

# On the radar

Research from the University of East Anglia shows how earlier identification of risks can save time and money on projects



The value of providing a confidential forum for project teams to feed back their concerns about an ongoing construction programme has been demonstrated at the University of East Anglia (UEA).

Post-project evaluations by construction project management expert 3PM of their project at UEA used a confidential process for emerging risk and trend identification during the construction of the new sustainably designed enterprise centre at the institution. The research, led by project sponsor Dr John French, chair in enterprise and sustainability and chief executive at the UEA's Adapt Low Carbon Group, focused on using a risk service from ResoLex, known as RADAR, to provide a safe and confidential arena in which individual project team members could feed back information about different aspects of the project.

The Enterprise Centre (TEC) is home to the university's new Centre for the Built Environment. The researchers wanted to determine whether the risk-profiling service could identify unforeseen risks and emerging trends in a construction environment.

## THE INBUILT HUMAN BEHAVIOURAL TRAIT OF OVER-OPTIMISTIC REPORTING MEANS THAT STANDARD RISK MANAGEMENT TECHNIQUES ENCOURAGE THE 'BURYING' OF RISKS

In construction, the inbuilt human behavioural trait of over-optimistic reporting means that standard risk management techniques actively encourage the 'burying' of unquantified construction risks prior to commercial agreement.

For example, at commercial close, the momentum of 'winning', together with behavioural 'optimism bias', could interfere with a robust risk assessment, resulting in tier one contractors holding both unknown and fully assessed risks.

Post-commercial close, these risks are passed down the supply chain and can end up with a party not best equipped to manage them. During the asset delivery phase, these risks appear as potential conflict points and result in cost overruns.

The TEC construction scheme used innovative materials and featured rigorous and far-reaching sustainability targets, but it became clear that the project was unaffordable during the briefing stage, so all team members had to work to find solutions. Once a month, the project team received a questionnaire that allowed them to confidentially convey their feelings about predefined key performance areas. Their responses were collated, analysed and anonymised, prior to being incorporated into a report and shared with everyone within the team and senior management.

Examples of questions included, 'will there be enough funds to deliver full requirements?' and, 'do you feel the team is proactively identifying and mitigating

unnecessary risk within the context of a pioneering project?' ResoLex's risk RADAR engaged directly with stakeholders, picking up information earlier and providing warnings about emerging risks. These were mapped for

comparison against the standard weighted risk profile for construction of TEC. The researchers note that within construction, while a delivery team can be adept at solving an issue once found, the key to improving risk management can be setting up and promoting early warning of the issue. If effective, the early warning results in immediate resolution. If not, it passes down the supply chain – with the potential to re-emerge.

At various stages of the project, the system meant that concerns that were previously 'off the radar' came to light:

### STAGE: ALIGNMENT OF EXPECTATIONS

Issues raised – five months earlier:

- potential stifling of innovation of new and unproven materials;
- need for supply-chain contribution to cost solution;
- reconciliation of aspirations and affordability;
- mixed-use design conflicts; and
- lack of budget and programme clarity.

### STAGE: POST-CLOSE ALIGNMENT

Issues raised – eight months earlier:

- senior management team changes;
- rebuilding trust following commercial negotiations;
- more effectively engaging the whole team;
- progress to meet site activity schedule timescales; and
- increasing wider stakeholder engagement with the project.

### STAGE: PRODUCTION RISK MITIGATION

Issues raised – nine months earlier:

- concerns around risk of using new and unproven materials;
- programme impact of design issues and design delays resulting from late decision-making;
- delays in finalising/approving curtain walling, timber frame and finishes impacting on programme;
- further design review meetings necessary to ensure management team members' expectations are met; and
- maintaining project within budget.

Construction asset delivery generally relies on two forms of cost control: cost planning, undertaken on behalf of the project sponsor; and cost estimating, undertaken by the contractor. The former is a top-down process, while the latter is a bottom-up process. To achieve successful

delivery of the asset, there needs to be a smooth transition from the cost plan to the cost estimate as the key cost driver. Failure to do so results in the generation of contractual claims, which translate into cost overruns.

Information from the RADAR reports aided the asset delivery teams for TEC with their knowledge of project issues and informed the traditional risk register. A standard risk profile might not have picked up the spikes in cost concern so early while the TEC project was ongoing. But the UEA research found that early warnings gave the asset delivery team the opportunity to discuss and resolve emerging issues within each stage. Discussion of those issues within an open environment allowed the asset delivery team to put in place proper risk mitigation measures. It acted as a safety net against the burying of issues as risks and pushing them down the supply chain, only for them to come back up the supply chain as conflicts and potential cost overruns.

In terms of methodologies, the behavioural-based approach developed by ResoLex aligns statistically with more established standard qualitative (as distinct from quantitative) risk management techniques. Building on the more standard risk identification techniques of brainstorming and interviewing, RADAR gave UEA

## EARLY WARNINGS GAVE THE ASSET DELIVERY TEAM THE OPPORTUNITY TO DISCUSS AND RESOLVE ISSUES

real-time issue identification and collaborative stakeholder feedback. Confidentiality was key and, above all, guaranteed anonymity, allowing for unrestricted reporting of issues known only to a project participant.

Working with the attributes of participant anonymity, structured information flow, simplicity of feedback and finding risks objectively and independently, such systems have the potential to support the need of infrastructure investors to find and control issues through enhanced de-risking of construction by the finding of risks and their objective re-evaluation by construction team members. Further benefits come from found risks being objectively and independently re-evaluated by team members, and new, previously unseen risks evaluated through risk analysis, independently moderated by external experts.

Dr French says: "The reports added value by enabling us to tackle issues early, reducing conflict, and ultimately saved us time and money." □



Dr John French



Sustainability is core to The Enterprise Centre at UEA