NOVEMBER 4 & 5

HOUSTON, TEXAS

How to Solve the Project Performance Problem

Todd R. Zabelle

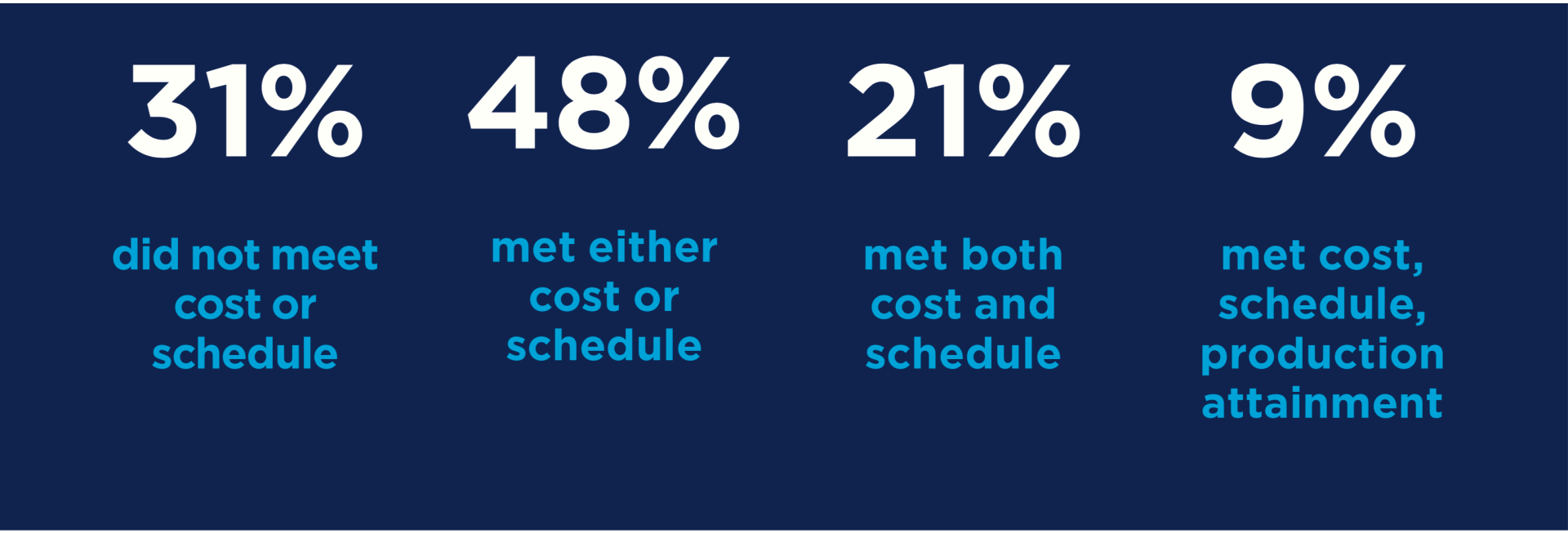
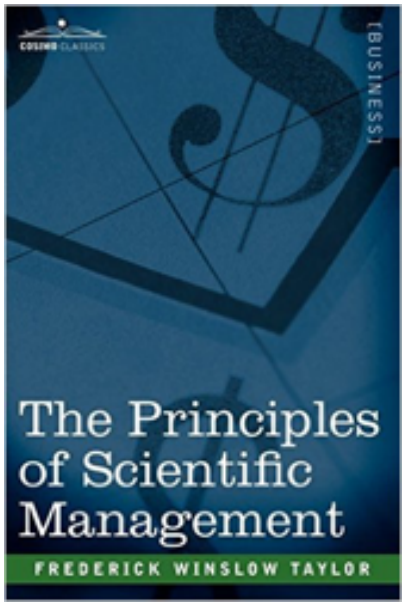
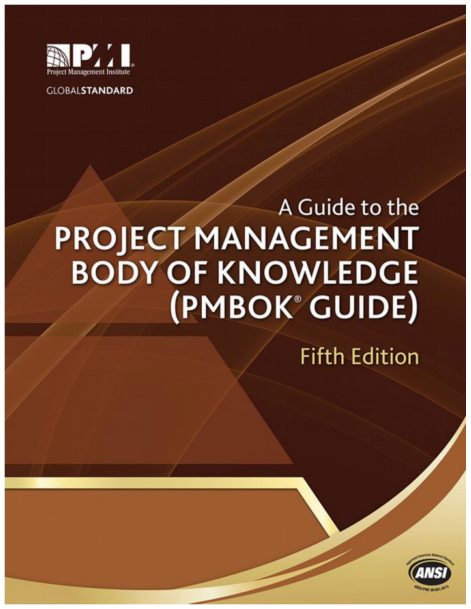


Figure 1. Data source: Independent Project Analysis (IPA).

