


Introduction to MotorMaster

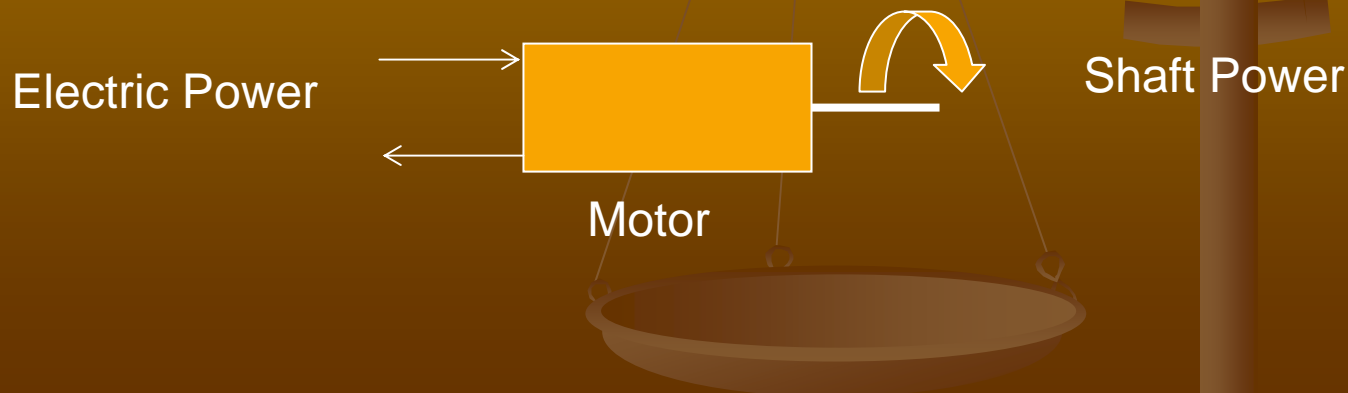


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Introduction

■ Electric Motors

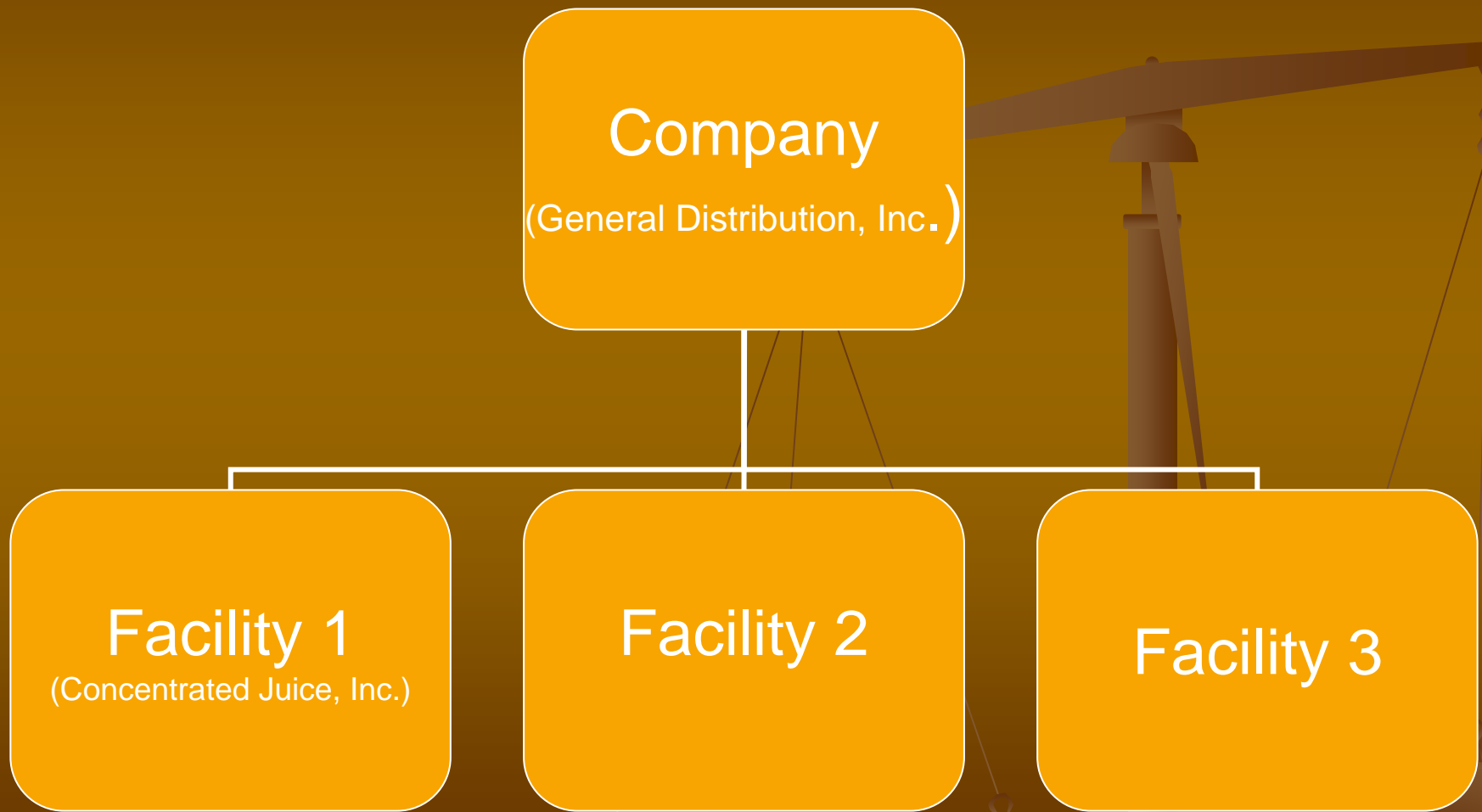
- Convert electric power to shaft power
- Shaft power drives production machines
- Two ways to reduce costs
 - Reduce shaft power
 - Increase efficiency of motor



