A HUMAN TOUCH: EXAMINING THE ROLES OF MIDDLE MANAGERS FOR INNOVATION IN CONTRACTORS

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Innovation in construction is becoming increasingly important. Many studies on construction innovation focus either on the project level or on top management. In doing so, the in between group of midlevel managers risks to be neglected. If studied, middle managers are often narrowly defined to fit the mechanistic implementation of top management ideas. This does injustice to the importance of middle managers and the variety of their roles in innovation. In this paper, we address the different roles that middle managers may adopt in relation to innovation. A literature review and a case study were conducted at a regional housing division of a large Swedish contractor. In 10 semi-structured interviews and a vision seminar the middle managers were asked to voice their perceptions about innovation in the division and about their own role. Systematisation of working practices, employee development, and health, safety and sustainability measures were perceived to be the most important innovations. Four different roles of the middle manager have been examined: implementer of change, networker, sensemaker and enabler. Most middle managers identified with different mixtures of these ideal types. On this background, we discuss how middle managers may advance these roles to contribute to innovation in housing construction.

Keywords: contractor, expertise, innovation, middle manager, roles

INTRODUCTION

The construction sector has a somewhat difficult relationship to innovation. Innovation is perceived to be important as can be seen from discussions on Lean production, Building Information Models (BIM) and 3D printing. Simultaneously, there is a widespread perception that construction companies are conservative and slow to adopt innovations. Like in many other industries, innovation in construction is hindered by a discrepancy between long-term collective benefits of innovation and a limited pay-off for individuals that innovate (Orstavik 2015). Additional barriers to innovation are said to be caused by the project-based nature and complexity of construction (Author reference, Orstavik 2015, Winch 1998).

In this context, we address the role of the middle manager which is an undervalued professional group in construction innovation. From the perspective of a hierarchical organisation, the middle manager has traditionally been viewed as responsible for implementing top management strategies at the operational level. With the emergence of a trend towards flatter and project-oriented organisations, the middle manager risks to be

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seen as a symbol of slow action in the organisation (Floyd and Wooldridge 1994). It may seem as if the middle manager is an additional barrier to innovation that should be removed, instead of a resource to be used. Against this argument, a body of research has emerged that pleads for the middle manager position to be re-evaluated instead of abolished (e.g. Balogun and Johnson 2004, 2005, Floyd and Wooldridge 1994, Koch *et al*., 2015). This paper takes up the quest and further explores the roles that middle manager may take in construction innovation. This paper addresses the following question: How do middle managers perceive their own role regarding innovation in construction?

Innovation is defined here in a pluralistic perspective as "changes in established ways of value creation" (Orstavik *et al*., 2015:4). This means that related concepts such as development, strategy, and learning are also included. Using an open definition of innovation leaves room for a more contextual understanding, where innovation means different things to different people at different times and places. This benefits the middle managers that speak in this study, as they are not restrained to commit to any predefined understanding of innovation.

METHODOLOGY

A conceptual exploration of different middle manager roles in innovation was performed through a literature review. Sources were selected using a snowballing technique based on four articles identified in the beginning of the research was used as basis of the review (i.e. Floyd and Wooldridge 1994, Kissi *et al*., 2013, Koch *et al*., 2015, Rouleau and Balogun 2011). Furthermore, a search was conducted in the Fall of 2015 using the Google scholar search engine and combinations of the following key words: middle management, middle manager, change, innovation, organisational change, construction sector, construction, built environment, and contractor.

The empirical context of the study is set by a case that was studied: middle managers in a regional housing division in a large Swedish contractor. The firm is structured around different product groups and different geographical regions. The regional housing division is itself structured in a production, support, and sales unit. The study focusses primarily on innovation perspectives from the production unit. Empirical data was collected through semi-structured interviews with ten middle managers and a non-obligatory vision seminar prior to the interviews. Eight out of ten middle managers that participated in the study were working in the production unit. The other two interviewees were working in the support unit.

