



مدیریت کسب و کار در صنعت ساخت (Construction Business Management)

ماژول ۱: سازمان دهی کسب و کار

بخش سوم: بازاریابی و مدیریت بازار

ارائه دهنده:

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CMAA Authorized Trainer

دانشگاه Illinois Tech آمریکا

What we will learn?

- ☐ Business Development
- ☐ Marketing Construction Services
- ☐ Construction Market Cycles
- ☐ Marketing Process
- ☐ Marketing Analysis
- ☐ Marketing Strategies
- ☐ Marketing Tools
- ☐ Marketing Plan
- ☐ Acquisition of Work
- ☐ Common Marketing Rules for Contractors
- ☐ Comparing Market Share and Profits: A Quantitative Method for Marketing and Selling



What we will learn?

- ☐ Earning New Markets
- ☐ Selling
- ☐ Customer Service
- ☐ Creating Customer Loyalty
- ☐ Common Errors in Selling in Construction
- ☐ Estimating Cost and Proposing Price
- ☐ Bidding: The Price Proposal Process
- ☐ Exercises

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Estimating Cost and Proposing Price

Estimating cost and proposing price

❑ Superior estimators are rare people.

- ❖ They can work in a **detail-oriented** and **time-sensitive** environment while counting and costing **dozens of areas of work**.
- ❖ These are **not casual** or **careless people**.
- ❖ They have a **very real value** to a construction firm.

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Four principles of estimating

1. Estimating is the Predication of Final Cost in the Future after a Short-Term

Study of the Plans

- ❖ This is a **difficult challenge** for any professional.
- ❖ Certainly, part of this is an **internal process** in the estimator's mind.
- ❖ The **other part** is a structured approach to **make certain** that as few variables as possible are **overlooked**.
 - ✓ The **consistent use** of certain steps and guidepost **confirms the value** of the process.
 - ✓ It might be called a “**generally accepted estimating process**.”

Four principles of estimating

2. Estimating is Essential to the Continued Existence of All Construction Companies

- ❖ **Very few** contracts are let **without some** sort of guaranteed maximum price.
- ❖ If the **estimate error** is severe, you **can't complete** the project.
- ❖ In construction, people are **not very forgiving**.
 - ✓ In essence, you are **bankrupt**.

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Four principles of estimating

3. Estimating is Mostly Science

- ❖ The process of plan review, material take-off, and estimating cost is a scientific, math- and logic-based approach with **little latitude for “art.”**
- ❖ **Even profit determination** has its own structured method.
- ❖ Using return on investment and bidding models are well **accepted in our industry**.

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Four principles of estimating

3. Estimating is Mostly Science

- ❖ Thorough and written **review** of project plans and specifications.
- ❖ Most use a complete, **detailed checklist**.
- ❖ They write down **each item** that could be used on the job.
- ❖ The **conditions** under which the **project is built** are also important.

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Four principles of estimating

3. Estimating is Mostly Science

❖ Accurate take-off of work quantities.

- ✓ The count of the items to be installed (lineal, each, per cubic yard, etc.) is the **critical multiplier of cost**.
- ✓ Zero quantity times any cost is always **zero**.
 - The count is that **critical**.

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Four principles of estimating

3. Estimating is Mostly Science

❖ Costing of installation of work.

- ✓ Units to be installed **multiplied** by a **cost** of labor, material, equipment, subcontractor (if necessary) and miscellaneous items.
 - Again, this is **not something** to be considered in a **randomly manner**.
 - A **mathematics-based** system is best.

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Four principles of estimating

3. Estimating is Mostly Science

❖ General conditions of staffing the project.

- ✓ Projects are still **built by people**.
- ✓ Individuals need a **host of things** to help them work, such as offices, life-safety items, and storage containers, to name a few.
- ✓ We consider these general conditions as **not tied to a single installation**, but ones for which **their costs** are **distributed** over the **entire depth and breadth** of the project.

Four principles of estimating

3. Estimating is Mostly Science

❖ Sound overhead allocation methods.

- ✓ What is the overhead cost per job?
- ✓ The **cost of office operations** must be **spread out** over several projects throughout the year, each of which **start** and **stop** at **different times**.
- ✓ Several may **not be completed until** the subsequent fiscal year.
- ✓ How to **accurately determine** that cost must be done in a scientific or quantitative method.
- ✓ It **can't be a guess**, a hunch, or a rough rule of thumb because its accuracy is **crucial to your bottom line**.

Four principles of estimating

3. Estimating is Mostly Science

❖ Bidding strategy is the last quantitative step of estimating.

- ✓ Long-term, it should be a science, not an art.
- ✓ We should keep the conversation about what we should charge based on facts, not feelings.

History of margins

- ▼ Riskiness of project
- ▼ Return on investment goal
- ▼ Length of project
- ▼ Your backlog
- ▼ Competitor's backlog
- ▼ Labor content
- ▼ Which competitors are bidding
- ▼ How many competitors are bidding
- ▼ Client's character
- ▼ Subcontract content
- ▼ Location of project

Four principles of estimating

3. Estimating is Mostly Science

- ❖ More recently, contractors have begun to build databases of recent bid results of all competitors.
- ❖ These data are typically represented in a Data Sort for Bid Strategy spreadsheet (see Table 3.7), which uses statistical or quantitative models that show other contractors' bid trends:

Date:	Bidder	Bid	% profit	Our Cost	Job Name	Type of Work	Market Area	Labor Hours	Time Duration	Client Type	# of Bidders	Difficulty
1-15-xx	Jerry's	\$694,000	5.95%	\$655,034	ADE Chops	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
1-15-xx	Stout	\$708,341	8.14%	\$655,034	ADE Chops	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
1-15-xx	Billings	\$712,934	8.84%	\$655,034	ADE Chops	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
1-15-xx	Denton	\$723,002	10.38%	\$655,034	ADE Chops	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
1-15-xx	ABZ	\$743,440	13.50%	\$655,034	ADE Chops	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
6-22-xx	Denton	\$254,000	9.48%	\$232,000	Ice House	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
6-22-xx	Billings	\$255,353	10.07%	\$232,000	Ice House	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
6-22-xx	Stout	\$258,004	11.21%	\$232,000	Ice House	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
6-22-xx	ABZ	\$259,530	11.87%	\$232,000	Ice House	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
6-22-xx	Jerry's	\$260,000	12.07%	\$232,000	Ice House	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
3-3-xx	Domin-quez	\$912,232	2.39%	\$890,945	Deeds Rest.	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
3-3-xx	Stout	\$924,000	3.71%	\$890,945	Deeds Rest.	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
3-3-xx	ABZ	\$928,231	4.18%	\$890,945	Deeds Rest.	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
3-3-xx	Billings	\$933,485	4.77%	\$890,945	Deeds Rest.	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
10-14-xx	Billings	\$534,000	6.51%	\$501,345	Horse Park	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
10-14-xx	Jerry's	\$585,402	16.77%	\$501,345	Horse Park	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
10-14-xx	ABZ	\$589,034	17.49%	\$501,345	Horse Park	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High
10-14-xx	Domin-quez	\$599,000	19.48%	\$501,345	Horse Park	Restaurant	<30 miles	25k-75 k	6 months-1 yr	Private Chain	<10	High

Table 3.7 Data Sort for Bid Strategy

Four principles of estimating

3. Estimating is Mostly Science

❖ Bid summary sheet.

- ✓ Contractors always prepare a **bid summary sheet** some time before the bid is due.
- ✓ Sometime during the **hour before** the bid is due, a **preliminary total** should be calculated and a **preliminary price** determined.
 - This is a **private document** not submitted to anyone, but it is the **starting place to cut or add.**

Four principles of estimating

3. Estimating is Mostly Science

❖ Cut-add sheet.

- ✓ Most construction firms do practice a **cut-add step just before bid time**, for two reasons.
 1. Some suppliers (and some subcontractors) furnish last-minute prices.
 2. We look over the bid in total and can cut some labor or add a contingency based on our feelings, gut feel, and intuition about the project.

Four principles of estimating

4. You Will Know If You Estimated the Right Cost Only After the Project Is Over

- ❖ You may sometimes know on **bid day** if you have made a mistake.
- ❖ More likely, you **won't find out until** the **end** of the job.
 - ✓ By then, however, it will be clear just how well you executed the total process of work acquisition, building work, and being paid.
 - This is a complicated process, one **not always easily analyzed** to **discern** which factors contributed to success or failure.

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Bidding: The Price Proposal Process

Bidding: The price proposal process

- ☐ After determining the best locations, clients and work types,
you will move to bidding or price proposal phase.
- ☐ Your people will start bringing in those good opportunities.
- ☐ Let's walk through the process.

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Bid/No-Bid decision making

- ☐ The **bid/no-bid template** is a thorough bidding review that you can use to **assess whether** to bid or not bid on a prospect opportunity.
- ☐ During **good economic times**, high craft skill contractors can be particular.

