

# Outcomes Over Outputs: A Leader's Guide to Measuring What Matters

By Dr. Perry Daneshgari, Dr. Heather Moore & Jennifer Daneshgari

In construction, producing tangible results often overshadows the need to understand the true impact of effort. Yet, focusing solely on outputs — the tangible amount produced — without considering the broader outcomes can leave critical gaps in efficiency, profitability, and strategic growth. This article discusses how leaders can harness data and risk management to prioritize outcomes, ensuring lasting operational success and sustainability.

## WHY OUTCOMES MATTER

Throughout history, humanity's greatest achievements stem from understanding and harnessing energy to improve living conditions and create sustainable ecosystems. The transfer of energy from its original form — for instance, from crude oil being processed into fuel for transportation — is based on mastering transformation techniques from chemical to mechanical energy and then into work.

Over centuries, these energy transfer processes have evolved to minimize waste, maximizing efficiency and outcomes. For example, a 2.9-liter engine in the early 1900s produced 20 hp.[1] Today, an engine with two-thirds of the displacement can produce 279 hp[2] (Exhibit 1), which was accomplished through optimized energy transfer — a principle that also applies in construction.

For instance, if the labor, tools, and equipment are consumed in the production of waste, rework, or out-of-spec buildings, the result is merely output. The true outcome is the part of the construction that meets expectations and specifications.

How might this perspective apply to your company? Do you measure performance based on output or outcome? At critical milestones — whether for a job, month, fiscal year, or strategic plan — understanding whether you are tracking outputs or achieving outcomes can determine your success.

You may know where you stand today, but do you have the visibility to forecast where you'll land? You want to know, with confidence, how your profits, expenses, and labor hours will align with your goals. Specifically, it's the outcomes — not just the outputs — that matter.

Recognizing the distinction between output and outcome is critical, and having actionable information is essential. What data do you have at your fingertips, in your spreadsheets, and inside various systems? While you need to track completed work, it's more important to understand whether those efforts lead to desired outcomes.

## CONNECTING OUTPUTS TO OUTCOMES: A FRAMEWORK

The source of data for measuring performance outcomes is often hidden or not known. It is easy to blame external factors such as owner changes or a GC's lack of expertise in resource and schedule management. Similarly, GCs may express frustration with owners or subcontractors. However, external factors can only be held responsible for poor outcomes if we are certain that we have complete control over internal factors.

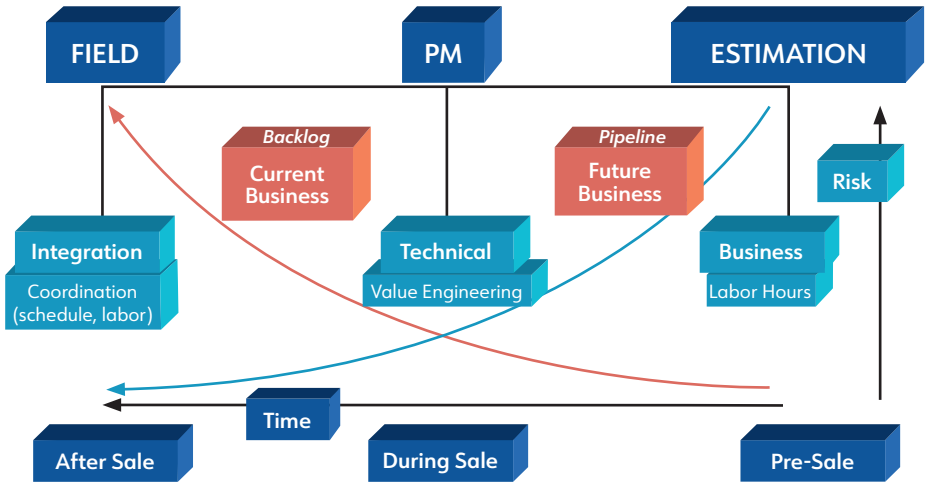
Research using combined Agent-Based Modeling and Social Network Analysis revealed that nearly 90% of jobsite decisions (internal factors) never reach project managers (PMs) or company executives.[3] Internal issues, like absenteeism or missing resources, as well as external factors, such as trade interference and weather, are only under your control if they are properly collected, recorded, interpreted, and acted upon. Complaining without data is futile, and acting on inaccurate data is wasteful and potentially harmful.

