Frames, agency and institutional change: the case of benchmarking in Danish construction

This study examines change and the sources influencing the formulation and diffusion of policies in construction. The change examined is the introduction of a benchmarking policy initiative in the Danish construction industry. Using institutional theory with emphasis on the concepts of frames and framings, we show how strategically motivated actors are able to frame policy problems in ways that disclose the mixture of motives, interests and institutional mechanisms at play in change processes. In doing so, we contribute to the literature on the role of agency in institutional change and the framing of policy problems. We conclude by highlighting how insights gained from the framing perspective present a challenge to the dominant comprehensive rationalist view of the policy process and the formulation and implementation of reform initiatives.

Building defects in Danish construction: project characteristics influencing the occurrence of defects at handover

Defects in construction have gained much attention from both the public and academia. Danish construction is no exception and a number of political initiatives have been established to address the unsatisfying amounts of defects. One of the political initiatives, benchmarking, collects and provides information from building projects on defects at handover to clients and on a number of project characteristics. This article utilizes the substantial amount of data from the benchmarking initiative to examine which project characteristics differentiate building projects with none or few cosmetic defects from those with many and/or serious defects. The article reviews the results from studying two quantitative data sets: (I) benchmarking data from 329 building projects and 621 contracts and (II) questionnaire data from an electronic survey comprising 130 contractors. This study provides in-depth knowledge about correlations between project characteristics and the extent of defects measured at handover. Results show statistically significant differences between building projects characterized by no or few defects compared with building projects with many and/or serious defects. Determining characteristics are the planning of budgetary conditions, time schedules and early, continuous quality control. Furthermore, this study also indicates collaboration between stakeholders plus skills and safety initiatives as having a positive influence on the performance measured as defects at handover.
Performance systems and social capital

Performance systems and social capital are considered mutually exclusive. Contemporary studies show that social capital is essential in generating performance improvement. This raises an important question: "How do performance systems and social capital correspond?" This study draws on findings from a study on implementation of a performance system in Danish construction. The results show causalities between implementing the performance system and the emergence of social capital in construction projects. Results indicate that performance systems and social capital is not mutually exclusive, but that the effects of performance systems derive from motives for compliance, interpretations of common goals and strategic activities.

The institutionalization of benchmarking in the Danish construction industry

With a theoretical point of origin in contemporary institutional theory, this thesis is about the institutionalization of benchmarking in the Danish construction industry. By answering the following three research questions, the thesis embraces over an enquiry of the institutionalization of benchmarking:

- How and for what purposes has benchmarking originally been introduced as a solution to political issues in the Danish construction industry?
- How have political struggles and negotiations affected the institutionalization of benchmarking?
- How has the study contributed with recommendations on how to institutionalize new structures in the Danish construction industry?

In the methodology chapter, I outline how institutional theory facilitates new and important inquiries into understanding institutionalization of benchmarking. I account for how the choice of theory is influencing my analytical approach to conduct this study and how institutional theory is providing important insight in this study of benchmarking. In the methodology chapter, I present three analytical models that are applied in the study; "Three Pillars of Institutions," "contradictions," and "framings." Further, the chapter accounts for the data collection methods used to conduct the empirical data collection and the appertaining choices that are made, based on the account for analyzing institutionalization processes. The analysis unfolds over seven chapters, starting with an exposition of the political foundation from which benchmarking originally arose as a political proposal for a future institution in the Danish construction industry. The second chapter demonstrates how benchmarking was introduced in the late 1990s as a technology addressing political focus areas from two development programs in the late 1990s. In the third chapter, it is demonstrated how private actors from the construction industry attempted to take control over the institutionalization of benchmarking by establishing an Evaluation Centre (Byggeriets Evalueringer Center, BEC) from which benchmarking was to be developed and disseminated to the construction industry. The fourth chapter demonstrates how benchmarking was concretized into a benchmarking system and articulated to address several political focus areas for the construction industry. BEC accordingly became a political arena where many local perspectives and strategic interests had to be managed. The fifth chapter is about the operationalization of benchmarking and demonstrates how the concretizing and
implementation of benchmarking gave rise to reactions from different actors with different and diverse interests in the benchmarking initiative. Political struggles emerged as actors expressed diverse political interests in the institutionalization of benchmarking. The political struggles accounted for in chapter five constituted a powerful political pressure and called for transformations of the institutionalization in order for benchmarking to attain institutional legitimacy. The political pressures ended up radically transforming the institutionalization of benchmarking. This transformation is accounted for in chapter six. As a result of the transformation, private construction companies were provided an opportunity to influence the future institutionalization. Additionally, and related to the construction companies’ influence on the institutionalization, competitors to BEC emerged. This competition entailed implications for how to perceive the instrumental purposes and overall objectives for benchmarking. Having the construction companies as important carriers of the institutionalization, the final chapter of the analysis uncovers how benchmarking is understood and interpreted among the practitioners in the construction industry. The chapter reveals how the benchmarking institution is incorporated in their experienced reality and demonstrates the interplay between and different interpretations among practitioners benchmarking gives rise to.

