

Essays on Application of Management Theory in Public Organizations – Changes due to New Public Management

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PREFACE

When I think back on my Ph.D. period – which has been a bit longer than normal due to some maternity leave with Julius and Silje - I remember all the interesting and kind people I met. Naturally, there were challenges especially due to my background as an MA in Business Administration and Philosophy without much knowledge about quantitative method. Yet, there are many people I would like to thank.

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To my friends in Copenhagen I would like to say I am sorry for being too engaged in project and family, but I hope we now will see more of each other. Finally, I thank my family and family-in-laws for all their support. Thank to my mother for the many times she helped - as always in my life - especially with the children when I was going somewhere. Unfortunately, my grandfather could not be here today, but I am glad that my grandmother showed the strength to start a new life.

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DANSK RESUME (DANISH SUMMARY)

Denne afhandling undersøger anvendelse af management teori i og på offentlige organisationer; og herunder, hvordan forandringer i den offentlige sektor - som ofte betegnes New Public Management - påvirker disse muligheder. Der er de seneste to til tre årtier sket store forandringer i den offentlige sektor, som bl.a. har været karakteriseret ved at man forsøger at inddrage management og økonomisk tænkning i og på offentlige organisationer. Denne afhandling koncentrerer sig især om at se på mulighederne for at anvende strategisk management i og på offentlige organisationer, men den undersøger også relaterede strategiske emner som udlicitering og lederstil. Afhandlingen fokuserer bl.a. på de forskelle, der er mellem offentlige organisationer og private virksomheder, men også de store forskelle der er mellem forskellige typer af offentlige organisationer. I det følgende vil der være et kort resume af afhandlingens fire papirer, herunder deres resultater og bidrag til public management litteraturen.

Det første papir er et teoretisk papir, der undersøger mulighederne for at gøre brug af to af de mest anvendte strategisk management teorier i offentlige organisationer: hhv. Porters strategiske positionering og det ressourcebaserede syn på strategi. Papiret fokuserer på, hvordan disse teorier matcher de særlige, offentlige karakteristika, som ofte er beskrevet i litteraturen. Undersøgelsen viser, at det ressourcebaserede syn på strategi passer bedst til offentlige organisationer, da det fokuserer på værdiskabelse og effektivitet, mens strategisk positionering som udgangspunkt er sværere at anvende, da strategisk positionering i højere grad fokuserer på konkurrence og profit. Efter dette illustrerer papiret, at der er sket forandringer i offentlige organisationer, hvorfor nogle offentlige organisationer i højere grad end andre kan gøre brug af f.eks. strategisk positionering. Papiret opstiller herefter et klassifikationsskema, hvorudfra man kan gruppere offentlige organisationer efter graden af, hvorvidt de har 1) administrativt autonomi, 2) aktivitets- og

performancebaseret budget, samt hvorvidt de er i 3) konkurrencelignende vilkår. I den sammenhæng når papiret frem til det resultat, at i tilfælde af høj grad af autonomi, performancebaserede budgetter samt konkurrence vil strategisk positionering være mere anvendelig.

Det andet papir undersøger offentlige organisationers anvendelse af strategiværktøjer før og efter New Public Management reformer. Studiet er en del af en nyere litteratur der forsøger at undersøge, hvordan strategi anvendes i praksis. Dette er gjort ved at undersøge de almene, danske gymnasiers brug af strategiværktøjer før og efter den danske Strukturreform. Reformen har både introduceret selveje med egen bestyrelse samt taxameterfinansiering til et område af den offentlige sektor, der generelt har været relativt upåvirket af de store forandringer, der løbende er foregået i den offentlige sektor. En spørgeskemaundersøgelse udsendt til de danske gymnasierectorer viser, at gymnasierne i langt højere grad end før reformen er begyndt at benytte mere konkurrencebaserede og internt økonomiske værktøjer. Her viser resultaterne at begge typer af værktøjer er markant mere anvendt efter reformen, bl.a. var der tidligere næsten ingen, der anvendte konkurrencebaserede værktøjer. På trods af stigningen er det dog et forholdsvis lille antal, der anvender f.eks. disse konkurrencebaserede værktøjer. Papiret undersøger desuden - ud fra organisatoriske, strategiske og ledelsesmæssige karakteristika - hvilke skoler, der betjener sig af disse henholdsvis konkurrencebaserede og internt økonomiske værktøjer. Resultaterne viser, at skolernes forhold såsom størrelse og konkurrence ikke er afgørende for anvendelse af flere af disse værktøjer efter reformen, dog er økonomisk pres i form af budgetmæssig nedskæring og faldende efterspørgsel efter skolens studiepladser relateret til skolernes anvendelse af konkurrencebaserede værktøjer. På den anden side viser resultaterne, at antallet af konkurrenter, rektorerne opfatter, skolen har, er negativt relateret til anvendelse af interne økonomisk værktøjer. Derudover viser resultaterne, at

