Facilitating Value Creation and Delivery in Construction Projects - DTU Orbit (09/09/2019)

Facilitating Value Creation and Delivery in Construction Projects: New Vistas for Design Management

This thesis is about value creation in the early stages of construction design processes. It has been problem-driven with a specific management concept, the workshop model, as an outset. Essentially the question was; how should construction project design processes be managed with the objective of maximizing client and user value? To this end the research project can be seen as the impact of a current management discourse, where customer value is the slogan. However, in an academic context, such a question needs justification as well as modification to become operational. In relation to justification, the question is highly relevant for a number of reasons. First of all, in Denmark and in many other countries (e.g. the UK and US) substantial critique has been raised regarding the construction industry's current level of achievement. At first, this led to various development initiatives to improve efficiency and quality. Subsequently, concerns have been raised about value. Accordingly, efforts to improve efficiency and quality may be somewhat wasted, if the 'wrong' products are provided. Nonetheless, the literature is sparse in explaining the notion of value in construction design processes. In addition, the research on construction design management is still in its infancy. Focusing on the early stages of designing, where the research is set for everything that follows, this led to the following research questions: 1. How do the client and other project stakeholders' perceptions of value manifest in conceptual construction project design-processes? 2. What issues can be identified in conceptual construction project design-processes in relation to management of client value creation? 3. What recommendations can be made – on the basis of the theoretical and empirical findings – concerning construction design management in general in relation to the conceptual purpose of client value creation? In order to answer these questions, literature reviews are provided within the following fields of research: value theory (philosophy and social psychology), theory of designing, communication and group-dynamics theory. In addition, the following instrumental management concepts, which were deemed relevant to the topic, have been outlined: Briefing / architectural programming, value management and value engineering, values-based management, Lean product development and lean construction. Construction project process models/protocols are also addressed. Next four qualitative case-studies (from Denmark and USA) are presented and analysed by means of a 'Reflexive methodology' that pragmatically draws on the meta-theories of hermeneutics, critical theory and postmodernism. This leads to the synthesis where the following answers (presented here in a condensed form) are provided: Perceptions of value manifest in the local discussions and arguing over design alternatives. Although designers and contractors support the notion of client value, they are not mere problem-solvers; they actively try to influence the design to their own liking. Within a social process, distortion of communication, codified language and rhetoric can be means of persuasion. To provide an overview a Vector model of Influences on Value creation (VIV-model) is developed. These findings, which relate to the first two descriptive research questions, have implications for management of value. It is argued that the contemporary concepts reviewed mostly ensure that information is available and design tasks are coordinated. They do not address the social processes in local group interaction. It is therefore recommended to stimulate greater awareness about the potential 'pitfalls' observed in the case-studies by means of three metaphors for reflection and design-group adjustment. These are: (1) Part-whole conversation, (2) Game of persuasion and (3) Hyper-reality. Reflection and adjustment may require the inclusion of a facilitator. In addition, concrete suggestions for further development of the design management concept, the workshop model, are provided. In general, the thesis contributes to the emerging literature on construction design management, which is still in its infancy. In addition, the theory part of the thesis contributes with a somewhat philosophical perspective to the topical discussion of value and values in construction management literature. More significantly the thesis describes – by means of four case-studies – how value perceptions manifest in construction design processes. Furthermore various issues in relation to client value-creation are identified in the case-studies. In connection to this, the VIV-model provides a new framework for understanding the link between designing and value-creation. This together with the three metaphors, provide an initial 'competence-basis' for a construction design group facilitator. Furthermore, in the instrumental area, the study includes the first scientific and critical examination of the ‘workshop model'. Finally, the thesis introduces an in-novative methodology in construction design management research by adopting (and adjusting) the 'Reflexive methodology' developed by Alvesson and Skölberg (2000). This approach proved to be practicable in a complex socio-technical analytical context.

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