

OPERATIONS STRATEGY AND INNOVATION? A CONTRACTOR IMPLEMENTING LEAN

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Traditional strategic management and operations strategy wants us to believe that the implementation of management concepts is a simple strategic choice made by top managers. In this paper we introduce the story of Lean Construction entering into the organisation of a Danish contractor. Lean Construction is viewed as a management concept and the journey into the construction company witness not only that top management is very little involved, and that the concept is negotiated and promoted by a number of actors and coalitions competing for attention and resources with a number of other concepts. The paper will present findings from empirical work in collaboration with a large Danish contractor. The case is analysed from the perspective of operation strategy and political process. It is observed how the management concept is socially constructed and negotiated through political action of key actors/brokers and coalitions. Lean Construction is shaped in the process of emergence in the organisation, where also explicit corporate strategies and other initiatives of the organization interact with the concept and the actors and coalitions surrounding it. It is analysed how Lean Construction as a management concept interact with people and coalitions within the organisation on its journey to being accepted as an embedded practice. It is argued that strategy should be replaced by governance of the partnering type.

Keywords: implementation, lean construction, management concepts, political process.

INTRODUCTION

A contractor that obtains size and volume faces a number of challenges in keeping innovative and agile. The enterprise discussed in this contribution is a major contractor with an extensive and hierarchical organisation (Larsen & Schultz 2005).

While there clearly are demands to meet from clients and other external cooperation partners, this contribution focus on how such a large contractor realise operational innovation or what Hammer (2004) labels deep change referring to the distance between the important operations and corporate management. Clearly such a situation is a call for governance and strategic management of innovation (Storey 2004).

The study behind this paper takes point of departure in the need for management innovation, understood as changes in the way management is carried out. The example chosen however is Lean Construction, which means that management innovation and operational innovation largely coincide.

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The aim of the contribution is thus to analyse how management innovation occurs in a large hierarchical contractor's organisation, with the implementation of lean as example.

Theoretically the paper draws on Operation Strategy approaches (see below) in combination with organisational politics (see below) and contributions from innovation process research (Van de Ven 1999, Clausen 2002).

The paper is structured in the following way: After methodological considerations, the paper moves on the present operation strategy and political processes as theoretical framework. This is followed by a case description, a discussion and a conclusion.

METHOD

The paper builds on an ongoing doctoral study carried out by one of the authors (Simonsen), with other author as supervisor (Koch). Using a case study approach was an early implication of the qualitative interpretive paradigm chosen (see also Barnes 2001). The contractor was selected at an early stage in the doctoral study as case because of it commencing implementation of lean, enabling the doctoral study to span two years of implementation process.

The studies are carried out using qualitative interviews at different management levels in the organization of the contractor to expose the strategic decisions regarding the implementation of Lean Construction. Furthermore participatory observations on two construction sites have been carried out during winter and spring 2004. The observations have been on the weekly work planning meetings with the foremen as well as interviews with both foremen and project managers.

Also interviews with persons outside the contractor in the Danish construction sector have been used as background information.

The material from the doctoral study is combined with other studies of the contractor, such as Larsen & Schultz 2005.

THEORY: INTRODUCING OPERATION STRATEGY IN CONSTRUCTION

Large companies need innovation to grow and corporate management face serious problems in deciding which type of innovation is needed, not only product and process development but also business development, like new markets, new marketing, new services after sale and all the types intertwined. As Hammer and other argue, business innovation does need to encompass operational innovation. Operation strategy deals with the difficult issue of deciding which processes, when and how, they are to be changed.

Operation Strategy as a discipline and practice deals with "the total pattern of decisions which shape the long term capabilities of any type of operation and their contribution to overall strategy, through the reconciliation of market requirements with operations resources" (Slack & Lewis 2002)

