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New Life for Old Ideas: Explaining the Widespread Adoption of a Weberian-inspired Leadership Model in Danish Municipalities

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ABSTRACT

Within the last decades, there has been an increased interest in the importance of management and leadership in public sector organizations. With these new emerging management regimes old ideas such as hierarchical management and formal organization would seem to be obsolete. Yet, we see how “old” managerial ideas keep proliferating in the public sector (Grinsven, 2017; Agger and Dahl, 2015; Rosenberg Hansen and Ferlie, 2016). In this paper we engage this puzzle by investigating how and why seemingly “old school” management and *leadership* models are adopted by contemporary public sector organizations. In particular, we strive to explain why the hierarchical, Weberian-inspired leadership model Leadership Pipeline (Charan, Drotter & Noel, 2001), which was originally developed in the 1970’s and 1980’s, got a fast and widespread diffusion across the Danish municipalities from 2010 until 2017. Utilizing a strong mixed-methods design our findings suggest that the hierarchical leadership model gained acceptance, not only by being translated into a Danish text version and through a strong alliance between public sector managers, academia and management consultants, as shown elsewhere (Nielsen, Wæraas, & Dahl, 2019) but the political context or public sector reforms was crucial in advancing the concept.

INTRODUPTION

Within the last decades, there has been an increased interest in the importance of management and leadership in public sector organizations and a market of management concepts or solutions has proliferated (Heusinkveld, 2013). Literature has illustrated the movement away from Weberian bureaucratic forms of governance to the rise and development of newer management regimes such as New Public Management, New Public Governance and Digital Era Governance (Andersen et al., 2017). With these new emerging management regimes old ideas such as hierarchical management and formal organization would seem to be obsolete. Yet, we see how “old” managerial ideas such as LEAN management (Womack, Womack, Jones, & Roos, 1990), strategic positioning theory (Porter, 1996), and classical hierarchical leadership models (Charan, Drotter, & Noel, 2001) keep proliferating in the public sector or reappear as ideas whose time has come – again (Grinsven, Heusinkveld, & Benders, 2016; Nielsen et al., 2019; Rosenberg Hansen & Ferlie, 2016). Indeed, the popularity of management ideas seems to be critically affected by the norms of political economy and public sector reforms (Ferlie et al., 2016).

The expansion of management concepts and solutions correlates with the increase of public management reforms, which have become a widespread macro structural mechanism for reorganizing the public sector. One type of public management reform is structural changes, often characterized by either dividing organizations into smaller units or the opposite, merging organizations in order to create larger ones (Pollitt & Bouckaert, 2004). Previous studies have suggested that structural and macro forces might play an important role in the diffusion of management concepts (Ferlie et al., 2016). Structural changes of public sector organizations are likely to be of particular importance as they tend to create uncertainty about how daily work and processes should be carried out (Pollitt & Bouckaert, 2004). Organizations that face increased uncertainty are more likely to adopt new practices in order to cope with that uncertainty. This suggest that the context surrounding the

organizations might create a time window where management concepts are more likely to reappear and diffuse as organizations in these circumstances are searching for solutions and ways of explicating or defining challenges and uncertainties. In this paper we engage the puzzle of how and why seemingly “old school” management and leadership models are adopted by contemporary public sector organizations and how they relate to the structural and institutional context. In turn, we ask: *what explains the widespread diffusion of old hierarchical and formal management and leadership models in public sector organizations?*

To respond to this question we focus on why the hierarchical, Weberian-inspired leadership model Leadership Pipeline (Charan et al., 2001), which was originally developed in the 1970’s and 1980’s, got a fast and widespread adoption across the Danish municipalities from 2010 until 2017 (Elmholdt & Nielsen, 2017). Based on the literature on diffusion of management concepts (Ferlie et al., 2016) and institutional theory we develop a set of hypothesis to explain the adoption patterns. We explore and test two main macro mechanism that we expect to be associated with the diffusion of Leadership Pipeline; recent amalgamation of organizations and neighbor emulation (prior adoption). We further leverage a strong mixed methods design utilizing both municipal register data, questionnaire data and data from 25 semi-structured interviews – gathered in the fall 2017. The mixed methods design allows us to both investigate the question of adoption by forming a panel dataset from 2010 to 2017 on all Danish municipalities as well as providing more detailed and in-depth understanding of underlying mechanisms.

This study makes three important contributions to the literature on management concepts and regimes in the public sector. First, the study respond to calls for better understanding of the role and diffusion of management knowledge in the nexus of management consultancies, business academics and public sector organizations and not least how this relates to macro or structural forces (Ferlie et al., 2016; Ferlie et al., 2018). Second, it contributes empirical evidence and novel insights into how public sector

reforms provides an important variable in explaining how certain problems solutions gains acceptance (Beland and Howlett, 2016, Sturdy, 2018). Resonating nascent literature on the role of consultancies and the political economy in spreading governance solutions (Sturdy, 2018; Ferlie et al., 2016), our case shows how demands for management solutions also are heralded by public reforms. Thirdly, by combining quantitative insights with qualitative depth we contribute to the scarcity of mixed-method studies in public administration (Mele & Belardinelli, 2019).

Next, we present the theoretical outline of the paper, then we provide and test a number of hypothesis and afterwards we dive deeper into clarifying the reasons for adoption and try to add more to the explanations driving the diffusion of Leadership pipeline.

LEADERSHIP PIPELINE: AN INTRODUCTION

The Leadership Pipeline model is based on a hierarchical representation of the organization, and emphasizes effective organization through a system of clearly defined superior/subordinate relations including formal leadership specifications for each management level (Nielsen et al., 2019). It is developed by Charan, Drotter and Noel (2000) who through consultancy work at General Electric company in the United States came up with a theory of how to build leadership. The concept leverage a hierarchical focus on the organization, which resemble Weberian bureaucratic ideals. The Danish public sector Leadership Pipeline concept divides the organization into five hierarchical levels and emphasize the importance of the leader making transitions as the leader climb the managerial ladder. Moreover, the concept underscore a clear and explicated division of leadership tasks and jurisdictions at different managerial levels and is promoted as a way of spotting leadership talents in the company and for developing these talents through on the job training. Despite the Leadership Pipeline not only being a rather old concept itself it also leverage classic bureaucratic ideas and it is a concept for sorting out and streamlining leadership task, roles and decision-making.

