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**Bypassing the dinosaurs?**

* How middle managers become the missing link in lean implementation

# **Abstract**

Failure or unsatisfactory results from organizational transformations aiming at excellence are often attributed to lack of management support and commitment. Why these issues become problematic has only been superficially explored in the literature, and typically, no distinctions are made between different layers of management. This study explores why management support and commitment become problematic in lean transformations in public service organizations. Based on multiple case studies, we argue that lack of support and commitment are most prevalent among middle managers, and that this lack can be explained by the organizations’ choice of transformation process. While top management is the sponsor of lean, the details of the transformations are worked out by external and internal lean experts along with front-line employees. As a result, middle managers are effectively bypassed and never get involved. This approach to lean transformation is not recommended. We suggest that lean transformations would benefit from earlier and more intensive involvement from middle managers.

Keywords: lean, public services, change management, middle management

# **Introduction**

Ever since Toyota’s production system was named ‘lean production’ and declared the global solution to higher productivity, quality and customer satisfaction (Womack & Jones, 1996), lean thinking has spread to service-dominated organizations (Bowen & Youngdahl, 1998; Swank, 2003). Large amounts of business literature promise astonishing improvements due to the fact that up to 80 per cent of service activities are nothing but ‘waste’ (George, 2003). In the public sector, lean approaches have substantially improved lead times, reduced costs, enhanced quality, and increased customer and employee satisfaction (Bateman, Hines, & Davidson, 2014; Radnor & Walley, 2008).

However, many lean transformation efforts seem to fail, or at least not deliver what was promised after the ‘low-hanging fruit’ has been picked (Radnor & Osborne, 2013). The failure of lean transformation is often attributed to the lack of management support and commitment. This finding is consistent across different sectors and types of businesses (Anand, Ward, Tatikonda, & Schilling, 2009; Andersen, Røvik, & Ingebrigtsen, 2014; Marodin & Saurin, 2013). However, as emphasized by Marodin and Saurin (2013, p. 6666), very few studies ‘clearly describe criteria to distinguish a supportive from a non-supportive management team’. In the literature on lean transformation, ‘management support and commitment’ are more or less treated as a black box, and we lack knowledge about the underlying mechanisms and processes that lead to the assertion that management support and commitment are major challenges in lean transformations.

 This paper aims to open the black box of management support and commitment in relation to lean transformation. Based on multiple case studies from Norwegian public service organizations, we reconstruct and describe a common pattern of lean transformation. This pattern short-circuits middle management (referred to as ‘dinosaurs’ by Floyd & Wooldridge, 1994), as the transformation proceeds from top management through a separate line of lean experts directly to the operational unit. We show how this bypassing creates several unintended consequences, which inhibit the realization of the potential in the lean concept.

# **Lean in public service organizations**

Lean can be described with reference to five principles: specification of value, identification of value streams and elimination of waste, continuous flow, customer pull and striving for perfection (Womack & Jones, 1996). Application of lean to public service organizations (PSOs) raises some important domain-specific challenges (Radnor & Walley, 2008): service processes are intangible and often involve the customer in active co-consumption (Arlbjørn, Freytag, & de Haas, 2011); public organizations have several and often divergent goals to attain, as opposed to only market share and profitability; the recipient of the service is not the only ‘customer’ but also the society that pays its taxes and regulates public effort through political systems and legal administrative provisions to secure social justice and fairness. These issues may lead to ‘conflicting and muddled value streams from the end consumer perspective’ (Scorsone, 2008, p. 64).

In public services, lean aims to improve service and reduce costs through process improvement, waste elimination and systematic continuous improvement. Organizations have applied selected tools and methods from the lean concept, but seldom adopted lean as a holistic management system (Arlbjørn et al., 2011; Radnor & Johnston, 2013; Radnor & Osborne, 2013). The lack of consolidation between discovered improvements and the strategic and operational dimensions of management is an important inhibitor for a sustainable effect of lean (Nicholas, in press; Suarez Barraza, Smith, & Dahlgaard‐Park, 2009). Even if there has been documented positive results concerning cost reduction and internal efficiency, and, indirectly, positive effects on the well-being of employees, many lean initiatives in public service organizations have failed to improve customer value (Radnor & Osborne, 2013).

