

Project Diagnostics investigates construction project 'health'

This innovative new software tool is investigating project health and improving project outcomes.

Assessment of symptoms, diagnosis and remedies — it sounds more like a medical check-up with your local GP than an innovative new software tool for the construction industry. But with its investigative approach and using input from an actual project of concern, Project Diagnostics is set to become a lifeline for clients and industry stakeholders involved with an unsuccessful project.

The construction industry continues to suffer from projects in poor 'health' that fail to achieve basic outcomes expected by key stakeholders. Poorly performing projects and those that fail entirely can lead to adverse impacts such as cost and time overruns, inadequate build quality, poor project relationships, loss of reputation, legal disputes and unwanted publicity. Despite the availability of publications providing guidance on successful project execution, the processes they suggest are not necessarily implemented.

To address this industry problem, a research team of the Cooperative Research Centre for Construction Innovation is developing Project Diagnostics — a model for investigating project health that can help improve outcomes through better project delivery.

The research project is a collaborative effort between six of Construction Innovation's industry, government and research partners. Chief Executive Officer (CEO), Dr Keith Hampson, describes the Project Diagnostics software as a unique and powerful three-in-one toolkit. It enables a consultant to assess the construction project's condition, pinpoint why it may not be performing to expectations and recommend remedial measures for returning it to good health. It's applicable to a broad range of procurement methods and all project phases.

The toolkit can be used as required when the clients or other stakeholders believe that the project is not performing, or at regular intervals during the life of a project. When used on a regular basis, much of the data for the toolkit can be collected concurrently with that required for project status reports.

Project Diagnostics has a strong academic and research base (including a rigorous validation process) and is dependent on updateable benchmarks for performance evaluation. Compared with the costs related to the adverse impacts of failing projects, the costs associated with using the toolkit will be very economical. It will be easy to gain benefits from it as an independent, qualified consultant is contracted to implement it.

Project Leader John Tsoukas of Arup Australasia says they see the value of the approach being the ability of the client or contractor to fairly quickly reach a sound understanding of the current status of a project — through a series of comparisons with recognised industry norms — and then being in a position to take action if required."

During 2005, Project Diagnostics will be refined through further trialling on construction projects. In early 2006, this consultant-administered software will be available and have the capacity for application to both national and international projects.

Broad assessment

The model for the toolkit is based on Critical Success Factors (CSFs) those factors that if successfully managed can significantly influence the success of a project. The seven CSF themes selected are Cost, Time, Safety, Quality, Environment, Stakeholder Value and Relationships.

Project diagnostics critically assesses whether the CSFs are on track for project success using a series of Key Performance Indicators (KPIs) for each CSF. The 18 KPIs were chosen on the basis that they were easily measured, assessable, independent and sensitive and that they had broad application and reflected reality. The robustness of the KPIs has been validated using Australian and international case studies.

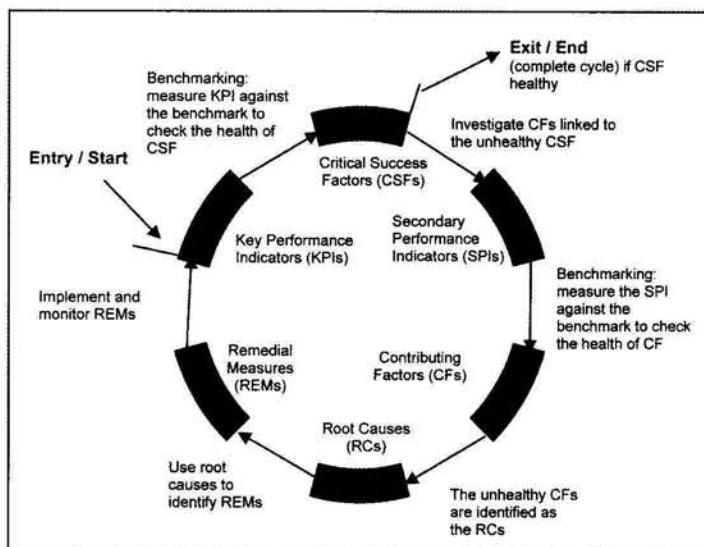
Diagnosis

Once a CSF is found to be underperforming, the root causes are investigated using numerous Contributing Factors (CFs). These were identified from an extensive worldwide literature review and industry consultation with personnel on seven construction projects with a variety of procurement methods.

CFs are assessed using a series of Secondary Performance Indicators (SPIs) to rapidly and accurately diagnose the root causes most likely responsible for the poor project performance.

Remedial action

Correct and timely identification of CFs and SPIs will allow effective, focused remedies to be developed. The model is based on a cyclic mechanism that repeats the investigation, potentially leading to continuous improvement in project 'health'.



The Project Diagnostics methodology cycle

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