Increased global and local competition forces managers to deal with operations in a more strategic and considerate manner. Some observe however that operation strategy and management to its own disadvantage is in competition with other corporate management disciplines (Wheelwright 2005). Moreover, much indicates that managers rarely rely on operation strategy (OS) models and methods when they target

their daily problems (Voss 1992; Slack and Lewis, 2002, Rytter *et al.* 2005). Apparently, existing OS models and methods hardly influence the thinking and acting of operations managers in a significant manner (Slack *et al.*, 2004). Within the research discipline of OS, much is still left to be done concerning establishing relevant and reliable OS models and methods, which are also able to impact operations management practitioners better in the future. We would argue that OS research has an imbalanced research focus. In the OS literature, it is custom to distinguish between the content and process of OS and most deal with content. Several contributions have urged for more research on OS process issues (Anderson *et al.*, 1989; Adam and Swamidass, 1989; Leong *et al.*, 1990; Anderson *et al.*, 1991; Minor *et al.*, 1994; Dangayach and Deshmukh, 2001), but process remains marginal. Present OS theory building is dominated by OS models and methods such as those of Skinner (1978), Hill (1993), Mills *et al.*, (2002), and Slack and Lewis (2002). Recent contributions have criticized those models and methods for having a number of imperfections, and proposed ideas for improving them. The models and methods focus on formulation and not implementation of OS. That is, they provide normative guidelines for decision making before action. OS practitioners, however, also need models and methods focusing on implementation, rather than just formulation of OS. Such models should guide action as much as decision making and are likely to be more descriptive than prescriptive (Burnes, 2002; Rytter *et al.*, 2004, Rytter *et al.*, 2005). Other studies of OS documenting a need for change of OS models and methods include Maruchek *et al.* (1992), Platts *et al.* (1998) and Burnes (2002). Similar conclusions also seem to be supported by the growing number of publications on the management of operational change (Burnes & Hakeem, 1994; MacIntosh and MacLean, 2001; Bamford and Forrester, 2003, Burnes, 2004).

Operation Strategy plays a very marginal role in construction research and practice indeed. In large construction companies however we believe that the later years have encompassed a further professionalisation of corporate management leading to an increased consciousness and competence in developing strategy. Other drivers for an increased focus on strategy are the globalisation and the mergers and acquisitions (Howes & Tah 2003).

The process of operation strategy development as a political process

From the point of organizational politics new management ideas are seen as political programmes (Mcloughlin *et al.* 2004, Kamp *et al.* 2005). The political programme is shaped in the interaction between different actors who build alliances to overcome barriers and resistance. When actors enrol in the alliance the content of the management concept often change to fit their political programmes. One can therefore expect an emergent character of the process (Bamford & Forrester 2003, Burnes 2004, Mcintosh & Mclean 2001). Thus, when Winch (1998) describes the travel of innovation into a firm, as two possible routes; either from the project into the firm or through corporate management, these two routes can be seen as examples of how characteristically different alliances can develop around a management innovation. Moreover such different types frequently are in internal competition (Burnes 2004).

CASE: FROM BOTTOM TO TOP

As mentioned the case evolves in a major contractor with several thousand employees.

Around six years ago the corporate management decided to support a proposal from certain parts of the organisation to flag “partnering” as the main concept for building

processes. At the same time however lean construction was receiving quite some attention in the sector because of a competitors' branding of their effort using this concept.

The first project including lean construction (lean) was initiated – as one of Winchs' routes - through the cooperation with an external partner in a project. A first set of experiences with especially last planner system, was developed (Ballard 2000). A manager, who participated in this first projekt decided to use the concept within his department. This implies that the concept had gained considerable organisational resources (McLoughlin *et al.* 2004). However the second project initiated in this department had trouble and failed. The implication however was an ex post interpretation emphasising the need of getting all sub contractors on board in the project coalition, since “no chain is stronger than its weakest link”.

The promoting coalition commenced communication their experiences at internal seminars and the like. In parallel to this a project focusing on scheduling was initiated by corporate strategic management. Although this constitutes competition for resources to the lean-innovation, the result of scheduling project was nevertheless an organisational innovation. As result a resource group was established to improve scheduling of projects.

After a period of operation the focus of the resource group changed into looking at lean construction. At first the group collaborated heavily with the project managers of the lean construction 'pilot' project. Competences were embedded in the group and the group could commence counselling project management groups on the building projects on the use of lean. The programme of the resource group mainly contain last planner as the crucial element of lean. Attempts were made to spread the understanding in a relatively informal manner where the resource group coached project management on site in using the lean methods. There was thus not produced a manual or the like. Gradually building projects began using lean. It was however still most project that operated without.

