

Implications of Less than Effective Supply Chain Management

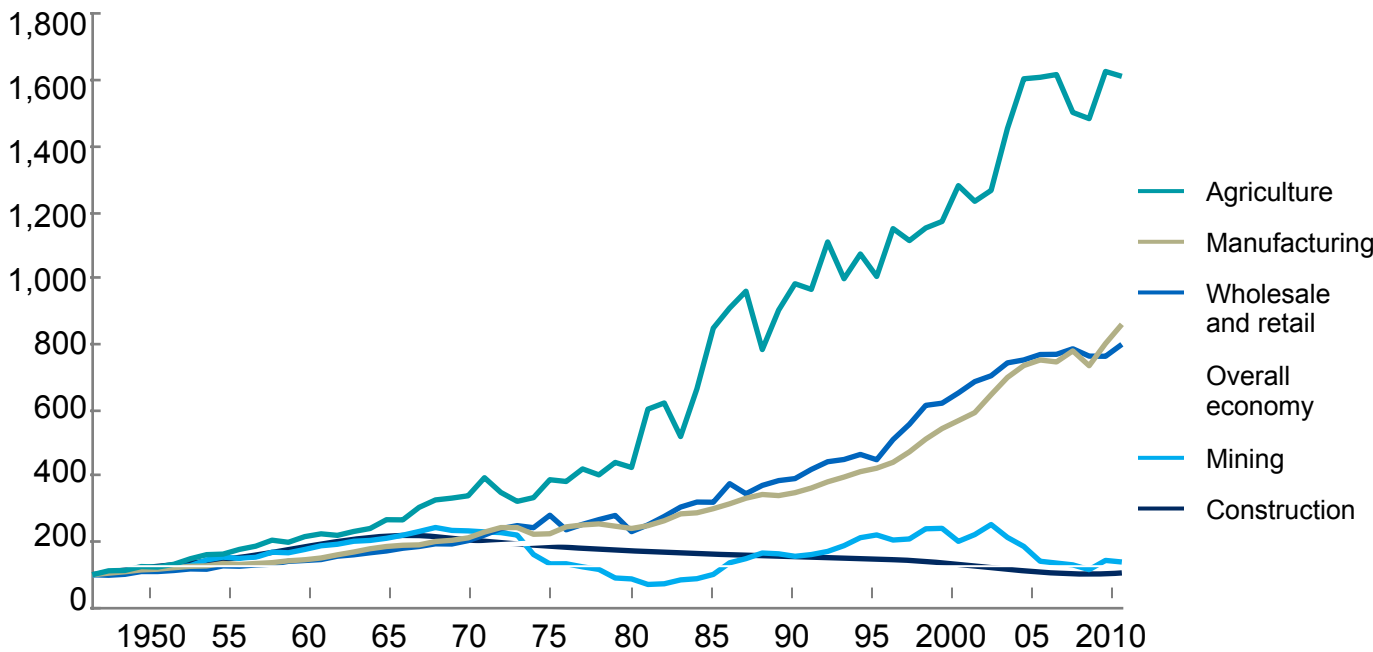


2017 PROJECT PRODUCTION INSTITUTE ANNUAL SYMPOSIUM

Conference Presentation | 29 November 2017

The Abysmal State of Construction Productivity in the United States

Gross value added per hour worked, constant prices
Index: 100 = 1947



Compound annual growth rate, 1947–2010 %	Total change
4.5	16.1x
3.5	8.6x
3.4	8.0x
1.9	3.3x
0.5	1.4x
0.1	1.1x

Many sectors have transformed and achieved quantum leaps in productivity; construction has changed little, limiting productivity gains

Key advances, 1947–2010

Agriculture
Leveraged scale through land assembly and automation; deployed advanced bioengineering to increase yields

Manufacturing
Implemented entirely new concepts of flow, modularized and standardized designs, and aggressively automated to increase production

Retail
Utilized scale advantages and cutting-edge logistics to provide affordable goods to the masses

Construction
Limited improvements in technological capabilities, production methods, and scale

What Consequences Have Less than Effective Supply Chain Management had on the Construction Industry?