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Bid/No-Bid decision making

Customer type?	1 Don't Know	2 3 4 Low Bid	5 6 7 May Negotiate	8 9 10 Friendly	Score:		
Negotiation probable?	1 Don't Know	2 3 4 No	5 6 7 May Negotiate	8 9 10 Yes	Score:		
What type of bid?	-5 Plan & Spec	1 1 1 Negotiated	5 6 7 GMP	8 9 10 Design Build	Score:		
No. of competitors bidding?	1 Five or More	2 3 4 3	5 6 7 2	8 9 10 Just Us	Score:		
Who is competition?	-5 Ma & Pa	2 3 4 Low Ball	5 6 7 Quality	8 9 10 Out of Towners	Score:		
Who is the designer?	-5 Hardnose	2 3 4 Reasonable	5 6 7 Friendly	8 9 10 Unknown	Score:		
Type of job?	1 Multi Family	2 3 4 School/Gov	5 6 7 Commercial	8 9 10 Medical/Inst	Score:		
Type of structure?	1 Wood Truss	2 3 4 Metal building	5 6 7 Concrete/Steel	8 9 10 Pre-Cast	Score:		

Our advantages?	1 None	2 3 4 One	5 6 7 Some	8 9 10 Extensive	Score:		
Client relationship?	1 Yes-Bad	2 3 4 None	5 6 7 Yes-Iffy	8 9 10 Yes-Good	Score:		
Project fills backlog needs?	1 No Needs	2 3 4 Stress Other	5 6 7 Yes-Iffy	8 9 10 Yes-Good	Score:		
Project fills revenue needs?	1 No Needs	2 3 4 We are Ok	5 6 7 Yes-Iffy	8 9 10 Yes-Good	Score:		
Are there opportunities for value engineering or employing our best talents?	1 No Way	2 3 4 Maybe	5 6 7 Yes-Iffy	8 9 10 Yes-Good	Score:		

Comments:

Bid/No-Bid decision making

We all struggle with the problem of letting people (subcontractors, suppliers, service providers) know where they stand after a bid. One approach to take is never let anyone know. You might say, "We choose not to share that information at this time." This keeps your partners from concluding something that is untrue or accusing you of bid shopping. Of course, the exception is in cases of extreme emergency, such as with very low price before bids close.

Yearly job cost budgeting

- ❑ Contractors must **predict the costs** of the projects they expect to complete during the **next year**.
- ❖ **Under or over costing** has a **serious effect** on the viability of any business, and all the more so on construction contracting.

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Yearly job cost budgeting

Budget Worksheet for 20xx	
A. Total Material & Subcontracts	
Budgeted for Fiscal Year - 20xx	
Direct Material	\$2,030,000
Direct Subcontracts	\$280,800
Total	\$2,310,800
B. Total Labor, Equipment & General Conditions	
Budgeted for Fiscal Year - 20xx	
Direct Labor	\$2,405,000
Direct Equipment	\$120,000
Other Directs	\$210,000
Total	<u>\$2,735,000</u>
C. Company Overhead to Recover	
Budgeted for Fiscal Year - 20xx	<u>\$676,000</u>

Figure 3.6 Budget worksheet for use in creating bids.

Applying the correct overhead cost in a bid

- ❑ **Accurate overhead** costing is now **more than ever** a **critical** need to compete in construction.
- ❑ As we have seen,
 1. **Business costs change** (mostly rise), and
 2. The **number of contractors** continues to **rise** as well.
 - ❖ We **don't** have the **luxury of fat margins** that will cover for any **unexpected increases**.
 - ❖ The **more exacting** we are of our **actual cost** to build projects and to **operate** our business, the **more certain** will be our future.
 - ❖ By contrast, if we **never spend time** focusing on the **expenses of our construction** firm, we can be certain of **uneven profit years**.

Applying the correct overhead cost in a bid

Reestimating a bad bid has many benefits. The first is to have a fair yardstick with which to measure and manage the work. Using the problem estimate to manage the work makes the manager guess. Not a good practice in our risk-filled industry.

General conditions costing

- ☐ General conditions are those **indirect costs inherent in the project.**
- ☐ The good news is that the **process** can be **structured efficiently and accurately.**
- ☐ **Costing correctly** requires knowing the length of the job and the expense items needed to support job operations.

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Applying the correct overhead cost in a bid

How do we arrive at an accurate cost to put in a bid?

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Pressures to Be Low Bidder

❑ Here are some pressures to be low bidder:

- ❖ To make a profit.
- ❖ To retain crews.
- ❖ To keep equipment utilized
- ❖ To enter a new market.
- ❖ To get convenient work.
- ❖ To win a “portfolio” job.
- ❖ To beat competitor(s).

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Problems with the Low-Bidder Mentality

- ❑ A low price is a surefire way to **gain attention and to win** a project.
 - ❖ But to have a **low-bidder mentality** can be a **long-term strategic error** that works at cross-purposes for **value-oriented contractors**.
 - ❖ **Value orientation** certainly implies that a construction firm gives to the client **extra items** that give **comfort and long-term peace** of mind.
 - ✓ It **costs more to operate** this way, but you should be **able to charge more**.
 - ✓ We know several segments of construction buyers who value extra services.
 - ✓ People choose with whom to do business for many reasons.
 - ✓ **Take the time** to determine and understand the **reasons of your potential clients** and you will win more projects.

Problems with the Low-Bidder Mentality

- ☐ **Low bid mentality** forces us to provide **only the absolute minimum** as if the client treasures **only cost**.
- ☐ Following the **low-bidder rationale** has long-term **negative effects** on a construction firm.
- ☐ It **reduces profits** to a bare minimum and results in the firm having **less money to reinvest** in the firm.

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Problems with the Low-Bidder Mentality

- ❑ In turn, this compromises the firm's ability to invest in such things as
 - ❖ Training Proven technology
 - ❖ Productive tools and equipment
 - ❖ Qualification activities such as licensing, bonding, or certification
 - ❖ Client activities
 - ❖ Association functions
 - ❖ Compensating for mistakes
 - ❖ Meeting payroll while a poor-paying client finally pays

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Problems with the Low-Bidder Mentality

Being **mindful** of the long-term need for **profit** is prudent.

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Exercises

1. Your construction firm has historically done only mechanical construction business in California.
2. You have decided to expand and offer design-build mechanical construction services in Nevada.
3. What information would you gather in developing a marketing plan for this geographic and project delivery expansion?

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1. Your construction company has historically done only public sector work. Because of a decline in government spending, it has decided to pursue privately funded projects. What type of market analysis should the company perform?
2. You are preparing a marketing plan for your company. One of its strategic objectives is to increase its volume of work by 2 percent per year over the next ten years. How would you develop a marketing plan to support the accomplishment of this strategic objective? Which marketing tools would you use?

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ماژول ۲: مدیریت کسب و کار

بخش اول: مدیریت عملیات

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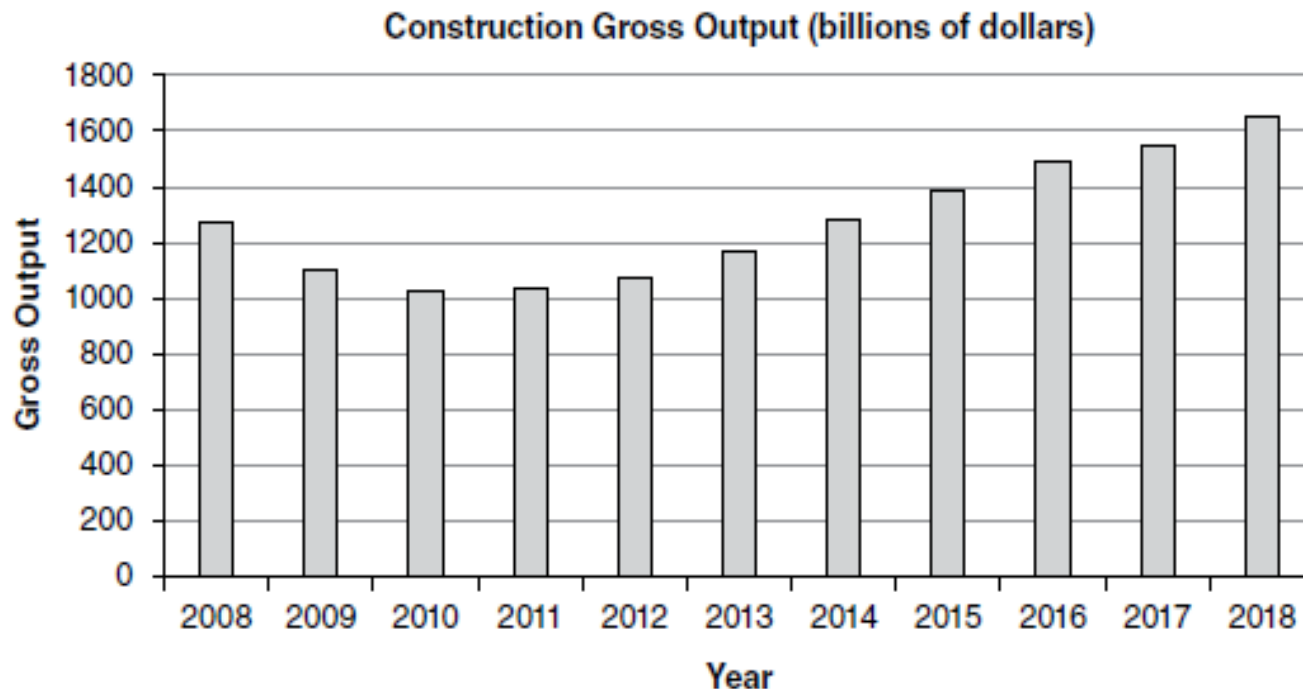
What we will learn?

