Chapter 9
The Use of Collaborative Technologies within SMEs in Construction: Case Study Approach

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EXECUTIVE SUMMARY

Collaborative environments have been evolving and effectively employed in large organisations and are believed to have high potential for Small and Medium Enterprises (SMEs). This chapter shares the findings of a case study that was conducted on twelve companies in order to assess the use of collaborative environments and their adaptation approaches through interviews with senior level managers and end-users. The need for such case studies has risen from an intensive literature review which revealed that SMEs are key players within the construction industry; however, there seems to be little evidence of their utilisation of IT for collaborative learning environments. Therefore, this calls for the necessity to developing an approach blending the right combination of factors which are believed to contribute towards the improvement and implementation of collaborative environments and may affect their success.

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INTRODUCTION AND BACKGROUND

Due to its multi-organisational and geographically dispersed project nature, there are traditional collaboration requirements in construction. However, the role of IT has been overlooked in construction initiatives. In 2002 the report entitled 'Accelerating Change' was the first industry report to mention IT explicitly; in 2006 the report entitled '2012 Construction Commitments' says: "IT-based collaborative tools and communication technologies will be exploited". Yet, there is only one mention of IT in the 'Draft Strategy for Sustainable Construction' (Wilkinson, 2005). Currently, there is a gradual shift towards collaborative working and enthusiasm about the adoption of collaboration technologies that can be said to be two faces of one coin. However, still it is not satisfactory given the fact that the use of collaboration technology remains low among 99% of companies in the UK construction industry usually referred to as Small and Medium Enterprises (SMEs < 250 employees) (Barbour 2002, p.31; Barbour 2003, p.14; DTI benchmarking study 2004, p.52; Wilkinson 2005; ebusiness W@tch 2006). It is widely recognised that SMEs perish quicker than large organisations; in fact, the fairly recent Small Business Service (2004) statistics reveal that SMEs sustainability is an issue; which can be attributed partially to lack of profitability, and that profitability is linked to performance. The implementation of collaborative environments is one possible solution to improve performance among SMEs.

Previous research relates to the integration of IT in business environments in general (Underwood and Alshawi 2000; Pena-Mora et al 2002; Roshani et al., 2005; Alshawi, 2007) but the growing popularity of collaborative environments in the construction industry has, unfortunately, not been matched by parallel empirical research for SMEs. Given that SMEs deliver 52% of the construction industry's workload (DETR, 2000), it ensues naturally that they are key players in supporting large construction companies. Therefore, SMEs' good performance and survival in the industry is vital. This is the reason why the research reported in this chapter attempts to investigate ways of getting the SMEs to engage more effectively in collaboration initiatives to meet the demands of an over growing industry while increasing their overall competitiveness.

This chapter therefore looks into the key areas to focus on during collaborative environments implementation that can improve SMEs performance in collaborative working. In a study to find out the current collaborative environment implementation and collaborative working approaches covering a number of SMEs, twelve interviews were conducted in a semi-structured format with senior level managers and end-users. As a whole, this chapter concentrates mainly on presenting the results obtained from SMEs in the construction industry in the United Kingdom to explore the efficacy of different technologies for collaboration and gather information on the