At the end of each interview, the interviewees were introduced to four roles identified in the literature review. They were then asked to select the role they felt to be most appropriate for themselves. The concept of roles is used as a means to enable a description of behaviour and activities that managers are doing. Along with Wilson's (2004) critique of Mintzberg's role theory, we do not pretend that the role concept can deliver more than just that, descriptions. The interviews were tape recorded, and transcribed by one of the authors. The transcripts were analysed using middle manager tasks and responsibilities, innovation in the Construction Company, and roles of the middle manager as analytical themes. Secondly, the four specific roles identified in the literature review were separately selected as themes for the analysis.

CONCEPTUALISING THE MIDDLE MANAGER

Middle Manager Position, Responsibilities and Roles

The reviewed literature presents different conceptualisations of middle managers. Here, understandings based on the position, responsibilities, and roles in innovation are discussed, with an emphasis on the latter. A position-based understanding of middle managers emphasises an organisational understanding. There appears to be a tendency to use a negative definition of the middle manager position: i.e. middle managers are defined by what they are not. Middle managers are neither top-level strategic managers nor lower-level operational managers (Balogun 2003). A positive positional definition of the middle manager relies on the formal position in an organisation to describe middle managers. There is a wide variety of formal positions attributed to middle management, ranging from division directors to site managers (Kissi *et al*., 2012, Styhre and Josephson 2006).

A responsibility-based understanding of middle managers tends to stress the diversity of tasks that middle managers do. Styhre and Josephson (2006) portray the middle managers as a 'jack of all trades' being responsible for technical site work, administrative and financial matters, legal issues, human resource management, and conflict management. Kissi *et al*., (2012) distinguish between a supervision of lower-level managers and financial responsibilities for a financial profit. These two examples reflect a characteristic split between fulfilling operational responsibilities and more aggregate organisational responsibilities. A role based understanding of middle managers is provided by Buss and Kuyvenhoven (2011). They distinguish between three discourses on middle manager roles: implementing top management strategy, networking between different levels and domains in an organisation, and sensemaking of needs, plans and actions. A fourth theme that is added includes middle managers as enablers of change. Next, we expand the conceptualisation of these four different roles.

Specifying Middle Manager Roles on Innovation

Middle manager as implementer of change

The implementer of change role focusses on the middle manager as an implementer of top management defined strategic themes for innovation. It centres on a 'plan and control' view of the organisation and the role of the middle manager is to implement the strategy of the top management on the work floor (Floyd and Wooldridge 1994).

Criticism towards this role is mainly directed to the top down mechanistic view of innovation and organisation that this approach assumes. Accounts of demand-driven innovation and of innovation as a solution to practical problems at the construction site are poorly accounted for in this role description (Kissi *et al*., 2012, Loosemore 2015). Furthermore, the middle manager self may also be perceived to have strategic agency and be knowledgeable (Mantere 2008). The focus on planned linear notions of change also disregards more emergent understandings of change and the unexpected consequences that always appear to result when planning change (Balogun and Johnson 2005, Toms *et al*., 2011, Weick 2000).

Middle manager as networker

When middle managers adopt a networker role they position themselves in between different units in the organisation and the construction project. This role assumes that middle managers can draw benefit from their position 'in between' and develop relations that can be used in innovation. Because middle managers are likely to have a closer relationship to the client than top-level managers, they are believed to be well placed to

support demand-driven innovations and suggest strategic alternatives (Kissi *et al*., 2012, e Cunha *et al*., 2011).

In a networker role, middle managers recognise the value of information from diverse sources regarding costs, functionality, risks, market needs, and so on. Middle managers may act as an initial screen to ideas coming up in the organisation and select those ideas they want to bring to the attention of the top management (Floyd and Wooldridge 1994). A close relation to the operational level allows middle managers to use informal work networks and relationships to sustain long-term change efforts (Toms *et al*., 2011). A middle manager can build social capital and develop unique interfirm networks (Loosemore 2015). Next to vertical networks between the office and the work site, middle managers may also build horizontal networks comprising of other middle managers in the organisation.

Middle manager as sensemaker
The sensemaker role focusses very much on the interpretive qualities of the middle manager. Differences in understanding between partners hinder collaboration and are particularly relevant in innovation because work practices change. Unable to rely on established modes of doing things, differences in context and understanding between parties may easily lead to misalignment and conflict. Through sensemaking, middle managers mediate between the strategic intentions and the realities of different groups within the organisation (Balogun and Johnson 2004, 2005, Jarzabkowski and Spee 2009, Sage *et al*., 2012).