hvorvidt skolerne ifølge rektorerne som udgangspunkt fokusere på at søge nye innovative muligheder og eksperimenterer i forhold til deres omgivelser eller at forsøge at beskytte kerneforretningen påvirker valget af værktøjer, men ikke nødvendigvis kun som forventet. Herudover viser resultaterne, at længden af rektorenes management uddannelse er relateret til anvendelse af konkurrencemæssige værktøjer efter reformen, mens hvorvidt rektorerne er fokuseret på traditionelle uddannelses-emner (såsom almindelig og faglighed) er negativt relateret til anvendelsen af disse konkurrencemæssige værktøjer. Endelig er det meget afgørende, om skolerne har anvendt disse værktøjer før reformen.

Det tredje papir er koncentreret omkring det strategiske spørgsmål: hvorvidt offentlige organisationer selv skal producere deres ydelser eller/og købe dem hos eksterne leverandører.

Papiret har som fokus at undersøge det ofte oversete spørgsmål: hvorfor nogle offentlige organisationer vælger både at benytte intern produktion samt eksterne leverandører til samme type af service. Traditionelt undersøges denne problemstilling som et *enten-eller* spørgsmål, men dette papir adskiller sig ved, at det fokuserer på, hvorfor nogle offentlige organisationer gør begge dele samtidigt. Dette bliver illustreret ud fra fire forskellige, teoretiske forklaringer:

transaktionsomkostningsteori, den neoklassiske økonomi, den ressourcebaserede strategi samt den institutionelle teori. De tre første teorier har tidligere været anvendt til at forstå den samtidige interne - og eksterne produktion af samme type service. F. eks. har en tidligere spørgeskemaundersøgelse været gennemført i private organisationer, hvor disse teorier undersøges, og hvor resultaterne viser, at dele af teorierne er med til at forklare den samtidige interne - og eksterne produktion empirisk. Ved at benytte samme spørgsmål som denne undersøgelse - og udvide det med en række nye spørgsmål for institutionel teori - forsøger papiret at undersøge, hvorvidt disse teorier også kan forklare den samtidige interne - og eksterne produktion.

Undersøgelsen, som er blevet foretaget ud fra fire serviceområder (vejvedligeholdelse, IT vedligeholdelse, rengøring og jobaktivering) i alle danske kommuner, når imidlertid ikke frem til at give den samme støtte til disse forklaringer, som studiet i private virksomheder gør. Undersøgelsen illustrerer dog, at samtidig intern - og ekstern produktion ofte forekommer og ser ud til at være et vedvarende valg. Dette indikerer således et behov for at lede efter andre forklaringer på, hvorfor offentlige organisationer anvender såvel intern - som ekstern produktion til samme serviceydelse.