Exhibit 1: Energy Transfer: Reducing Waste Example

| 1927 Ford Model T Engine | 2013+ GM LTG Engine |
|---|---|
| 177 cubic inch (2.9 L) | 122 cubic inch (2.0 L) |
| 20 hp (14.9 kW) | 279 hp (208 kW) |
| Top speed of 45 mph (72 km/h) | Top speed of 143 mph (230 km/h) |



Exhibit 2: Roles & Types of Risk Through Company Pipeline & Backlog




Strategies for the Electrical Contractor Class

To achieve successful project outcomes, planning must take precedence over measuring outputs. Improvising and reacting to issues creates unpredictability and wastes energy. This unpredictability often stems from the skilled tradespeople making localized decisions without considering the broader system's impact. A lack of visibility into internal factors may lead to misplaced blame on external causes for wasted resources and subpar outcomes.

Performing work (output) does not always result in completed work. Simply stated, work does not equal production.[4] As a company leader, you must ask: What do we need to know? How do we document and share this knowledge to reduce future risk? As a construction financial professional (CFP) and a team member, consider these questions about financial outcomes:

- Can we increase visibility?
- Can we increase predictability?
- Are we effectively pursuing work that supports our strategic goals?
- Are we using models appropriately to evaluate and learn?
- Can we improve the outcome?
- Do we have a designed approach for responding to lead indicators?

## GUIDING YOUR TEAM TO THE OUTCOME

Understanding the levels of risk and their impact at various project stages is essential for distinguishing outputs from outcomes. From estimating to installation, risk types and expected outcomes vary.

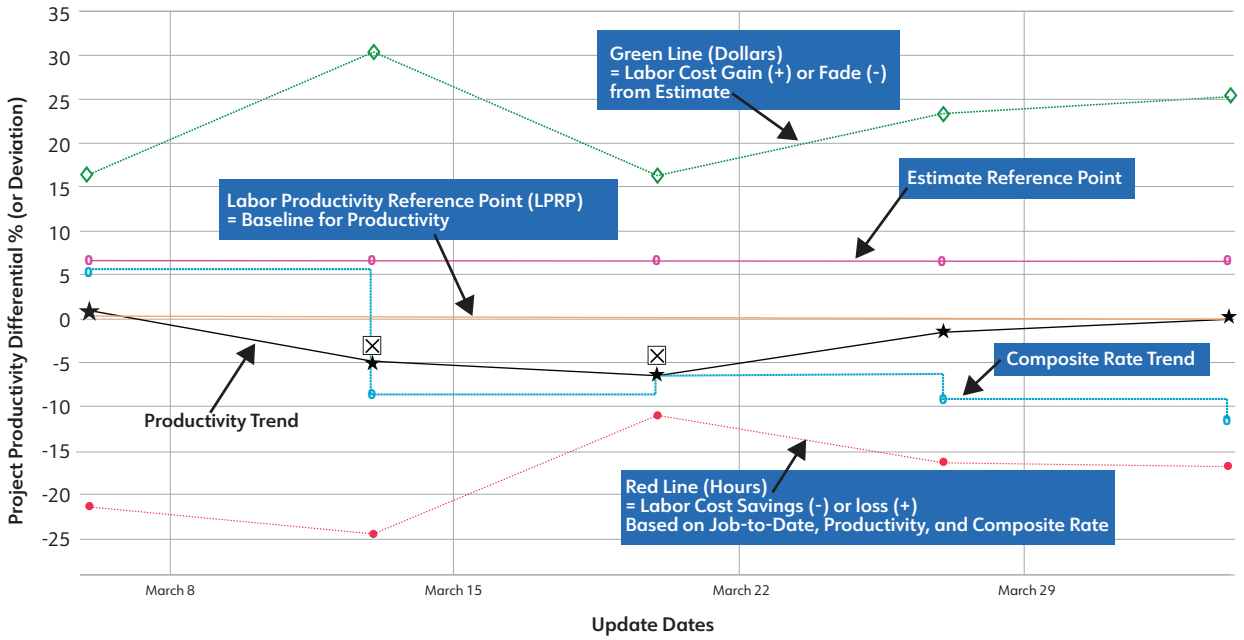
For example, while estimating is concerned about the hit ratio, cost, labor mix and units, material prices, and correct understanding of the contractual and job conditions, the project management team worries about the procurement, lead times, technical specs, cut sheets, crew ratios, schedules, and other technical issues.

