

Difference between smart and smarter

Construction companies can take control of enterprise-wide information and make better business decisions with BI



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Construction industry today has undergone lots of transformation in their operational methodologies and processes. It is becoming ever more competitive and complex. More businesses now need to rely on fact-based decision making and analytics to get ahead.

Companies in construction can succeed based on their ability to achieve constant, repeatable yield from each project. There is tremendous value in turning operational and transactional 'data' into tactical 'information' in an industry where profit can be so severely influenced by the exceptions. BI can be used to analyse past performance for planning, identify exceptions for action and trend current performance for forecasting.

Many construction executives often make decisions based on their gut feeling, supported by years of experience and expertise. However, today's fierce competition requires precision and process improvements to avoid any, if not all, risks associated with construction financial and project management. Construction companies must use key performance indicators, trend analysis and other business metrics to ensure that they make the most precise and educated decision to control costs, reduce waste and improve productivity; thereby help increase profitability of the company.

One of the key challenges is that the data is coming from disjointed, standalone applications. Business decisions have to be taken by reviewing facts which have to be provided from numbers coming from multiple applications, multiple databases.

Non-availability of these facts may result in the misinterpretation of data by different

people and different functional roles in the organization. The cost and risk of making an incorrect decision can be considerable and can impact a company over the course of several years.

Running a profitable construction firm is a difficult business. Faced with an unprecedented number of external pressures such as eroding profit margins, higher owner expectations, rapidly changing technology, and a dwindling workforce, construction companies which shall implement BI can leverage data and drive better visibility across projects and business by providing insights and measures.

Mayank Gandhi, Director, LOK Housing & Constructions Ltd says "There's more to construction than pouring concrete. We opted for 1KEY BI which connected to the data

Construction companies which implement BI can leverage data and drive better visibility across projects by providing insights and measures. They can achieve constant yield from each project

warehouse and gave the gamut in information delivery – in terms of reporting and analysis against transaction application's financial data."

There are several technologies readily available in the market today that will accomplish this goal of unified, consistent and coherent data presentation that will support all aspects of your operation.

With BI, Construction companies can:

- ➔ Analyze utilization, project profitability, WIP, AR aging, and business development effectiveness
- ➔ Analyze firm-wide data and then instantly drill down by organization, department, project

manager, project phase, and task—right down to the employee

- ➔ Perform a "What If" analysis to determine the potential revenue, profit, and cash flow impact of changes in orders, job profit, changes in general conditions, and overhead
- ➔ Eliminate off-line Excel spreadsheets and inflexible, expensive, and environmentally unfriendly paper reports
- ➔ Integrate data from multiple applications like SAP, Tally and /or any other financial and operating systems for analysis—giving you a complete view of the business

Key Performance Indicators (KPIs) for Construction Industry

A KPI is the measure of a process that is critical to the success of an organisation. Many organisations use KPIs. There are a number of performance measures that define the success of a project or organization.

The KPIs are essentially the evidence that culture change and process improvement are actually leading to positive change in terms of better performing projects and organizations.

The responsibility of managing growth and economic challenges requires leadership in construction companies to devise a disciplined business strategy. This strategy must efficiently address potential opportunities and problems as they arise by providing reliable, timely information to support management decision-making. Monitoring KPIs should be a part of disciplined business strategy.

Purpose of KPIs

Construction industry clients want their projects delivered on time, on budget, free from defects, efficiently and safely. Management and stake-holders of construction companies expect continuous improvement from their construction team to achieve year-on-year reductions in project costs and reductions in project times.

Purpose of the KPI is to enable measurement of project and organizational performance throughout the construction industry. This information can then be used for benchmarking purposes, and will be a key component of any organization's move towards achieving best practice.



Implementing unified, completely integrated (not just interfaced) software solutions enable construction firms to maintain the reliable, timely information necessary to generate KPI figures on demand.

Construction firms should monitor KPIs like:

➤ **Cash flow:** Understand whether individual projects are generating or consuming cash can better identify execution problems on projects. Consistent attention to cash flow also helps to promote timely billing and collections.

➤ **Liquidity:** Determine how much cash your work in progress is generating or consuming, by monitoring key current asset and liability balance sheet accounts.