Det fjerde papir ser på den ledelsesstil, som danske ledere anvender. I den forbindelse er papiret i særlig grad koncentreret om at undersøge, hvorvidt der er forskelle med hensyn til valg af ledelsesstil offentlige - og private ledere imellem, samt om en eventuel forskel kan forklares af forskelle i job-konteksten. Papiret har således til hensigt at undersøge, om der kan påvises en forskel private - og offentlige ledere imellem med hensyn til deres anvendelse af hhv. medarbejder- og opgaveorienteret ledelsesstil, samt om faktorer som sektor eller job-kontekst (job-autonomi, job-kompleksitet og rolleklarhed) påvirker deres valg af ledelsesstil. Denne problemstilling undersøger papiret ved at gøre brug af data fra Det Danske Ledelsesbarometer, som er en stort anlagt spørgeskemaundersøgelse, som hhv. Lederne og CORE på ASB gennemfører hos private og offentlige ledere med jævne mellemrum. Papiret når frem til to centrale pointer. For det første at graden af opfattet job-autonomi og job-kompleksitet er positivt relateret til medarbejderorienteret ledelsesstil, mens graden af rolleklarhed er positivt relateret til opgaveorienteret ledelsesstil, mens graden af job-autonomi er negativt relateret til opgaveorienteret ledelsesstil. Og samtidig viser det, at offentlige ledere bruger mere medarbejderorienteret ledelsesstil, bl.a. fordi de har mere job-autonomi og job-kompleksitet. Offentlige ledere har altså en anden job-kontekst end private ledere, hvilket er med til at forklare deres ledelsesstil.

Afhandlingens fire artikler forsøger tilsammen at undersøge, hvilke muligheder der er for at anvende management teori på og i offentlige organisationer; og i den forbindelse er de særlig interesserede i at belyse, hvilken betydning forandringer får i den offentlige sektor. Samlet set understreger de enkelte papirers bidrag vigtigheden af at forstå det unikke, der er, ved offentlige organisationer, samtidig med at de også erkender, at der er væsentlige forskelle de forskellige typer af offentlige organisationer imellem. Endelig understreger afhandlingens fire papirer vigtigheden i af at forske i, hvilke muligheder der er for at anvende specifikke management teorier i og på offentlige organisationer.

INTRODUCTION AND SUMMARY

This dissertation deals with the application of management in public organizations. It is primarily focused on strategic management issues in public organizations. The dissertation thereby focuses on the differences between public and private organizations but also differences between types of public organizations which are especially interesting due to the influence of New Public Management. It consists of four independent essays - or papers. This introduction provides an introduction to the rest of the dissertation, the theoretical fields being addressed, introducing the concepts and some methodological deliberations. Therefore, the introduction is by itself not a contribution to the research field. It is a combined introduction and summary which is structured as follows: First comes a description of why this dissertation is relevant – especially due to the many differences and changes in relation to public organization - and a description of the growing research field of public management. Second, there is an account of the management theories which are investigated. Third is an introduction to the differences between public and private organizations and the differences between types of public organizations. Fourth follows an overview of the research design for investigating the application of management theory in public organizations. This includes an overall consideration regarding the methodology. Fifth is a summary of the dissertation's four papers, their results and contributions. Finally, comes a short passage on the dissertation's implications for public management.

Notice: To make the dissertation more readable and coherent the term “we” is used in all papers and also in this introduction. This is regardless of whether the papers are single authored or co-authored.

THE FIELD OF PUBLIC MANAGEMENT

This dissertation is motivated by an attempt to understand the application of management theory in public organizations and contributes to a rather new but growing field of public management research. This issue highlights the importance of understanding two key concepts: management theory and public organizations. The dissertation's understanding of management theory is rather inclusive. It focuses both on theories as a part of research but also theories which are related to practice, e.g., in the form of management tools. It is relevant to investigate the application of these theories in public organizations because they primarily are theories (made and) rooted in private management. The theories focus on private companies, although some of them argue to have a more generic view thereby claiming applicability in other sectors. Moreover, there also is a variety of types of public organizations, and therefore it is relevant to investigate different management theories in relation to different types of public organizations. This will allow understanding of whether the management theories can be applied in specific settings. The question of application of management theory in relation to public organizations is a question which has been investigated regularly in relation to strategic management, e.g., Ring & Perry (1985), Ferlie (2003). However, further studies are still needed especially due to NPM changes. Yet, this introduction does not present an overarching theoretical framework. As I will discuss below, public management is a field without a clear guiding theory. Rather it draws insights from a wide spread line of theories from the social sciences. One of the purposes of this dissertation is to discuss and assess the relevance of different management theories in public organizations. This objective is by definition not accomplishable by constraining the papers under one theoretical framework. We therefore investigate a range of different (strategic) management theories and tools