- ☐ What is the current status of the industry? Construction productivity is at a 15-year low
- ☐ The basic process to better operations management
- ☐ Proven principles
- ☐ Management: planning, forecasting, and scheduling
- ☐ Managing a construction firm in a down economy
- ☐ Managing clients
- ☐ Managing subcontractors and equipment
- ☐ Making decisions in volatile conditions
- ☐ Selecting the right work

What is the Current Status of the Industry?
Construction Productivity is at a
15-Year Low

Construction size - USA

- ❑ The **construction industry** has traditionally been one of the **largest industries** in the United States.
- ❑ As reported by the **Bureau of Labor Statistics (BLS)**,
US Department of Labor, the value of construction in **2018** was **\$1,636.5 billion**, representing **4% of the gross domestic product (GDP)**

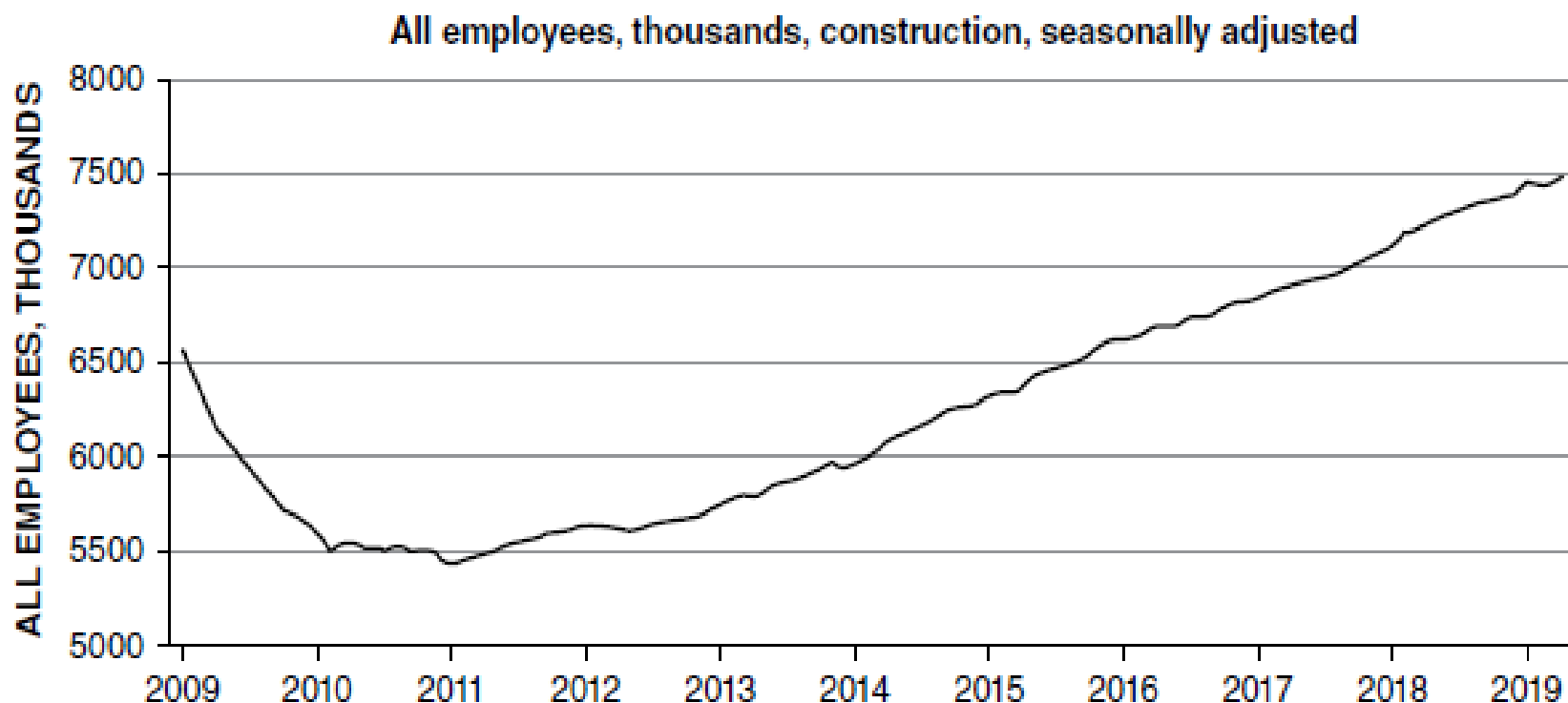


Source: Courtesy of Bureau of Economic Analysis, US Department of Commerce

Construction size – International

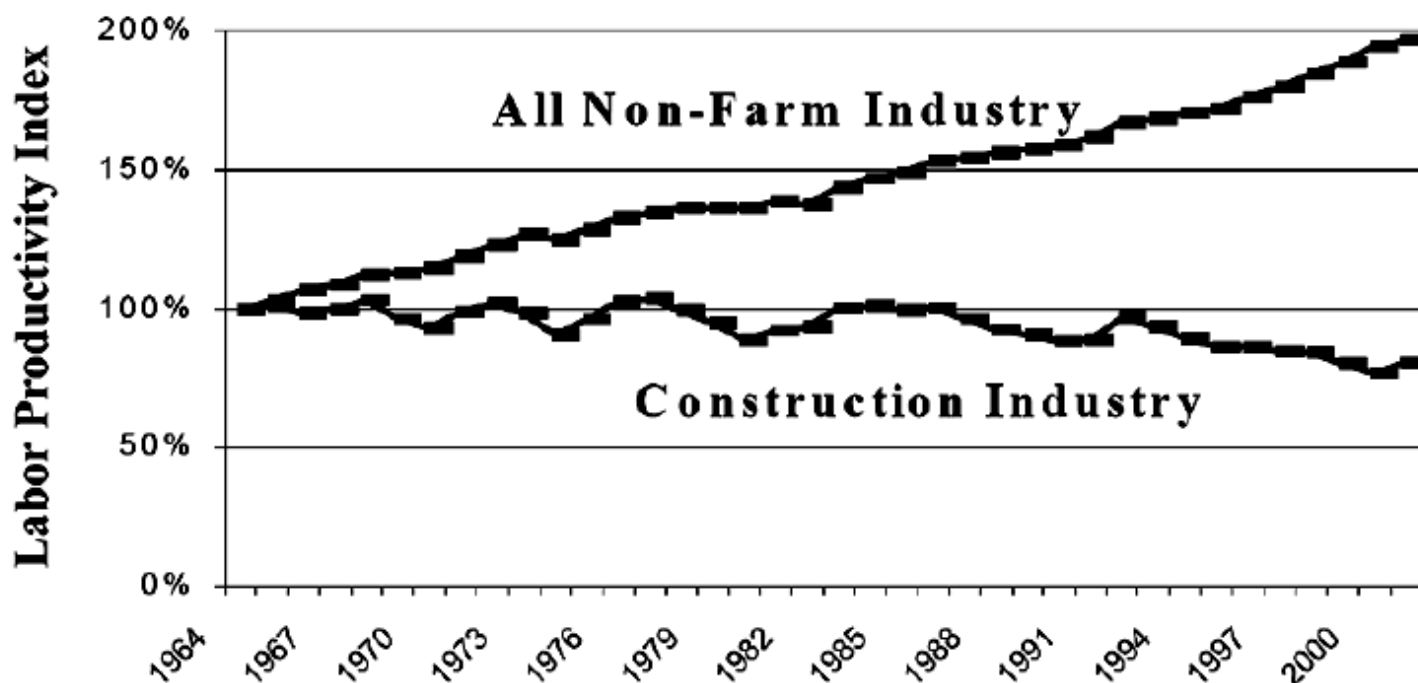


Construction employment – USA



Source: Courtesy of the US Department of Labor, Bureau of Labor Statistics

Construction productivity - USA



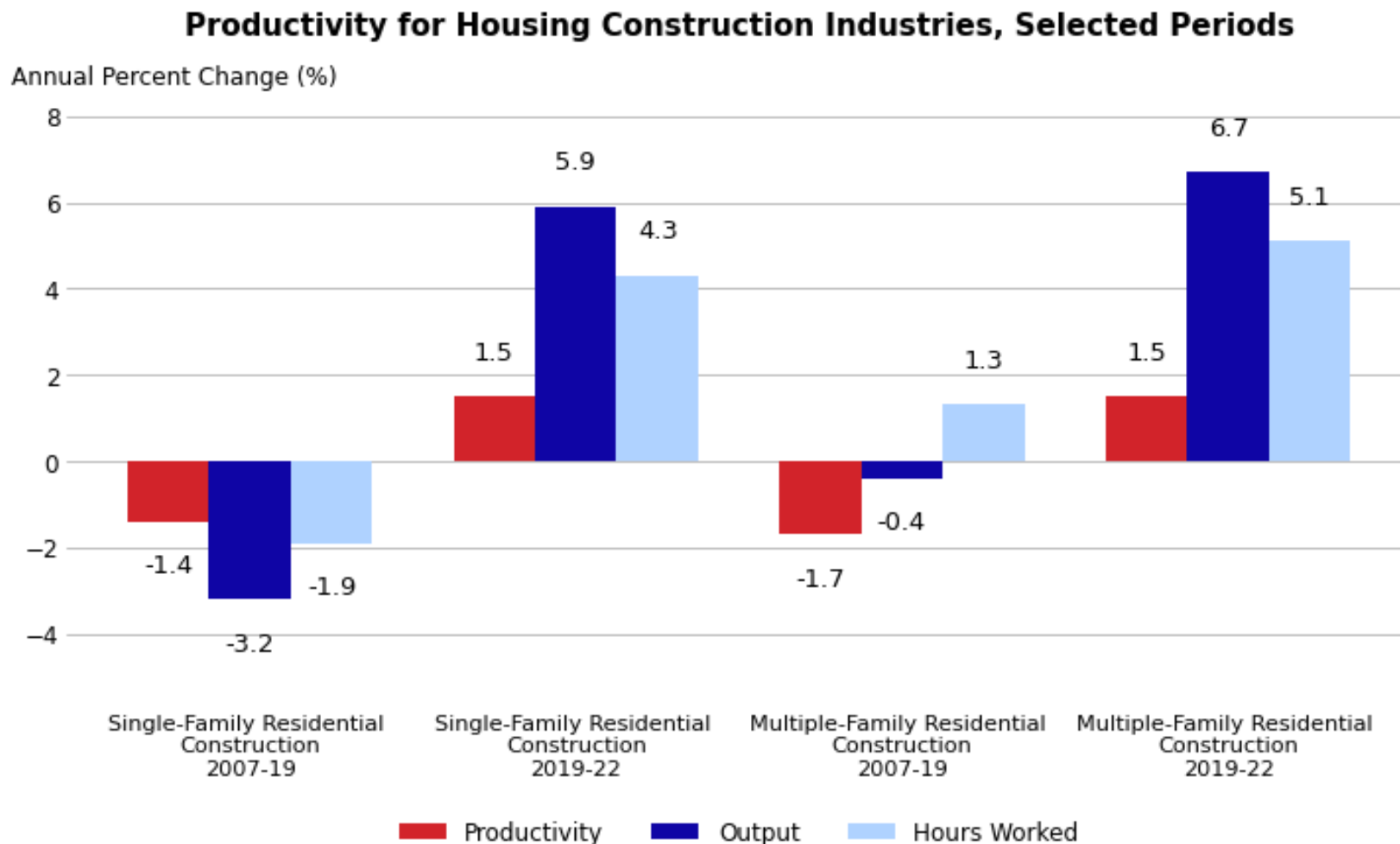
Sources: U.S. Bur. of Labor Statistics, U.S. Dept. of Commerce,

