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# LABOR OVERRUNS: HOW TO *Measure & Manage for Peak Performance*



As the construction industry moves toward industrialization, the role of a construction financial professional (CFP) continues to change. Understanding more about a project and getting feedback from the field is critical to profitability predictability.

Encouraging operations to measure jobs independent of accounting measures and help develop a catalogue to account for what labor does is becoming a requirement. And, linking the field, accounting, and estimating information databases is key to a company's success.

Regarding the five steps of Industrialization of Construction<sup>®</sup>, this article focuses on the need for *management of labor* to predict project and company performance.<sup>1</sup>

## PROJECT PREDICTIONS

When looking back at a project's profitability, did it equal what the team was expecting? And do you know *why*? Can you use that information to predict the profitability on the next project?

Your company likely has a method for estimating projects that considers company overhead as well as labor, materials, equipment, subcontractors, and more. The estimating team likely reviews drawings, walks the site, analyzes risks and unusual conditions, and accounts for those factors in the estimate. The company then agrees to submit the estimate with an expected profitability, and if the job is awarded, the team runs the project. However, *the results are not always what was predicted*.

From MCA, Inc.'s data analysis of many companies,<sup>2</sup> Exhibit 1 shows that job-to-job profit percentage has considerable variability from what was initially predicted. This likely boils down to several reasons:

- Cost-based pricing vs. price-based costing
- Managing projects as individual zero-sum games
- The point at which you got an indication of what was about to happen
- Having tools to predict the outcome

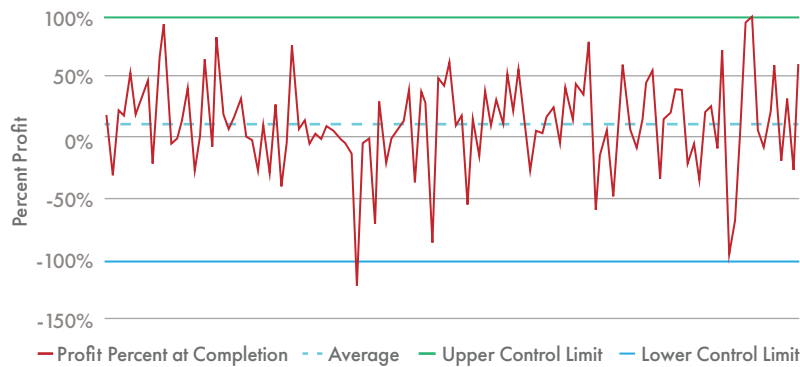
The construction job process must be controlled during the project so that the project's financial performance and the overall company performance can be predicted. Lack of project performance predictability will impact the company by potentially leading to higher costs and increased uncertainties based on bonding, insurance, and financial organizations' negative perceptions of company performance.

MCA, Inc.'s industry research over a period of three years and over 500 closed jobs found that actual project performance exposure for a construction subcontractor (not specifically unique to the contractor) had a profitability range from -18% to 90% (the planned was 0-56%). Exhibit 2 shows how that variation can impact the company — there can be an \$11,000 swing on a \$10,000 job or a \$11 million swing on a \$10 million job.

### COST-BASED PRICING VS. PRICE-BASED COSTING

Do you know how you are controlling your profits? Are you managing to a fixed profit or just getting what you get?

**Exhibit 1: Job-to-Job Profitability**  
 Example for Contractor  
 Project Variation: Closed Projects from 2018-22  
 Standard deviation: 38%  
 Average: 11%



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### Exhibit 2: Project Performance Exposure

Job Size	Minimum Expected Profit	Maximum Expected Profit	Difference	Percent of Profit Exposure
\$10,000	\$(2,549)	\$8,997	\$11,547	0.3%
\$100,000	\$(25,492)	\$89,974	\$115,466	3.1%
\$1,000,000	\$(254,921)	\$899,739	\$1,154,660	30.9%
\$10,000,000	\$(2,549,211)	\$8,997,391	\$11,546,602	308.7%

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In many cases, you're in a market or area of the industry where you get jobs based on relationships or limited competition, which may allow you to pad your estimate with either labor hours, profit, or other believed hidden areas and predict how the customer will behave. But this only works until competition or margins get tight and the performance of your company/system needs to be predicted.

### Cost-Based Pricing

Exhibit 3 shows a traditional cost-based pricing model where material, labor, and overhead costs are gathered for each sale or estimate (assuming it's fixed) and the profit is added, resulting in your estimate. But what happens when material prices go up or overhead isn't managed?

This can be looked at through dynamic budgeting<sup>3</sup> or by recognizing that labor spend to avoid overruns. The team needs to agree that your company is in business for predictable profits and work toward changing their philosophy of its operations.

### Priced-Based Costing

Consider Exhibit 4 and the method of price-based costing.

In this model, the profit target is agreed upon and labor is adjusted. While this sounds simple, this is done by managing the work by making it visible and assessing progress independent of the accounting system. Starting this can be as simple as walking the job to determine the true percent complete of the work once it is identified.