By 2017, 55% of the Danish municipalities had adopted Leadership Pipeline as guiding model for leadership development (Elmholdt & Nielsen, 2017), and hence, was a widespread concept in the Danish municipalities.

THEORY

Diffusion of management concepts in public sector organizations

Many sorts of management ideas, knowledge and concepts circulate the public sector (Ferlie et al., 2016; Nielsen et al., 2019). Escalating with a new public management regime where private sector concepts and governance techniques started to appear in public sector reforms (Hood, 1991), we now see various concepts or ‘management knowledge hybrids’ (Ferlie et al., 2016) circulating in the public sector, such as, Business Process Reengineering (Weerakkody, Janssen, & Dwivedi, 2011), LEAN management (Grinsven et al., 2016), balanced scorecard (Røge & Lennon, 2018), appreciative inquiry (Ferlie et al., 2018), and Leadership Pipeline (Nielsen, Wæraas & Dahl, 2019). Many of these concepts are contrasting what is typically understood as evidence-based management approaches, yet, they appear very influential.

Former studies have provided insights into how and why adoption takes place as well as different types of innovations and concepts. These studies have focused on what then drives the adoption of new concepts and how new practices and ideas become diffused across a field of organizations (Van de Ven & Hargreve, 2004). Findings argues for support for both structural characteristics of the adopters as well as more institutional arguments focused on the environment surrounding the organizations and the institutional conditions for adoption (Strang & Meyer, 1993). Diffusion studies in public sector organizations have pointed to the importance of different antecedents, such as neighbor emulation (Bhatti, Olsen, & Pedersen, 2011; Krøtel, 2015), organization size (Hansen, 2011), proportion of administrative professionals (Bhatti et al., 2011).

One of the stronger claims in the diffusion literature is that institutional pressures for legitimacy leads organizations to adopt similar concepts and practices (cf. DiMaggio & Powell, 1983). Okhmatovskiy (2010) argues that scholars increasingly view inter-organizations relationships through its norms, expectations, and responsibilities and not just arms-length practices of co-operation. Further, despite public sector organizations often being argued to provide institutional pressures for conformity, Frumkin and Galaskiewicz (2004) argues that institutional forces in the public sector themselves might be even more likely to thrive where accountability is low, and measurement and control weak or imprecise. This suggest, that the more uncertain the relationship between means and ends, the greater the extent to which an organization will model itself after organizations it perceives as successful (DiMaggio & Powell, 1983: 151).

Yet, despite focus often being on institutional, economic and political characteristics, how the diffusion and adoption of concepts actually takes place in between macro forces and micro level concerns is equally important for understanding why diffusion takes place (Czarniawska, 2004; Green Jr, 2004). For instance, Ferlie et al. (2016: 186) notes, that the political economy or public sector reforms in combination with managers may preferring to ‘access experiential knowledge from a community of like-minded colleagues’ or consultancies (see also (Villadsen, 2011)) provides important sites to explore. Ferlie et al. (2016) emphasize the crucial role played by a nexus of consultants, business academics, and public sector organizations in circulating management concepts in the public sector or in the ‘cultural circuit’ of management knowledge (see also (Thrift, 2005)). Further, they stress how the circulation of management concepts relates to macro forces in terms of the political economy or public sector reforms showing how dominating management knowledge in public healthcare settings also is affected by, for instance, NPM and post-NPM policies.

Yet, only a few studies have engaged in the relation between the adoption of certain management concepts and macro forces in the public sector (Ferlie et al., 2016) and it remains undertheorized how

management concepts become solutions for particular public sector organizational problems at a large scale. In turn, we advance the work of Ferlie et al (2016) and explores their theoretical proposition on elaborating the role of macro forces.

Management concepts as problem-solutions in public sector settings

In order to understand this relation between how macro forces becomes related to micro level organizational problems we turn to the literature on the relationship between managerial problems and solutions (such as management concepts) (Cohen, March and Olsen, 1972; Beland and Howlett, 2016, Sturdy, 2018). As Beland and Howlett (2016) argue, how the process of matching means and ends in public sector organizations and ‘which comes first—problem or solution—is an outstanding research question’ (p. 393). Although not showing how reforms directly relates to practitioner needs or calls for management knowledge solutions, the findings of Ferlie et al. (2016) resonates discussions of whether the market for management solutions (i.e. management concepts) is constitutive of managerial problems or managerial problems also has their roots elsewhere, for instance, in public sector reforms (Béland & Howlett, 2016; Cohen, March, & Olsen, 1972; Sturdy, 2018). Admittedly, the question if problems are diagnosed and then solutions follow or if solutions “chase problems” (Cohen et al., 1972; Kingdon & Thurber, 1984) remains an important research question in public administration (Béland & Howlett, 2016). The arrangements and circulation of kinds of solutions that are more or less regardless of the problem context continues to occupy the literature (Béland & Howlett, 2016; Sturdy, 2018)

The seminal work of Cohen, March and Olsen (1972: 3) remains relevant when pointing out that ‘creation of need’ for solutions is a ‘general phenomenon of processes of choice’. They note, that in spite of ‘the dictum that you cannot find the answer until you have formulated the question well, you often do not know what the question is in organizational problem solving until you know the answer’.

As such, problems afforded by a reform, for instance, may remain unclear until a solution finds its way. As Cohen, March and Olsen (1972: 1) famously noticed, we may say that solutions are in search for problems and those connecting solutions and problems are in search for work. Organizations hereby also look to already defined solutions hoping that they will help them overcome problems they might have. While consultants are often considered as key actors in circulating predefined solutions, Sturdy (2018) nuance this understanding by suggesting that problems may sometimes pre-date-, sometimes be co-constructed with solutions but also sometimes be discerned retrospectively after the solution. In doing so, Sturdy argues that consultants, or the management solution, may *articulate* a (new) problem, *accentuate* an already existing problem or *adapt* a problem.

In sum, the studies described above underscore the importance of looking into, what we may term, the hybrid construction of managerial *problem-solution* relationships (Neyland & Milyaeva, 2016) , which is constructed in a nexus of public reforms, university-based research, management consultancies and other relevant actors. Put differently, as well the construction of problems and the construction of solutions appear to be a hybrid field constituted by multiple actors.