Construction productivity - USA

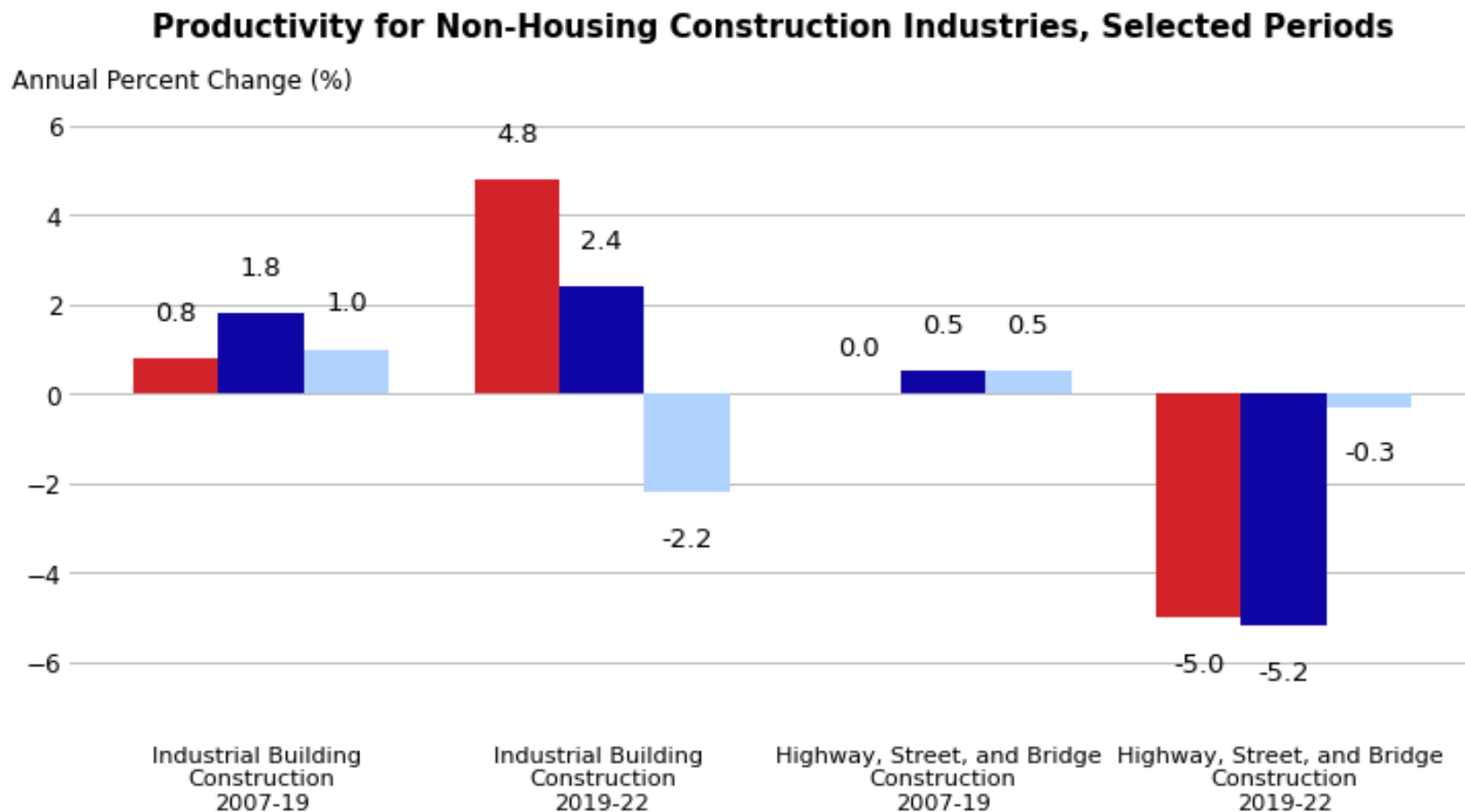


Construction's productivity (PIP \$ per employed person) is lower than 15 years ago as measured in constant (inflation-adjusted) dollars.

Construction productivity - USA



Construction productivity - USA



Source: U.S. Bureau of Labor Statistics

■ Productivity ■ Output ■ Hours Worked

Construction productivity – International

Exhibit E1

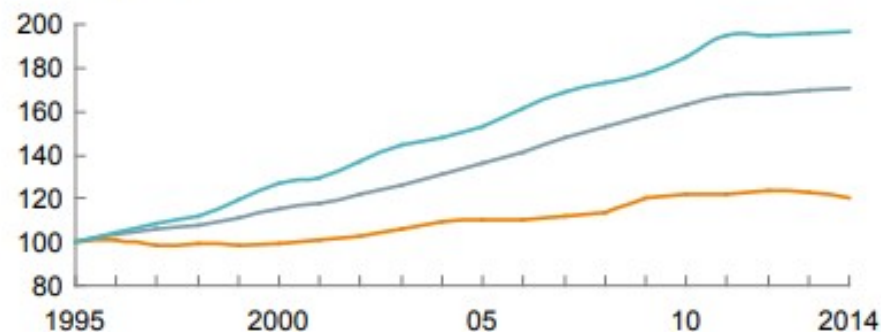
Globally, labor-productivity growth lags behind that of manufacturing and the total economy

Global productivity growth trends¹

Construction Total economy Manufacturing

Real gross value added per hour worked
by persons engaged, 2005 \$

Index: 100 = 1995



Compound annual growth rate,
1995–2014

%



¹ Based on a sample of 41 countries that generate 96% of global GDP.

SOURCE: OECD; WIOD; GGCD-10, World Bank; BEA; BLS; national statistical agencies of Turkey, Malaysia, and Singapore; Rosstat; McKinsey Global Institute analysis

SOURCE: McKinsey Global Institute analysis

The Basic Process to Better Operations Management

The basic process to better operations management

❑ Juran details the two duties of any manager or executive.

Breakthrough

▲ Some things need to be improved, such as the following:

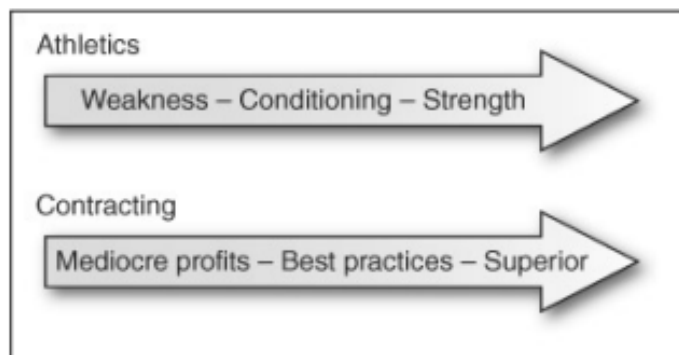
- ▼ Processes
- ▼ Technology
- ▼ Methods
- ▼ Skills

Control

▲ Some things need to be controlled, such as the following:

- ▼ Safety
- ▼ Strong work ethic
- ▼ Deadline compliance
- ▼ Complete information gathering
- ▼ Clear communication
- ▼ Positive morale

The basic process to better operations management



Many tested processes in athletics parallel those found in contracting. We know the problems to expect and efficient solutions that result in better profitability.

Proven Principles

Proven principles

- ❑ You have to love this business.
 - ❖ If you love it, you might fail, but you won't quit.
 - ❖ Quitting is failing in our business.
 - ❖ Loving it makes you come back after failing.
 - ✓ You can pretend to love it and really do it because of money, status, or position, but that will catch up to you sooner or later.
 - The business gets rid of insincere people in a myriad of ways.

Successful contractors know various proven principles, as listed below.

Proven principles

❑ Ten-year rule.

- ❖ **Years of hard work and extended hours** are necessary to build a successful construction firm. We have heard this from experienced contractors.
- ❖ We say it takes **10 years on average to learn how to consistently exceed industry profit margins.**
- ❖ Once the skills are **mastered**, you may even see **double-digit net profit** percentages— perhaps even a **40 percent or better ROI.**
 - ✓ **Where can you find** another activity with this level of financial reward?

Proven principles

❑ Small is big.

- ❖ Small companies, divisions, and crews are **more efficient and effective** in construction.
 - ✓ **Large firms** with **small crews** are hard to beat in several ways.
 - ✓ **Industry statistics** such as association and banking information have shown **smaller companies make a higher** percentage of profit.
 - ✓ **Smaller crews** have **higher productive** rates.
 - Keep things **small in divisions** and crews.