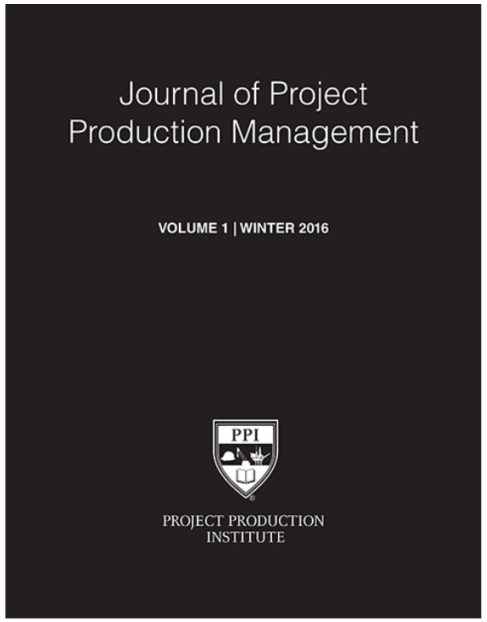
Why?



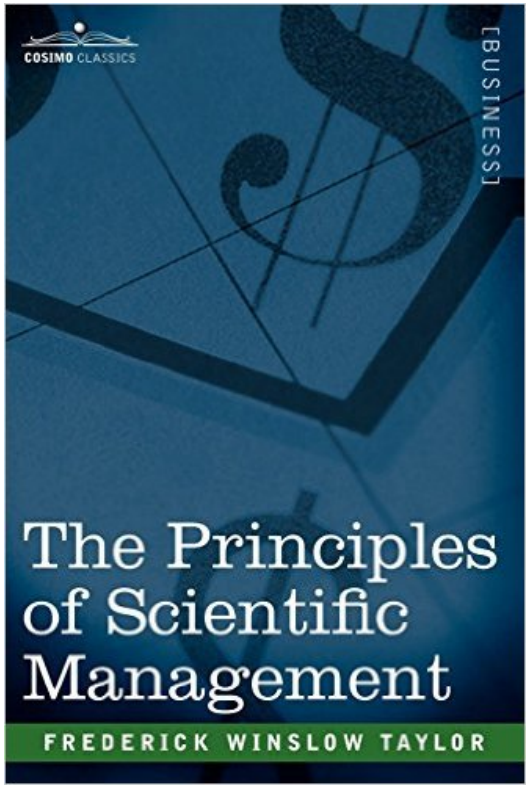
1910's
Era-1 Productivity



1960's
Era-2 Predictability



2000's
Era-3 Profitability



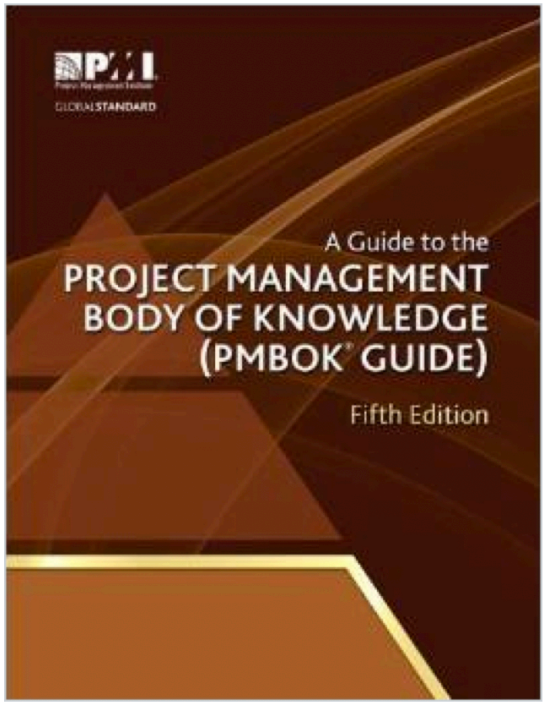
Separation of planning from doing

Time study

Advent of 8 functional foremen

Piece work based compensation

Gantt or bar chart



Project management, then, is the application of knowledge, skills and techniques to execute projects effectively and efficiently. It's a strategic competency for organizations, enabling them to tie project results to business goals — and thus, better compete in their markets.

