How the Construction Industry Can Measure Labor Efficiency with Technology and Greater Insight

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In the last post in this blog series, we identified reasons that loss of efficiency claims, which are becoming more prevalent due to chronic labor shortages in the industry, are difficult to present and prove. The reasons included bad data, unclear causes of disruption, and limited tools. However, in an era of inexpensive technology and big data analytics, it is obvious that bad data is no longer a valid excuse for inadequate measurement of construction productivity. In today's environment, why do we still rely on a daily report that merely lists personnel, hours worked, and a couple of sentences about what was performed (often still written by hand)?

TOOLS TO MEASURE ACTIVITY IN CONSTRUCTION

There are some tools already on the market that can offer vast improvements in measuring work. These include the use of tablets in the field, real-time updating of BIM models, webcams, RFID tags for materials, and even tools to track the presence of workers. For example, one product, Eyrus, automatically tracks personnel arriving and leaving a site using a sensor on a hard hat or ID badge. This system can even track where a person is within a certain zone on the project.

It is not hard to imagine how these systems can be extended to measure and track where activity is concentrated on a project, or even to measure an individual's actual effort, much as a Fitbit measures an individual's level of exercise. While there will undoubtedly be a period of resistance from workers over the notion of a "Big Brother"-like atmosphere being created on a project, the use of a wearable GPS or motion-tracking device coupled with the right incentives could greatly improve productivity and actually improve conditions for construction labor.

BETTER TOOLS ARE NEEDED TO ACCURATELY MEASURE EFFICIENCY

Along with improving the measurement and reporting of production effort, the industry needs better analytical tools to assess performance. References such as the Mechanical Contractors Association of America labor inefficiency factors rely on limited and often outdated information. While such references—when used with appropriate care and judgment—can produce reliable analyses, they are often misapplied to situations unrelated to the referenced material or contorted to fit a desired outcome. In many cases, these references are used simply because there are no readily available ways to perform a more reliable analysis.

Ideally, a loss of efficiency analysis should incorporate accurate measures of productivity, discretely identify and measure factors contributing to disruption or inefficiency, and segregate the causes for disruption. As technology

produces more data, industry analysts will need to develop software tools to review the data and distinguish among factors that contribute to poor productivity. As an observation from years in the industry, a chief cause for most labor inefficiency is a lack of sufficient advance planning, starting with poor scheduling, and carrying through most aspects of performance. Yet this explanation is rarely if ever identified or analyzed as a cause of labor inefficiency. As the data improves and the analytical tools improve, it should become easier to analyze productivity and identify the real causes for any shortcomings compared to planned levels of productivity.

At MBP, we are encouraging our clients to improve the data with the purpose of identifying and potentially even eliminating the sources of inefficiency. Our extensive background in facility performance consulting allows us to help clients improve efficiency and functionality. Contact us for more information.

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