Compared to discussions about the content of lean, the literature on lean transformation is in its infancy. Going from a non-lean to a lean organization may be characterized as an instance of ‘episodic change’, with both planned and emergent elements (Weick & Quinn, 1999). The prescriptive literature targeting practitioners is characterized by step-by-step recipes. For example, Womack and Jones (1996) advise managers to do the following: find a change agent (internal or external); acquire the knowledge; find leverage by seizing on a crisis or by creating one; forget grand strategy for the moment; map the value stream; begin as soon as possible with important and visible activities; demand immediate results; expand your scope. Although useful, these categories are rather crude and universal: nothing is said about contingencies or how the lean transformation should be adapted to the implementing organization (Rolfsen & Knutstad, 2007).

 According to Dunphy (1996), a comprehensive theory of organizational change should address the following: (1) a basic metaphor, (2) an analytic framework for a diagnostic model, (3) an ideal model for an effectively functioning organization, (4) an intervention theory and (5) a definition of the role of the change agent. While the basic metaphor is that of a well-functioning machine (Badham & Jürgens, 1998), the ideal model is characterized by flow and end-user value (Womack & Jones, 1996), and diagnostic models are readily available (e.g. Bhasin, 2011), theory on lean transformation falls short with respect to the latter two criteria. Who are the change agents and how should they intervene?

**Middle managers as change agents**

Conventional change agents are managers, process specialists (internal or external to the organization) and workers. ‘Managers’ is not a homogeneous category and includes at least top managers, middle managers and operational managers (Hales, 2006). The importance of leadership is widely underlined in most lean literature. Lean leadership is similar to transformational leadership (Bass & Riggio, 2006) in calling for visionary and charismatic leadership from the top (Poksinska, Swartling, & Drotz, 2013). Lean leadership is also similar to servant leadership, by paying tribute to the workforce at the operational level (Poksinska et al., 2013). However, leadership activities above the shop-floor level run the risk of being considered non-value adding (Dombrowski & Mielke, 2013).

One view, highly influential on popular discourse, describes middle managers as leftovers from the 1950s’ glory days of corporate bureaucracy. As ‘dinosaurs’ (Floyd & Wooldridge, 1994), middle managers’ parochialism and vested interests in inefficient procedures stand in the way of flexibility, customer orientation, high performance, team organization, leanness and other positive characteristics ascribed to ‘post-bureaucratic’ organizations (Gittell, 2001; Hales, 2002; Handel, 2014). In the organizational reforms of delayering and ‘new managerialism’ in the public sector, middle management positions were targeted as redundant (McCann, Morris, & Hassard, 2008). In this view, middle managers can hardly be agents of change, but rather are assumed to be resistors, whose positions and privileges are threatened.

The ‘dinosaur-view’ of middle management is reproduced in literature on lean transformation: Womack, Jones and Roos (1990) target the waste of ‘indirect managerial activities’ (p. 204); studies by Åhlström and Karlsson (2000) and Åhlström (1998) argue that lean transformations should start out by delayering the managerial hierarchy. Supposedly, delayering improves communication and boosts participation and commitment, and thereby eases implementation. In their review of lean practices in Germany, Benders and Van Bijsterveld (2000) show how lean became widely associated with delayering and subsumed under a rhetoric of anti-bureaucracy. The link between the lean toolbox and the idea of the continuously improving organization is missing in many lean implementations (Dombrowski and Mielke 2013), ignoring the importance of middle managers as initiators and champions of continuous improvement (Spear, 2004).

Another, more positive, view describes middle managers as strategic ‘dynamos’ rather than dinosaurs (Floyd & Wooldridge, 1994). Middle managers’ involvement in transformation processes improves decision-making and builds consensus around the change initiative (Ahearne, Lam, & Kraus, 2014; Conway & Monks, 2011; Wooldridge & Floyd, 1990). Similarly, Nonaka (1994) emphasizes middle managers’ translating and linking functions, combining micro and macro information, and bridging ideals from the top and reality from the front line. This linking function is deeply integrated in Japanese corporate culture, but often missing in Western lean adoptions (Nicholas, in press). Balogun (2003) argues that middle managers could act as important intermediaries of change while maintaining ‘business as usual’; through processes of communication, middle managers make sense of the transformation (Huy, 2011; Rouleau & Balogun, 2011).