The question of application of management theories is highly relevant because many public organizations in most countries have gone through major changes in the last two to three decades due to different modernization programs (Kettl, 2005, Pollitt & Bouckhaert, 2004). These changes have often been labeled New Public Management (NPM) - a term which has enjoyed a widespread influence (Hood, 2005). However, there have been many different understandings of the term (Hood, 2005). In a general and classic understanding, NPM refers to the introduction of economics and management thought into the public sector (Hood, 1991). Due to the NPM changes there has been a growth in the literature which tries to understand public organizations from new angles.

For many years public organizations were nearly exclusively studied in public administrations and public policy literature. However, this has not always been the case. In the 1950s-1970s, when management began to become a growing research area with the introduction of the journals *Administrative Science Quarterly* and *Academy of Management Journal*, public organizations were often studied (Kelman, 2007). However, as argued for many years management in public organizations only got scarce attention and when public organizations were studied in general management journals, the focus was often on very distinct public characteristics (e.g., Perry & Rainey, 1988; Ring & Perry, 1985). However, due to the NPM changes, some public organizations are now similar to private companies though they still have some specific public characteristics. Therefore, there is a growing research area which studies management in public organizations (Pollitt & Bouckhaert, 2004). Yet, as Kelman argues, public management is a field which needs help from general management theory (Kelman, 2005). The motivation for this dissertation is therefore to understand and investigate the application of management theory in public organizations by understanding their distinct characteristics (Rainey, 2003). In relation to this it is also interesting how different public organizations change due to New Public Management. This is

a complex issue due to the fact that NPM includes both the introduction of these generic management theories and tools in public organizations but it also includes changes in the overall types of public organizations. Therefore, we need to be very specific regarding the level of NPM we investigate and also what type of public organizations we investigate in the specific papers.

As argued by Ferlie (2003), there seems to be three overall camps in relation to the understanding of the applications of (strategic) management in public organizations. First, there is the public administration tradition which argues that public organizations are something completely unique due to the fact that they operate on the basis of public rather than private property right (and often in the form of profit). Public organizations are bound by their electoral mandate and thereby accountable to the public, and therefore cannot withdraw from services or client groups (Ferlie, 2003). Second, there is the generic tradition which holds on to the opposite view that focuses on the similarity in key management tasks between sectors. Finally, there is the public management tradition which tries to adapt generic management ideas generated within private sector context to public organizations which have some distinct characteristics. In this perspective there is a two way learning between the sectors (Ferlie, 2003). For instance, the users are both seen as citizens and customers (Ferlie, 2003). However, due to this public management perspective there is no simple way to understand the similarities and differences between the sectors. Also, Rainey draws attention to questions regarding a generic view and a view focused on public distinctiveness which has become more complex in the last decades where public and private sectors overlap and relate in many ways (Rainey, 2003). We try to understand these similarities and differences in greater depth. It is important to avoid oversimplifications, and as Rainey says, the challenges are conceiving and analyzing the differences, variations, and similarities (Rainey, 2003).