The diffusion of the Leadership Pipeline in Danish local governments [: Three hypothesis]

We now turn to our case of the diffusion of the Leadership Pipeline concept across the Danish local governments. Structural reforms are by no means a rare phenomenon in the public sector (Denters, Goldsmith, Ladner, Mouritzen, & Rose, 2014). Reforms are often introduced as ways of increasing efficiency of public sector service delivery and effectiveness in implementing policies (Pollitt & Bouckaert, 2004). However, implementing major reforms takes time and has great impact on internal processes in the organizations. Reformed organizations has to come up with new operating procedures and work roles, as well as working hard on reducing the anxiety arising from the new system(Pollitt & Bouckaert, 2004). Under such circumstances, Leadership Pipeline is likely to seem

very attractive as it is basically a management concept for sorting out and streamlining leadership task, roles and decision-making.

Further, increased uncertainty within the organization, in particular, will foster greater attention to the choices made among other similar organizations (DiMaggio & Powell, 1983). Organizations that undergo greater structural transformation might to a higher extent face uncertainty in their decision-making processes. We therefore expect municipalities who more recently underwent structural transformation to face more uncertainty in how to organize their daily activities and consequently be more prone to adopt Leadership Pipeline in the organization in order to deal with uncertainty and to gain an overview. Our first hypothesis reads:

H₁: Municipalities that were amalgamated in the last structural reform have a higher likelihood of adopting Leadership Pipeline.

Institutional theory argues that we will tend to model ourselves after organizations with who we are similar. DiMaggio and Powell (1983) argued that organizations tend to become more similar due to coercive, normative and mimetic pressures for increasing conformity and similarities of internal structures. This raises the question of where municipalities look to and compare themselves. Berry & Berry's (1990: 400) argues that state policy makers tend to view nearby states as "experimental laboratories" for policies. Further, because the consequences of adopting a new program can be very difficult to comprehend, getting information about effects of the program from a similar state can help overcome the uncertainty about whether or not to adopt. Former studies of contracting out have indicated that the propensity for emulation is likely to trigger a pattern for adoption among neighbors due to the existence of formal regional municipal organizations, employee transfers and regional cooperation in service provision (Bhatti et al., 2011: 583). Villadsen, Hansen & Mols (2010) finds support for technological uncertainty as a driver for imitative behavior in Danish municipalities which

could suggest that adoption of Leadership Pipeline in neighboring municipalities could provide the municipality with information about and insight into the concept. As neighboring municipalities are often more closely tied together, they are therefore more likely to engage more frequently in transactions with each other, which in turn foster the development of similar internal structures. This suggest that municipalities are likely to look to their neighbors and to be influenced by the nearest neighbors when making decisions (Berry & Berry, 1990; Bhatti et al., 2011). Neighbors are therefore more likely to engage in knowledge sharing and learning and as a new practice is institutionalizing, it increases the legitimacy for how management practices should be carried out. This in turn increases the normative pressure for adoption from the organizational environment. Following this, we expect municipalities to be more likely to adopt Leadership Pipeline if leadership pipeline was already adopted in neighbor municipalities. The second hypothesis is therefore reads:

H₂: Municipalities that have neighbors who have already adopted Leadership Pipeline have a higher likelihood of adopting Leadership Pipeline.

Combining the two previous arguments, would suggest that municipalities that were recently amalgamated and therefore likely to experience greater uncertainty in decisions making processes could be more likely to look to their nearest peers. Finally, we therefore expect that being amalgamated strengthens the effects of neighbor emulation on the likelihood for adopting Leadership Pipeline. Our final hypothesis reads;

H₃: Recent amalgamation of municipalities positively moderates the positive effect of neighbor emulation on the likelihood of adopting Leadership Pipeline.

METHOD

Research setting

The setting for this study is the Danish municipalities. Leadership pipeline was introduced and adopted in the first municipalities in 2010 and since then 55 percentage of the municipalities have adopted the concept. The concept was strongly promoted by a management consultancy and was started its travel in the aftermath of a major structural reform in Denmark.

In 2007, there was a major structural reform of the Danish municipalities where 239 of 271 municipalities were amalgamated into 98 (Bhatti & Hansen, 2011). Out of the 98, the last 32 were larger municipalities¹ that were left untouched, whereas the rest where amalgamation of several smaller municipalities. The municipalities were left to decide which of the neighbors to amalgamate (Bhatti & Hansen, 2011) with as long as they shared a border and the target on size was to get to an average size of 30,000 with an minimum of 20,000 (Blom-Hansen, Elklit, & Serritzlew, 2006). After the reform, the average size of the municipalities increased from 19,900 inhabitants in 2005 to 55,200 in 2007 (Denters et al., 2014).

As the Danish municipalities are governed by the same rules and regulations, they provide an excellent case for examining the diffusion of Leadership Pipeline, as they are very similar and therefore comparable on many parameters. The Danish municipalities are among other things responsible for child care, elementary schools, care for seniors, libraries, etc. As Leadership Pipeline has been diffusing since 2010 we examine the time window from 2010 to 2017.

¹ Some of the municipalities that were not amalgamated where Islands, that despite their small number of inhabitants for practical reasons where not amalgamated with other.

Research design

This paper draws on a mixed methods design. Mixed methods designs has many advantages over single methods designs (Mele & Belardinelli, 2019). For this study, we chose a mixed methods sequential design with the quantitative study preceding the qualitative study. The design was chosen in order to first explore the basic mechanism driving the diffusion of Leadership pipeline and secondly, getting more in depth about why and how these mechanism actually played out. In the paper we use an quanti-qualitative design, this allows us to first explore the hypothesized mechanisms and then to refine and explain the results further in a qualitative study. In a sequential design, research is carried out in two distinct or sequential phases. For our study we first did a quantitative study that combined a survey with register data from the municipalities in order to obtain a dataset suitable for event history modeling and then secondly, we did a qualitative study with in-depth interviews in order to complement the findings from the first study (Mele & Belardinelli, 2019). In the following section, we will first present the research design for the two different studies and the data analysis used for further analysis.

Study one

As the first study, we did a survey that was distributed to every municipality in Denmark. In the end sample, we had 96 out of 98 municipalities that participated in the survey. The questions from the survey contained information about process and adoption of leadership pipeline as well as questions about how, when and who had helped in the process of implementing and introducing the concept. The survey was send out and answered by the main person in charge of implementing Leadership Pipeline (mostly HR managers) in the municipality.

In the survey the municipalities were asked to indicate whether and when had adopted leadership pipeline in the municipality. The question about when and whether they adopted Leadership pipeline

was double checked via the municipalities websites, which in the end provided us with a full dataset containing information about adoption of leadership pipeline for every municipality². The information from the survey was afterwards combined with archival data on finance, size, amalgamation etc. and combined into a panel data set from 2010 to 2017. The archival data was obtained from nogletal.dk³, which is run by the Danish ministry of interior and comprises detailed information about the municipalities.