Sensemaking requires the translation of intention from the different parties through negotiation and buffering practices (Balogun and Johnson 2004, 2005, Koch *et al*., 2015). Crucially, success of sensemaking requires an understanding of different motives and realities of the parties involved, and an ability to translate intentions, mediate, negotiate and buffer. This is difficult to achieve, and may be more difficult to formalise.

Middle manager as enabler
Middle managers can be enablers for change when they enable others to innovate. Typically, this role is more closely related to bottom up innovation. To enable innovation requires middle managers to adopt a supportive role towards project managers to help them overcome barriers to innovation. This can be done by fostering an innovative business culture or by developing capacities to innovate in the organisation (Kissi *et al*., 2012, Loosemore 2015, Löwstedt and Räisänen 2012).

An enabler role can be practiced by providing resources, allowing autonomy and freedom, asking questions, creating visions, attracting and developing new ideas (Kissi *et al*., 2012, Loosemore 2015, Toms *et al*., 2011). At the same time, it can be questioned to what extent the middle manager can provide resources to support innovations (Kissi *et al*., 2012: 14). Similarly, fostering an innovative organisational culture may be a difficult goal to aim for as individual middle manager.

Summarising, different conceptualisations of the middle manager have been explored in this section. A discussion of position and responsibilities of middle managers was followed by a focus on middle manager roles. Four different roles were discussed: implementer, networker, sensemaker and enabler of innovation.

DESCRIPTIONS OF MIDDLE MANAGERS AND INNOVATION

Middle Manager Positions and Responsibilities

In the case study, the two positions above the site manager were commonly perceived to be part of the middle management. Most interviewees defined their position as middle manager in relation to the organisational hierarchy. Simply said, a middle manager has managers above and below in the organisation. Two levels of middle managers were identified: a first layer middle manager directly above the site manager, and a second layer that sits above the first level middle manager and below the division manager. The middle managers emphasised that while they sit in an office, they are still in close contact with the operational aspects of the projects, something which higher level managers are no longer. Two first-layer middle managers insisted that they spend nearly all their time at the building site.

The middle managers described to have two main responsibilities: a group of people and several construction projects. Personnel responsibilities range from three to a dozen people. Middle managers recruit new personnel, hold performance reviews, salary negotiations, and monitor individual development of the employees. They make sure that their employees have the right conditions to feel good and be productive. Middle managers said to keep regular contact with their employees to learn how things are going, act as a soundboard for ideas and concerns, and allow employees to develop. In case of urgent problems, they had to give full personal attention.

Responsibility for construction projects is connected to an annual target revenue. As an indication, a first-level middle manager has responsibility for one to four building projects with a total annual revenue of 100-200 million SEK (approximately €10-20 million). A second-layer middle manager has responsibility for the portfolio of about four first-layer middle managers and a target revenue of 400-800 million SEK. Middle managers take responsibility to ensure that the different areas of the project are successful. This includes involvement in activities such as planning, control and problem solving, staffing, time management, financial planning, purchasing, contracts, and termination of the project.

Experienced Innovations in the Organisation

Middle managers express to be part of both a sector that is prone to be conservative and an organisation that strives to be innovate. This situation gives problems because many innovations are perceived to require industry coordination. Innovative solutions are mostly characterised as those that are new to the firm or the division, or that deviate from established ways of working.

Three overarching themes for innovation were identified in the organisation: i.e. systematisation and harmonisation, employee development, and adjustment to wider societal changes related to health, safety and sustainability.

Systematisation and harmonisation is the dominant narrative of change in the company. The goal is to create unity to handle the complexity and uniqueness of the construction projects. Indirectly, an increased systematisation is contributing to increasing information flows in the construction project and organisation. While systematisation of production is generally perceived as positive by the middle managers, the increase in information flows is not. Several systems have been introduced that harmonise and steer the way the organisation works. These include systems that structure activities such as time and staff planning, budgeting, quality management, technology choice, document management,

and purchasing. They are not just about information gathering but actively prescribe certain ways of working. With the introduction of more information streams and systems also come a perceived increase of specialist roles in the organisation such as the BIM specialist and the sustainability specialist. While there is much focus on development and implementation of different systems, it seems that less attention is being paid to how people actually work with these systems and what the quality of the information flows is.