The field of public management is where this dissertation makes its contribution. Public management as research field is rather new and therefore it is relevant with a characteristic of the field as intro for the dissertations essays. This is not a field with its own theory or a clear theoretical funding. It applies theories from many other areas. Especially public administration and general management, but also public policy, political science, economics and sociology provide the theoretical basis of the field (Rainey, 2003). The field does have some common questions which especially relate to the relationship between management and public organizations. These open an endless number of other questions. One such is how public organizations can be managed in relation to their distinct characteristics. A key question is whether and how management theory can be applied in public organizations. This is also the overall research questions of this dissertation. The dissertation mainly tries to contribute to the public management literature by understanding and investigating management theory in relation to public organizations. The focus is mostly on strategic management, but also on the closely related areas of contracting and leadership in public organizations. Potentially, this could also contribute to general management theory. This, however, is not the primary goal. The lack of theory is a noticeable weakness of the public management field (Pfeffer, 2006). Furthermore, it is a field with neither a distinct philosophy of science nor a clear overall paradigm (Hood, 1995). However, it is a rapidly growing research area. This is evident from a wide selection of academics journals and the work of major communities and conferences. At the journal level we notice the rise of public management literature. The two public management journals mainly devoted to this field are *Public Management Review* and *International Public Management Journal* both of which have experienced a significant growth of impact within the last 10 years. Moreover, journals such as *Journal of Public Administration Research and Theory*, *Public Administration Review* and *Public Administration* have also exhibited a rapid growth in public management papers which shows that public management is a growing area of interest (Boyne,

1996; Kelman, 2007). Additionally, the three main research communities *Public Management Research Association*, *International Research Society of Public Management* and *International Public Management Network* are growing at an fast pace.

Yet, as Pfeffer (2006) argues the field of public management still needs to take into account the theories of general management and organization studies in particularly, and the other way around. For instance, Pfeffer is very surprised that institutionalism and resource-dependence theory seems to be forgotten in relation to public organizations. There appears to be a need for these fields to integrate more in relation to get a better understanding of public organizations. His argument is that much public management literature focuses too much on markets and market like mechanisms (Pfeffer, 2006). However, these market like mechanisms are not the key aspect of organization studies and not necessarily interesting in relation to many public organizations. This dissertation actually investigates whether and how these market like mechanisms of, e.g., strategic positioning and competitive oriented strategic tools can be applied in public organizations. An interesting observation in this relation is that the field of general management does not take public management into consideration. The lack of attention to the field can be seen in the fact that *The Academy of Management Journal*, in 2009, made a special issue on public policy and management research (Volume 52, Number 6). The included articles did not relate to studies or articles from the field of public management research. There are no references to the main authors or journals from that field. This dissertation tries to avoid the major differences between the fields by drawing on work from both fields.

There are major differences in what researchers mean when applying the term public management (Hood, 2005). Our focus is on the overall management of public organizations. The approach in this

dissertation is neither from a policy angle, nor from a political angle, although the political environment is a major distinct characteristic of public organizations. Our perspective is primarily that of organizations and management. This is due to the focus of the dissertation on management theory. Also, some stands of NPM focus primarily on policy (e.g., Barzeley, 2001). However, this is not the focus here. In this dissertation the political and policy aspects are mainly seen as something in the public organizations' environment and context. The focus of the dissertation is not to investigate whether NPM is a good or bad influence on society (du Gay, 2000). Instead the focus is on how these NPM changes affect management of public organizations. This does not mean that the management perspective is value free or the right way to study public organizations, however, it is the dissertation's underlying basis.

Public management is a relevant field of study because, potentially, management theory is a way both to understand and sometimes also to change and improve the public organizations by using management in a manner which takes into account the distinct public characteristics. However, in the first period of the New Public Management reforms, the application of the theory in public organizations was not very nuanced. Therefore, there has been a need for public management literature in to investigate this in greater detail. For instance, one major issue concerns how NPM is distinguished from general management (Ferlie, Lynn, & Pollitt, 2005). This dissertation raises the question of management theory application (mostly strategic management theories) in public organizations and also when public organizations change due to NPM changes. The question of application is understood broadly in this dissertation, and different research designs are used in order to investigate the question: theoretical investigation, empirical investigation of actual management tool application, replication study of management questions formerly studied in private companies, and an empirical comparative study of public and private managers.

In relation to NPM reforms we investigate how the change in condition influences the application of strategic management tools empirically and how NPM reforms theoretically influence the possibilities for application of different strategic management tools.