Study two

Based on the survey we were able to discern the most significant actors, including consultants and researchers, in promoting the concept and we were able to infer important actors in the client organizations. The interviewees were selected after asking the respondents of the survey whether they would like to give an interview about leadership pipeline afterwards. In turn, we completed 25 semi-structured interviews with municipal managers and consultants working with implementation of Leadership Pipeline. The 25 interviews divided between 13 consultancy interviews and 12 interviews with leaders and HR consultants in the municipalities. We chose to interview both municipal managers/employees as well as private sector consultants in order to go more in depth with why the municipalities had chosen to engage and adopt leadership pipeline as a management concept.

Data analysis

Study one

In order to test the proposed hypothesis and expectation, an event history model using Bayesian data analysis was conducted. As our dependent variable is a dummy variable being either zero or one logistic regression was used in order to predict the likelihood of adopting Leadership Pipeline.

² This allowed us to code information from the last two municipalities that did not fill out the survey.

³ <http://nogletal.dk/>

Variables

Dependent variable. The dependent variable indicates whether a municipality in a given year adopts leadership pipeline or not. The variable is coded as a dummy with 1 being adoption and 0 no adoption. As we are interested in the first time they adopt the practices, the municipalities that adopts are afterwards dropped from the analysis.

Independent variables. In order to test the first hypothesis we generated a variable for prior amalgamation of the municipality. Amalgamation is measured as a dummy coded one if the municipality were amalgamated in the latest reform in 2007 and zero otherwise.

For the second hypothesis, we generated a measure of *prior neighbor adoption* of Leadership Pipeline by coding whether a municipality in a given year had at least one neighbor who had already adopted Leadership Pipeline. The variable was recoded into a dummy with the value one if the municipality had at least one neighbor had already adopted and zero otherwise. Municipalities are coded as neighbors when they share borders.

Control variables. In order to control for other possible effects that might be linked to the adoption of Leadership pipeline a number control variables to the analysis. First, in order to control for possible financial differences influencing the choice of adoption we include two measures. The first measure is the yearly spending per capita in the municipality and the second is a measure of the socio economic index. The socio economic index, measures the municipality's relative expenditure requirements relative to other municipalities on the basis of a number of socio-economic criteria that are included with different weight in the calculation. The index is a ratio, where a value above 1 means that the municipality has a greater expenditure requirement relative to the average of the municipalities, while a value lower than 1 means a lower expenditure requirement relative to the average, and hereby expresses something about the funding needed due to societal composition.

Second, as some of the municipalities are *islands*, their pattern for adoption is likely to be different as they don't have any neighbors directly linked by land or border. We therefore include a dummy variable indicating whether a given municipality is an island or not. Finally, we included a measure of *municipal size*, as prior studies have found this to be an important driver of innovations (Bhatti et al., 2011; Hansen, 2011). Municipal size is calculated as the number of inhabitants in the municipality. As the measure was very skewed we log-transformed it.

Further, all models are run with year dummies in order to provide a fixed effect for year. This provides a control for specific events driving results. All explanatory variables are lagged compared to the dependent variable in the models.

Estimation

In order to test our hypothesis for the effect of amalgamation and neighbor adoption on likelihood of adoption Leadership Pipeline, we draw on Bayesian multilevel logistic regression analysis.

Bayesian analysis is a statistical analysis that answers research questions about unknown parameters of statistical models by using probability statements. The analysis rests on the assumption that all model parameters are random quantities that therefore can incorporate prior information (StataCorp, 2017). The primary advantage of the Bayesian approach is that it allows for common-sense interpretation of statistical conclusions. Bayesian methods explicitly use probability for quantifying uncertainty in inferences (Gelman et al., 2013) and allows us to provide probability statements about the estimated parameters. This allows us to estimate the range of parameter values that contains 95 percent of the (posterior) probability (McElreath, 2016) for the different parameters of interest. Compared to frequentist methods, all inferences in Bayesian analysis are made conditional on the data at hand instead of referencing to what might happen over repeated applications of random sampling as known from frequentist statistics (Jackman, 2009). So far, Bayesian estimation is

becoming more popular, but still remains rather new within the field of public administration (though there are some studies (Hong, 2015; Kelman & Hong, 2014). As we are predicted probability of adoption across years, we use multilevel logistic regression analysis with a random effect (intercept) for each municipality and fixed effects for years in order to capture any time specific events.

In order to run our Bayesian models we need to specify our prior beliefs about the parameters we are estimating when testing our hypotheses. For this study, we chose a set of weakly informative priors as we are addressing a call for more research within a field and therefore do not have a strong prior expectation from previous literature. In the analysis, the priors for the expected mean value and the intercept are specified as a normal distribution with mean zero and a standard deviation of five. This suggests no effect between the predictor variable and the outcome (slope with a beta equal to zero). As the models are multileveled and run with a random intercept for each municipality we also need a prior for sigma where we chose a Cauchy prior with mean zero and sigma 1. This implies enforcing very little prior information in the analysis and letting the data speak in the analysis. However, the priors do regularize the estimates in the model.

In order to compare the models and the strength of the evidence, the analysis relies on Widely Applicable Information Criteria (WAIC) and the WAIC weight for weighing the evidence supporting each model. WAIC weight provides a measure of the relative distances between the models. McElreath (2016) presents the most common interpretation as: *A model's weight is an estimate of the probability that the model will make the best predictions on new data, conditional on the set of models considered* (McElreath, 2016). The weights sum to one and thereby provides a nice comparison of the models. The Bayesian analysis is modelled using the `bmrs` package in R (Bürkner, 2017). Models are estimated using STAN, which draw on MCMC as sampling algorithm. All models showed high convergence with an R-hat equal to one.