A second narrative of change is related to the development and treatment of the employees. Many middle managers consider development and training of personnel an important theme when discussing innovate and change. This includes leadership programmes and educational packages which the contractor supports. It is important to emphasise that many middle managers have worked their way up in the organisation. The educational programmes can be seen as a way to allow others to achieve a similar personal change and growth as the middle managers themselves have witnessed. At the same time, the development of employees enables the organisation to make best use of the available personnel resources.

A third narrative of change in the organisation was related to wider changes in society. Increased attention to health and safety measures in the organisation was noted by most interviewees. A recurring practical example is the obligation to wear safety glasses at work and the introduction of an incident reporting system. Increased attention to sustainability in society has also made its impact on the organisation. The middle managers pointed to the appointment of a sustainability manager and introduction of BREEAM as a sustainability assessment and certification tool in their company. In a few projects that reached a very good environmental performance it led to the introduction of innovative solutions such as solar cells.

Middle Manager Roles in Innovation

The middle managers were asked to select the role they identified most with (See table 1). The table shows that all roles have relevance. Furthermore, most middle managers chose a combination of roles.

Table 1: Middle management roles of innovation chosen by the interviewees

Middle manager	Implementer	Networker	Sensemaker	Enabler
#1		X	X	
#2	X			
#3	X	X		
#4	(X)	X	X	(X)
#5	X			
#6	X	(X)	(X)	X
#7		X		X
#8	X			
#9			X	X
#10	(X)	(X)	(X)	(X)
Total	5 (7)	4 (6)	3 (5)	3 (5)

Note: 'X' represent roles specifically identified by the interviewees, (X)' represents roles identified under the answer 'a bit of all.'

This would indicate an awareness of flexibility in the adoption of roles by the middle managers. IT also gives an indication that use of a specific role may be context

dependent. Next, a more detailed description of the different middle manager roles in innovation is presented.

Middle manager as implementer of change
When middle managers talked about implementing innovations they spoke about implementing rules, systems and tools diffused from higher management levels to the project level. The introduction of safety glasses and other safety measures was used as an example where top management intended the middle manager to implement change at the project level. Middle managers spoke of a responsibility to ensure that work at the project level is done in similar ways between projects and units of the organisations.

The middle managers can fulfil this role using different actions. Some suggestions include: breaking down action plans into smaller sub-plans, leading by example, showing how useful a certain tool can be or getting others to do so, setting goals together with the group, rewarding adherence to a changed rule or system, sanctioning the breaking of rules, ensuring that measures are well communicated and implemented at different parts of the organisation.

Middle manager as networker
The networking role of the middle manager was described to be very much about getting things done by finding the right people. Most middle managers claimed to spend a lot of time at the different projects and in all kinds of meetings. These moments are opportunities for middle managers to build and maintain their network with sub-contractors, specialist functions, clients and so on. These networks can be of use later on in innovation related behaviour.

> Most often one tries to find the right person and ask if they can develop or change a system in a certain way because it does not work right […] You call someone and ask if they have tested this solution, or what experience they have with it, what the risks are. [#4]

Vertical networks were said to facilitate bottom up change. The middle manager is in the position to communicate the opinions and insights of different people at the project level back up in the organisation. Incidental participation in reference groups may work as a short cut to allow the middle manager to spread input from people working in the projects directly central in the organisation. Horizontal networks were explained to allow middle managers to learn from each other. Dedicated forums for site managers and middle managers were identified as instruments to help develop such a horizontal network.

Middle manager as sensemaker
The role as sensemaker became most obvious when interviewees discussed the introduction of different information and working systems. From the management perspective, more information and more similar ways of working increase the control of the quality of the projects. This conflicts with the logics of a construction project with its own goals and problems.

