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Digitalizing Time Capture in the Field via Mobile Devices

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Numerous types of data are captured from a construction site each day. Quantity executed, visual evidence of work, safety and quality issues, work issues, etc. are just a few.

Yet one of the critical details they all share every day is time capture of resources — both human and equipment. We all have heard the saying "time is money." It especially holds true for construction projects. Keeping a record of construction time is not only a challenge but also one of the greatest risks to project schedule and budget.

Accurate time records of labor and equipment are one of the important functions of construction management. At the same time, it is one of the hardest parts of the job to keep site records. Imagine being in the thick of a concrete pour and at the same time keeping track of the number of hours worked or number of trucks or other equipment utilized.

What follows are some best practices for digitalizing (and improving) your methods for field time capture that will benefit you and your teams.

Planning and Execution

Every construction project has a planning and an execution phase. Both are equally important. A good plan would not be successful unless the execution is managed as per the plan. Similarly, a project won't have a smooth execution if it is

based on a faulty plan in the first place. Construction planning and execution are dynamic processes, so course adjustments are necessary to keep the project on track throughout the construction life cycle.

There will still be some changes in the project during execution even if it was planned in the most expert way. For the construction project to stay on target in terms of time and budget, the connection between field (execution) and office (plan) is critical. This connection creates a feedback loop wherein the plan defines what needs to be done on site and feedback from the site then makes sure plans are adjusted accordingly. This feedback loop depends on the quality of the data captured from a site that feeds the course correction decisions to align plans with the most current state of play.

Taking Your Time Tracking To-Go

Time-related data is extremely valuable for successful project management. It not only provides the necessary information to payroll systems to calculate wages and distribute salaries but also provides the fundamental data to construction managers to track labor and equipment productivity and monitor expenditures. It also enables companies to track their equipment mileage for planned or breakdown maintenance.

Timecards are the most classic way of capturing time on construction sites. These timecards are either physical paper-based cards or PDF and Excel formats of the same physical cards. These cards are usually completed by a supervisor towards the end of a workday. There are several shortcomings to this method.

For one, there is the adding to the administrative burden on supervisors that often leads to insufficient or inaccurate data being captured in a non-standardized manner.

This data is then shared with construction managers and payroll clerks via email. As a result, data needs to be handled multiple times before it becomes useful which keeps stealing valuable time from critical resources and increases the turnover time as well. The inaccuracies created are then difficult to audit and keep a track of.

Decision-making and corrective actions may also be delayed which can become detrimental to the final project outcome. The overall process is inefficient due to data missing because of delay in the action and capture. Data is not available at the right time to the right person.

To overcome these inefficiencies and inaccuracies in manual time capture processes, construction contractors and owners are increasingly turning toward digital solutions of time capture.

The construction industry has seen a growth in the use of technology for on-site and off-site management. Handheld devices are being increasingly used on construction sites for various purposes ranging from initiating a purchase order and checking scheduled activities, to time capture of labor and equipment on the go.

Time in Your Pocket

It is not uncommon anymore to see tablets and mobile phones in every field supervisor's pocket to capture time-related data. In the past few years, the rise of handheld devices has made it possible to capture timesheets digitally in a more efficient and accurate manner. There are numerous mobile apps and software in the market that allow contractors and owners to track daily or weekly timesheets directly from their mobile phones or tablets. These digital solutions are far superior to traditional paper timecards. Some of the major advantages of mobile solutions include:

» Eliminates manual record keeping resulting in significant time saving.

» Better accuracy and, with data validations and checks, ensures that the right data is captured in the right format.

» More flexibility and mobility so data can be captured right where the work is taking place onsite. They also offer features like geo-locations, break times, and digital sign-on and sign-off.

However, one of the most recent time tracking systems introduced to the industry is a cloud-based solution. Cloud-based solutions have taken the game a step ahead and revolutionized the way time is being captured on work sites by contractors and owners. Cloud-based time capture offers unique advantages over other digital solutions such as:

» Storing data securely in the cloud. This means that data can be accessed from anywhere, anytime.

» Connection to downstream and upstream processes. Managers can easily access the data which allows them to track productivity in real time allowing better forecasting of budget and time. It also allows real-time visibility into equipment mileage for better maintenance routines.

» Payroll systems that can consume the data directly. This works for wage calculations and payments. There is also no multiple handling of data, which helps eliminate errors.

» Offline capabilities via mobile apps. This allows the data to be captured on remote sites or underground work sites and sync the data back to the cloud once a network becomes available, allowing for seamless and hassle-free capture of time data.

Looking Toward the Future

For construction contractors and owners, it is always a big decision to shift from paper to digital, especially when it comes to time capture. To have a better chance of getting it right the first time, here are some things to keep in mind while choosing a digital time capture solution:

» Choose a solution that fits your needs. Some important parameters to consider include the connected nature of your data, offline capabilities, support offered, and the price.

» Make sure your employees are comfortable with the solution. A solution which is intuitive and easy to use has more chance of a successful adoption.

» Choose a solution that offers good training. This will ensure that you get maximum value out of your investment, and your people can use the solution correctly.

About the Author

Umer Lone is a senior solutions engineer for InEight, with more than 10 years of experience in the core construction industry. He has a deep understanding of the construction process and the challenges facing the industry. Umer is passionate about using technology to improve the efficiency and sustainability of construction projects and believes that digital transformation has the potential to make construction projects more efficient, sustainable, and safer.

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