Labor productivity: Labor productivity is particularly important for subcontractors, as productivity problems can break labor budgets and erode profit margins. Managers can separate jobs within a project to identify discrepancies between actual labour expenditures and estimates. This information helps managers and field supervisors forecast cost-to-complete, establish daily performance goals, address current problems, and improve future estimating and bidding accuracy

➤ **Schedule variance:** Project owners demand clear communication regarding project progress and timely completion. Given increasingly complex project specifications and schedule compression, you must be able to identify and monitor schedule variance to deliver projects on a timeline that satisfies owners' demands. Understanding how factors cause schedule variance, such as change orders and weather, allows you to properly plan, communicate, and coordinate resources, to ensure higher quality output, improved safety, and better resource utilization and allocation. Effectively managing schedule variance also helps construction firms maintain a competitive advantage against other firms that often fall behind schedule.

➤ **Margin variance:** Compare your gross margins to business plan objectives by monitoring overall margin variance. Similarly, investigate the gross margins on particular projects, relative to the project estimate, to determine whether the project is achieving expected profitability. Through constant attention to margin variance, management and field supervisors can make the corrective changes necessary to keep individual project margin variance to a minimum and the overall gross margin stable.

➤ **Unapproved change orders:** Construction firms face an increasing economic threat from risk transfer provisions in standard contract types. Reduce your firm's financial exposure by identifying and diligently pursuing unapproved change orders.

➤ **Committed cost:** With rising material prices and labor shortages, construction firms face financial exposure when suppliers and subcontractors are not yet committed



contractually—particularly on longer-duration projects. It is imperative for your firm to track uncommitted costs to increase the proportion of committed costs where possible and, where necessary, to incorporate factors such as price escalation and contingent cost terms into their committed costs in order to limit financial exposure.

➤ **Backlog:** Properly tracking backlog—and the expected gross margins on backlogged work—allows construction firms to avoid the problems associated with insufficient work and profit fade. With this knowledge, your firm can make strategically sound decisions about which projects to pursue.

➤ **Customer satisfaction:** To maintain competitive advantage, track your firm's ability to meet owner expectations by compiling and analyzing qualitative feedback. This retrospective examination of past projects identifies potential deficiencies, enabling your firm to address such issues in current and future projects.

➤ **Cost and Time:** Time for Construction, Time to Rectify Defects

- **Cost for construction:** Design, Construction, Operational, Client Diagnostic Change Orders, Project Diagnostic, Leader Change Orders - Purpose of this KPI is to see how projects are delivered cheaper and quicker on a year by year basis. This is a useful measure, but is only really useful when there are a number of directly comparable projects where the units are identical or very closely comparable. If there are a large number of differences between the project and the comparator project then the calculation will be complex and the result may be inaccurate.

- **Cost predictability:** Design, Construction, Operational, Client Diagnostic Change Orders, Project Diagnostic Leader Change Orders

- Cost of Rectifying Defects
- Cost In Use
- Quality - Defects, Quality Issues Available for Use, Quality Issues at End of Defect Rectification Period

Construction companies need MIS for all activities – profitability, productivity, return on capital employed, return on value added, interest cover, return on Investment, profit predictability, ratio of value added, repeat business, outstanding money, time taken to reach final project. BI not only enables generate such MIS, but also help them monitor KPIs to maintain financial discipline and make the necessary adjustments to comply with their strategic business plan. Through this type of disciplined management, they can act rapidly in pursuing opportunities or solving problems on projects because they have an accurate understanding of the past performance, present needs, and the steps to be taken to ensure future success.

With access to such business-critical information, executives can look at performance from a bird's eye view and make informed decisions instantly. Using BI, as a decision-support-system provides access to consistent, appropriate and accurate information from multiple sources of data and applications. BI reflects key performance indicators, desired goals and measures real-time, actual performance. In doing so, these applications can support decision-making, aid in workflow completion and increase productivity. BI provides different means of monitoring key performance indicators ensuring that business-critical data is available to support the decision-making process when needed. With BI, executives in construction industry can easily take informed decisions at all levels. ❏

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