Study two

Leveraging a sequential strategy (Mele & Belardinelli, 2019) we conducted interviews with 25 key stakeholders, which all were transcribed and prepared for data analysis. Throughout our qualitative analysis the role of the structural reform, the role of amalgamation and neighbor municipalities was underscored as important, hence, we used the interviews to examine this aspects further. All the interviews were transcribed verbatim and followed by a condensation and categorization strategy (Kvale and Brinkmann, 2009) where we aimed at complementing our theorizing with a more grounded approach (Gioia et al., 2013). In our analysis we focused on how intermediaries in the adopting organizations (e.g. procurers and internal consultants acting as brokers) and external management consultants involved in spreading the leadership pipeline concept considered the spread of the concept and reasons for adoption including the role the structural reform as a macro force shaping problems and solutions. The condensation and categorization process continued in an iterative process of consulting literature on the spread of management knowledge and re-analyzing our empirical data (Langley and Klag, 2019). In continuation of this, we found that the both the consultants and their clients leveraged the reform and the problems afforded by this in their work. Accordingly, the consultants were building problem-solutions by *articulating* and *accentuating* problems connected to the reform through the concept, and clients were connecting and building problem-solutions by also *articulating* and *accentuating* the problem, and moreover, *adapting problems* related to the reform. Although the framework espoused by Sturdy (2018) resonated our findings, we also had to elaborate and translate this into the case of management concepts. In contrast to Sturdy, our study do not only compose a view from the consultancy side but also includes client perspectives, this allowed us to advance the work of Sturdy and understand these components as a matter of appropriating the problem, which consist in taking over the problem, in our case the reform, in a new way. These aspects were explicated in most of the interviews, yet, we decided to focus our

analysis on excerpts from two municipalities, Aalborg municipality and Hjørring municipality and the most significant management consultancy.

RESULTS

Study one

In this section, we presents the results of our hypotheses test and quantitative analysis. Table 1 presents the descriptive statistics for the analysis.

Table 1: Descriptive statistics

Variable	N	Mean	Std.dev.	Min	Max
Expenditure per capita	686	56,533	5,834	45,311	87,334
Socio – economical index	686	.96	.23	.46	1.72
Island	686	.06	.24	0	1
Municipal size (ln)	686	10.65	.79	7.49	13.31
Amalgamation	686	.66	.47	0	1
Neighbor adoption	686	.5	.5	0	1
LP adoption*	527	.097	.3	0	1

* Reported N is smaller for LP as the municipalities are dropped from the analysis the year after adoption as we are only interested in the first adoption.

Table 2 shows the results of the Bayesian multilevel logistic regression analysis. In total, five different models were run. Model 1 includes only the control variables and were tested in order to compare the model testing the hypothesis to the simpler model to establish best fit. The square brackets for the in the models provides the 95 percent credible interval for the estimates.

Model 2, provides a test of the first hypothesis arguing for a positive effect of amalgamation on the likelihood for adopting Leadership Pipeline. In model 2, amalgamation has a predicted posterior mean of 4.03 on the log(odds) scale with a 95-percent probability that the value lies between 1.25 and 7.87. This suggest a positive effect but with some uncertainty about the size of the effect. Model 3, tests our second expectation of a positive effect of neighbor emulation. In model 3, results suggest a

predicted posterior mean of 1.53 on the log(odds) scale for neighbor emulation with a 95-percent probability that the value lies between -0.21 and 3.81. Overall this suggest a positive effect but with less certainty as some of the 95 percent probability mass overlaps zero and contains negative values. Model 4, test the effects of both amalgamation and neighbor emulation.

Table 2: Results of Bayesian multilevel logistic regression analysis for adoption of LP

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-30.67 [-71.2 - 2.1]	-37.26 [-78.4 - (-9.7)]	-29.14 [-70.4 - (-1.6)]	-42.92 [88.7 - (-11.2)]	41.33 [-85.0 - (-10.1)]
Socio – economical index	1.51 [-4.3 - 7.2]	2.25 [-2.7 - 7.4]	1.30 [-4.2 - 7.0]	2.00 [-3.8 - 7.7]	1.97 [-3.6 - 7.5]
Expenditure per capita	0.00 [-0.0 - 0.0]	0.00 [-0.0 - 0.0]	0.00 [-0.0 - 0.0]	0.00 [-0.0 - 0.0]	0.00 [-0.0 - 0.0]
Municipality is an island	-2.39 [-8.7 - 3.46]	-0.91 [-6.65 - 4.49]	-1.76 [-8.2 - 4.1]	-0.73 [7.1 - 5.2]	-0.71 [-6.9 - 5.3]
Municipal size (ln)	1.75 [-0.1 - 4.24]	1.68 [0.1 - 3.91]	1.54 [-0.24 - 4.0]	1.85 [-0.0 - 4.4]	1.79 [-0.0 - 4.22]
Amalgamation		4.03 [1.25 - 7.87]		4.45 [1.33 - 8.52]	4.82 [1.56 - 8.89]
Neighbor adoption			1.53 [-0.21 - 3.81]	1.35 [-0.45 - 3.73]	1.52 [-0.38 - 3.83]
Amalgamation * Neighbor adoption					-0.66 [-2.91 - 1.85]
Random intercept (municipality)	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes
WAIC	231.9	248.5	237.1	229.6	231.8
WAIC weights	0.190	0.000	0.014	0.596	0.200
Change in WAIC (M1 – M2)	-16.64				
Change in WAIC (M1 – M3)	-5.20				
Change in WAIC (M1 – M4)	2.29				
Change in WAIC (M1 – M5)	0.11				
Change in WAIC (M2 – M3)	11.44				
Change in WAIC (M2 – M4)	18.93				
Change in WAIC (M2 – M5)	16.75				
Change in WAIC (M3 – M4)	7.49				
Change in WAIC (M3 – M5)	5.31				
Change in WAIC (M4 – M5)	-2.18				

Reported coefficient are in log odds. 95-percent credible intervals in square brackets. Year dummies included but results are not reported.

Finally, model 5 test the effect of the positive interaction between amalgamation and neighbor emulation. In model 5, the interaction between amalgamation and neighbor emulation has a predicted

posterior mean of -0.66 on the log(odds) scale with a 95-percent probability that the value lies between 2.91 and 1.85. This suggest no evidence to our expectation of a positive moderating effect and the argument that prior amalgamation would strengthen the effect of neighbor emulation on the likelihood of adoption. If we summarize the strength of the evidence when comparing the five different models using the WAIC and WAIC weight, it provides most evidence for model 4 (with 59.6 % of the WAIC weight) which again suggests evidence to support our two first hypotheses but not our third on the interaction.

In order to get a clearer idea of the actual size of the effect instead of the relative change provide by the change in log (odds), we have calculated the marginal effect of the predicted probabilities of both amalgamation and neighbor emulation (for the estimates of model 4). These are then compared so we can a glance at the difference in the probability for adoption for municipalities that are amalgamated or not and have neighbor who had adopted or not.