With a point of departure in the three research questions, the final chapter discusses and concludes on the analysis. Here I advance an understanding of institutionalization processes as being highly political and reliant on actors’ political motivations to transform the rising institution. Based on the finding from the analysis, I conclude the thesis with recommendations for how to construct and carry institutions in the Danish construction industry.

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**Indicators for Building Process without Final Defects: Methodology and Theoretical Foundation**

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**Indicators for Building Process without Final Defects - methodology and theoretical foundation**
This article introduces the preliminary data analysis, as well as the underlying theories and methods for identifying the indicators for building process without final defects. Since 2004, the Benchmark Centre for the Danish Construction Sector (BEC) has collected information about legal defects in connection with Danish construction enterprises that have been handed over. The project aims to utilise the knowledge potential available in BEC's database in order to locate key performance indicators of construction failures and defects. The empirical data from BEC is applied in a more academic context than has been the case until now. The idea is to survey which indicators differentiate good construction and processes of construction from bad ones. The method is a retrospective analysis, which is based on data on the handing over. The data used has been partly that which BEC has already collected and partly additional focused data collected through interviews and electronic questionnaires directed to developers, designers and contractors. The first results from the data collection will be available in spring 2011 and will be able to indicate the differences between construction without or with only a few defects and construction that is handed over with many and serious defects.
Revaluering benchmarking - A topical theme for the construction industry

Over the past decade, benchmarking has increasingly gained foothold in the construction industry. The predominant research, perceptions and uses of benchmarking are valued so strongly and uniformly, that what may seem valuable, is actually abstaining researchers and practitioners from studying and questioning the concept objectively. This paper addresses the underlying nature of benchmarking, and accounts for the importance of focusing attention on the sociological impacts benchmarking has in organizations. To understand these sociological impacts, benchmarking research needs to transcend the perception of benchmarking systems as secondary and derivative and instead studying benchmarking as constitutive of social relations and as irredeemably social phenomena. I have attempted to do so in this paper by treating benchmarking using a calculative practice perspective, and describing how this perspective develops more thorough knowledge about benchmarking and challenges the current dominating rationales. Hereby, it is argued that benchmarking is not a neutral practice. On the contrary it is highly influenced by organizational ambitions and strategies, with the potentials to transform organizational relations, behaviors and actions. In closing it is briefly considered how to study the calculative practices of benchmarking.

Benchmarking – A tool for judgment or improvement?

Change in construction is high on the agenda for the Danish government and a comprehensive effort is done in improving quality and efficiency. This has led to an initiated governmental effort in bringing benchmarking into the Danish construction sector. This paper is an appraisal of benchmarking as it is presently carried out in the Danish construction sector. Many different perceptions of benchmarking and the nature of the construction sector, lead to an uncertainty in how to perceive and use benchmarking, hence, generating an uncertainty in understanding the effects of benchmarking. This paper addresses these issues, and describes how effects are closely connected to the perception of benchmarking, the intended users of the system and the application of the benchmarking results. The fundamental basis of this paper is taken from the development of benchmarking in the Danish construction sector. Two distinct perceptions of benchmarking will be presented; public benchmarking and best practice benchmarking. These two types of benchmarking are used to characterize and discuss the Danish benchmarking system and to enhance which effects, possibilities and challenges that follow in the wake of using this kind of benchmarking. In conclusion it is argued that clients and the Danish government...
are the intended users of the benchmarking system. The benchmarking results are primarily used by the government for monitoring and regulation of the construction sector and by clients for contractor selection. The dominating use of the benchmarking results is judgment oriented and this is argued to generate competition among the contractors, thus, undermining the distribution of best practice and voluntary knowledge sharing among contractors. It is argued that benchmarking in the Danish construction sector to a certain extend constructs an overall comprehension of what constitutes project success.

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CRITICAL EVENTS IN CONSTRUCTION PROCESS
Function failures, defects and poor communication are major problems in the construction industry. These failures and defects are caused by a row of critical events in the construction process. The purpose of this paper is to define "critical events" in the construction process and to investigate cause-effects of failures and defects in the construction industry by using an analytical approach (The bowtie model) which is developed in the accident research. Using this model clarifies the relationships within the chain of failures that causes critical events with undesirable consequences. In this way the causes of failures and the relationships between various failures are rendered visible. A large construction site was observed from start to finish as the empirical element in the research. The research focuses on all kinds of critical events identified throughout every phase during the building process and includes all participants in the construction project. A general result from the analysis was that critical events that occurred when the site was not using Lean Construction evolved much longer than critical events that occurred in the period when Lean Construction was used. Another result was the usefulness of the analytical model for visualizing the cause-effect of failures and defects in construction.

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