Proven principles

❑ Every employee has to support the field operations.

- ❖ Being in the office continuously isn't wise.
- ❖ In our **3 percent net profit before tax**, high-risk business, **everyone needs** to **pull on** the productivity, cost, safety, quality rope.
- ❖ In our experience, **labor** is where profit is made or lost in **90 percent of projects**.
 - ✓ Hiring **qualified labor** (safe and skilled) and **managing it well** is a great foundation for any construction firm.
 - Remember, a **10 percent increase** in **productivity** yields a doubling of net profit for the average construction contracting firm.

Proven principles

❑ Every employee has to support the field operations.

❖ Confronting your employees about their

- ✓ Poor work habits,
- ✓ Bad attitude,
- ✓ Unsatisfactory skill, or
- ✓ Substandard quality of their production

is a lot easier to face if you keep this in mind.

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Proven principles

❑ Control what you can control.

- ❖ Employees will quit and go into business for themselves.
- ❖ No one can control this, but we can control our culture and our reaction to the event.
 - ✓ Things you can control include
 - the information you gather about your competitors and
 - establishing a culture of fairness that will lead most people to be fair with you and
 - reduce the number of qualified staff who leave your company.

Taking the Lean Approach to Construction Contracting

Cost-effective asset productivity

- ☐ As you know, **cash in the bank** can determine whether your business in the **future** will be troubled, robust, or extinct.
- ☐ The **bank does not have** an opinion about your balance; it is not debatable.
- ☐ That **balance**
 1. **Allows** you to take a long-term view or
 2. **Forces** you focus only on the short-term.
- ☐ **Greater asset productivity** is what most contractors desire.

Cost-effective asset productivity

❑ **Asset productivity** can be broken down into more familiar construction concepts:

- ❖ Higher labor productivity
- ❖ Less material waste
- ❖ Increased equipment utilization
- ❖ Higher overhead productivity
- ❖ Safer workers
- ❖ Trouble-free installations
- ❖ Fewer call backs and punch list items

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- ❑ As applied to the construction industry, the Lean approach generally holds to five steps:

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Five lean steps

❑ Define value to the customer.

- ❖ Customers **pay more** for timely production, safety, and craftsmanship.
- ❖ We know **contractors** want **productivity**,
but **customers** pay for **lower maintenance** construction services that
produce the **desired work**.
 - ✓ From our experience in the industry, we believe **timely production** is
a **value** to the client.

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Five lean steps

❑ Identify the value stream.

❖ The **value stream** goes right through **field operations**.

- ✓ Marketing, estimating, finance, and the like should support the field staff in building projects.
- ✓ Safety, craftsmanship, and production all occur in the field, where customers see them.
 - They want these things and will pay more for them.
 - A field focus is the value stream

□ Flow.

❖ The ultimate Lean idea here is “**one-piece flow.**”

✓ We call it **one item focus.**

- For example, **proper management** of pay requests is usually **assured** if **one single person** handles it at **each stage** and is responsible for its accuracy and timeliness at each stage, from percentage completion, through calculation of billing, to delivery to the client.

Accountability is **not debatable.**

□ Pull.

- ❖ We define this as **doing work tasks** when they are **ready to be completed in full**.

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❑ Seek perfection.

- ❖ We label this last step **“compete against yourself.”**
 - ✓ In the words of construction professionals, **competing against yourself** is more practical and feasible
 - than** a **culture** of competition among employees **against each other.**
- ❖ Suggesting that **someone reach for perfection** is over the top in our culture.

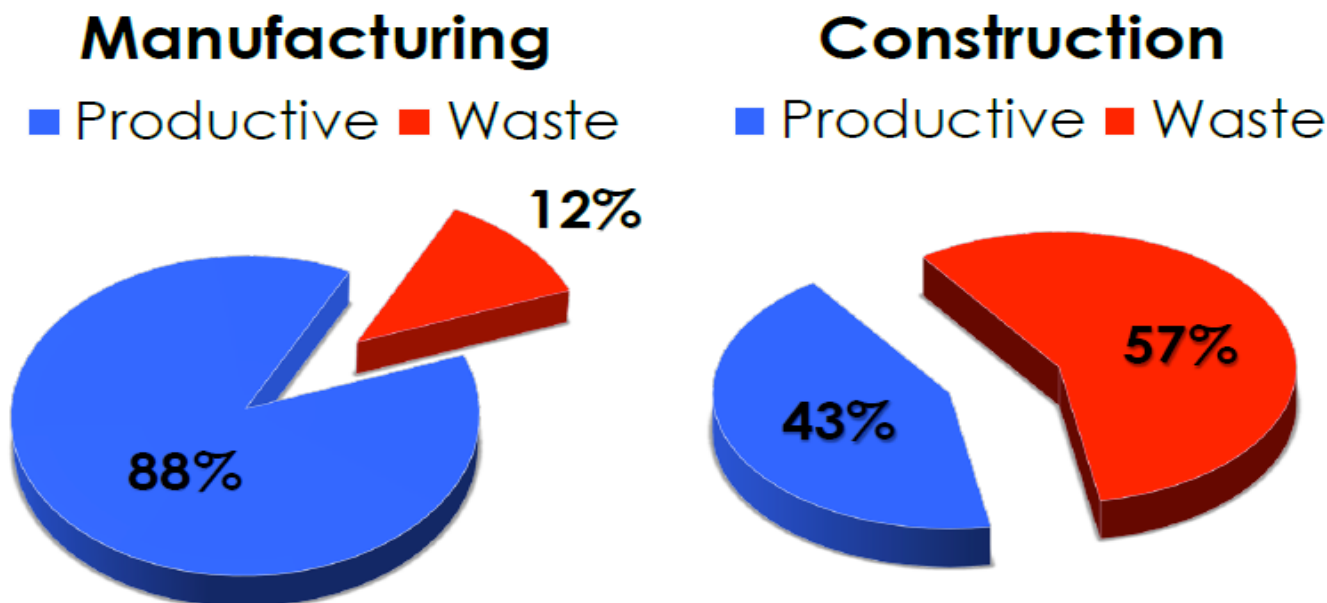
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Waste is the enemy in construction contracting

Materials management (logistics) has the greatest impact on productivity of all common issues. It is a contributing factor in 70 percent of all wasted time in construction. Ensuring that your projects have the right material at the right time and right place makes a large impact. This may mean extra time spent each day with suppliers and field people to manage the process. But no time is better spent in managing projects. Don't let the importance of material to be lost on project managers and field supervisors. Emphasize and repeat.

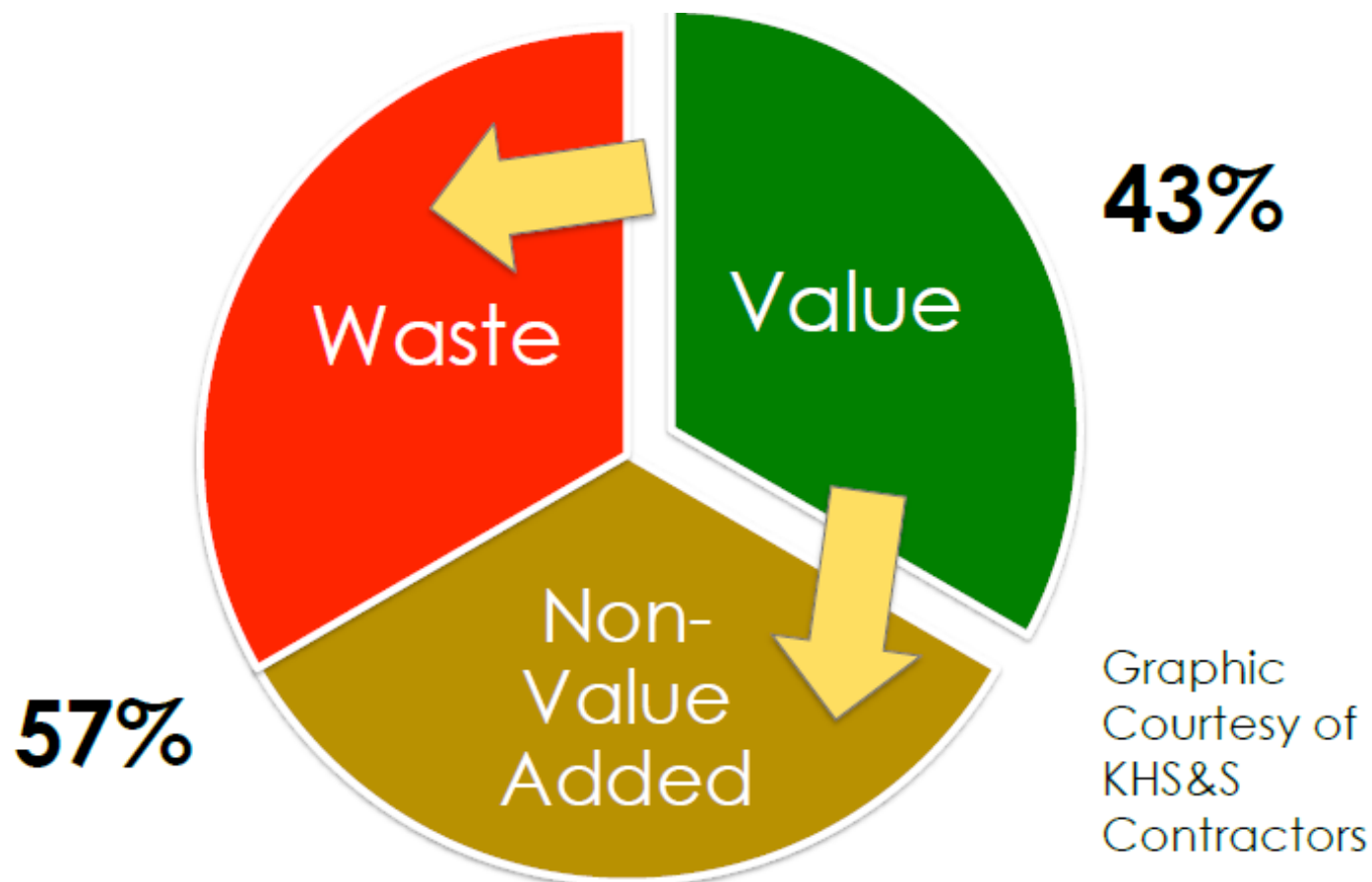
Waste is the enemy in construction contracting