Table 3 presents the 95 % quantiles for the difference in percentage points⁴ for the probability for adopting leadership pipeline. The marginal effect for our first hypothesis on the effect of amalgamation revealed a positive difference in percentage point within the range of [0.002 – 0.098] with a median of 0.023. This modest but positive difference in probability for adoption supports the hypothesized expectation of a positive effect on likelihood for adoption for amalgamated municipalities. The marginal effect for our second hypothesis on prior neighbor adoption revealed a modest but difference in probability for adoption. The median for the difference in percentage points suggest a difference of less than one percent, but within a 95 % probability interval from -0.004 to 0.043. In line with results revealed in table 2, this suggest that some of the 95 % probability mass

⁴ A percentage point or percent point is the unit for the arithmetic difference of two percentages. For example, moving up from 40% to 44% is a 4 percentage point increase, but is a 10 percent increase in what is being measured.

Figure 1: Marginal effects – difference in the probability for adoption (panel a) and

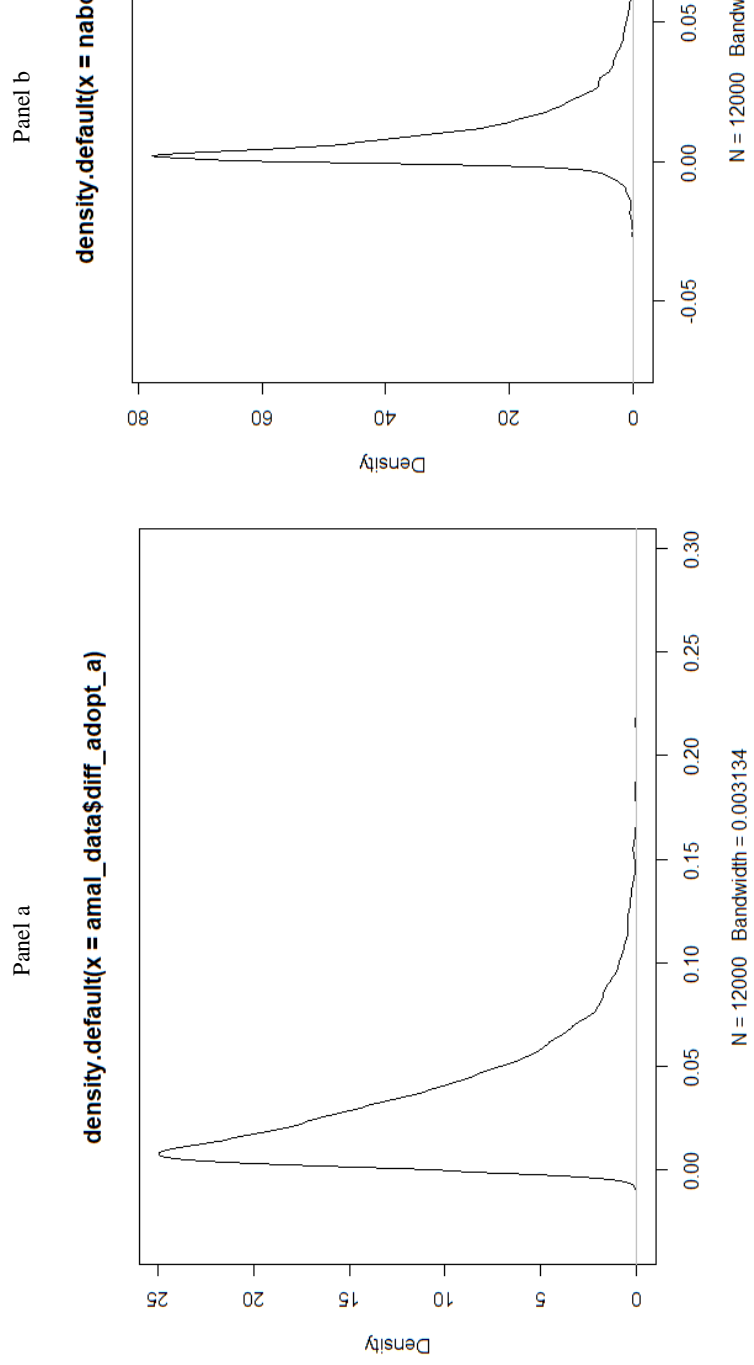
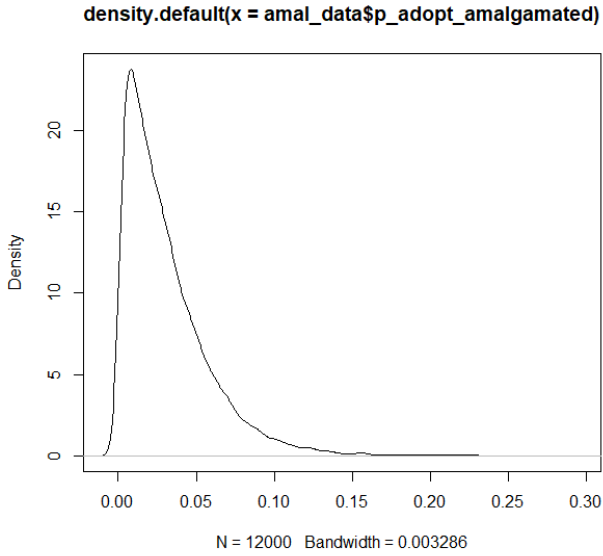
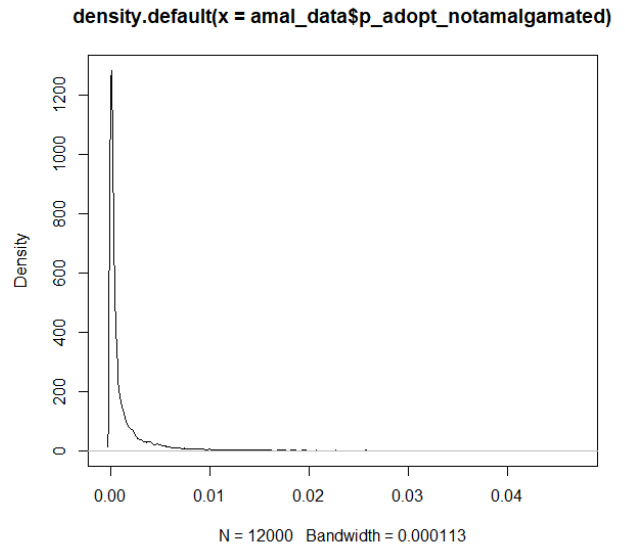