Business

- 1 **Status quo bias:** Decision making based on current state
- 2 **Inventory costs:** Early funding of raw materials and finished goods
- 3 **Early commitment:** De-facto “Final Investment Decision”

Design

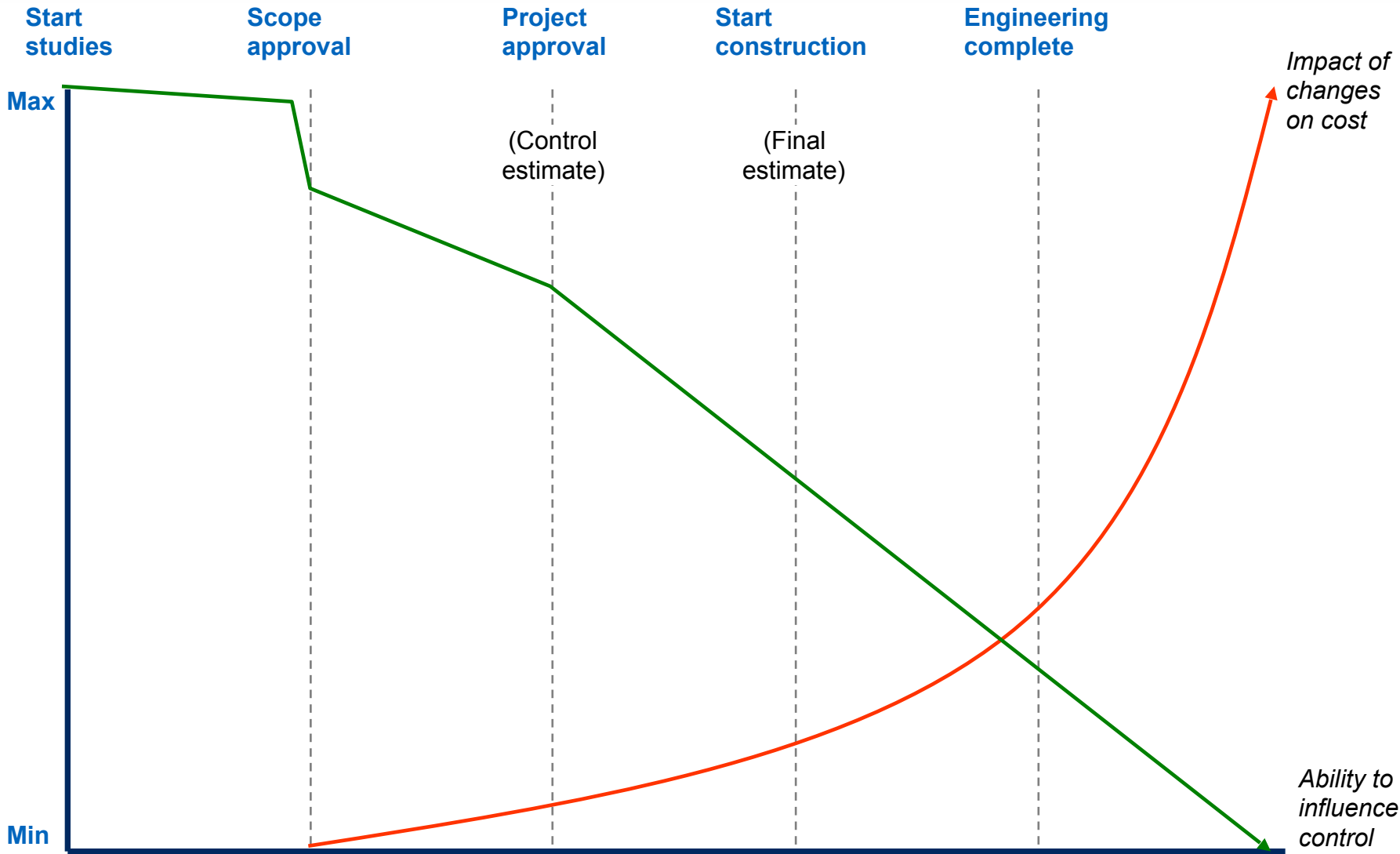
- 4 **Design inflexibility:** Loss of ability to make decisions as design develops
- 5 **“Design change after fabrication”:** Design change induced rework
- 6 **Modularization failure:** Extension of lead time due to off-site fabrication