It has always been practiced informally, but began to emerge as a distinct profession in the mid-20th century. PMI's *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* identifies its recurring elements:

Project management *processes* fall into five groups:

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

Project management *knowledge* draws on ten areas:

Integration	Scope	Time
Cost	Quality	Procurement
Human resources	Communications	Risk management
Stakeholder management		

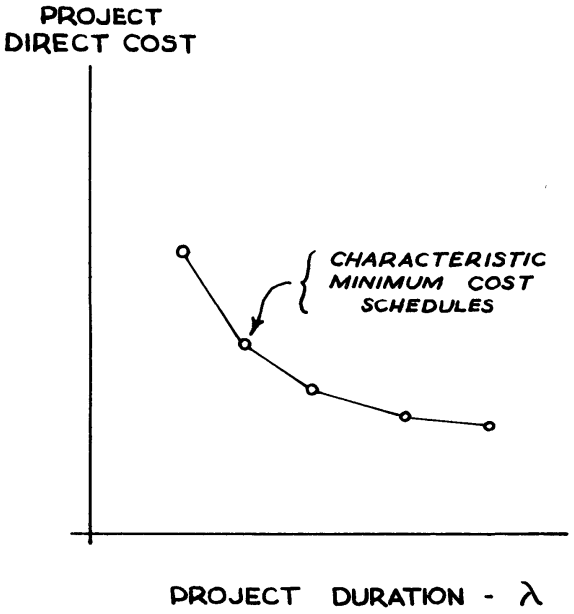
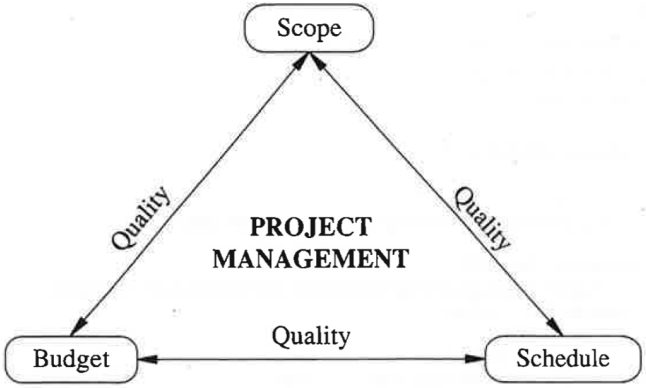
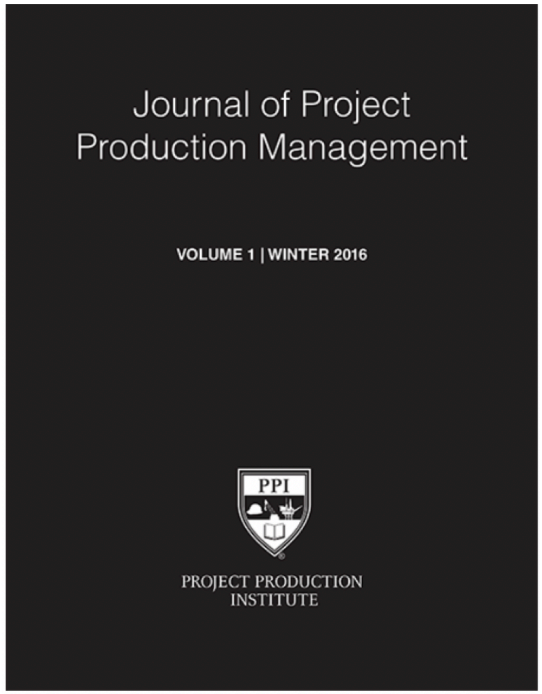


Fig. 3—Typical project cost curve.

Critical Path Planning and Scheduling
Kelley & Walker

Garold D. Oberlender, Ph.D., P.E.
Professor of Civil Engineering
Oklahoma State University



