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Innovation for large and small contractors

For all industries, including the construction industry, innovation in goods and services, in process and management, can provide a valuable competitive edge and can lead to improved business performance. Linden Spindler outlines the benefits of innovation.

Case studies have shown construction innovations result in time-savings, cost-savings and unique solutions to difficult problems. Often these innovation examples feature large contractors due to their involvement with high-profile projects. It is true that large contractors have higher innovation rates (percentage of businesses innovating) than small contractors, however it would be a mistake to assume that innovation is a luxury that only large contractors can afford.

The BRITE Project, of the CRC Construction Innovation, interviewed 20 contractors across Australia, of various sizes, who are featured in the National Innovative Contractors Database, to discover and share the management practices of Australia's most highly innovative construction contractors.

The results demonstrated that rather than relying on vast resources, these companies have developed organisational systems designed to promote innovation, which are supported by effective communication strategies and high levels of support and encouragement of employees.

From ideas to innovation

An innovative idea can be the result of searching for a solution to an unforseen problem or a challenge posed by a demanding client. Ideas can be gathered from competitors, industry associations and universities.

The contractors interviewed for this study cited employees as a major source of new ideas. Long-term employees have a wealth of background knowledge on which to base new ideas, and new employees have the opportunity to introduce ideas from another context, business or industry. Highly innovative companies tap into this resource by greatly

When projects have something special about them, it tends to drive innovation.

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encouraging communication at many levels and stages of a project.

Developing a culture of exchange and discussion provides the forum for employees to present new ideas. Many of the companies interviewed use meetings to provide open and frequent opportunities for discussion, and to encourage an innovative approach to the project. Another useful strategy is a 'blame-free autopsy', which some companies hold at the end of each project to officially collate advances from successful innovations and learning from mistakes.

Large companies obviously have a greater resource to tap in terms of employee numbers, but the loyal, long-term workforce and immediate and inclusive communication that often exists in small companies, is highly valuable for developing innovative ideas. Large companies need to work harder to set up effective communication channels among large numbers of employees and disparate groups.

A major challenge facing each company is how to assess, progress and store new ideas. Large companies encouraging employees to contribute ideas need to allot resources for careful assessment of all proposals, in order to both capitalise from proposals and to acknowledge staff effort, thereby maintaining company interest and enthusiasm for innovation.

To facilitate communication and adoption of new practices, many companies have developed an ideas database, which the employees are encouraged to use as a resource for every project. One large company in this study employed a highly tailored ideas database that also linked the innovation experience with in-house experts on the topic.

Even when good ideas become apparent, their application is not always straightforward due to time and risk constraints and the coordination of all project participants involved.

An ideal time to consider introducing innovation strategies is during the initial development of the proposal. Preparing a tender with built-in innovation avoids the many implementation difficulties associated with altering established plans, and the estimators overall view and planning position is ideal for assessing new strategies.

Innovation is achievable – an 'Innovation Gallery 2007' case study

A small Queensland manufacturing company has developed a fabrication machine and process for steel reinforcement cages that saves money and time, improves quality control and ease of supply, and eliminates health and safety risks.

Steel reinforcement cages are commonly used for roads, bridges, marinas, pylons, foundations and power transmission lines. Traditional fabrication methods expose workers to the risk of significant injury from cuts, strains and back problems and fatigue due to constant bending. On-site fabrication of cages can also create difficulties due to space requirements and the quality control required to produce consistent, identical products.

The cage-fabricating machine developed and patented by this manufacturer requires only one

Once a project is won, there is a determined effort to get on site and get started, rather than pausing to think of clever ideas.

operator, working in an ergonomically safe position, to manufacture all types of cages. Depending on site location and conditions, the cages can be produced off-site or on-site using mobile fabrication units that require only 25% of the space of a traditional fabricator. Mobile units can be used for remote sites, reducing transport costs, or on empty floors of skyscraper projects to reduce space and handling problems.

The innovative fabrication process can produce identical high-quality cages, with a large improvement in occupational health and safety, greater flexibility in design and supply and much less labour. This results in both time and cost savings that benefit both supplier and client.

Innovation culture

The common factor among the companies interviewed for 'Being the Best' is not their size or turnover, but a strong culture of innovation that results in creating innovation opportunities and taking advantage of innovation opportunities as they arise.

Results of the interviews with highly innovative contractors are presented in detail in 'Being the Best', with a collection of case studies in the companion brochure 'Innovation Gallery 2007'. The reports are available for free download from the BRITE Project website www.brite.crcci.info or contact Lindy Spindler on (07) 3138 9146, or email l.spindler@qut.edu.au.

Linden Spindler is from BRITE Project of the CRC for Construction Innovation. The CRC for Construction Innovation (www.construction-innovation.info) is a national collaboration of 21 industry, government and research partners focussed on creating technologies, tools and processes for the property, design, construction and facility management sectors.