We have seen how literature on lean transformation does not recognize middle managers as change agents or ‘dynamos’, but rather, at least implicitly, ascribe to the ‘dinosaur’ view. In the following case studies, we show how this view informed a set of lean transformations where middle managers were not the object of aggressive delayering or bureaucracy busting, but rather were ignored altogether. Not surprisingly, the organizations experienced lack of support and commitment at this managerial level.

# **Methodology**

The topic of this paper emerged inductively (Corbin & Strauss, 2008) from a series of qualitative case studies on lean transformations in Norwegian public service organizations. These case studies were all part of a Norwegian research project, which the two authors participated in from 2012 to 2015. The five organizations are all large, functionally and geographically distributed, owned and regulated by government, and providing essential life-function services, case procedures and administrative transactions to large proportions of the population. The case studies have some variation in scope, core domains and research approaches, but all covered the process of lean transformation. At the time of data collection, the organizations were at different stages of lean implementation (approximately 3 to 6 years of experience), and the data shows a wide range of experiences, reflections and revised approaches. Despite these differences, the initial phases of lean transformation had been strikingly similar in all cases, and all organizations reported challenges with respect to management support and commitment. This led to a crosswise investigation of the material, focusing on transformation and change management. As all cases covered this phase, and informants presented similar topics in their narratives, performing a thematic analysis across the cases could be done in a reliable manner (Eisenhardt, 1991).

Informants were interviewed individually or in focus groups, some more than once as part of longitudinal case studies. Just as important to our insight as the interviews was attending internal meetings and public presentations, observing practice (established routines and planned change intervention meetings) and having access to company documentation. One of the authors had gained insight into the history of lean transformation in two of the organizations due to their prior employment as an internal and external management consultant. An overview of the empirical material is presented in Table 1. Most informants were agents of lean transformation, sampled because of their knowledge about the change processes. For the sake of anonymity, respondents of both genders will be referred to as ‘he’.

Using NVIVO 10.0, transcribed interviews and field notes were coded for recurring themes at different levels of generality, and categorized through several iterations (Braun & Clarke, 2006). The top categories were ‘units work isolated’, ‘separate lean line’, ‘absent middle management’, ‘top management commitment’ and ‘focus on tools and methods’.

Furthermore, we sorted the coded material along different dimensions on a whiteboard. One dimension was roles – lean experts, top managers, middle managers and operational managers. Here ‘middle managers’ include all managers between the top manager and the lowest managerial level. Such categorization ignores the diversity of middle managers’ functional responsibilities and control spans. Nevertheless, we judge their common inactive part in the lean transformation process as the most significant similarity in this study. Another dimension was time – the steps and sequences of the transformation process. From the analysis, we reconstructed what we refer to as the ‘BPD transformation process’, as a transformation-process ideal type; theoretical ideal types should not be confused with ideal ways of lean transformation. The main learning point from the ‘BPD transformation process’ is that it is not recommendable.

Ideal types are ‘the one-sided accentuation of one or more points of view and by the synthesis of a great many diverse, more or less present and occasionally absent concrete individual phenomena’ (Weber, 1904, cited in Doty & Glick, 1994, p. 233). Ideal types have predominantly been used for typifying and comparing different structural configurations of organizations (Meyer, Tsui, & Hinings, 1993), but can equally well be applied to processes. As theoretical abstractions, ideal-typical processes are necessarily stylized and gloss over empirical detail. It is beyond the scope of this paper to demonstrate that the process description is valid with respect to each idiosyncratic case. We acknowledge this weakness, but the inclusion of multiple cases increases the transferability of findings (Eisenhardt, 1989). Our experience from doing applied research is that this ideal-typical process is quite widespread, and hence, the description will resonate with and be recognized by both practitioner and research communities. In two of our case organizations, respondent validation was obtained, whereby we presented the ideal-type process to a group of informants, who confirmed that the findings were both recognizable and relevant.

