

Case Study: Looking at “soft” issues in construction project management



This case study is based on PhD thesis research, which was carried out by Andrew Edkins at the Bartlett School of Graduate Studies, University College London. The intention of the research was to seek to understand the key processes that occur as part of the management of a modern complex construction project. As such it dealt with the 'soft' issues involved in project management which are increasingly being seen as the most significant parts of project management. This area had received little previous attention, with the majority of academic work being focussed on the control of programme, cost and, most recently, quality.

Within this context, the research focussed on the processes involved in bringing an important element of the building from the early stages involved with conceptual ideas, through detailed design, with associated cost and programme issues, to construction. The concentration on 'upstream' events was justified on both theoretical terms as well as from a practical viewpoint. Theoretically it is acknowledged that significant improvements can be gained from improving the robustness of the quality of information generated at these early stages. Practically, the time available for research limited the study to a portion of a project's life cycle, requiring clear breakpoints to be established.

In order to carry out the proposal, suitable projects were identified and a common element of the building selected. The key players involved in developing the design, budget cost and programme were interviewed as and where necessary and the results expressed as cognitive maps. For each project studied there was therefore substantive evidence on the process involved in the development and management of the façade of the project. The principles of Business Process Reengineering were then applied to see if the actual approach can be modified to provide a process for the strategic management of the design, which is more effective.

As a project involves many disparate views it was expected that the cognitive maps recorded from the individuals concerned would be complex and divergent. The compilation of these maps to form a project map required the use of computer software capable of handling such quantities of data. Without Decision Explorer® (formerly Graphics Cope) the analysis of the data, in the form of cognitive maps, would have been both inaccurate and partial and little of value would have been learnt. With the software, the analysis was capable of being reviewed by those originally interviewed and their comments considered. It is to be stressed that the construction industry is notorious for disregarding well intentioned advice if it feels that it cannot be incorporated without the need for major re-configuration.

The research sought to provide two extremely useful recommendations. Firstly, it demonstrated how the important decisions and actions required as part of project management were actually taken and perceived by those involved on a construction project. This information is crucial for a better understanding of how a construction project is managed. In the light of the Latham Report, which indicated that through better management strategies, procedures and systems a 30% saving could be made on the cost of construction, such information will be crucial if improvement in effectiveness and efficiency are to be sought for the long term. Secondly, by analysing actual projects involving leading industry players it was hoped that a more holistic understanding of the problems faced in developing a project would be made. Without such cross referencing, the existing approaches would continue to be followed and improvements virtually impossible to achieve.

Case Study: "Soft" issues in construction project management (Contd.)

These objectives were attained by relying on recent developments in cognitive mapping and, in particular, the use of powerful analytical computer software, Decision Explorer[®], which introduced the possibility of studying extremely complex environments with a degree of objectivity previously unobtainable..

When faced with group maps which contain many concepts and linkages, the ability of the human brain to identify patterns and clusters becomes limited. Using Decision Explorer[®], complex and large maps can be condensed down to present main concepts and clusters grouped under appropriate headings which can then be the basis for further discussion with the group. The ability to review different aspects of the same map without losing the individual's contribution makes the software a powerful tool. Although Decision Explorer[®] is designed so that it can be used on site in direct consultation, there can be just as much gained through the manual recording of the map on large pieces of paper or a board, the final version of which, after all modifications and discussion, can be transcribed onto the computer. This approach was adopted and used with great success.

The outcome of all the work was a coherent picture of a complex area of construction management which revealed the need for the careful selection of individuals who needed a combination of technical, managerial and interpersonal skills in order to manage complex design.

The PhD thesis was successfully examined in July 1997 with the examiners being particularly pleased with the treatment of the qualitative data.

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