Moreover, the question is whether the research should primarily be descriptive or search to be more normative in relation to the question of management theory application. In this relation the dissertation primarily focuses on descriptive research though some of the results could potentially have prescriptive implications. Furthermore, like most other fields, the public management field is, to some degree, divided in a more positivistic camp and a more social constructivist camp (Ferlie et al., 2005). However, this dissertation situates itself in between these camps and, like most other public management research papers, it refrains from discussing them in depth (Ferlie et al., 2005). On the one hand, the survey design and hypotheses applied in this dissertation naturally indicate a somehow positivistic angle which in public management often is mostly North American based (Ferlie et al., 2005). On the other hand, the dissertation also has constructivist insights from for instance institutional theory. Yet, the author of this dissertation argue based on his philosophical background that it in relation to this dissertation it is not necessarily a fruitful question to ask (Wittgenstein, 1963) which overall paradigm to place the dissertation in.

THE INVESTIGATED (STRATEGIC) MANAGEMENT THEORIES

As former argued, the investigated management theories in this dissertation are rather broad. However, generally they focus on different aspects of strategic management. The concept of strategy is very much discussed with many different definitions. In this relation it is also argued that we should be careful with defining it in a too simple way (Wit & Meyer, 2004). In the classical

conception strategy deals with the determination of the long-term goals and objectives of the organizations and adapting the action and resource allocation to these goals (Chandler, 1962). Strategy is also about matching the organization with its environment (Hofer & Schendel, 1978). But today strategic management includes many different perspectives (Mintzberg, Ahlstrand, & Lampel, 1998). In this dissertation, we both study different forms of content theories: strategic positioning (Porter, 1980, 1985, 1988), resource-based view of strategy (Barney 1991, 1995; Teece, Pisano, & Shuen, 1991), and the Miles and Snow typology (1978). In relation to the strategic sourcing decision general neoclassical economics (focused on scale and scope economics) and transaction cost economies (Williamson, 1985) are also considered. These content theories vary over many different aspects of strategic management which both have an internal as well as an external focus on strategy. Some are primarily focused on a specific strategic choice – like transaction cost economics which focuses on make or buy. We study the theories both theoretically (strategic positioning and resource-based view), but also empirically (transaction cost economics, resource-based view, aspects of neoclassical economics and the Miles and Snow's typology).

However, the dissertation does not only investigate these content theories but also tries to understand what goes on in practice (Jarzabkowski, 2005; Johnson, Langley, Melin, & Whittington, 2007). Which strategic management tools are applied after an NPM reform? The rationale is that, in practice, tools are often used without theoretical consideration since the latter are more abstract. Often managers do not consider different general theories when they work with their strategy. It is therefore also important to understand what is actually applied in the formulation and implementation of strategy. Strategy as practice focuses on managerial agency and situated activity (Jarzabkowski, 2005) based on a rather pragmatic tradition (Johnson, Langley, Melin, & Whittington, 2007). Here we focus on strategic management tools understood as concepts,

analytical frameworks, techniques and methodologies that assist strategic managers in their decision making (Clark, 1997). As can be seen, this is a rather specific understanding of management tools. In other parts of public administration and public management the concept of management tools is used rather broad. Here management tools include aspects as for instance contracting out, performance management, benchmarking (Kettl, 2005; Salamon & Elliott, 2002). Yet, in our analysis of strategic management tools we look at rather specific types of tools much like those in the works of Poister and Streib (2005).

Moreover, we also use institutional explanations to understand strategic choices which could be expected to have major influences in public organizations. Finally, we investigate the strategy related question of leadership to see whether there are differences in the used leadership styles of public and private sector managers.