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| **Organization** | **Sources** | **Informants, recorded interviews** |
| 1 | 10 working days’ observation (shadowing): the external consultants interacting with the client18 recorded interviews 1 public presentation by operational manager and middle manager  | 3 operational managers4 employees2 internal consultants (1 three times, 1 twice)4 external consultants (1 three times) |
| 2 | 14 recorded interviews (3 groups, 11 individuals)3 working days’ observation (different locations)2 working days’ observation of national seminars1 public presentation by middle managerPrior knowledge to the change process as an external consultant (2008-2010)Internal documents: project plans, presentations and reports | 3 middle managers3 operational managers3 employees6 internal consultants (1 attending two different groups; 1 individual and group interviewed) |
| 3 | 1 recorded group interview2 observed seminars/presentations (project level)Prior knowledge to the change process as an internal consultant (2006-2008) and external consultant (2008-2010)Internal documents: project plans, presentation and reports | 1 top manager1 internal consultant |
| 4 | 3 recorded interviews (2 individuals, 1 group)1 public presentation by top managerInternal documents: project plans, presentation and reports | 1 operational manager3 internal consultants |
| 5 | 2 recorded interviews1 public presentation by top manager1 observed seminar/presentationInternal documents: project plans, presentation and reports | 2 internal consultants |

Table 1: Overview of empirical material

# **The ‘ByPassing the Dinosaurs’ (BPD) transformation process**

In the ‘BPD transformation process’ of lean implementation, there are three important groups of change agents: top managers, internal lean experts and operational managers. In addition, there are middle managers who are responsible for several operational units or functional areas in the organization, but play an ineffectual part in the implementation. The transformation has the following overall six characteristics (also depicted in Figure 1):

1. Top managers sponsor the lean campaign and proudly present positive results externally and internally. Top managers barely change their own management practice.
2. Lean is perceived to be mainly about tools and methods applicable to the organization’s core production. Lean experts are concerned about the lack of strategic commitment.
3. Lean interventions are performed sequentially in selected units, from the first pilots to a broader range of units.
4. Changes in work routines happen within the existing organizational structure. Lean does not lead to changes in organizational structure or governance systems.
5. The lean experts form a separate functional line, supporting top managers and operational managers on demand. The experts have no formal authority.
6. Middle managers do not take an active part in the change processes. Even when they are positive and supportive of lean, they see no relevance in taking part.



Figure 1: The BDP transformation process (change agents in dark grey)

***Characteristic 1: Top managers’ praise of lean***

According to top managers, being a lean ambassador, both externally and internally, was an important part of their role in the transformation process. In public, the top manager of organization 5 would declare:

‘I have attended every management seminar, and I talk about [lean] in every appearance I make.’

Another top manager had added the values from the ‘lean philosophy’ to a leadership manual and short film disseminated to the whole organization, where he gave examples of applying the desired values to his own managerial practice. One of the lean experts in organization 2 explained the importance of such examples:

‘The way he uses himself as an example is marvellous! [He talks] almost as he steps out of the camera. You feel like applauding when the film is over. That is so well performed! […] It is a very strong tool in the leadership development programme.’

From 2012 to 2014, top managers from four of the case organizations gave speeches at the annual Norwegian conference for lean managers, experts and consultants. They were presenting good results and stating the importance of their organizations’ lean approach in dealing with challenges such as efficiency and quality, enhanced complexity, speed of change, as well as empowerment and well-being of employees.

 Despite these declarations, lean experts in all our case organizations expressed concerns about the depth of the top managers’ understanding and commitment towards the lean transformations they were sponsoring financially and symbolically. A lean expert of organization 4 admitted being the actual author of his CEO’s prosperous presentation at the conference. He elaborated on the pitfalls of not transforming talk into action:

‘If top management is not sufficiently devoted, they will continue working the old way, not taking ownership to the huge scope of change this is to the organization. It is not just about adjusting some processes down in the executive line. They [top management] could just let them [operational line] do it, but then it will soon die away.’