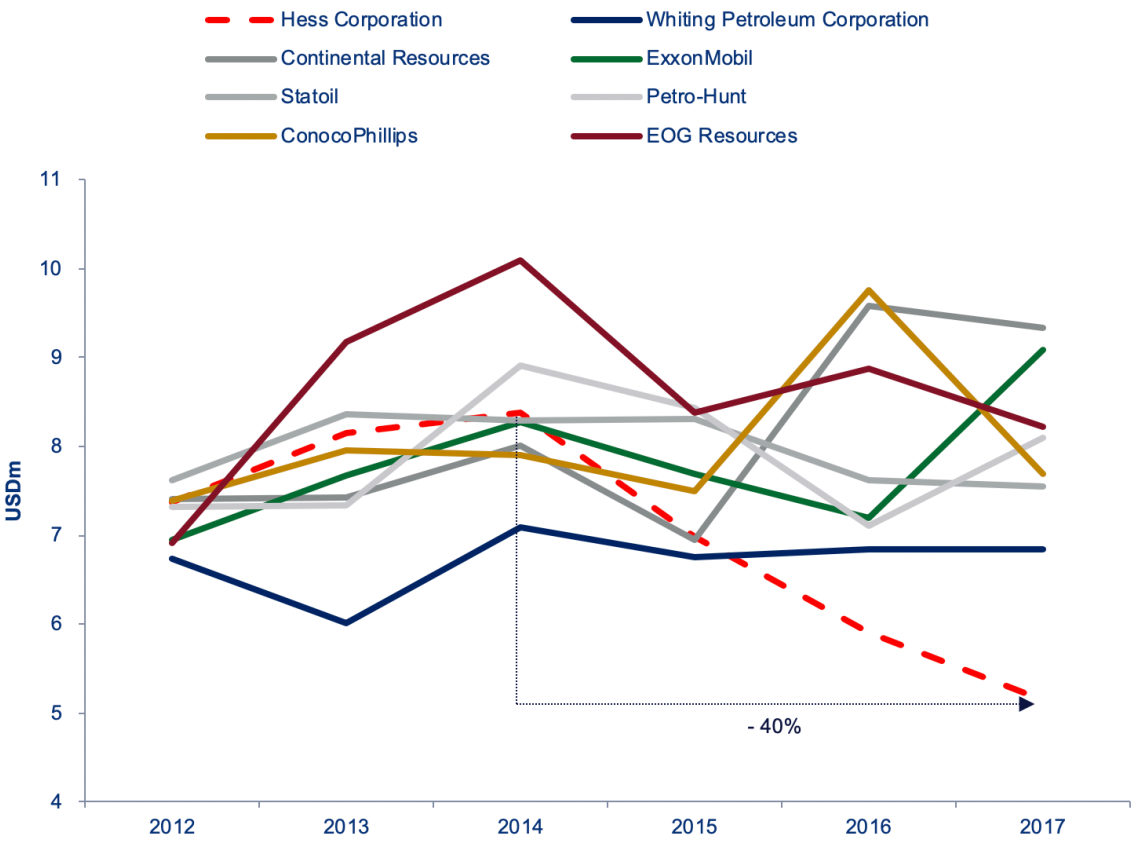


Project as Production System

Operations Science

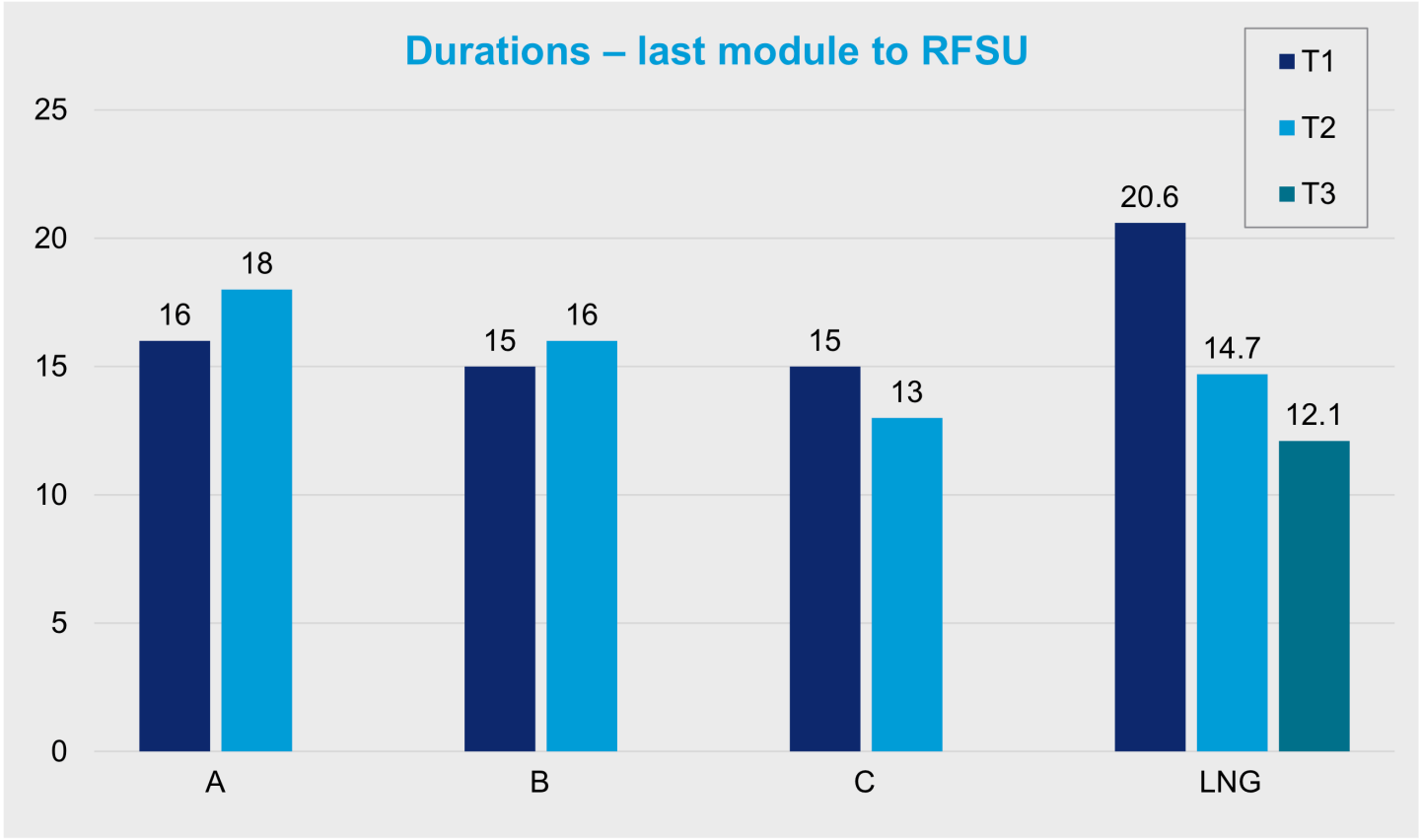
5 Levers of Optimization

Average well costs (USDm) by operator for similar wells, 2012-17