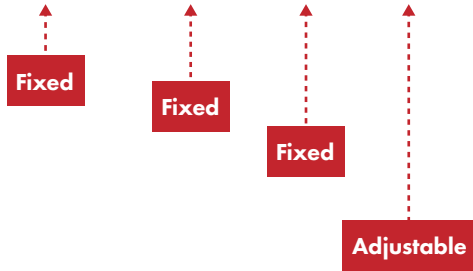
### MANAGING INFORMATION AT THE COMPANY LEVEL VS. PROJECT-TO-PROJECT ZERO-SUM GAMES

Imagine that a job is facing difficulties. While you are typically able to course correct, what happens if you're no longer able to? Do you know why?



### Exhibit 3: Cost-Based Pricing

$$\text{Sales} = \text{Overhead} + \text{Material} + \text{Labor} + \text{Profits}$$

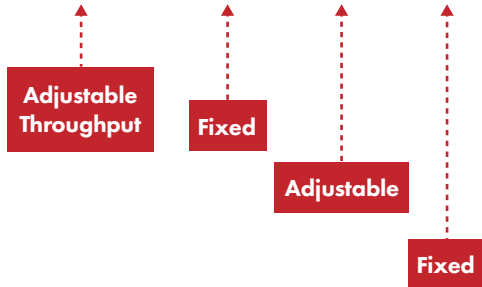


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### Exhibit 4: Price-Based Costing

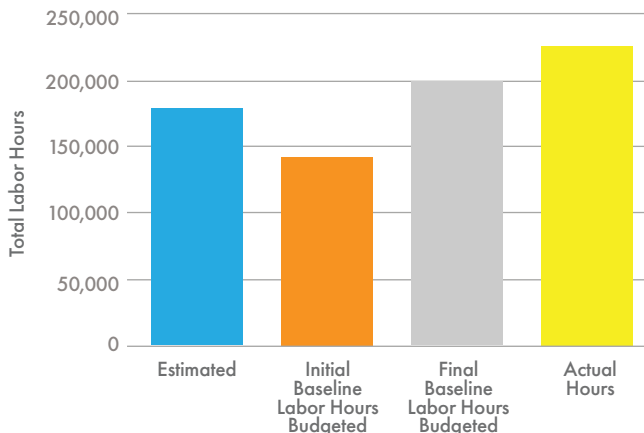
*A Change in Philosophy of Operation*

$$\text{Sales} = \text{Overhead} + \text{Material} + \text{Labor} + \text{Profits}$$



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### Exhibit 5: Labor Overrun



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To figure this out, you must rely on analyzing the data. Simply increasing the markup to fix the next job will not work in today's competitive market.

Exhibit 5 shows a recent analysis using 25 closed projects that include over 200,000 labor hours in a three-year time span. The exhibit references estimated labor hours; baseline labor hours budgeted, which is what the field predicted it would take to complete the work; the initial plan and what was adjusted as the job progressed; and the actual accounting hours at the end of the job.

In nearly every case, the actual spent hours on the job are more than what was planned, which means the productivity on the job isn't matching what the estimating and field teams are predicting. How is this information typically handled and communicated during the course of a job? Where is this communicated to the leadership team (including accounting)?

Maybe it is managed/discussed during your team's work-in-progress (WIP) reporting where the project managers (PMs) communicate how they expect their job profitability to come in as targeted until the end.<sup>4</sup>

#### WHEN SHOULD ACCOUNTING KNOW WHAT'S HAPPENING IN A TRADITIONAL MODEL?

Exhibit 6 shows when information starts to be shared by the PMs about where the gross profit will really land. As displayed, it typically starts around 70% of job completion but is usually shared at the end of the job — around 90% — when there are fewer issues that could impact this reality. But PMs are likely managing their job(s) as a zero-sum game, meaning they could be:

- Counting on material buyout savings
- Making money on change orders
- Moving costs (horsetrading) between other jobs that they're managing

Any funds that come from material buyout savings or change orders should be company profits, not job savings for the PM to manage. While the team may think they can recover, research shows that change orders can cost companies money.<sup>5</sup> They should be used for additional profit, not for covering existing labor overruns and productivity losses associated with the redirected resources.<sup>6</sup>

So, when should the accounting team really start to know what's happening? The team *needs* to be managing the labor and having that visibility throughout the project.<sup>7</sup>

If this is being done, there may not be the need to have an unveiling of profit changes at the end of the job. This requires an independent variable for measuring progress of work on the job, resource productivity that is not linked to the accounting or estimating databases, and planning to remove roadblocks, reduce risk, and perform as many tasks in a controlled environment as possible to support and enable your team.

Your profitability can be highly variable and it's possible that most of your jobs have labor overruns that are being managed by balancing material costs and change orders to recover lost profitability. How do you manage the labor so that you can use price-based costing and fix profits so that your bottom line is more predictable? How can you measure, avoid, and prevent labor overruns?