***Characteristic 2: ‘Lean’ is tools and methods***

Despite talk about embracing the ‘lean philosophy’ or the ‘lean culture’, the perception of ‘lean’ within the organizations was strikingly tool- and method-oriented. In presenting their lean transformations, visible artefacts and activities such as ‘value stream maps’, whiteboards and whiteboard meetings, collections of tools or A3 problem-solving workshops were emphasized. In interviews, managers and other employees talked about ‘lean’ as specific tools and activities that had been introduced, replacing or complementing other ‘methods’ previously or currently used in the organization. Several of the lean experts reflected on this tool focus as highly problematic; the tool focus remained despite their efforts to teach ‘lean philosophy’:

‘I experience some group members and groups stating that [lean] is whiteboards. And that these do not work! You see, they are on that level. Or – the paper-plane game. We use the paper-plane game to illustrate the issues of waste and good flow, and I see that some get it. But others just say [sarcastically]: “Folding paper planes – that will bring the organization forward!”’ (Lean expert, organization 5)

At a conference we observed, a middle manager in organization 1 proudly presented his organization’s lean transformation, and concluded it by asking what would be the next step. He answered ‘Perhaps 5S’, which is a method for keeping the workplace tidy. However, conversations with employees did not at all indicate that untidiness was a problem. Adding yet another lean tool was apparently motivated by an idea that the organization would be ‘more lean’ if it had more lean tools.

The lean tools and methods were directed at direct production, and had in our informants’ opinions no obvious implications for managerial activities. Middle managers found no meaning in using these tools in their own working day. A middle manager in organization 2, supportive of lean, was asked if middle management would change their practice because of the lean transformation. He replied:

‘We have thought about it […] But I cannot see where we could benefit from the method. Maybe in accounting, they have more repetitive tasks. Or maybe other areas of controlling?’

***Characteristic 3: Step by step to somewhere***

A stepwise introduction of lean was common to our case companies. The first lean interventions were ‘pilots’ within existing units, which often turned out to be successful. The pilot units were selected for several reasons, including low productivity or because a manager or another influential employee in the unit had the competence or were enthusiastic about lean. Later, units were recruited on demand from managers at different levels. They received aid and advice from the lean experts, who established ‘projects’ with or without the help of external consultants. One of the internal consultants in organization 4 explained the dualism of external pressure and internal motivation:

‘Some areas have political attention; there is an apprehension of “we have to do something here”. Another channel is internal suggestions. The units suggest. This is an eternal discussion: Where should the authority be placed? What is the role of a unit and what is the role of the top manager? [Lean] is initiated from various places, this is as precise I can explain it.’

None of our organizations had a strategic plan for how to transform holistically to a lean organization, but took incremental steps built on experience. Thus, some middle managers would be responsible for both ‘lean’ and ‘non-lean’ units, acknowledging the good results in the lean units and at the same time managing both types of units in the traditional manner. Whether another unit was to implement lean depended on the initiative of the operational manager and the available capacity of the lean experts.

***Characteristic 4: Keeping the old structure***

The lean transformations departed from larger, planned restructuring, where proceedings are governed by Norwegian legislation. We have no information indicating that this was a deliberate strategy by top management; the more plausible explanation is that the actors, those who put the lean ideas into actions, had limited authority to make structural changes.

Several of our informants from the units and lean expert groups told us they had experienced initial success in improving internal practices, but faced challenges in that the larger system was poorly aligned with the local changes. One operational manager in organization 4 explained how he struggled to maintain motivation when his unit was no longer a ‘pilot’:

‘[People are unhappy.] I have told them that we are not the pilot any more, but a part of a larger conduct. Decisions are made on another level; we cannot control everything in the unit. We cannot perform magic and get what we want. We just have to look back to the pilot period where we were lucky to be part of the decision process. But it has never been possible to do so in every unit.’

