

Catalyst for change

Director of the Construction and Property Research Centre Professor Ming Sun, University of the West of England, looks at how ICT is improving collaboration in construction...



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During the last decade, the UK housing market has been buoyant; major capital projects, such as Heathrow Terminal 5 and Wembley stadium, are being delivered; the Government is investing more and more in school buildings and hospitals. Construction has experienced a sustained period of boom. With the upcoming infrastructure projects for the Olympic Games, the 'good time' is set to continue for the foreseeable future. As construction remains in the national spotlight, how the industry delivers projects has come under ever closer scrutiny. The public sector, as the largest construction client, has much to gain from performance improvement in this sector.

Traditionally, the construction industry is characterised by its fragmented supply chain structure and adversarial relationship, and often beset by problems of project delays and cost overruns. Two government commissioned studies by Sir Michael Latham in 1994 and Sir John Egan in 1998 set a challenge for the industry to improve performance through, amongst other measures, partnering and collaboration. The subsequent Rethinking Construction/Constructing Excellence initiative has made some limited impact in practice. A step change in performance improvement requires transformation in business culture, process capability and maturity, adoption of the right form of contract and risk management strategy, as well as people's attitude and skills. These changes are not going to be easy, nor will they be quick. Information and Communications Technology (ICT) may prove to be one of the catalysts that help to bring them about. Other sectors have shown that ICT, combined with some innovative thinking on business process management, can produce solutions that drive the higher levels of service delivery expected by clients.

The penetration of ICT in the construction sector is already far and wide. In addition to the standard office software and email, there is a range of specialised applications, such as CAD, engineering calculations, cost estimating, project planning and scheduling, electronic document management, etc. Collaboration

tools refer to systems that utilise the internet, and provide communication and information sharing support for project teams. There are different flavours of this type of system. Some, such as BIW and 4Project, are project portals that focus on providing information sharing between the whole team. Others provide support for key management processes. For example, the CCM system supplied by MPS Ltd supports the contract change management process in NEC/ECC projects. These systems are being used in a growing number of construction and engineering projects.

ICT-based collaboration tools enable communication and information sharing between remotely located project partners. They facilitate the collaborative decision-making process during projects. Furthermore, they encourage more openness and a greater level of trust, as well as audit trail and accountability. These are all essential ingredients of a successful collaboration. A recent survey showed that 89% of CCM users believe the system helps to improve their collaboration relationship; 86% agreed on process improvement and 84% on communication improvement. Similar findings are reported in a separate survey conducted by the Network for Construction Collaboration Technology Providers. Another study, carried out by the Harvard University Design School, confirmed the benefits of collaboration tools through a series of detailed case studies.

Given the clear evidence of benefits, why are many construction projects still not using any collaboration tools? There might be a variety of reasons, including unwillingness to examine new methods of working; shortage of ICT skills; cost concerns; lack of awareness of their benefits; tendency of waiting for others to try it first; and so on. These are barriers that need to be overcome. They should not be excuses for not adopting ICT-based tools. ICT is good for partnering and collaboration, ultimately transforming business practice and delivering better construction projects.