On the other hand, the field team (which typically gets involved much later in the life cycle of the project) is thinking of integration of material, labor, schedules, GC's requirements, weather, subcontractors, tools, equipment, and other items that come together before the first piece of material can be installed. These risks can be categorized into three types of risk:

- *Business Risk:* The probability of differences between expected and actual financial outcomes, including cash flow-related risks.
- *Technical Risk:* The likelihood of physical failures affecting customer requirements or structural functionality. In construction, it is the expertise and risk required to design, manufacture, or construct and is proportional to the effect of failure mode on the consumer usage of the completed building or structure.
- *Integration Risk:* Execution-related challenges in coordinating resources, such as labor, materials, and finances to deliver the project on time, within budget, and with expected quality.

Growth in your team occurs as they expand their roles and manage increasing responsibilities. Signals at every stage prompt action, driving outcomes for both projects and the company. Exhibit 2 highlights the flow of risks, transitioning from Business Risk (pre-sale) to Technical Risk

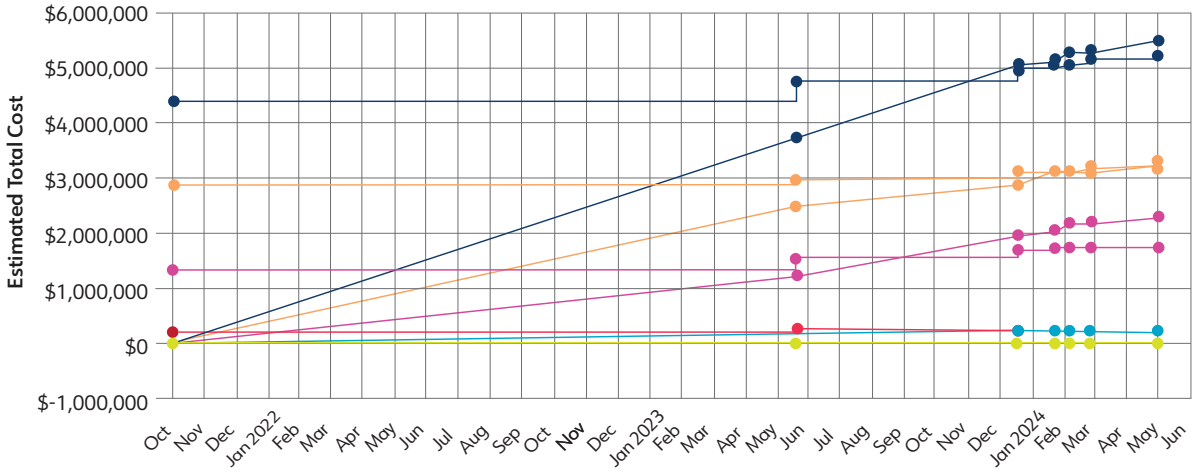
## Exhibit 3: Leading Indicators in JPM Application




An overall job productivity trend tracked with JPAC®



## Exhibit 4: Example of True Project Cash Flow



(confirming specifications) and finally to Integration Risk (execution).