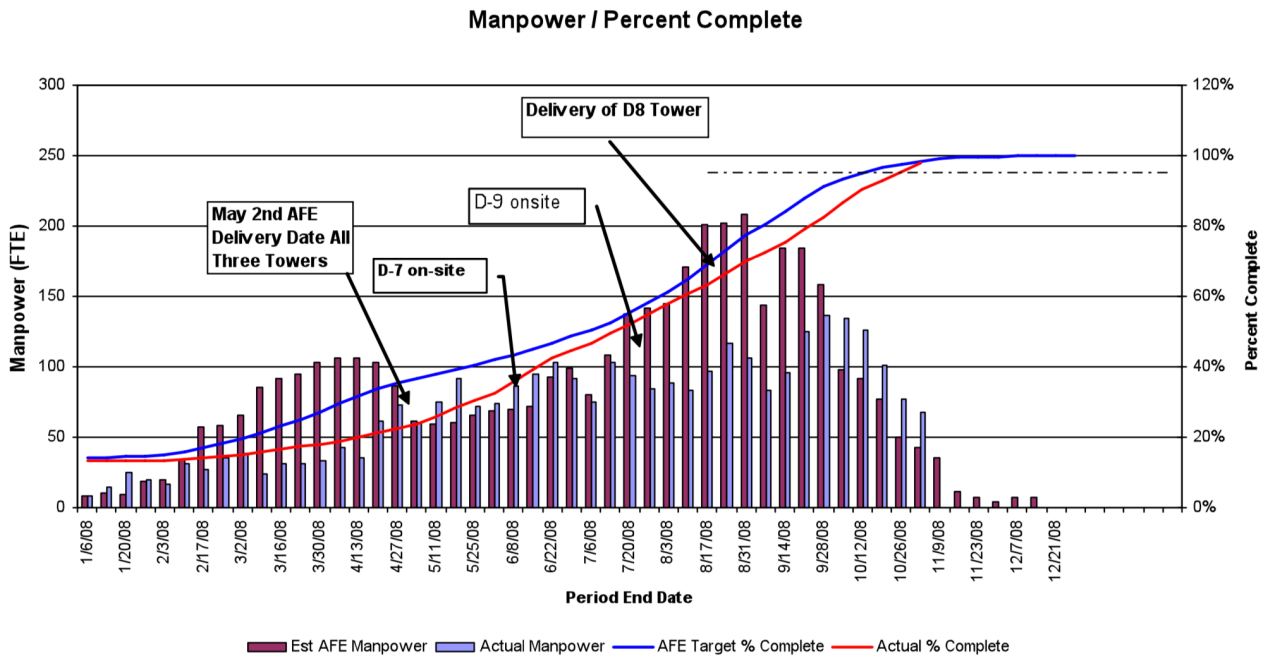


Wood Mackenzie
A Verisk Business

Durations – last module to RFSU



Results: On Schedule – Under Budget



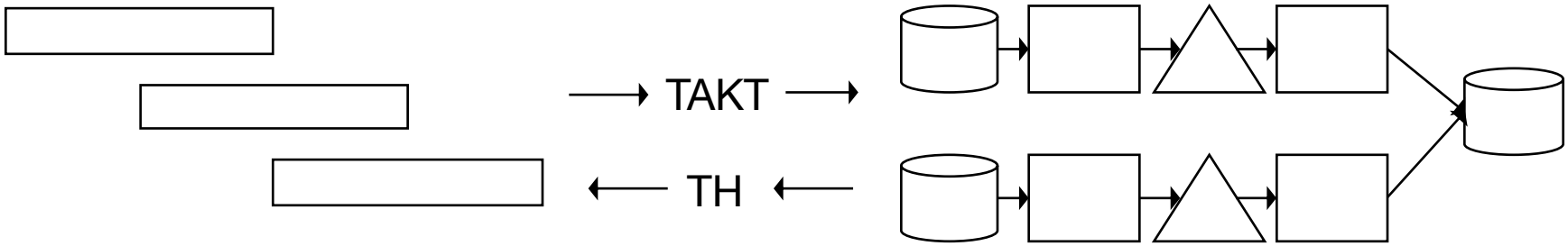
PDVSA

CITGO

Gap

