output)

The correct answer is **B**

The first pass yield (FPY) is calculated as FPY = (Defect-free output in first pass) / (Total input). Any defect fixed in subsequent pass is not counted here.

Knowledge Check 2

How would one calculate Days in Inventory metrics?

A. Days in Inventory = Avg. inventory / (COGS/Days)

B. Days in Inventory = Date-out – Date-in

C. Days in Inventory = In how many days will the item gets expired

D. Days in Inventory = Inventory / Days

Knowledge Check 2

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D. Days in Inventory = Inventory / Days

The correct answer is **A**

It is an ratio of average inventory levels divided by average COGS spent per day.

Days in inventory = Avg. inventory/(COGS/Days)