Alongside working with lean on projects and promoting the concept in the organisation the coalition behind lean was also heavily involved with lean activities outside of the organisation in the public lean construction debate and development.

The next step of the development was an embedding in corporate strategy. Again the resource and especially the manager of the group played a central role as he presented the concept as in synch with current strategic considerations. Lean was viewed as a local next step from the scheduling focus. Corporate management decided to generalise the strategy of lean to the entire company. This should be understood as a change in governance rather than in direct organisational resources. The scheduling resource group continues to be central in the implementation.

As described in Simonsen & Koch (2005) the implementation in projects in this period was differentiated and gave much space for local interpretations. This was especially evident on project not supported by the scheduling resource group.

A reorganisation of the company followed. Seen from a Lean position point of view, the status and embankment of the concept did not change as a result. There was a change of responsible manager for the resource group, but this could be interpreted as a signal of continuation, since the new manager possesses strong lean-competences. The management innovation has thus become embedded in corporate routines. Also

the first manager who was a central actor in the organisational development and promotion of lean construction is promoted as result of his efforts.

DISCUSSION: CORPORATE GOVERNANCE OF INNOVATION

As described, the process only occasionally relate directly to strategic corporate management. It is characteristic that the journey of the concept makes it travel through several singular building projects and achieve support from a few managers, before arriving at situation where it receives broader attention and corporate management support. Top management is thus very little involved in most of the process. After the official acceptance of lean as part of the corporate strategy the initiative is embedded in the scheduling resource group and formally sanctioned by top management.

The concept is negotiated and promoted by a number of actors and coalitions. The coalition is competing for resources with a number of other concepts- coalitions. This includes concepts such as the scheduling effort and the partnering effort and others. Each of these actors and coalitions must operate strategically within the organisation in order to obtain attention, support and resources.

Also the actors are operating outside the organisation in order to achieve experience, knowledge and arguments, which can be used to strengthen the promotion of the concept in the internal organisational context.

Internally the coalition is using the scheduling project as a base for developing the use of lean. As lean is accepted in the organisation it is used as the base for further development and introduction of other management initiatives. Having this base gives the coalition a advantage over less institutionalised ideas.

The coexistence of several new strategies however also indicates that the company is a strong environment for experimentation, while less efficient in embedding the innovation in routines and thorough implementation.

Received wisdom from operation strategy and from innovation in construction scholars (Gann 2000) would urge us to ask corporate management to bring order and direction into the future development of operations. The company did loose pace compared to its main competitor because it did not implement lean in a top down and thorough fashion. It could also be observed that some of the top down initiated change programs did less of good job in the organisation.

It is however not possible to underpin a demand for more systematic OS-work in this case. The economy of the company is good and the concept of lean is now better embedded in the organisation than before. It could therefore be argued that practising a broad minded corporate governance, letting innovation grow on the basis on local and project- specific resources has its advantages. Such a pro-innovation culture creates probes into the future, that is small low cost experiments that easily can expand if succesfull (Brown & Eisenhardt 1997). It a form of governance parallel to that of Wenger *et al.*'s "gartnering" (Wenger *et al.* 2002), a form where giving space to initiatives from below become crucially important.

Moreover there is an echo of Brymans (1999) plea for dispersed leadership, rather than coreherent "single source" leadership. In this case managers at medium level in the organisation successfully used their resources to develop the lean construction concept in the organisation.

CONCLUSIONS

In today's rapid and complex business development many strive at reducing risk and bringing order by evoking modernistic thinking and strategy. This paper is based on a longitudinal study of an operation strategy process as it develops and emerge over time in a contractor, Our present example is demonstrating that operation strategy might have limited potency in practical contractor-s settings.

The implications for operations strategy would however still in a construction context be to improve corporate management's awareness towards the development and systematic change of operations. However open governance strategies might exhibit a better fit with present conditions.

The contractor thus did exercise operations strategy and operational innovation, yet in another fashion that prescribed by OS-literature. The emphasis was at lower level management and less on strategic management, whereas strategic management was in an approving position. The experiences from the case thus restate the problematic of operations strategy and management as exhibiting a gap between theory and practice. A gap which thus is common for large enterprises rather than merely a construction problem.

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