Schedule = Should Happen

Production System = Can and Will Happen



Dates & Progress

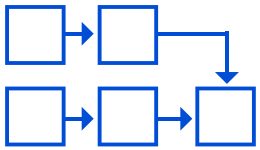
Rates / Throughput

PROJECT MANAGEMENT

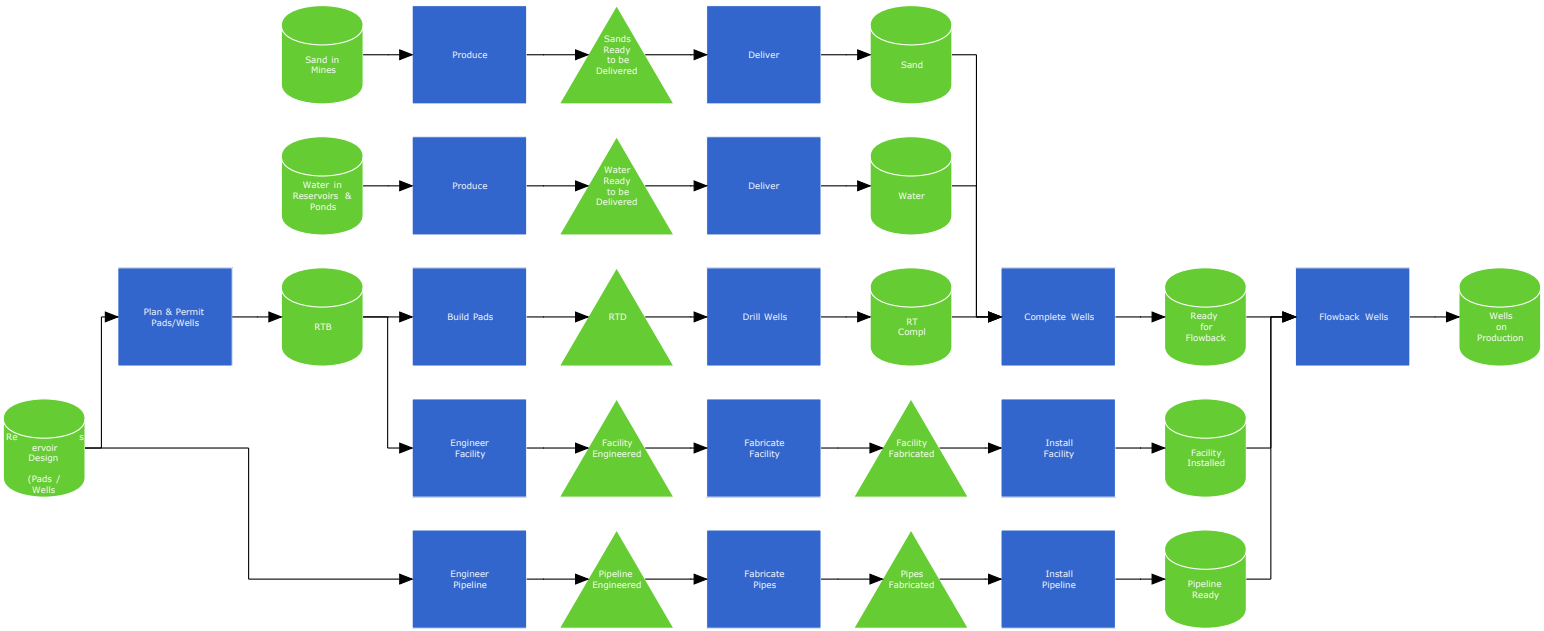
Cost, Time & Cash =  +  + 