❑ 2004 Construction Industry Institute (CII) Study



❑ The US-based Building SMART Alliance at the National Institute for Building Sciences estimates that **more than 50% of the cost of a building is waste.**

Waste is the enemy in construction contracting



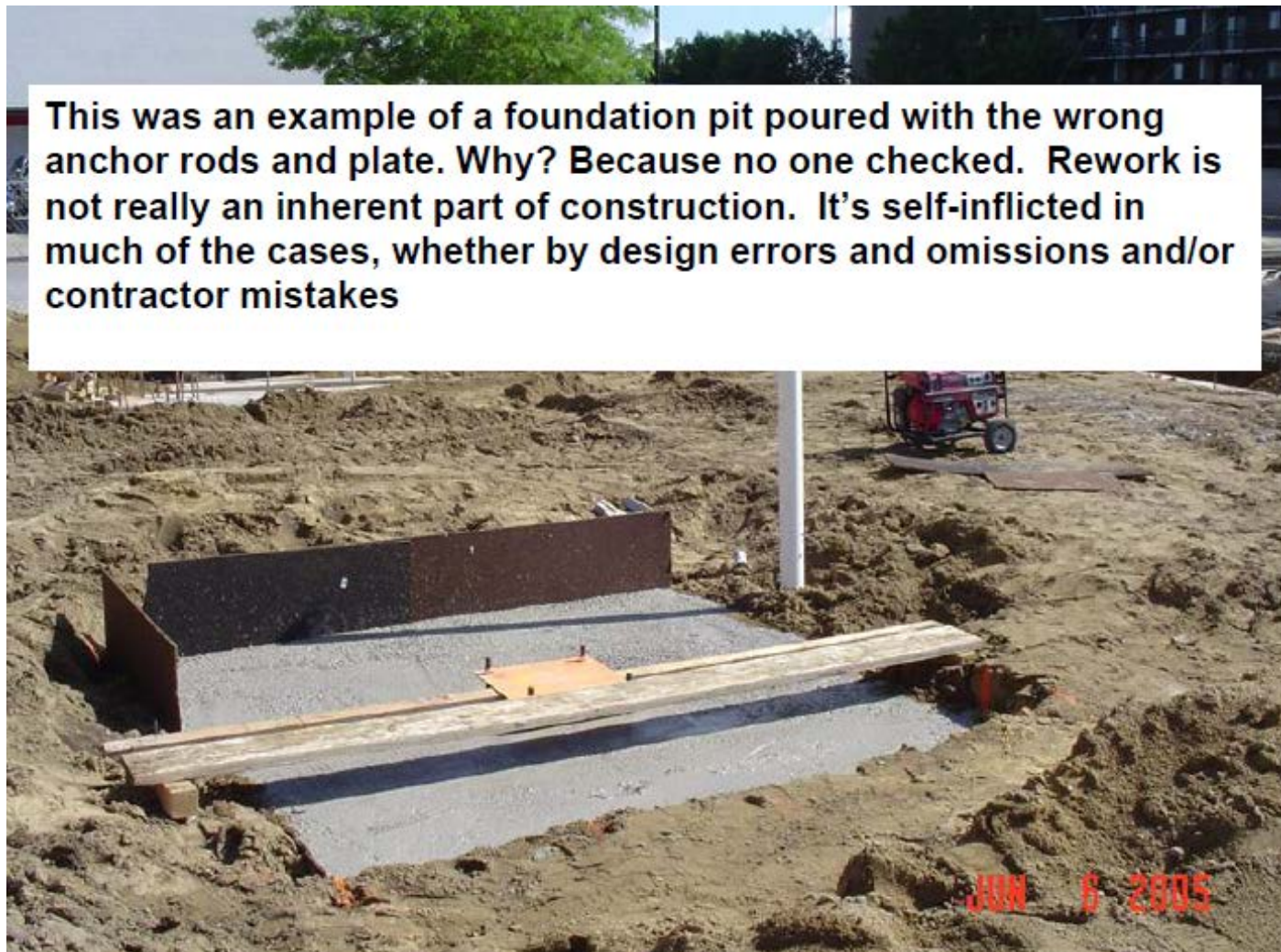
16th LCI Congress | San Francisco, CA | October 7-10, 2014

Waste is the enemy in construction contracting



Waste is the enemy in construction contracting

This was an example of a foundation pit poured with the wrong anchor rods and plate. Why? Because no one checked. Rework is not really an inherent part of construction. It's self-inflicted in much of the cases, whether by design errors and omissions and/or contractor mistakes



Making lean part of your company culture

❑ Compelling business reason.

- ❖ All processes and the steps within that process should have **strong logic behind** why we do them.
- ❖ **Explicating your reasons** will either confirm that the **step is essential or force the firm to discard** the step as a waste of management (labor).

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Making lean part of your company culture

❑ Supervisor.

- ❖ The **primary responsible person** must perform the step.
- ❖ The **supervisor must check periodically** for compliance (that it is completed) and for quality.
- ❖ No one is on an **island in construction**.

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Making lean part of your company culture

❑ Traps/sources of rework.

- ❖ This is a description of how not to do something or what to avoid.
- ❖ As illustrated, in scheduling, being overly optimistic about time is a trap.
- ❖ Construction is **imperfect** and **subject to many changes** in the field.
- ❖ Being **realistic by having a plan** for each task to be of longer duration than ideal makes a schedule less an exercise in wishful thinking.

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Making lean part of your company culture

Jones Construction, Inc., Business Process Manual Project Scheduling

Description: To project physical progress against person-hour capacity in a calendar graphic. This is a historical record to be shared internally and with subcontractors. In some cases, it will be used as evidence for our project-related claims.

Compelling Business Reasons: (1) Proper allocation of labor by person and by capacity. (2) Measuring tool for productivity tracking. (3) Rental tool projection and negotiation.

Primary Responsible Person: Construction Scheduler **Supervisor:** Director of Project Management

Steps:

1. Receive client schedule from project manager.
2. Receive breakdown of roles and responsibilities from production mgrs from paper schedule.
3. Receive an hours budget.
4. Receive milestones.
5. Load into scheduling software.
6. Saved into job folder and distributed to project team.
7. Review and edit by project team.
8. Publish and send to client/freeze the original schedule.
9. PM to produce schedule narrative and send to client each month.
10. Update once a month include baseline.
11. Update schedule on paper schedule with hand notes; deliver to construction coordination.
12. Update by percent on yet to be completed tasks.
13. Update by date on completed tasks.
14. When job is completed, keep in electronic file.

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Making lean part of your company culture

Traps/Sources of Rework and Slowness:

- ▲ Too little detail/too much detail
- ▲ Inaccurate information (pride)
- ▲ Inexperience
- ▲ Not using information produced (for productivity assessment)
- ▲ Late information
- ▲ Bad planning/overly optimistic

Forms Needed/From Who:

- ▲ Hours budget
- ▲ GC schedule
- ▲ Cost codes
- ▲ Internal working schedule

Data Needed/From Who:

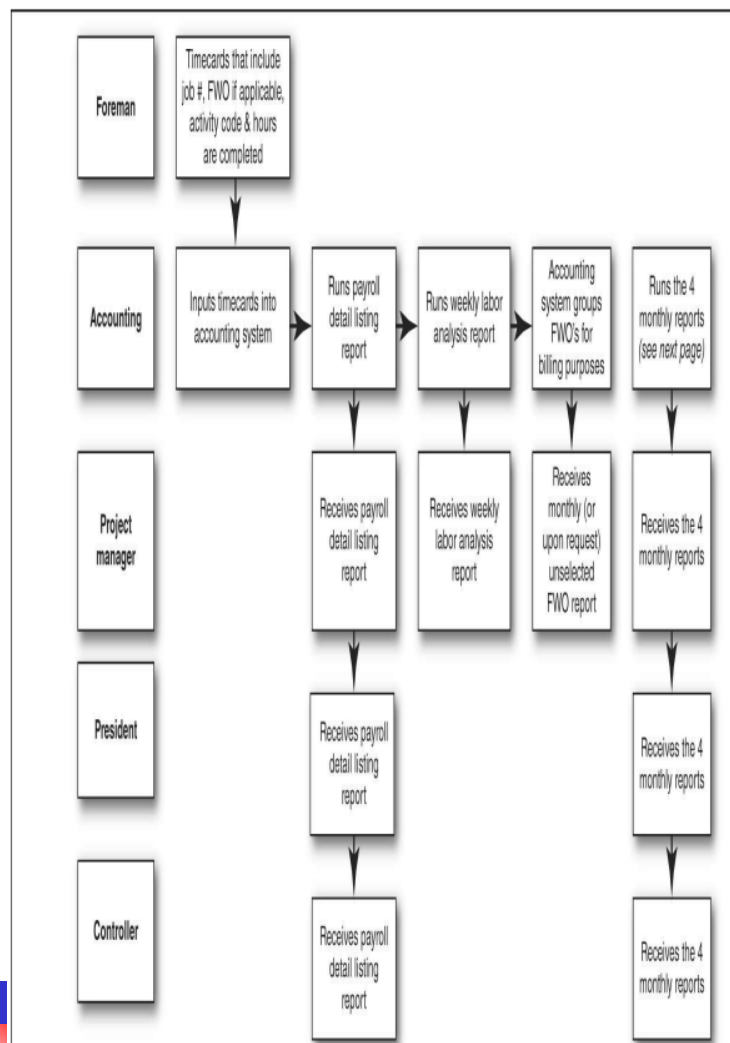
- ▲ Blueprints from client
- ▲ Submittals from suppliers
- ▲ Job status/updated information from our superintendent

Deadline:

1. First schedule: 10 working days after planning session/turnover meeting
2. Update schedule by 2nd Thursday of each month
3. Schedule narrative by 2nd Thursday of each month

Figure 4.3 Documentation of business process.