Figure 2: Marginal effects of amalgamation and neighbor adoption on likelihood of adopting Leadership Pipeline

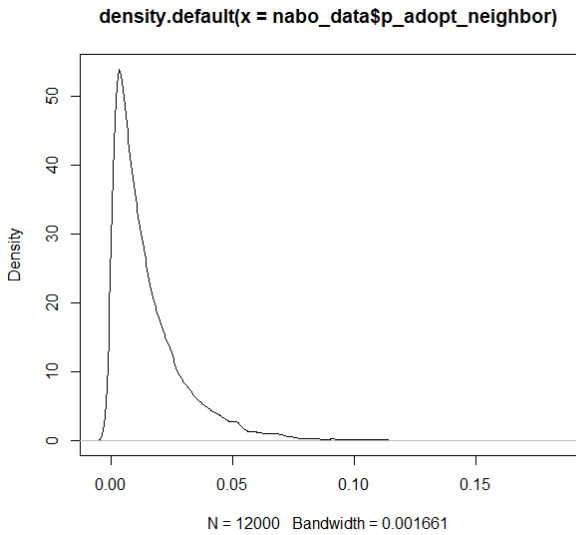
Panel a



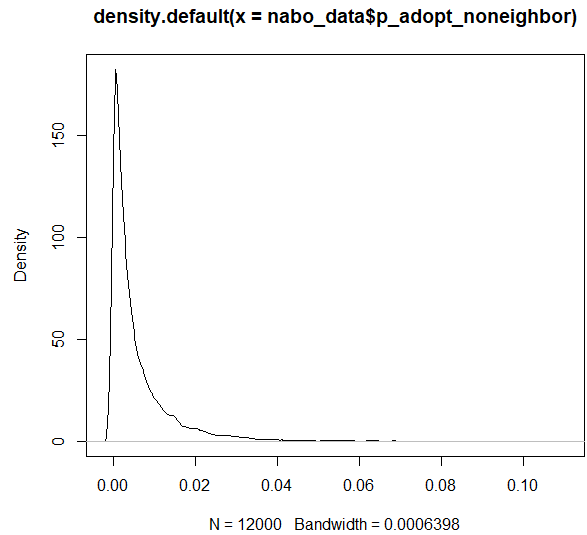
Panel b



Panel c



Panel d



overlaps zero. Overall, this provides most evidence to a positive but rather small difference in the effect between municipalities with neighbors who prior adopted.

Table 3: Marginal effects - difference in percentage points for probability of adoption

	2.5 %	50 %	97.5 %
Amalgamation	0.002	0.023	0.098
Negihbor adoption	-0.004	0.006	0.043

Figure 1, further plots out the marginal effect and compares the probabilities for adopting the two variables amalgamation and neighbor adoption. In panel a, the area under the curve represents the difference in percentage points when comparing the probability for adoption for municipalities that were amalgamated to that were not. Panel b, provides a similar picture, but again with a small part of the difference in percentage points being negative and generally a smaller difference in the effect.

Figure 2, provides a similar plot but provides the marginal effects for adoption (all other variables kept at their mean) for first municipalities that were amalgamated (panel a) and those that were not (panel b), and secondly for those that had neighbors who prior adopted (panel c) and does that did not (panel d). The figures shows a similar picture, were we see a larger probability for adopting Leadership Pipeline for municipalities that were amalgamated and equally a larger probability (though less pronounced) for municipalities with neighbors that prior adopted.

Results analysis #2:

In continuation of our findings that the amalgamation spurred by the structural reform in 2007 correlates with concept adoption we started to inquire further into this part. In doing so, we started to explore how problems and solutions were connected and how practitioners thereby contributed to the legitimation of the concept. This second part of the analysis divides into two sub-sections, one

focusing on how the consultants connect the concept to problems provoked by the reform another how the public sector organizations helped them do so.

Consultants accentuating and articulating reform problems through the concept

The most significant consultants in the diffusion of the leadership pipeline concept did not explicitly promote the concept as a response to the structural reform. Yet, according to a consultant involved in several assignments of Leadership Pipeline in the public sector, the combination of the Leadership Pipeline concept and the structural reform created a ‘window of opportunity’ (interview) that was crucial for the success of the concept. Accordingly, the consultant argued, ‘the consultants [writing the book] saw the need in public sector organizations to become more clear on what leadership is at different levels in the public sector’ (Interview).

Indeed, this was also visible in the accounts of the consultants who wrote the Danish book. They emphasized a need in public sector organizations for an improved understanding organizational hierarchies and argued that the structural reform accentuated the urgency of an improved understanding. As one of the consultants that wrote the Danish book on the Public Leadership Pipeline argued:

You have a municipal reform that you have done on paper a long time ago, but in reality many have had reforms on reforms and changes in change [...] this has left many management teams unclarified, what is it really we should be able to do in our new roles [...] you need to [add an element to a focus on micro level initiatives and] connect with the level of governance and the structure level of organizational life [at that time] public sector organizations had actually made *hierarchy* and *power* dirty words and all problems had to be solved in an inclusive manner etc. [...] then comes the structural reform where you join a lot of things together and has twice as many managers as you really need (Interview, Consultant)

Likewise the co-author of the Danish book argued:

Leadership pipeline has become a tool in many municipalities for talking about what we really expect from each other quite fundamentally in our roles, in a differentiated and nuanced way. Perhaps the concept even enable talking about things that you had been in need for talking about for years but never really got to do in a systematic way (Interview, Consultant)

As the first consultant notes, the concept responded to a tendency to handle organizational issues through a micro-level focus. The Leadership Pipeline concept accentuated the need for considering hierarchy and power and differences in managerial jurisdictions and accountability at different levels elements also accentuated by the reform. As such and as the other consultant notes, the concept partially worked by articulating current problems, for instance, arguing that a key problem in most public sector organizations is a lack of knowledge about how leadership tasks differentiate at different levels (Molly and Dahl, 2013). Moreover, the concept also accentuated problems known from the reform in terms of more leaders and larger units, yet, the Danish book did not mention the reform but connections between organizational problem-solutions highlighted by concept and problems afforded by the reform was accentuated by many of the clients.