Scope & Quality | Schedule | Resource Use

PROJECT PRODUCTION MANAGEMENT

Cost, Time & Cash =  +  +  +  + 

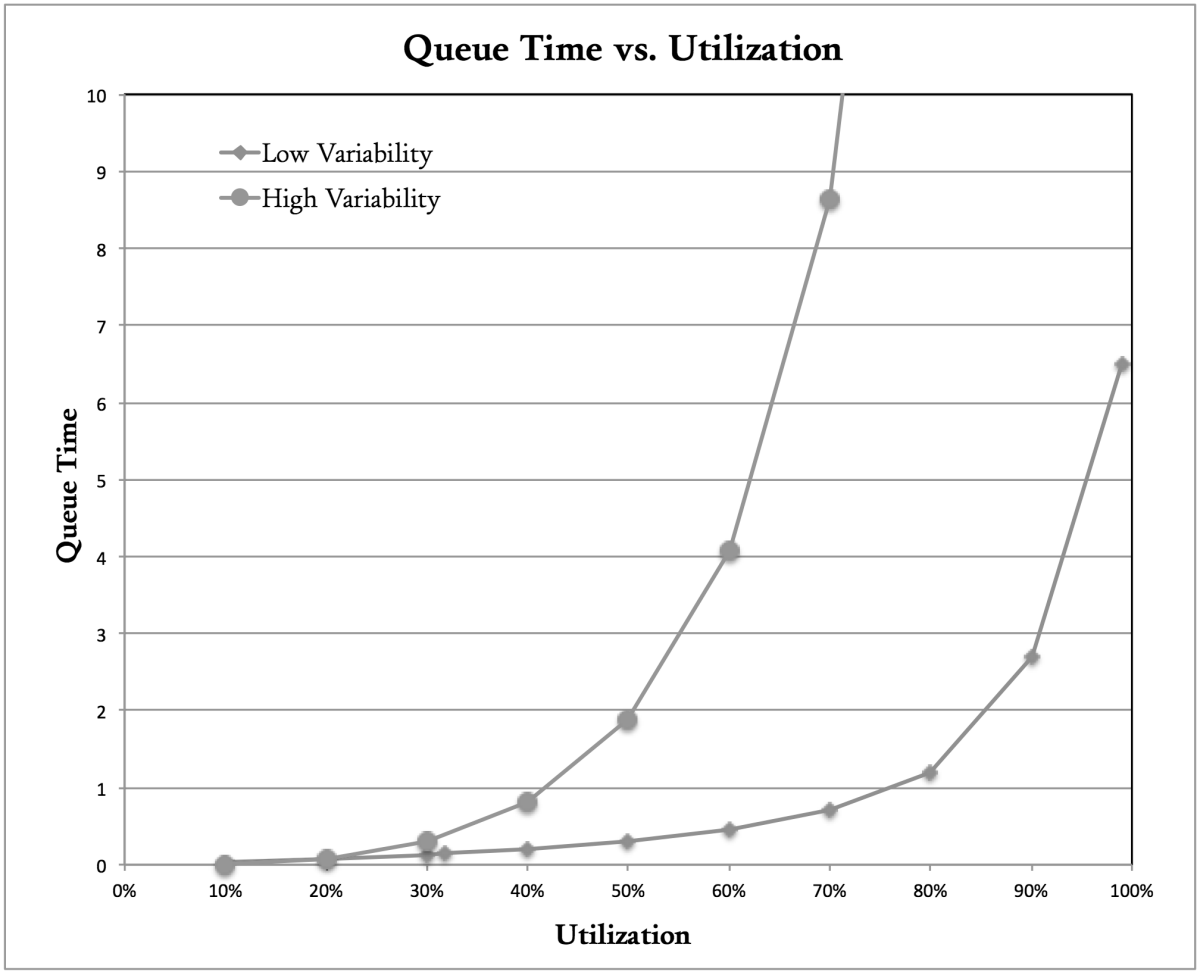
Product Design | Process Design | Capacity | Inventory | Variability