> You have a very nice system or time plan, but nobody really knows how long it takes to do the different activities, or what they contain, or in which way you should do things out there, then it is no good [#2]

The sensemaker role was also relevant when the interaction between production and specialist oriented parts of the organisation was discussed. Specialist functions were experienced to expand together with the complexity of construction and organisation. Even though middle managers recognise that specialist functions are there to support the production and the projects, they blamed specialists for promoting their own interests. Here, sensemaking could be initiated.

In this light, we may see the strong emphasis many interviewees placed on their extensive background within the organisation, industry and construction site. The dominant narrative is that of a carpenter who has been promoted to a work supervisor and a site manager before taking up a middle management position in the organisation.

> I started one day as a carpenter myself, so then you have a bit of an understanding for everything, then I believe that one is quite good placed as a middle manager, because one can do the operational … and can take the top managements … guidelines and visions, it becomes possible to transform it, so that they understand what our task really is. [#1]

A good understanding of routines and work processes can give middle managers the ability and legitimacy to translate between different worlds of construction.

Middle manager as enabler of change
From the interviews, it became clear that there are no real resources at disposal to the middle managers to develop and test innovations independently. This hinders the enabler role. A strategic intent to improve efficiency and similarity within and among projects lends itself poorly to independent experimentation. Experienced resources pressure, efficiency, and systematisation goals make it unappealing for the middle manager to do so.

Instead, middle managers perform the role as enabler of change through enabling employees to develop themselves personally through training and courses. Even though it is not directly related to changes at the operational or strategic level, education is a mechanism for employees to grow into other positions within the company. By giving access to educational programmes, middle managers allow employees to achieve a personal growth that they themselves have witnessed. Education and personal growth of employees was claimed to help the company retain capable employees, but do not in itself lead to the exploration and exploitation of change in the organisation and the construction project. Furthermore, the middle manager could enable innovation by creating a culture that promotes change.

DISCUSSION

The exploration of different middle manager roles has provided insight into the different valuable contributions that this professional group may have for construction innovation. Simultaneously, some lessons can be drawn that allow individual middle managers to develop these roles further and positively use them where and when it is likely to foster innovation.

As an implementer of change, the middle manager in the studied organisation acts most in line with the strategic intentions of the top management. It is the implementer role that provide legitimacy for the interviewed middle managers to enforce changes when needed. Care is needed to avoid simplistic mechanical implementation of strategic decisions as they expect to meet resistance to change and simultaneously risk a poor fit between the measure and the realities at the project level.

Middle managers can use their personal network to find out what experiences others have had with a new solution and to judge the functionality of a novelty. The value of learning from others is especially important in an environment where key drivers for change have been identified to lie mostly outside of the own unit - i.e. construction site, clients, suppliers, top management, specialist units in the organisation, and government regulation.

For the role of a sensemaker, having experience in several different parts or units in the organisation can be considered an asset. A good knowledge of the routines and processes

of construction allows the middle manager to translate between different worlds of construction. Additionally, it may give the middle manager the legitimacy to do so.

A potential mechanism for developing the role of the middle manager as an enabler could be to set aside part of the efficiency gains. These could be used as resources to - temporary - dedicate themselves or other employees specifically to innovation and development purposes. An increased focus on the solutions and questions that come up in the individual construction projects could be a potential source of innovations for the organisation.

CONCLUSION

This paper has explored the roles of middle managers in innovation in construction. It has done so through reviewing existing literature in the field and conceptualising the middle manager according to position, task and role. Four roles of the middle manager were identified - implementer of change, networker, sensemaker and enabler. Furthermore, they were explored using the perceptions and experiences of selected middle managers at a regional housing division of a large Scandinavian construction company.

The diversity in the roles that middle managers may be engaged with gives us an insight in the world of the middle manager. Middle managers act in a larger heterogeneous network of innovation. For this reason, roles and innovation are not linked in a simple manner. Instead, the role of the middle manager is context dependent, varying over time and place. Far from the much-romanticised innovation champion, the middle manager opts for more subtle forms of agency. At times, the middle manager can act as an implementer of change, using top management backup and accompanying narratives of the organisation as an efficient machine. At other times, the middle manager may rely on one of the other roles. Networking, sensemaking, and enabling roles equip the middle manager with the subtle forms of agency useful for those who work in the middle.

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