

Lean construction – another way of achieving sustainable construction

The concept of lean construction is slowly becoming a buzz word as the construction industry strives to minimise waste and costs incurred during the construction process. In trying to offer maximum value to the customer, lean construction attempts to solve the common problems found in the construction industry such as low productivity, high level of defects, rework and non-conformance to quality standards, poor safety records and many more. It scrutinises the whole supply chain to improve on inefficiencies and minimise. Lean construction takes its learnings from the concept of lean production that originated from Japanese car manufacturers and has been implemented by a number of manufacturers with considerable success. The lean production concept has proven to have its successes in optimising production in many organisations and has been refined over the years to suit the fast-paced technological advancements.

Lean construction considers all processes involved during construction for opportunities to minimise waste generated during the conversion process and aims to support efficiency by effectively managing all other processes to achieve maximum project value. The process takes a holistic approach by considering all roles from beginning to end, including that of architects, designers, engineers, construction workers and suppliers.

Essential to the elimination of waste is the doing away with processes that use resources without creating much value. It includes perfecting processes to eliminate mistakes and delays. It also offers techniques to meet the challenges of uncertainty and delays that are typical of construction projects. Managed well, lean construction has the ability to transform the way work is performed on construction projects and in the process, use less resources and minimise waste and costs.

Lean construction is highly depended on an appreciation of the interdependence of activities and their variation thereof in order to plan effectively and to complete the project in the shortest possible time. Understanding the production processes and variations along the supply chain is essential in identifying potential savings opportunities within the project. Lean construction also encourages collaboration and the building of trust along the supply chain where effort is made to fully understand uncertainties in the value chain in an effort to come up with effective solutions. Part of the process towards improving workflow reliability involves continuous measurement and improvement of processes.

Some of the essential features of lean construction include a clear set of objectives for the delivery process; meeting specific customer requirements at project level; designing of products and processes while exerting production control from design to delivery phase; pursuing perfection and only making what is needed. These are the principles of lean construction.

While this philosophy is certain to help many construction companies improve efficiency, the implementation thereof requires a complete mindset shift and the changing of a company's way of thinking and doing things. The principles can only be applied fully and effectively by focusing on the whole process and getting buy in from the whole supply chain.