$$CT = WIP / TH$$

$$CT = RPT + BT + MT + QT + SDT + WTMT + PTB$$

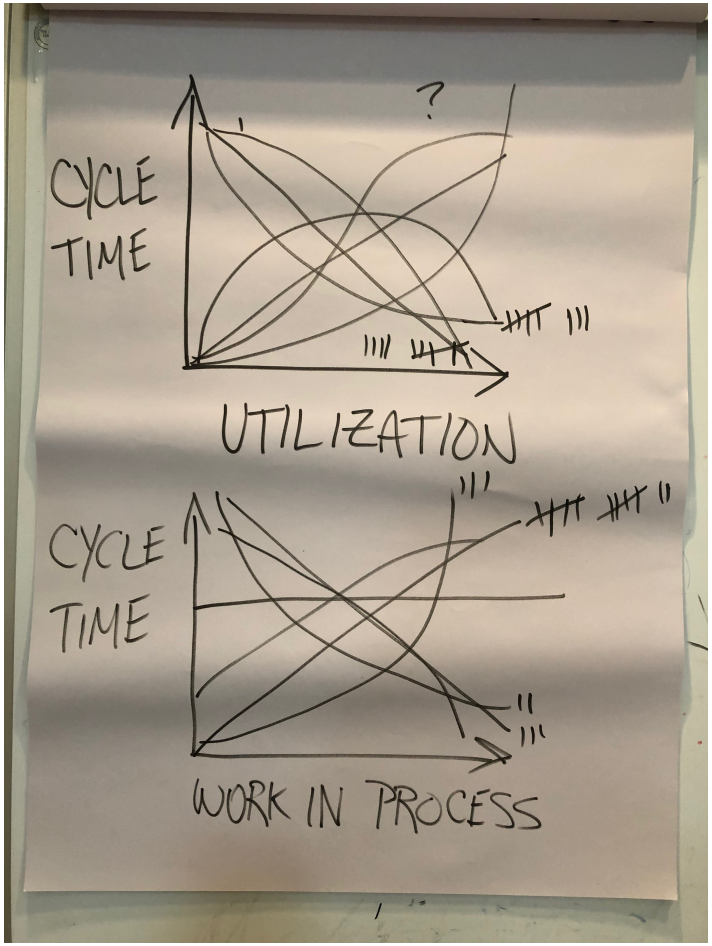
$$RPT = PT + ST + DT$$

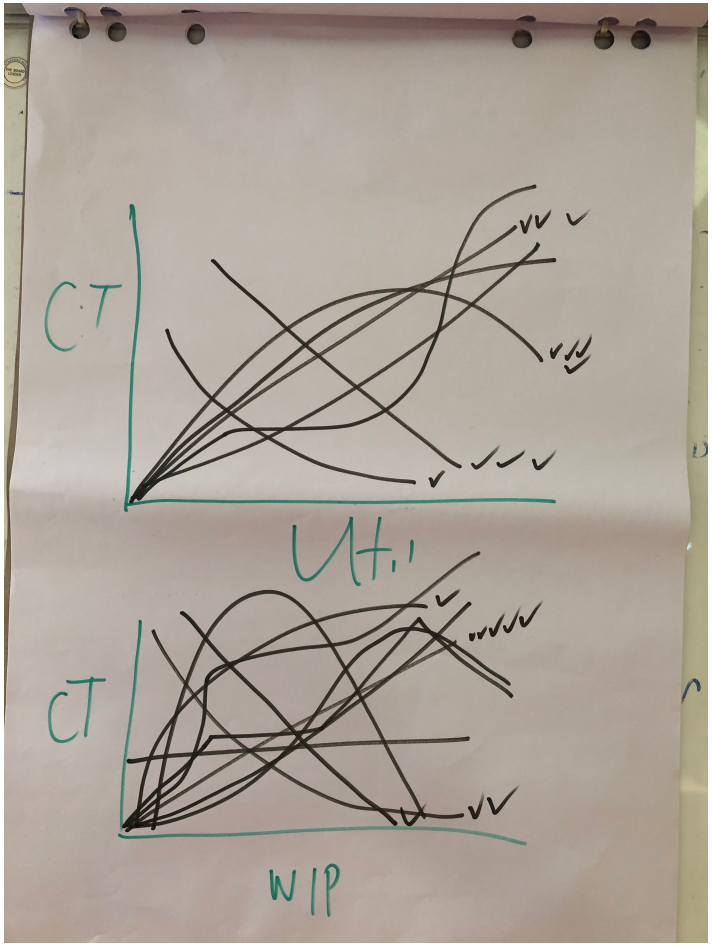

Queue Time vs. Utilization
Low Variability
High Variability
Queue Time
Utilization
0
1
2
3
4
5
6
7
8
9
10
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Inventory is the proxy for time

More inventory, more time, cost and use of cash

Therefore a leading performance indicator


CYCLE TIME
?
UTILIZATION
CYCLE TIME
WORK IN PROCESS


CT
Uti.
CT
WIP

1.2 What is a Project?

A project is a temporary endeavor undertaken to create a unique product, service, or result. Project Management Institute (2012-09-01).

1.5.1.1 Operations Management

Operations management is a subject area that is outside the scope of formal project management as described in this standard.

Operations management is an area of management concerned with ongoing production of goods and/or services. It involves ensuring that business operations continue efficiently by using the optimum resources needed and meeting customer demands. It is concerned with managing processes that transform inputs (e.g., materials, components, energy, and labor) into outputs (e.g., products, goods, and/or services).

A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fifth Edition (ENGLISH) (Kindle Locations 601-602). Project Management Institute. Kindle Edition.

projectproduction.org

TUDOR, PICKERING, HOLT & CO

D3:revival

ENERGY DISRUPTIONS CONFERENCE