

Title: Best Practice use of IT Tools on Construction Studies

Researcher: Matthias Mager – MScECM Thesis

Supervisors: Ken Thomas

Submission Date: September 2003

Purpose:

The dissertation concerns information technology (IT) solutions that can be applied to improve communications between construction sites and off-site locations as well as the management of on-site construction processes. The research includes an investigation into German, Swedish and UK construction companies and specifically how these various construction enterprises have been putting IT solutions into practice. The dissertation should also be seen as a guide for managers and supervisors who intend to introduce or enhance IT solutions for their operations on site.

Methodology:

The literature review gives an insight into IT solutions that are currently available and considers future visions for communication methods. Case studies were summarised to demonstrate achievements and substantiate the key benefits of deploying new information technologies. The primary research involved three interviews and a survey. The interviews were conducted with senior managers from leading construction enterprises in Germany and Sweden. These interviews reflected opinions about the need of IT in construction and how they gathered information about useful IT tools in general. In addition to this, the interviews pointed out successes and lessons learned that have been achieved by deploying IT solutions for their business. The survey involved a mixture of eighty-five leading and smaller construction firms from Germany, Sweden and the UK. The response rate was twenty-eight per cent. The survey questions reflected the findings of the literature review and investigated experiences of the IT-use of enterprises in form of a web-based questionnaire. The results give an insight into the present integration of IT in construction projects and their future use.

Findings:

The conclusion of this dissertation is that experiences made with IT solutions on construction sites are mainly positive so far. Results of the research indicate that the IT-use in construction projects does not differ significantly within the compared countries. The high awareness of possible advantages and a strong focus on wireless solutions in future projects corroborate the optimistic impression and predict a new era in construction; mobile computing will become a reality on construction sites. However, it is crucial that construction companies understand which IT solutions best fit to their business. Enterprises do not compulsively need to employ an IT director but they need managers who are educated on the value of IT solutions rather than merely trained in its use.

Classification: Information & Communication Technologies (ICT)