The units also experienced a mismatch between the goals deduced from lean thinking and formal governance in the organization. When traditional measures and indicators were retained, this triggered frustration in the lean units. In organization 4, the lean experts explained the problems of improving procedure lead times, when their ‘productivity’ was measured based on the number of cases per officer. Similar problems were reported elsewhere:

‘If they control us on numbers, which has been the usual way – counting without considering quality – there will be a mismatch. When we work the way we do, and the objectives contradict this, it all seems so meaningless.’ (Lean expert, organization 5)

***Characteristic 5: The lean silo***

When launching a lean transformation, top management established a temporal organization of lean expertise with the mandate to lead the transformation and secure organizational learning. This functional unit reported directly to top management. The lean experts, or ‘lean navigators’, advised operational managers and staff in the pilot units, and later on other units when asked to contribute. Most of these experts were internally recruited, based on their interest or initiative, and built up their competency in the lean process while working full time within this area. All of our case organizations hired external management consultants in the initial phase, and continued to have external help in varying degrees during the process.

 Later on, the lean experts were reallocated to existing support functions, for example Quality or HRM. Due to size and geographical distribution, most of the organizations had dedicated lean experts at different levels. There were ongoing debates about where these resources belonged structurally; being one out of several support functions, the lean experts competed with other internal experts with different agendas for legitimacy and attention. In our informants’ opinion, this was a major barrier for disseminating ‘lean thinking’ throughout the organization:

‘All organization structures have their heels, and our process improvement group was reorganized from the core field to the “Organizations” department. So, this is kind of ‘out of sight, out of mind’ effect. It is more like a: “I do not need to use these people, so I won’t […]”. And there is unintended competition [in the “Organizations” department] of getting attention, and the receiver [operational unit] is confused by the lack of coordination in our communication.’ (Lean expert, organization 2)

The vast majority of the internal consultants had no formal authority and no separate budget to initiate lean-related activities. The lack of authority became especially evident when the implementation process met problems:

‘I felt incredibly left alone in the [lean navigator] role. If I met [low-level] managers who did not find this interesting, there were managers above stating: “I totally agree”. They met me with: “Whatever, this is a program we are going through. I guess it will pass.” That is why I believe you need good leadership the whole way through the organization.’ (Lean expert, organization 5)

***Characteristic 6: The absence of the dinosaurs***

While operational managers were involved in the actual improvement processes in their respective units and became important ambassadors for further development, the management levels above were far less involved. The enthusiasm of different management levels was assessed by one of the senior external consultants in organization 1:

‘[Lean] is considered to be something they do far down in the organization (…). Unit managers are really motivated, and we lack the department managers. [Department manager A] is enthusiastic, but he is not out there observing what is going on. [Department manager B] is more out there, but less enthusiastic. He does not have the insight into what we are doing, even though he is trying and has improved. The next level is totally lacking, and finally there is top management where they are enthusiastic, they are happy with the results, but suddenly make contradictory decisions.’

Consequently, when transformation efforts ran into problems that could not be resolved at the unit level or by the lean experts, implementation stalled. This led to frustration, as illustrated by the statement of one of the lean experts in organization 5:

‘You see, they [operational managers] trustfully tell me things I cannot tell you, and then they look me straight in the eyes and ask for support from a higher level.’

In retrospect, a lean expert in organization 3 considered the lack of middle management support as a weakness of their implementation models:

‘In our model [of implementation] we did not succeed in attracting managers […] We met the implied managers in the process we worked on […] But we should have had a teaching programme for the level above, where we talk about the full package [lean thinking] involving those who are responsible for the processes.’

In three of our case organizations, the lean experts finally succeeded in adding lean ideas to leadership development interventions, based on their experiences of poor commitment at the middle management level:

‘When [top management/level 1] said that they had decided to implement lean, they went straight to level 4 [operational management]. And they just informed [levels 2 and 3] that they would do it. They [levels 2 and 3] took no ownership of it. This was a mistake from the beginning, and has been changed now.’ (Internal consultant, organization 5)

Although we were presented with some examples where middle managers had aligned interfacing units in customer-oriented process improvements, other examples were dominated by the tool-based interpretation of lean. One illustration was one of our visits to a large department in organization 2: we were invited to observe the department manager’s weekly whiteboard meeting, an application of an important lean method. The meeting was changed to a traditional form at the last minute, and a frustrated internal lean expert admitted that this was not unusual. The middle managers could agree to the visionary ideas about lean, but did not quite turn it to their own good account.