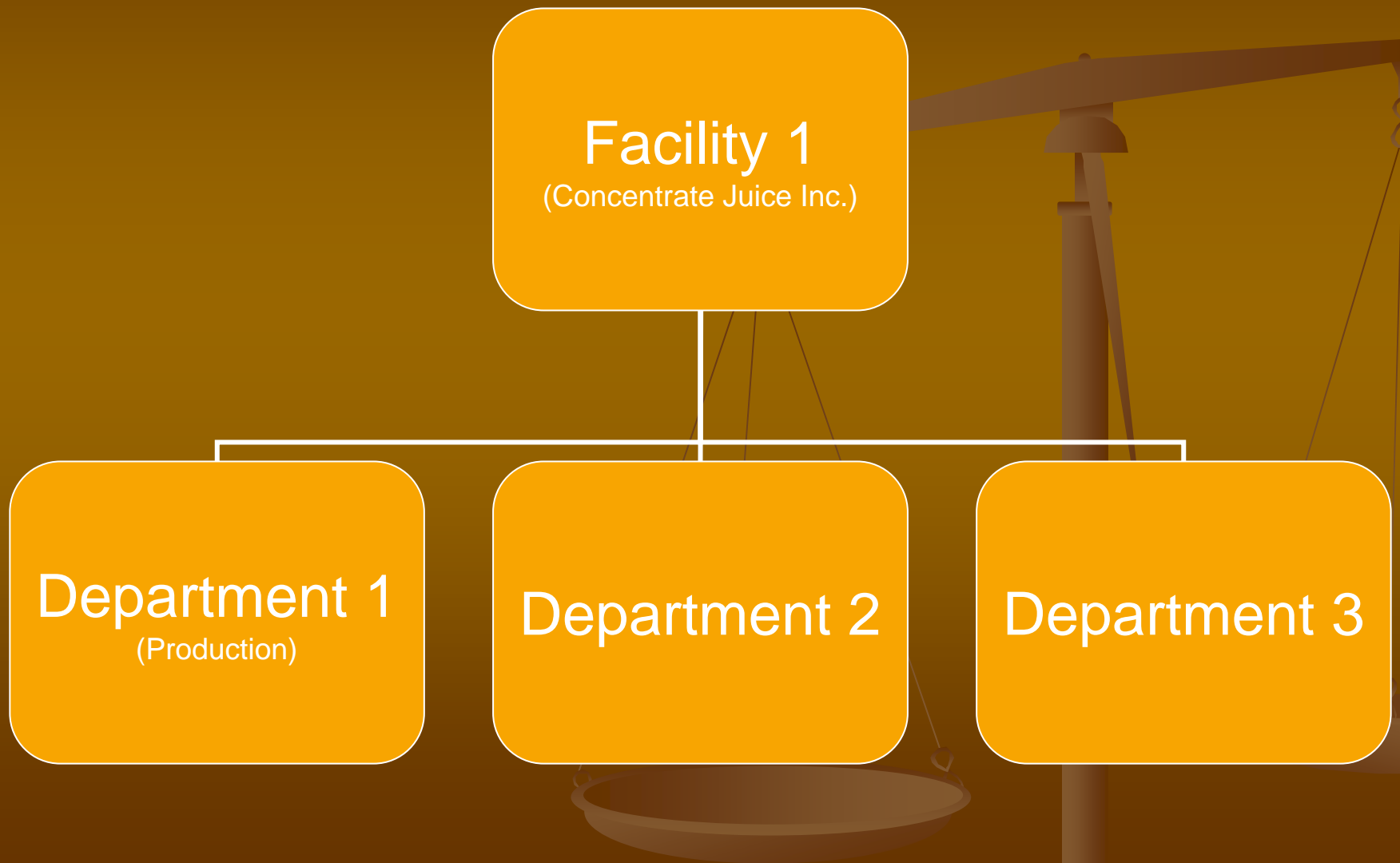
Motor Master



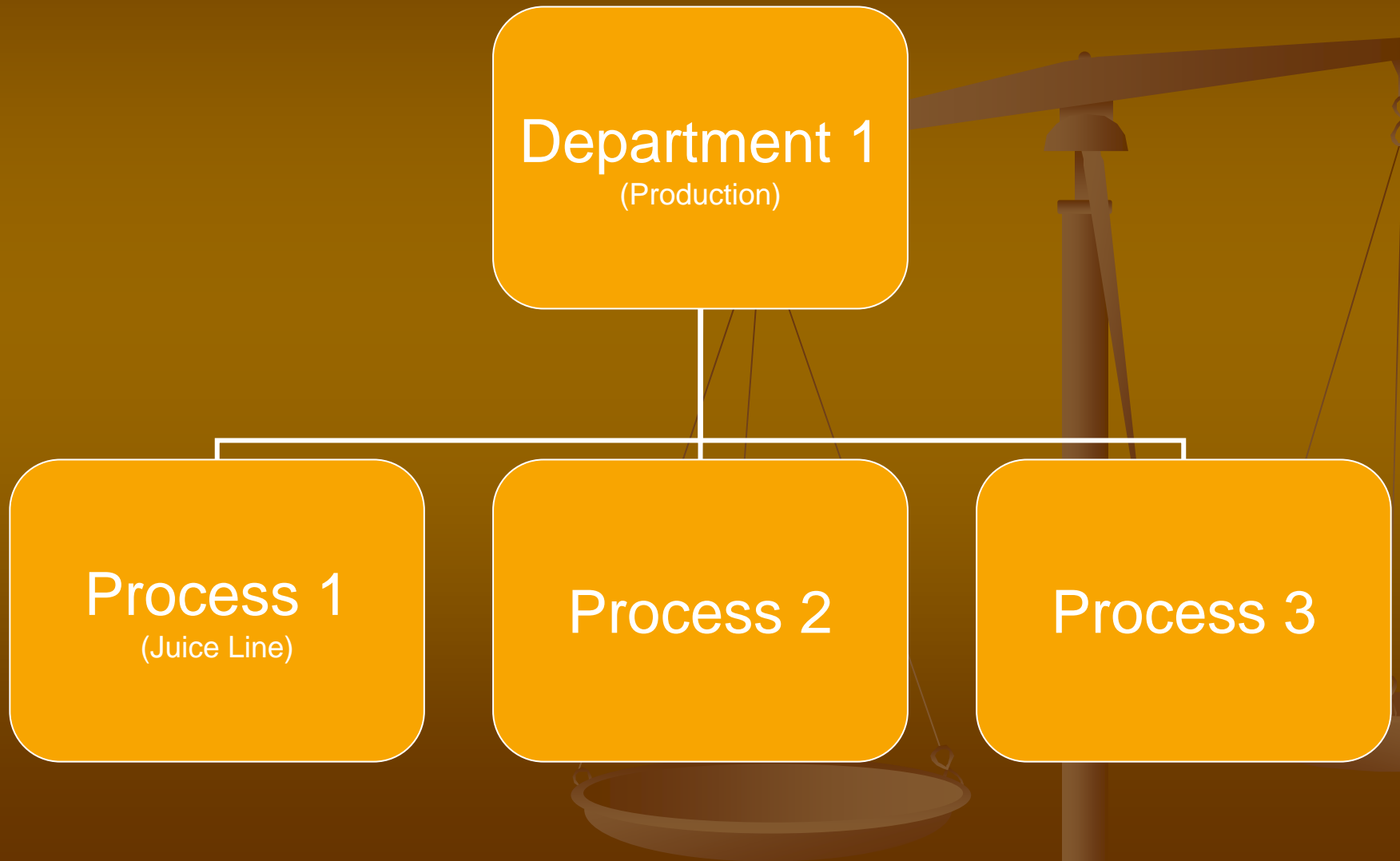
Organization of Data-Company



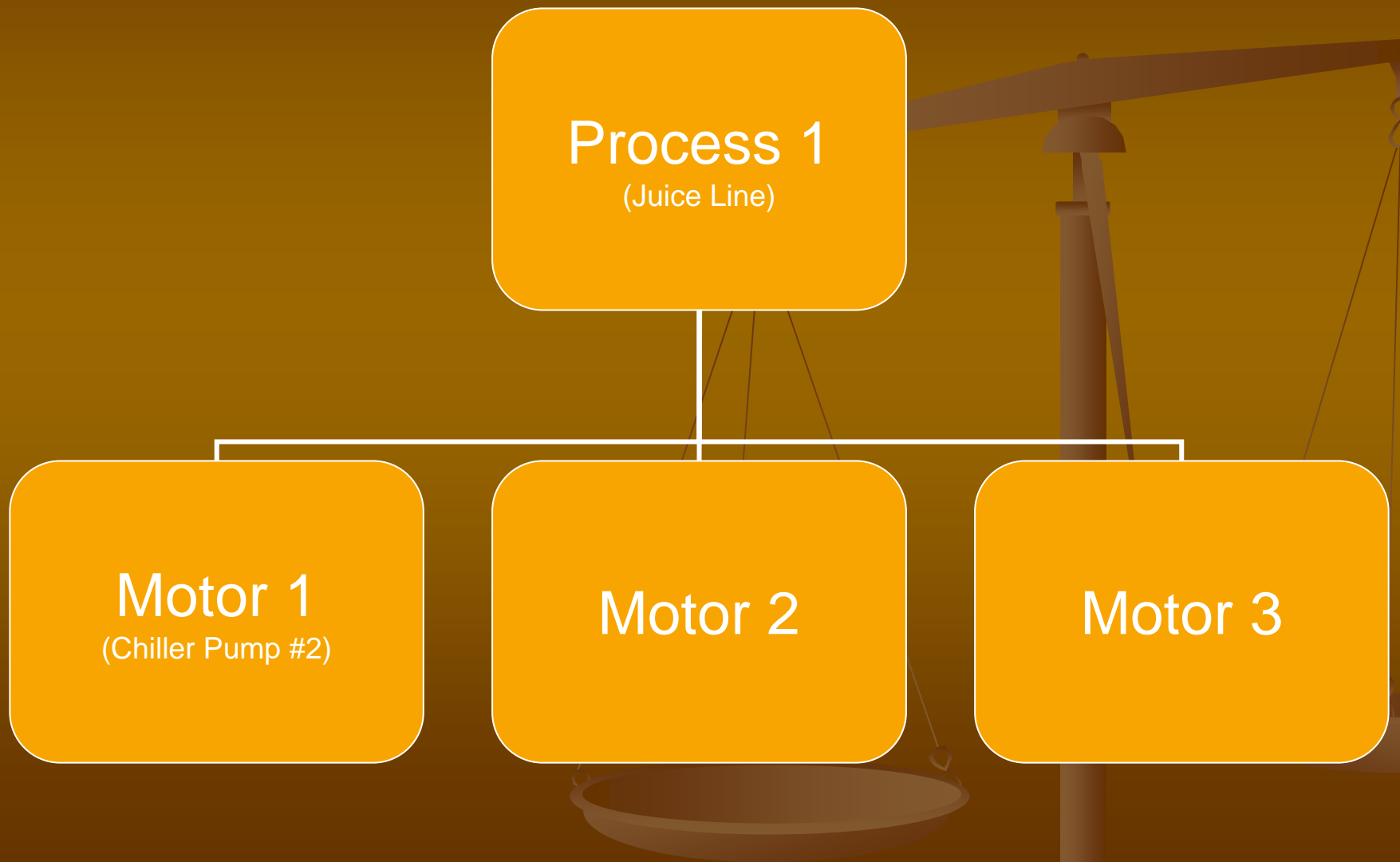
Organization of Data - Facility



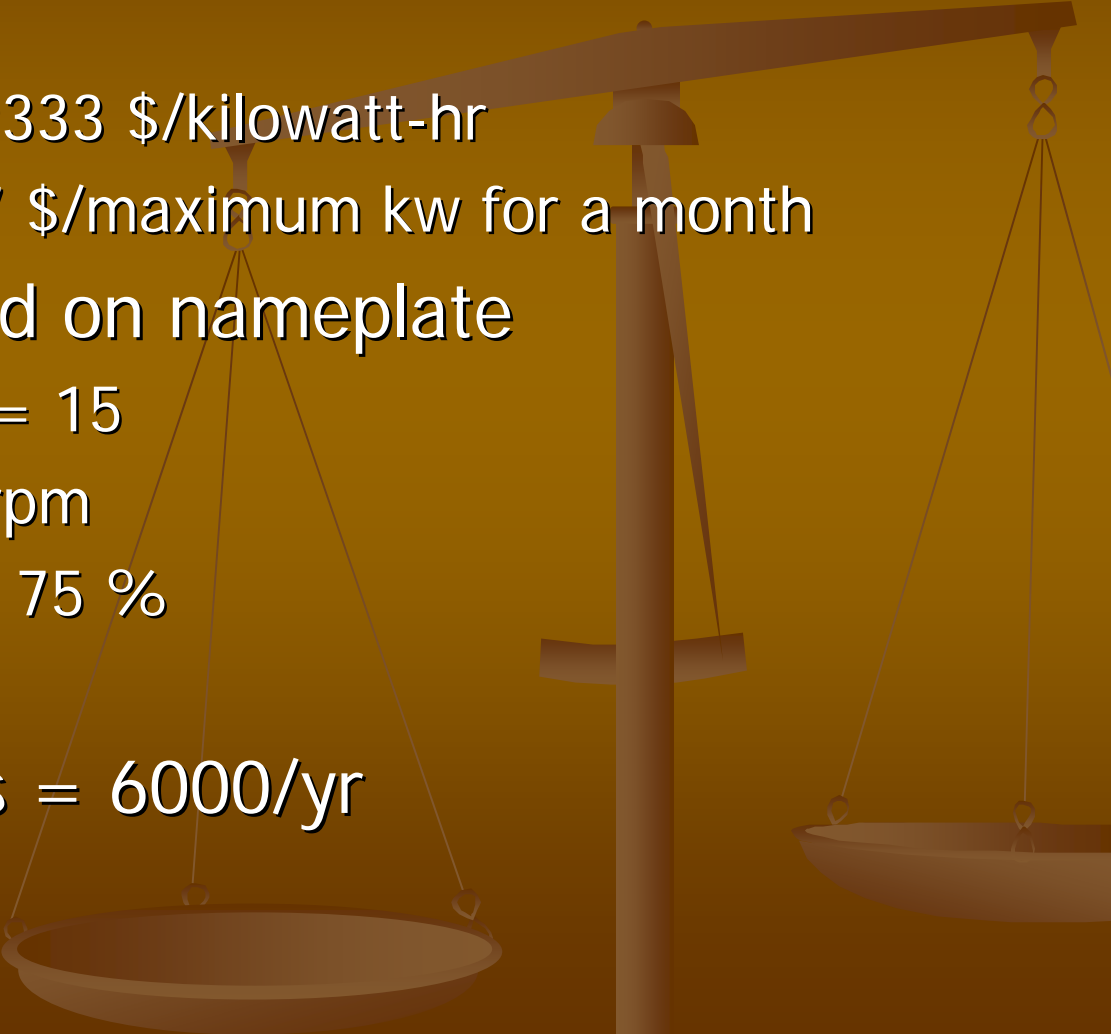
Organization of Data-Department