Creating and implementation of quality – Lean – Process



Creating and implementation of quality – Lean – Process

Weekly Reports

Payroll Detail Listing Report - Provides a summary by manager/job/employee to show employee name, class of worker, regular and overtime hours and gross earnings on weekly basis.

Weekly Labor Analysis Report - This is the report used by the PM's at the end of the month to mark up % complete by activity code. Weekly, it is used by them to show current, to-date and estimated hours & dollars by activity code.

Monthly Reports

Job Activity Analysis Report - Main report that shows all activities of the job from labor hours, dollars and material/subcontract charges in addition to the billings to the customer. At the top of the report, it summarizes, the hours, labor \$, burden and overhead.

Change Order Report - It lists all customer change orders and proposals (approved and unapproved).

Invoice Detail Report - Provides a detail listing of all invoices charged to jobs for the month regardless of invoice date.

Unselected Field Work Order Report - Provides all FWO's that have been reported through time card input that have not been selected for billing or removed for errors, etc.

Figure 4.4 Rummler-Brache mapping.

Creating and implementation of quality – Lean – Process

- ☐ It does **not matter where** the idea comes from.
- ☐ As a senior manager, this presents a **serious opportunity** for you to improve processes while **energizing everyone** to contribute.
- ☐ Remember, the **people who work for you** have more **cumulative experience than you** have individually.

See Figure 4.5 for a sample issue board.

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Creating and implementation of quality – Lean – Process

Problem/Opportunity	Controllable?	Action	Follow-up
1.			
2.			

Figure 4.5 Issue board.

Process that consistently deliver results

- ❑ If you place the scores from the WorkSmart Leverage Index into the matrix below, they would reveal a distribution much like the sample shown in Figure 4.6.

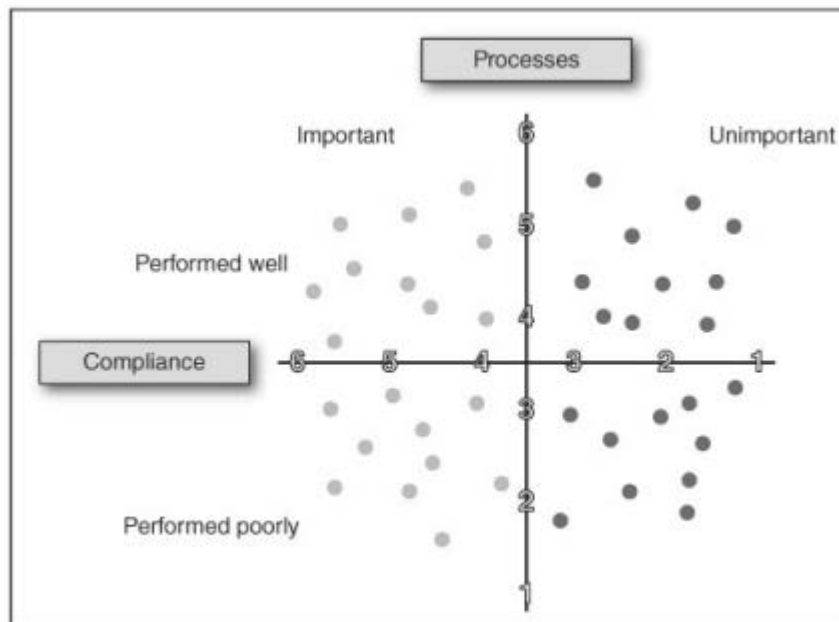


Figure 4.6 Best practices matrix.

Management load balancing

- ❑ Management **load balancing** means finding and assigning the **optimal number of work hours** that allows your **staff to deliver superior** safety, quality, cost control, and schedule results.
- ❑ **Stressed to work longer** than that, or allowed to work less, can result in **burnout of staff or financial harm** to the construction firm (see Figure 4.7).



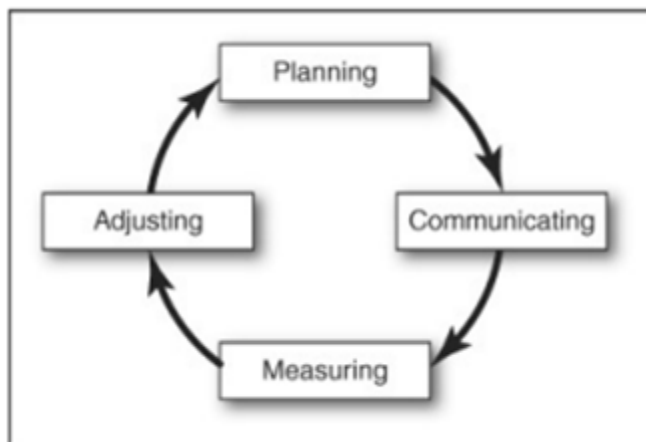
Figure 4.7 Management load balancing.

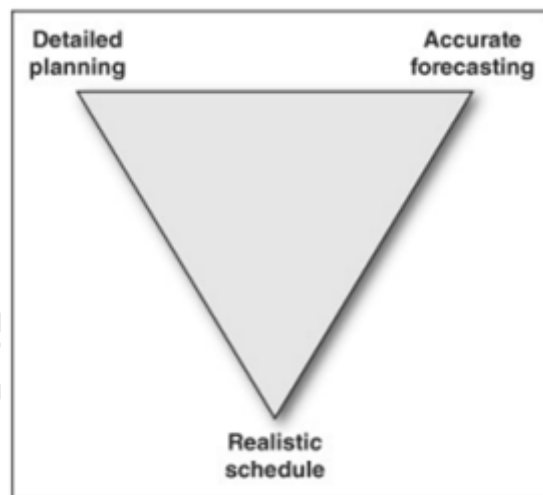
Management load balancing

Mgr Name	Total # Projects			# Active Projects			Total # Clients			Total Under Contract	Revenue This Year	Unearned Revenue	Budgeted Hrs to Manage	Unspent Hrs	Largest Project	# Required Weekly meetings	PTO Leave	PTO Return
Bill	12	4	5	7,522,641	1,127,169	4,602,112	52,619	30,585	2,878,038	-								
Jerry	9	5	7	10,816,653	1,205,295	3,500,292	63,762	23,035	3,003,912	-								
Lisa	24	11	13	11,625,682	850,516	3,152,252	71,924	18,945	4,336,287	-								
Nancy	13	4	11	5,231,355	937,901	847,827	6,181	3,781	1,471,385	-	6/26	7/8						
George	9	6	7	4,022,010	29,496	2,081,280	22,569	12,097	1,939,540	-								
	67	30		39,218,341	4,150,377	14,183,763	217,055	88,443	13,629,162	-								

Table 4.1 Balance Load Management Tracking Form

Management:
Planning, Forecasting, and Scheduling





First things first

Planning	Forecasting	Scheduling
Gathers information and determines best course of action with alternative plan of action.	Gathers information and confirms what resources are available to support plan.	States a course of action.
Projects what should happen.	Projects what resources are available.	Promises a course of action and resources to a project.
Redone on a daily or weekly basis.	Redone on a weekly basis.	Redone on a weekly/monthly basis.
Asks: What, how, and when do we need it for our next step?	Asks: Do we have the resources to support the plan for that day?	Tells: We will be doing this work on this day.

Comparison of planning, forecasting, and scheduling. Of these, scheduling should be done only after the first two are complete.



First things first

مدیریت کسب و کار در صنعت ساخت (CBM)

ماژول ۲: مدیریت کسب و کار

بخش اول: مدیریت عملیات

Job Name:		Job #:		Week Ending:										
Site Supervisor:		Project Manager:		Page ____ of ____										
Activities	Wkly Qty Projected	Daily Qty Breakdown							Mat'l Onsite?	Equip on site	M/P Needed	Small Tools Needed	Inspection/ Testing	Surveyor Notified
		M	T	W	TH	F	S	S						
EARTHWORK														
1.														
2.														
UTILITIES														
1.														
2.														
3.														
MISC.														
1.														
2.														
SUBCONTRACTORS														
1.														
2.														
3.														
NOTES:														
ALTERNATIVE WORK AREAS:														

Sample short-horizon planner and scheduler.

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Managing a Construction Firm in a Down Economy

Managing a construction firm in a down economy

- ❑ The two greatest management challenges are managing either in a great economy or in a poor one.
 - ❖ Both are hard on managers and executives.
 - ❖ Stress is usually high and personal time limited.

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Managing a construction firm in a down economy

- ❑ The **great economy** is a good opportunity to enhance wealth, but you have to **stay focused and disciplined**

even though the **business is easier** than in a slow period.

- ❑ To **become lazy and disorganized** is to miss a superior opportunity that may not return for years.