# **Discussion and research implications**

Our study demonstrates the importance of theorizing lean transformations as unfolding processes of actions and sense-making (Huy, 2001; Weick, 1995). The way middle managers were effectively bypassed, and their resulting ignorance and indifference to lean, can hardly be explained structurally. Even though lean in general has been associated with delayering and anti-bureaucracy (Åhlström, 1998; Benders & Van Bijsterveld, 2000), nothing in our data indicates that middle managers had any interest in resisting the changes. Rather, the local interpretations of lean were all about tools and methods, something that were done ‘far down’ in the organization and irrelevant to middle management. Only when the organizations experienced lack of coordination and progress, were these interpretations challenged.

 The description of the BPD process contributes to the literature on lean transformations in several ways. First, our findings support the notion that tool-based and discrete instances of lean adaptions are major hurdles for reaping the benefits of lean in public services (e.g. Radnor & Osborne, 2013). We propose that this lack of coordination can be explained by the lack of middle management involvement: middle managers have the authority and other means to impose coordination across units. When top management delegates change management to a functional unit (‘the lean silo’), they create a huge mismatch between accountability and authority.

Second, the study provides a nuanced account of ‘lack of management support and commitment’. This is found to be a major challenge in lean transformations (Marodin & Saurin, 2013), and is probably related to many organizations’ reported failure to embrace ‘lean philosophy’ or ‘lean culture’ (Bhasin, 2012; Emiliani & Stec, 2005). In our organizations, top managers were both supportive and seemingly committed, but they may not have chosen the right implementation plan. Operational managers turned out to be ambassadors of change, which is slightly surprisingly given reports that this group is worse off in contemporary lean restructuring (Carter et al., 2014). The problem turned out to be middle management. Although these findings may not be generalizable to the wider sphere of public service organizations, future research on lean transformations should adopt a more nuanced understanding of ‘management’, and the complex relationship between different functions and hierarchical levels. Additional studies are encouraged to further differentiate the large category of middle management.

Neither our informants’ evaluation nor our analysis favour the BPD process. However, further studies testing the relationship between BDP-like lean transformations and indicators of successful implementation may establish the external validity of our findings. Moreover, future research is encouraged to explore whether or not the BPD process, or some variation of it, is generalizable to other public service organizations, or perhaps also to the private service sector and manufacturing. Such an exploration would require longitudinal research designs, sensitive to emergence and sense-making. A major limitation of the current study is that the organizations’ rationale for choosing the BPD process lacks a full explanation; the idea that middle managers are dinosaurs, or at least irrelevant to the changes, may only be a partial explanation. Based on theories of management fashions (Abrahamson, 1996) and organizational hypocrisy (Brunsson, 1989), it could be that the ‘lean programme’ or even the whole ‘lean transformation’ is a matter of creating external legitimacy, largely decoupled from practices of the organization. Another possible explanation is based on characteristics of public service organizations, as they are governed and regulated by laws, politicians, the general population and several interest groups. Radical transformation can be both extremely hard and hazardous, and organizations therefore opt for incremental changes within and alongside existing units and functions. Comparative studies of lean transformation in both public and private organizations are needed to consider whether the BPD model is contextually bound to public organizations.

# **Conclusion and practical implications**

In several Norwegian public service organizations, lean transformation has been undertaken according to an implementation model in which middle management is effectively bypassed. This model is not to be recommended. Successful lean transformations require supportive and committed management throughout the organization. It is not sufficient to have enthusiastic top managers, who symbolically and financially sponsor the changes. It is not sufficient to have operational managers who successfully apply the tools and the methods. Unless middle managers get involved, transformation efforts are likely to stall, due to poor coordination, poor support and problems of accountability.

 Both academics and practitioners often think of middle managers as dinosaurs, to be overcome or left alone as organizations head for leanness, flexibility or high performance. When transformation processes are designed as such, it is unsurprising that middle managers fail to become positive agents or dynamos of change. We suggest that middle managers are involved too late or too little in the lean transformations. The lean concept is not a threat to middle management. On the contrary, implementation of lean without middle managers is a threat to successful outcomes.

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