DIFFERENCES BETWEEN PUBLIC ORGANIZATIONS AND PRIVATE COMPANIES

Differences between public and private organizations are a classic research question. But there does not seem to be simple and unambiguous results and NPM changes have made this problem even more difficult. Yet, these NPM reforms and changes have made it more relevant than ever to understand these differences and their importance. In the following we try to describe some differences. To clarify what is understood by public organizations, we follow the classic definition of Wamsley & Zald (1973) who argue that public organizations are organizations which are publicly owned and publicly funded. This dissertation does not investigate the organizations situated between public and private organizations like for instance quangoes or public private partnerships (Greve, Flinders, & Thiel, 1999; Skelcher, 2005). The boundaries of public organizations are a major research question in public management (Ferlie et al, 2005). For a

classical typology of different form of public and private organizations, see Perry and Rainey 1988. The classical differences often highlight that public organizations have more complex and vague goals, multiple stakeholders, complex processes with shifting stakeholders, they are more bureaucratic, and use less material incentives (Rainey, 2003; Bozeman & Rainey, 1999; Chun & Rainey, 2005; Boyne, 2002a). In this dissertation we especially focus on the differences between public and private organizations in relation to strategic management where there are a number of studies arguing that traditionally they are different due to the fact that public organization have a mandate to fulfill instead of a profit focus (Bryson, 2004; Moore, 2000), and differences due to the multiple stakeholders and more complex and vague goals (Ring & Perry, 1985, Rainey, 2003). However, as some of these general studies also show, it is very complex to conclude which of these can be found empirically especially also after different modernizations of the public sector (Bozeman & Rainey, 1999; Boyne, 2002a). Therefore, there seems to be major differences between types of public organizations which also will be discussed in this dissertation. In relation to the application of management theories, we argue that differences between public organizations are a very important issue in relation to understanding the possibilities, relevance and potential for application.

Boyne (2002a) argues that the differences between public and private organizations form a key area to investigate, because if public and private organizations are fundamentally different, there is little point in drawing lessons from private management for public organizations. Therefore, based on former studies, Boyne (2002a) tests 13 hypotheses regarding public managers and organizations. Generally the study does not find a strong support for these traditional hypothesized differences. However, some differences seem still to be relevant, e.g., public organizations are more bureaucratic and public managers are less materialistic and have an interest in serving public

interests. Yet, most of the other hypotheses regarding difference between public and private organizations can either not be found by empirical studies or are not studied much (Boyne, 2002a): Naturally it could also be due to the fact that methods applied for studying these are not sufficient. Apart from the supported differences, there is no empirical basis for the argument that public organizations per se should not apply successful private management practices (Boyne, 2002a). Boyne's main point is that we need more research into these questions regarding the differences and similarities between public and private organizations and managers (Boyne, 2002a). However, it can be difficult investigate differences between public and private organizations today because, as Jørgensen (1999) argues, there is blurring of the boundaries between public and private organizations. For instance some public organizations become contract agencies; they have boards of directors, there is competition between public organizations, there is free choice for citizens. A lot of organizations are neither purely public nor private, and these organizations in between are growing in numbers (Jørgensen, 1999). These circumstances take us away from the well-known public sector, and the questions is whether these in between are a mixture or something really new (Jørgensen, 1999).

The challenges are therefore to understand these public and private differences and similarities in relation to the application of management theories. So, two interesting questions present themselves: What differences and similarities are relevant in relation to specific management theories, and what differences and similarities can be identified in relation to specific types of public organizations? Effective understanding of the management of public organizations does not sum up into simple aphorisms (Rainey, 2003), we need to understand the complexity.

In relation to strategic management the argumentation is that traditionally there are major differences between public and private organizations. For instance, Nutt and Backoff (1993) argue that the market of traditional public organizations is not based on buying behavior, instead it is politically decided. The focus is more on collaboration than competition. The mandate restricts autonomy and flexibility; there are multiple stakeholders which make the ownership structures more complex. However, in relation to public organizations citizens can be forced to pay through tax collection for the organization's service. Also, performance indicators are often vague and complex (Nutt & Backoff, 1993). At the general level Moore (1995) argues that the overall goal of a public organization is different from private companies' focus on profit for shareholders.

However, one of the main points in this dissertation is that these differences exist for some public organizations while other public organizations are changed due to NPM. In relation to strategic management the interesting aspects are whether the organization has the autonomy to make decisions, whether it is funded according to their performance, and whether the organization is in a competitive situation. The argument in paper 1 is that these factors combined influence the application of management theory. Moreover, it is also relevant to understand whether public organizations have a clear mandate and how many stakeholders they deal with (Bryson, 2004).