By managing these risks, contractors can evaluate outcomes accurately and implement appropriate measurements. The ASTM E2691-20 Job Productivity Management (JPM) standard allows leaders to move from merely tracking outputs to forecasting outcomes. Using tools like artificial intelligence (AI) and Agile Intelligence alongside risk management data provides valuable projections.[5]

AI applications in construction span multiple areas:

- *Job:* Work Breakdown Structure (WBS), ASTM E2691, and NEIS Standard for Prefabrication in Electrical Construction.
- *Project:* Tools like WEM® for work-effort-time interconnection and TPAC® for financial forecasting.
- *Company:* Dynamic budgeting, PM performance measurement, and pipeline management.

Recognizing signals and integrating these tools ensures success, enabling leaders to drive outcomes rather than simply measure outputs.

## JOB, PROJECT & COMPANY-LEVEL SIGNALS

### Job-Level Signals: Measuring Percent Completion

Effective revenue recognition requires aligning field progress with outcomes. ASTM E2691, developed alongside FASB's changes to revenue recognition standards, emphasizes measuring outcomes—not merely outputs. Using tools like the WBS, teams can translate business outcomes into actionable steps, integrating labor, materials, and finances.

Key signals for job productivity include:

- Productivity trends as predictors of final outcomes
- Correlations between productivity and final job profitability
- Correlation between productivity and safety

By focusing on leading indicators, leaders can react proactively, reducing waste and minimizing rework. Tools like the ASTM E2691-20 standard help translate data into actionable insights, allowing teams to align labor and cost codes to outcomes before significant milestones like the 50% completion mark.[6]

### Project-Level Signals: Insights for Proactive Management

Project-level signals for measuring outcomes must include all activities impacting cash, profit, quality, and time, such as:

- Job productivity
- Project profitability
- Project cash flow
- Project gain/fade from initial intended outcome (Exhibit 3)
- Change orders and material management
- Subcontractors and equipment

## Leveraging Data & AI for Better Outcomes

Artificial intelligence (AI) in construction relies on multiple data sources to generate actionable insights.[1] These sources include:

- Centralized databases
- Decentralized spreadsheets
- Physical records (e.g., notebooks, steno pads, or even napkins)
- Knowledge held by operators and team members

Each role within a construction company contributes unique expertise, often shaped by experience rather than formal training. However, raw data alone cannot drive decisions—it must be translated into meaningful information.

By recognizing and interpreting signals, teams can adapt and proactively drive outcomes at every level: job, project, and company.

To achieve this, consolidating data into a single, accessible location is key. Centralized systems allow leaders to:

- Analyze labor codes, cost codes, and project performance metrics
- Identify trends across hundreds or even thousands of jobs
- Uncover actionable insights from team notes, customer data, and project manager reports

AI tools play a pivotal role in analyzing this data, enabling organizations to transition toward industrialization. AI-powered dashboards provide real-time insights, helping companies to react quickly and tailor strategies for success.

It's about the outcome, not the output. Performing work does not equate to completed work, so measuring output alone cannot predict outcomes at the job, project, or company level. To optimize results, leaders must teach their teams to recognize critical signals at every level and react quickly to ensure the desired outcomes.

Key questions to guide this process are:

- Can we increase visibility?
- Can we increase predictability?
- Are we pursuing work that supports our strategic goals?
- Are we using models appropriately to evaluate and learn?
- Can we improve the outcome?
- Do we have a designed approach for responding to lead indicators?

By focusing on forward-looking signals and leveraging AI, construction companies can ensure their energy and efforts align with their most productive outcomes.

### Endnote

1. *Daneshgari, Dr. Perry. "Paving the Way for Artificial Intelligence, AI, in Electrical Contracting." Independent Electrical Contractors. October 14, 2024.*

While labor is a large component of the project budget for a specialty subcontractor, it's also necessary to monitor the overall project using the signals listed previously. Cost code categories like material, equipment, subcontractors, and other expenses are often balanced by the PM and reported as a project profitability summary, where the individual items should be managed independently. Specialized tools can assess current spend, labor productivity projections, and estimated cost to complete, as shown in Exhibit 4. Sophisticated systems can also recognize both pending and approved change orders. It's critical to look past the specific project costs and confirm that the outcome will be such that the company costs will be covered, not just the project costs.