Municipal clients accentuating and adapting reform problems through the concept

In continuation of this, the consultants were not alone in building the connection between the problem-solutions of the concept and the problems invoked by the structural reform. As such, the municipal organizations did a major contribution in making the concept address problems invoked by the reform. As argued by a personnel leader in a municipality:

Now we have to get back to the hierarchy. We went from 271 municipalities to 98 municipalities during the reform. This means that we have experienced mergers of municipalities with more management teams and managerial levels [...] I do not think the

answer was written that it should be the Leadership Pipeline [concept], but I think there have been several who have sat and struggled with management challenges related to hierarchy.

This idea of getting back to hierarchy and formal structures resonated in all the municipalities we interviewed and they related this to the reform. For instance, a HR director in the amalgamated Hjørring municipality explained:

We stood right after the structural reform with quite a few managers with different cultures and who we had to work with. Already in 2008 we started to talk about how to get the line between manager and employee improved or how do we strengthen the team formation. Then we did the classical thing to bring in some consultants. (Interview).

At that time in 2008 the Leadership Pipeline concept was very nascent and the Danish book on the Public Leadership Pipeline was far from being published. In turn, Hjørring municipality, in collaboration with consultants, started to use ideas from the Leadership Pipeline concept to work with their amalgamated units. They argued that there was a need for creating a ‘common responsibility’ and they had to move some school leaders and rethink the decision structure as part of the restructuring. Hence, they started working with Leadership Pipeline in relation to the public schools, as the director of public schools in Hjørring explained:

The Leadership Pipeline provides a framework for describing my own responsibilities as a leader and I thought it could contribute to an understanding of what to do [...] At the various managerial levels, there was actually a little confusion that some school leaders were teaching a lot and others went to finance meetings because they had a financial responsibility. If one had to draw the lines clearly, then there was probably some organizational confusion about "what is my job really" (Interview).

According to the director, the Leadership Pipeline concept became a way to address the uncertainties created by the reform and helped adapt not only the ideas from the private sector Leadership Pipeline

concept but also adapt the problems afforded by the reform. Another example of this is found in Aalborg municipality, which was merged with three other municipalities during the reform and now was the third largest municipality. This merger created a need for transformation, as argued by the HR director:

The timing was perfect [...] if we take a look back to the amalgamation in 2007, Aalborg Municipality decided to make this joint attention to something organizational. We had become so large so we had some new and special challenges. One can say that the structural reform in the municipality of Aalborg meant a lot to the development. So we were developing the organization in the context of the reform in 2007 - it was a matter of handling the merger process [...] We had 900 managers and we knew well that they were the focal point of moving the organization, but how to do that was the question. The reform was a major challenge. We had an ambition to become a more cohesive organization [...] we use some of the things we got from the pipeline to support the transition from one [kind of municipality] to another kind of organization and how to do leadership development in this transition. We integrated the Leadership Pipeline into the efforts and used it in a parallel process [...] The Pipeline concept became a methodology or thinking to us and helped set a framework [...] When you have such a large organization it can be difficult to get hold of what is on the individual levels, and it can also be difficult internally and it can create some issues in the interdisciplinary organizing of work. For instance, what are the mandate of certain leaders - this became visible by working with the Leadership Pipeline (Interview)

As the quote illustrate the timing between the Leadership Pipeline concept and the struggles of the reform was perfect. Problems were to some extend already there, and hence, the concept mainly helped articulate and accentuate those problems. However, the problems from the reform was also adapted by the public sector organizations. The Leadership Pipeline concept emphasized the problem

of leaders being unaware of the importance of making transitions to different levels and in specifying boundaries for their tasks, jurisdictions and accountability and the importance of becoming clearer on this aspects. Indeed, the client organizations were building that connection but often assisted by the management consultants.

Discussion and concluding remarks

In this paper we explored the puzzle of how and why seemingly “old school” management and leadership models are adopted by contemporary public sector organizations. We focused on how the management concept of Leadership Pipeline got widespread adoption across the Danish municipalities. Results of our mixed method study suggest that Leadership Pipeline diffused in an interplay between consultants, local government HR managers and business academics. Results of Bayesian multileveled logistic regression pointed to an increased likelihood for adoption for local governments that recently amalgamated. This findings was further supported in our second qualitative analysis suggesting that recently amalgamated municipalities were looking to solution to sort out their new situation. This supports the argument of timing being essential for management concepts to get diffused (Ferlie et al., 2016). In this case, the structural reform provided a window of opportunity for the re-appearance of an old hierarchical leadership concept and the reliance on consultants. Results suggest that the hierarchical leadership model gained acceptance, not only by being translated into a Danish text version and through a strong alliance between public sector managers, academia and management consultants, as shown elsewhere (Nielsen et al., 2019) but the political context or public sector reforms was crucial in advancing the concept. Findings suggest, that amalgamated municipalities seemed to be looking for a solution to help them gain clarity and control. The leadership pipeline model offered by both a solution but also helped define the problem. In the paper we further explored the more classical mechanism of neighbor emulation which has previously being

linked to diffusion of innovation in public sector organizations (Bhatti et al., 2011; Krøtel, 2015).

Results of our quantitative study suggested a likely positive effect but more trivial in size.

Several contributions emanate from this study and to the understanding of the role of management knowledge and management concepts in public sector settings.

Firstly, our study advance studies of diffusion of management concepts and innovations in public sector settings. Whereas consultants often has been considered as acting as mainly legitimizers of certain public sector agendas, hence, as the agents of solutions (Sturdy et al., 2009; Sturdy, 2018; Beland and Howlett, 2016), we show how management concepts and consultants are enabled by political reforms. Resonating nascent literature on the role of consultancies and the political economy in spreading governance solutions (Sturdy, 2018; Ferlie et al., 2016), our case shows how demands for management solutions also are heralded by public reforms.

Secondly, our study advance the insights of Ferlie et al. (2016) on the role of political economy and the nexus of consultancies, business academics and public sector organizations. Ferlie et al. (2016) stress the importance of knowledge hybrids, or management concepts as we have explored here, in organizing and managing the public sector. In contrast to Ferlie et. al (2016) we show how we not only see aspects of the political economy in the concepts and management knowledge used in public sector organizations but we show how management concepts, as solutions chasing problems strengthen by being connected to reforms through the process. We name this process problem-solution appropriation and inspired by Sturdy (2018) we suggest this to unfold through a process of articulating, accentuating, adapting and appropriating the problem. Thirdly, by combining quantitative insights with qualitative depth we contribute to the scarcity of mixed-method studies in public administration (Mele & Belardinelli, 2019).

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