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Managing a construction firm in a down economy

- ☐ Tight economic conditions cause **worry**.
- ☐ **Slow economic times** make your competitors misbehave and may **lead to unfair** business practices.
- ☐ On the other hand, it can be a **rewarding time** as little victories mean a lot in a recession.

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Managing a construction firm in a down economy

- ❑ The **word recession** is used sometimes for shock value to sell newspapers and political careers.
 - ❖ This is a dangerous practice.
- ❑ Projecting what is **potentially true**, but unproven, gives the provider a “thought leader” status.
 - ❖ In the least, it sells what they provide.

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Managing a construction firm in a down economy

- ❑ Whatever your **informal view** of our **current economic** situation may be,
business markets expand and contract,
but rarely stay the same.
- ❖ As in the past, **economic recovery** will occur in the **future**.

Let me share with you the dynamics and the strategies for times
when the market winds blow our way against us.

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Managing a construction firm in a down economy

- ❑ Any **slowdown** will be **different** from previous ones.
 - ❖ Various causes include the following:
 - ✓ Poorly managed mortgage firms
 - ✓ Home buying behavior
 - ✓ Irrational consumer euphoria Oil prices
 - ✓ Terrorist acts Federal Reserve reaction
 - ✓ Congressional action, presidential election cycle, and other government events
 - ✓ World events

Managing a construction firm in a down economy

- ❑ In the short term, most contractors' client lists will be pared down to the **valuable few customers** characterized by those who
 - ❖ Want good construction services,
 - ❖ Pay well, and
 - ❖ Are serious about using their end product.

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Managing a construction firm in a down economy

- ☐ Even in the face of economic slowdown or recession, we can still **find good news**.
- ☐ We have been **short in the number of qualified** craftspeople, project managers, and superintendents for some time.
- ☐ **Any slowing** of economic activity that puts **people out of work** will **“right size” the demand** of construction services with **our capacity to fill** it.

Managing Clients

Firing your worst client to improve your risk profile

- ❑ As we saw in the discussion of the **Lean approach**, waste—of effort, money, resources, time—is the **enemy of the contractor**.
 - ❖ It is **really the only way** to reach higher net profit percentages.

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Firing your worst client to improve your risk profile

❑ To **eliminate the losses** that detract from your **company's financial success** and your **personal wealth** building, you should **rid yourself** of:

- ❖ Bad clients Lazy employees
- ❖ Poor processes
- ❖ Troublesome geography
- ❖ Unprofitable markets
- ❖ Difficult work types
- ❖ Unfocused habits

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Firing your worst client to improve your risk profile

- ❑ Often, **clients**, as opposed to work type or location, are the **cause of significant problems**.
 - ❖ When we started in this business, we had **no customers**.
 - ❖ Many contractors have awakened in the **middle of the night** and asked themselves **why they ever left** their regular job.
 - ❖ No clients means no income.
 - ❖ **Small victories** mean more when you have **experienced times** of struggle.

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Firing your worst client to improve your risk profile

- ☐ You can certainly make a **case for a prestigious client** being **hard to replace**.
- ☐ Having a **“brand name” customer** indicates to others the **level of your sophistication**.
 - ❖ However, in the business of construction contracting, **no number** of **“name” clients**
can **compensate** for **not making a profit**.
- ☐ Just as there are **no irreplaceable employees**, there are **no invaluable clients**.

Firing your worst client to improve your risk profile

- ☐ **Firing a client** is an **operations decision**, not one that should be made by **financial managers** or the chief estimator.
- ☐ The **operations manager**, with input from others, should **start the conversation** about replacing the customer.
- ☐ Here are a **few quantitative criteria** that will help when making a decision whether to keep or drop a **troublesome client**.
- ☐ This **list is not exhaustive**; it is just a beginning point.

Firing your worst client to improve your risk profile

- ☐ Gross profit per worker hour (or worker week) is the lowest of all clients.
- ☐ Retention is held the longest.
- ☐ Payment is the slowest.
- ☐ Their paperwork requirements are the most demanding.
- ☐ A fully loaded customer profit and loss statement shows a loss.
- ☐ A disproportionate amount of time is spent with the client or its projects.

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Firing your worst client to improve your risk profile

- ❑ Many contractors rely on **development companies** as a source of work.
 - ❖ Most developers are **privately funded** and most of this work **lacks the onerous red tape** required for public works.
 - ❖ In addition, you might **enjoy a trusted advisor role** with a private organization; that is **not possible in the public arena**.

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Firing your worst client to improve your risk profile

❑ **Some (not a majority) developers** purposely seek the undercapitalized construction companies.

❖ They seek these types of firms because they hope to exercise **greater control** of the construction process.

❖ You see, if there are **problems on a project**,

an **underfunded contractor** is more likely to **work out an issue**

even if it is the fault of the developer

because contractors in that **category can't afford to lose clients**.

Firing your worst client to improve your risk profile

- ❑ By contrast, a **substantial contractor** poses a **problem to this sort** of developer because they are **unafraid to pursue change orders** and don't hesitate to go to **arbitration** to solve problems not of their own making.
- ❖ **Few developers** have this philosophy or enjoy **working with companies** that do.

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Firing your worst client to improve your risk profile

- ❑ **To be fair**, this type of owner may be a **good place to start for a young firm**, but generally **it's in your better interest to avoid** developers who **seek too much control** of your process.
- ❖ If **you do decide** to take this sort of work, you should be ready to **manage the situation aggressively**.
 - ✓ Be aware of some **warning signs**:
 - An **overly relaxed approach** to working with you signals a **lack of attention to detail**.

As you know, we are in a **very detailed business**.

Firing your worst client to improve your risk profile

☐ Not being seriously concerned about the contract they sent to you.

- ❖ If you **receive a serious contract**, it is rational to **be serious** in return and **strike objectionable language**.
- ❖ The **attitude** of “**work with us**” only goes so far.
 - ✓ Be sure you’re **not allowing that sort** of language to **discourage** you from being **assertive**.
 - ✓ Clients who demonstrate these **warning signs** should be your first **candidates** to consider for **refusing their work**.
 - ✓ If you **are already working** with them presently and can’t see them improving, an **exit/replacement plan** is called for.

The basic process to sever ties with a client

- ❑ Contractors who work with **public agencies** that were **unprofitable** or an undue drain on their resources can simply **avoid bidding** on future projects.
- ❖ If the **prospect of cutting** a client causes us **trepidation**,
we will have **greater joy** and relief when it is done.
- ✓ Having experienced going through the process myself, I know that it **fostered my personal and professional growth** despite its unsavory aspects.

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The basic process to sever ties with a client

☐ Meet in the client's office.

- ❖ Go to their place so you may leave as you wish.
- ❖ Meeting in a restaurant or other public place lacks privacy and invites interruption and distraction.
- ❖ Certainly, presidents of client firms can close their doors.
 - ✓ It is also a sign of respect.

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The basic process to sever ties with a client

☐ Make the reasons non-personal.

- ❖ People **don't react emotionally** to non-personal reasons as much as personal ones.

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The basic process to sever ties with a client

☐ Tell the ex-client's subordinates afterward in outside settings (association meetings, athletic functions, etc.).

- ❖ These are **potential alumni** who may **move to** other firms.
- ❖ As **people change jobs** more often these days, this is a key strategy.
- ❖ Making sure that the **middle managers know you** care to speak with them can help keep a good **impression**.
- ❖ As they **go to another** company, you may find an **ally in a firm unknown** to you.
 - ✓ Having many **friends in a client firm** is **never bad**.

The basic process to sever ties with a client

☐ Leave the door open if the client changes its ways.

- ❖ As you make your way in this world, know that **people do change**.
- ❖ **Allowing the client to save face** when you **drop them** from your customer list **keeps the door open**.
- ❖ Certainly, an **open door leaves room** for them to **come back**.

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The basic process to sever ties with a client

☐ You may have to head off gossip.

- ❖ As you **may be asked** immediately **afterward by others**, you should be ready **to answer why** you dismissed a client.
- ❖ Sometimes, people **say untrue things in retaliation** or **out of pride**.
 - ✓ Be ready with a **low key**, but **factual** explanation.

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Always have a “Plan B”

- ❑ Keeping **several alternative potential clients** that may **not be your ideal** customer, but with whom you **can work** in a down time, is **never a bad idea**.
- ❑ People who **personally like you** will find a **way to work with you**.
 - ❖ All you need is a **little patience**.
 - ✓ All patience comes from **confidence** in your worth.

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Always have a “Plan B”

- ❑ Overall, the Pareto principle is at play here. Some know it as the 80/20 rule.
- ❖ Eighty percent of your profits come from **20 percent of your clients**.
 - ✓ Management icon Jack Welch expanded on this concept.
 - He heralds the wisdom of removing the bottom **10 percent** of performers (customers, markets, employees, etc.).
 - This is particularly true in construction.
 - We are in a cost-side business.
 - We will always have to match our peers' price.
 - We can only increase profits by **driving the cost side down**.
 - Costs **go up with bad customers** as well as **poor employees**.

Always have a “Plan B”

- ❑ **Keep in mind** that customers—their business and their behavior—will **change over time**.
 - ❖ **Change** naturally occurs **over a career**.
 - ✓ It's wise to **have an eye** for unacceptable project results that are **caused by a client's** actions.
- ❑ Acquiring the **skill** of **dismissing customers gracefully** and then replacing them should be a **last resort**.
 - ❖ However, over your professional life, you will have to do this **occasionally** to **raise the quality** of your business.
 - ❖ Without exception, this skill has a **long-term value** in the construction contracting industry.

Once done, it actually **improves your risk profile**.

Managing Subcontractors and Equipment

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دفتر آموزش



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