Execution

- 7 **Double manufacturing:** Loss of inventory and work-in-process control
- 8 **Preservation:** Corrosion of materials in lay down yards, need for strategy
- 9 **Obsolescence:** Settling for lesser options with operability impacts
- 10 **Theft:** Inventory shrinkage of high value components in lay down areas

Effective Supply Chain Management Extends our Ability to Influence Control

Profile of project management control influence



SOURCE: Ability to Influence Curve Adapted from Gluck and Foster HBR 1975

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Evolution of Supply Chain Management Thinking



1853+

1913+

1945+

1948+

2008+

Interchange-
able Parts

Vertical
Integration

Supplier
Quality

Supplier
Development

Supply Chain
Science



**Eli
Whitney**

**Henry
Ford**

W. Deming

**Taiichi
Ohno**

**Wallace
Hopp**





Henry Ford – Innovations in Supply Chain Management

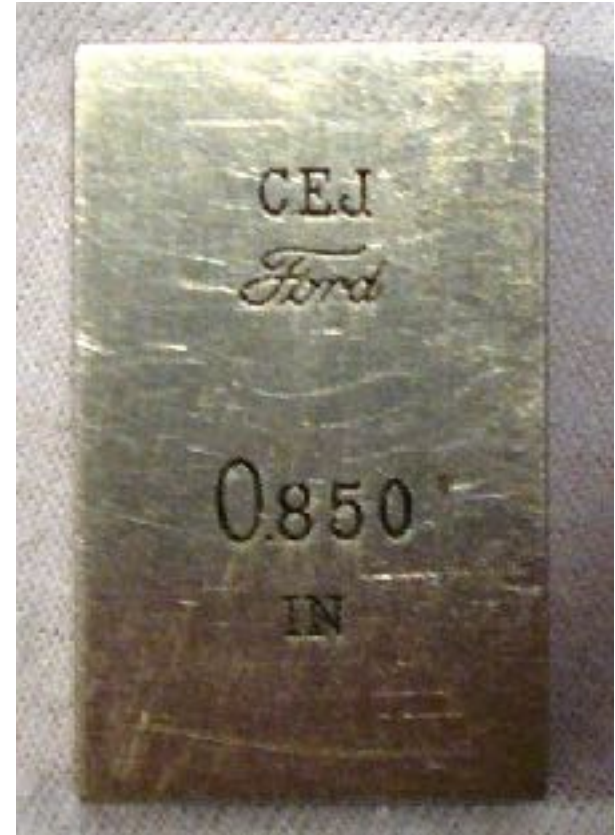


Ford did not administer the supply chain, he actively managed it:

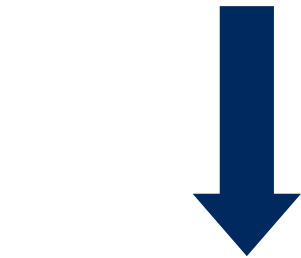
Auto-body cost compression



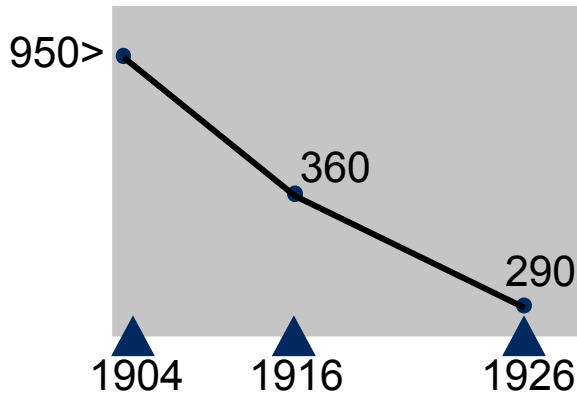
Johansson Gauges



Glass ribbon manufacturing



Cost \$/unit



Project Administrator Job Description

Project Administrators assist with project management duties. They oversee and performing administrative functions concerned with a project. This may include calling contractors, making appointments, ordering supplies, doing site visits and preparing reports. Responsibilities include coordinating meetings, creating powerpoint presentations, performing administrative duties, tracking projects, hiring contractors and service providers, and recommending changes.

How do we cultivate capital project leaders instead of a creating a lost generation of project administrators?

QUESTIONS?