### USE THE TOOLS TO PREDICT THE OUTCOME: MAKE IT VISIBLE IN ACCOUNTING

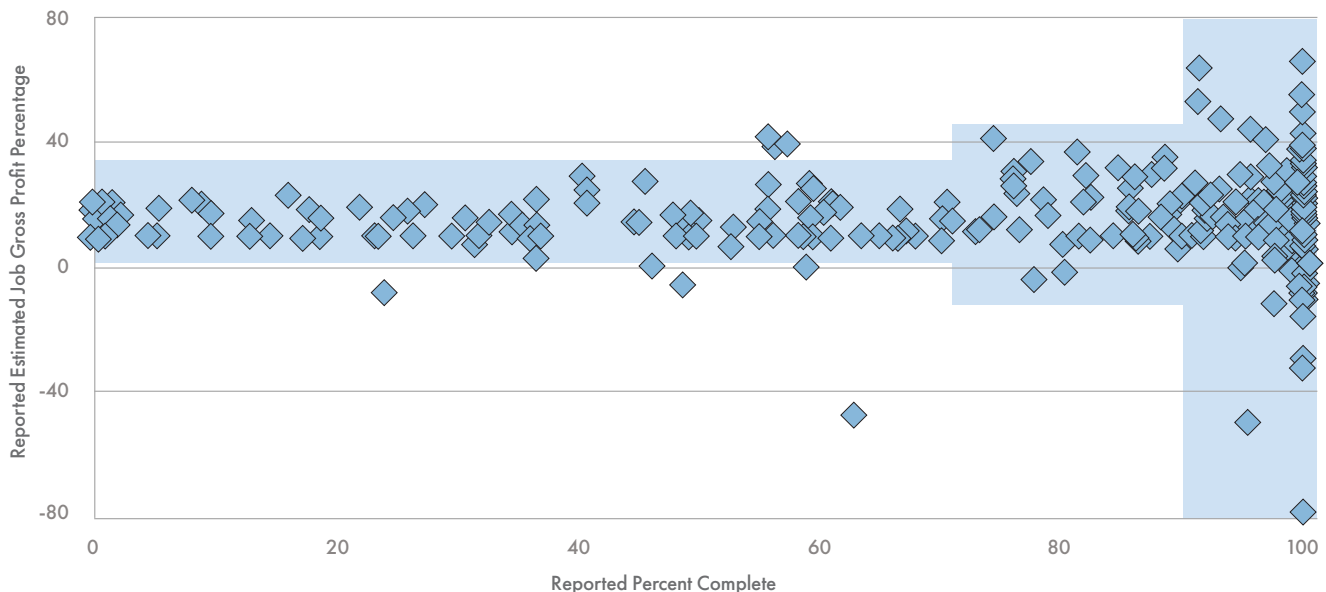
The key to knowing where job profitability will be is to have an independent variable for measuring progress,<sup>8</sup> which is the actual percent complete of work on the job through the ASTM International Standard E2691 for Job Productivity Measurement.<sup>9</sup>

Using that independent variable, focus on the percent complete from the customer's perspective rather than percent of labor hours charged. Having that information for the job will allow for true revenue recognition vs. cost-to-cost billing, enabling your billings and profitability to be tied closer to job performance throughout the life of the job.

This comparison can be used to measure what remains to complete on the job. Having a tool to track true revenue recognition, per Accounting Standards Codification (ASC) Topic 606, is critical, but there are other things you can do:

- *Use planning to manage labor throughout the job.* MCA, Inc.'s research shows that it is possible to save up to 17 hours in field work for every one hour of planning.<sup>10</sup> In order to manage any work, it must first be identified.
- *Plan for prefabrication and minimize work on the jobsite to only the essential items that must be done in the field.* This allows for a more controlled work environment and better safety and resource management. For example:
  - Use specific cost and labor codes to track prefabrication.
  - Use the prefabrication location as a training ground for apprentices, as this can be beneficial for the field long term as well as the composite rate.

**Exhibit 6: Gross Profit Gain & Fade**  
as reported from 0% to 100% complete



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## Measure & Manage for Peak Performance

- *Transition your accounting processes.* Use industry standard methods of financial measurement and management,<sup>11</sup> including revenue recognition to account for progress in prefabrication and job productivity management.
- *Manage business, integration, and technical risk* by breaking down a project into four areas: cash flow, WIP projections, financial projections, and labor and financial resources and material visibility.<sup>12</sup>
- *Review the job cost information at least quarterly with the team,* recognizing the progress of the work and the costs to date as well as the committed and remaining uncommitted costs.

### CONCLUSION

In order for CFPs to predict the project's financial performance and the company's performance, the construction job process must be managed *throughout* the project. Lack of predictability of project performance can impact a company by potentially leading to higher costs and increased uncertainties based on bonding, insurance, and financial organizations' negative perceptions of company performance.

Reducing labor overruns and making them visible to accounting is necessary and accomplished by:

- Using price-based costing to fix your profit target and manage labor as well as adjust overhead as necessary.
- Identifying the work by planning the work with the field to build how they see the work.
- Using an independent variable for job percent completion from the customer's perspective (other than accounting data, which measures hours worked) and walk the job to measure this and compare to accounting data.
- Using tools to help predict the outcome, with the best being one that links to ASTM Standard E2691 for Job Productivity Management, such as Job Productivity Assurance and Control (JPAC®), with regular project audits. ■

### Endnotes

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