Managing a project requires using these tools and interpreting the results and acting on them. A PM who came through the field may have excelled at building or customer relations, but likely does not instinctively know how to work with data and understand financials. The CFP can help assure, for the company, that PMs have support and the information needed to learn and excel at both working with data and understanding their financial responsibilities and impacts.

### Company-Level Signals: Beyond Budget Performance

At the company level, data integration and analysis are essential for predicting outcomes. Those that use data from their jobs and surroundings will be profitable. Dashboards and AI tools like Agile Intelligence™ transform raw data into actionable insights, helping leaders understand trends and adjust operations. According to Dr. Perry Daneshgari, "Agile Intelligence™ is when you use your own data to have an ecosystem that you operate in, knowing the signals and adapting to them, to build an ecosystem keeping you ahead of your customers.[7] Having dashboards, with real-time data at your fingertips, can help you recognize quickly what you know, how your company is doing, and what adjustments may need to be made."

## CONCLUSION

Achieving the right outcomes requires understanding signals across all levels — job, project, and company. By integrating data, focusing on lead indicators, and embracing predictive tools, leaders can transition from measuring outputs to driving outcomes. The future of construction finance lies in proactive management and data-driven decision-making, ensuring success for both projects and the broader organization. **BP**

**DR. PERRY DANESHGARI** is President and CEO of MCA, Inc. *(mca.net)* in Grand Blanc, MI. MCA, Inc. focuses on implementing process and product development, waste reduction and productivity improvement of labor, project management, estimating, and accounting. A frequent author for *CFMA Building Profits,* his current focus is on Making Productivity Visible to Everyone® through Digitalization, Commonization and Interconnection® as well as strategic planning and founder transitions. He can be reached at *perry@mca.net.*

**DR. HEATHER MOORE** is the Vice President of Customer Care and Support at MCA, Inc. *(mca.net)* in Grand Blanc, MI. A frequent author for *CFMA Building Profits,* she holds a PhD in Construction Management with a focus on information available from the jobsite work environment using MCA, Inc.'s processes and tools for Work Environment Management (WEM®). She has contributed to research as well as customer process implementation with MCA, Inc. Dr. Heather can be reached at *hmoore@mca.net.*

**JENNIFER DANESHGARI** is the Vice President of Financial Services at MCA, Inc. *(mca.net)* in Grand Blanc, MI. A previous author for *CFMA Building Profits* and a member of CFMA's Publications Advisory Committee, her current focus is translating field data into forward-looking information that can be used for strategic business decisions. She can be reached at *jennifer@mca.net.*

### Endnotes

1. *Zurschmeide, Jeff. "Historic Engines – The Ford Model T." EngineLabs. January 12, 2017. enginelabs.com/engine-tech/engine/historic-engines-the-ford-model-t.*
2. *"GM 2.0L Ecotec LTG Engine Specs, Problems & Reliability." MotorReviewer. motorreviewer.com/engine.php?engine_id=197.*
3. *Moore, Dr. Heather. "Exploring information generation and propagation from the point of installation on construction jobsites: an SNA/ABM hybrid approach." Michigan State University. 2013. d.lib.msu.edu/etd/2277.*
4. *Daneshgari, Dr. Perry & Moore, Dr. Heather. "New Productivity Measurement Standard Affects Revenue Recognition." CFMA Building Profits. March/April 2012. cfmabponline.net/cfmabp/20120304?pg=26.*
5. *"Standard Practice for Job Productivity Measurement." ASTM International. April 24, 2020. astm.org/e2691-20.html.*
6. *Daneshgari, Dr. Perry & Moore, Dr. Heather. "New Productivity Measurement Standard Affects Revenue Recognition." CFMA Building Profits. March/April 2012. cfmabponline.net/cfmabp/20120304?pg=26.*
7. *Daneshgari, Dr. Perry. "Paving the Way for Artificial Intelligence, AI, in Electrical Contracting." Independent Electrical Contractors. October 14, 2024.*