Organization of Data-Process

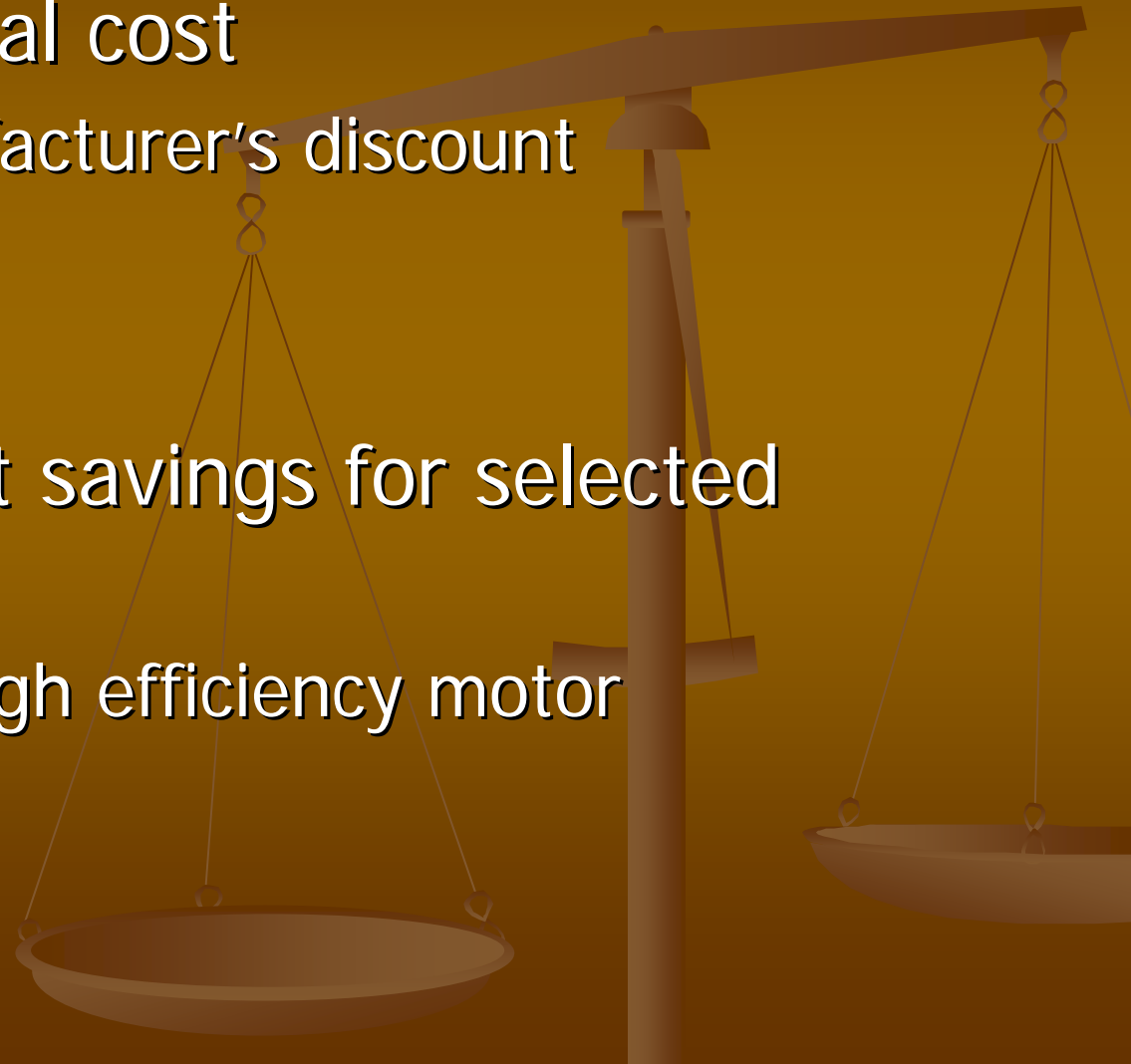


Case Study- Chiller Pump

- Utility Costs
 - Energy = 0.059333 \$/kilowatt-hr
 - Demand = 3.67 \$/maximum kw for a month
 - Input data based on nameplate
 - Full load amps = 15
 - Speed = 1800 rpm
 - Power Factor = 75 %
 - Voltage = 460
 - Operating hours = 6000/yr
- 

Batch Analysis

- Determines initial cost
 - Includes manufacturer's discount
 - Installation
 - Rebates
- Determines cost savings for selected action
 - Replace with high efficiency motor
 - Rewind



Life Cycle Cost Analysis



- Determines after-tax return on investment
 - Best metric to compare with other investments
 - Considers
 - Inflation
 - Depreciation
 - Loan interest rate
 - Taxes
- Case study results: 29.3%

Conclusions



- Replace motor
- Valuable tool to manage motor related costs
- Obtain training
http://www1.eere.energy.gov/industry/bestpractices/motor_systems.html
- Download a copy
<http://www1.eere.energy.gov/industry/bestpractices/software.html#mm>

Additional Reference

- Load and efficiency measurements
 - <http://www1.eere.energy.gov/industry/bestpractices/pdfs/10097517.pdf>

