

Collaborative working and its effects on the AEC organisation

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The new millennium has seen widespread recognition that the construction industry must embrace new ways of working if it is to remain competitive and meet the needs of its ever demanding clients. Collaborative working is becoming the core of new management paradigms such as concurrent engineering and lean production and is essential if design and construction teams are to address the entire lifecycle of the construction product.

Much of the recent work on collaborative working focused on the delivery of technological solutions with a focus on web (extranets), CAD (visualisation), and information/knowledge management technologies. However, it is now recognised that good collaboration does not result from the implementation of information technology solutions alone. The organisational and people issues, which are not readily solved by pure technical systems need to be resolved. On the other hand, approaches that exclusively focus on organisational and cultural issues would not reap the benefits derived from the use of technology, especially in the context of distributed teams that are the norm in construction.

There are cultural boundaries – and barriers – around virtually every corner in any typical AEC organisation. Boundaries exist between business departments, between managers and, most critically, between ICT users and ICT developers. In order to introduce information technology and subsequent system change into the organisation effectively, it is necessary, as in any situation of business change, to study the viewpoint of the users. These users – primarily managers – operate and think using situational orientation; they react to the changing stimuli and contingencies around them. Technicians, on the other hand, are linear and rely on technical capabilities to solve problems. Understanding the differences between the two modes of thought and orientation is the first step towards bridging the gap that naturally exists between the managers (system users) viewpoint or culture, and technicians (developers) viewpoint or culture. Managers have to take into consideration the many cultural and behavioural barriers within the workplace that may affect the smooth introduction of ICT systems. Individuals can be apprehensive when confronted with technological change. Change itself, as well as the new technology, can be threatening. Experience also shows that technology is often not an improvement at first, may not work and can have a negative impact on an individual's position in an organisation. Different individuals interpret change differently; not all individuals resist change. Managing change when introducing computer technology, therefore, involves balancing organisational and human factors. In addition to individual

reactions, managers have to take into consideration group cultural reactions, relationships between ICT, information systems and organisational change. This is especially important within the construction sector.

Work currently being undertaken at Loughborough University aims to address many of the above issues in collaborative working, by focusing on high level strategic decision making to identify areas where collaborative working maybe improved taking into account organisational, project and users needs. This paper reports on the organisations' perception of collaborative working and its associated technologies to enable them to work collaboratively.