THE IMPACT OF TRUST AND POWER ON KNOWLEDGE SHARING IN DESIGN PROJECTS: SOME EMPIRICAL EVIDENCE FROM THE AEROSPACE INDUSTRY

Cloonan J., Matheus T., Sellini F. - *Airbus CIMPA* (*GBR*)   1071

It is acknowledged by aerospace engineers that relationships between partners are influenced by topics such as trust and that they enable or inhibit knowledge flow. This paper presents findings from interviews with engineers in the aerospace industry on how trust and power within supply chain teams impact knowledge sharing and integration. From a trust perspective, the results of the paper indicate that individually, engineers are aware of its importance but that there is little organisational awareness and consequently no framework or support exists for managing it. With regards to power, we show that there are positive as well as negative impacts on knowledge sharing to be considered.

EMOTIONAL ALIGNMENT IN TEAMS: HOW EMOTIONS SUPPORT THE DESIGN PROCESS

de Boer R. J., Badke-Schaub P. - *Delft University of Technology* (*NLD*)   1079

We propose as central theme of this paper that design team performance is affected primarily by a simultaneous occurrence of emotion in individual team members. That is, a design team will perform better (all other things being equal) if the emotional arousal of one team member is transferred to the other team members, for instance through heated debate. We have defined the term Emotional Alignment to describe the state of simultaneous emotional arousal in a team. To support this thesis, we first discuss evidence from design literature and literature case studies. We then demonstrate the likelihood of such a relation through recent exploratory research.

DESIGNING IN A GROUP - HOW CAN KNOWING EACH OTHER INFLUENCE DESIGN PROJECTS?

Hayes J. P., Knight L. A., Newnes L. B. - *University of Bath* (*GBR*)   1087

This paper presents a study of engineering design groups that seeks to explain how knowing other participants can influence processes and outcomes in design projects. Literature on the role of individuals and groups in design projects is reviewed, identifying an increasing current interest in collaborative design work. This research focuses on understanding how interpersonal relationships influence group processes and outcomes in design. From a pilot study, a framework for analysis is developed with a temporal perspective and introduces the concept of identity with rationale for case selection and case propositions. Both individuals and groups are considered where influences in group interaction and development can be captured.

DESIGNING BASED ON THE EVOKED METAPHOR - CASE STUDY

Levy P., Yamanaka T. - *Chiba University* (*JPN*)   1095

This paper introduces a course on Methods in Kansei Design started in 2007 at the University of Tsukuba, and one of the student projects. After providing a comprehensive description of Kansei, a design method based on the construction and the use of a metaphor (namely the Evoked Metaphor - EM), and on the use of intuitional processes for knowledge sharing, is introduced. This method intends to help knowledge sharing by minimizing distortions due to interdisciplinary environment. The method and the teaching structure are detailed. The final part presents a design project on car navigation system, using foxhunting as an EM, which has not only improved communication and knowledge sharing, but also imagination, and therefore creativity.

TEAM COHESION AND PROCESS ASPECTS OF TEAMWORK IN DESIGN

Neumann A., Badke-Schaub P., Lauche K. - *Delft University of Technology* (*NLD*)   1105

The authors discuss the importance of shared representations in design teams, describing a theoretical model of group coordination in design. A coding scheme is formulated to derive the development of shared representations based on verbal utterances. The data from an experiment, in which eleven groups developed a conceptual product design, is coded accordingly. Results indicate that well functioning teams, in contrast to poorly functioning ones, put more effort into structuring the process as well as maintaining the group coherence early in their design activity. Well functioning teams also show a decrease of those utterances during the design process. Theoretical and practical implications of the findings are discussed.

Workshop 1: Human behaviour in design   Workshop
Session: D011   Chairmen: Petra Badke-Schaub (NDL), Udo Lindemann (DEU)

Monday - May 19, 2008.   09:00 - 13:00 | Congress hall Bobara

GUIDING TEAM SELECTION AND THE USE OF THE BELBIN APPROACH

Wasiak J. O., Newnes L. B., Mileham A. R., Hicks B. J., Outram G. - *University of Bath*   1113
(*GBR*)

A collection of successful individuals does not necessarily make a successful team. A comprehensive review of existing methods for forming teams was undertaken, identifying important aspects to consider. In an experiment following fourteen teams, each member's Belbin roles, academic profiles, skill disciplines and aspects of their tasks were evaluated against team ability. Findings showed the importance of selecting the correct leader and achieving a balance of roles amongst the team. Evidence that different team profiles could be suited to different tasks was also found. Implications for developing a more holistic team selection model are discussed.