These are factors which have often changed with NPM which - besides competition and performance focus - also focuses on disaggregation (Hood, 1991). The rationale of disaggregation is to give organizations more clear goals which they can then be measured and made accountable in relation to. These goals have resulted in the use of a number of management tools such as benchmarking, performance management and the like in public organizations. However, an important question is whether the public organization has the autonomy to manage their organization. Moreover, can the performance of the organization be measured in a reasonable way –

this measuring can be problematic if the goals are complex and vague and many stakeholders are to be satisfied (Rainey, 2003). Thus, when attempting to understand the application of management theory in public organizations, we need to understand both what kind of theories (and their main assumptions) we investigate and what kind of public organizations we focus on. The easy answer is that most competitive and profit oriented strategic management theories are difficult to apply in the traditional public organization because of the complex and vague goals, political influence, many stakeholders, low degree of autonomy, fixed budgets and lack of market like mechanisms. However, the possibly more interesting issue is the area where the strategic management theories are less competitive and profit oriented or/and the organizations are more NPM oriented.

The empirical focus in this dissertation is on Danish public organizations which have also been influenced by NPM changes to a large extent (Greve, 2006). As Greve argues, most NPM tools have been introduced in Denmark in one form or another. However, it has not been through a single major change – like in New Zealand – but through institutionalization of NPM over a period of time where many different changes have been implemented (Greve, 2006). The NPM influence in Denmark makes the dissertation focus on the application of management tools highly relevant in a Danish context. We investigate this application in different settings of the Danish public sector: upper secondary schools, municipalities, and general managers in the public sector (which we compare to private managers).

As stated, the dissertation consists of four papers. The first paper deals with strategic positioning and RBV and different types of public organizations. This is mainly a theoretical paper which only includes a case for illustration. The aim of this paper is to investigate different strategic management theories and assess whether they can be applied in public organizations in a

comparison to private companies. The paper especially focuses on the need to understand the different types of public organizations and whether the theories are applicable. The second paper focuses on strategic management tools in schools and is empirical in nature. It sets out to understand what types of tools are applied in upper secondary schools after an NPM reform. Moreover, the paper tests a range of different hypotheses to understand which schools apply the more competitive and efficiency oriented strategic tools. The third paper focuses on make and buy (the simultaneous make and buy of the same type of service) in public organizations. It studies different theoretical explanations of make and buy in relation to public organizations, but it also investigates their empirical relevance. It does this by using constructs from a former study from a private company setting. Finally, the fourth paper focuses on public and private managers' leadership styles. It investigates whether manager job context and sector can explain whether and why public and private managers apply task or people oriented leadership, respectively.

RESEARCH DESIGN FOR INVESTIGATING MANAGEMENT THEORY APPLICATION

The question of management theory application can be investigated through different research strategies. Basically, there are some trade offs in research strategy. First, there is the question of whether to approach the question theoretically or empirically, which leads to the related question of whether to settle on a quantitative or a qualitative investigation. Second, there is the question of whether only to analyze and include public organizations or also compare public organizations with private companies. Third, one must consider whether to focus solely on the traditional public organizations or whether to study the differences between various types of public organizations and also consider the changes that take place in public organizations. In this dissertation we investigate the application of management theory using different research strategies in the different papers.

The management theories this paper investigates are primarily threads of strategic management. However, closely related areas of contracting out and leadership are also studied. The first paper, which is theoretical, focuses on whether Porter's strategic positioning (Porter, 1980, 1985) and the resource-based view of strategy (Barney, 1991) can be applied in public organizations. The attempt is especially to understand the differences between public organizations after the introduction of NPM and how these differences influence the possibility for applying strategic management theories. The second paper focuses on whether there have been changes in the application of strategic management tools in upper secondary schools after an NPM inspired reform (introducing self-government with boards and taximeter financing). This paper also investigates whether a range of explanations - environmental and organizational characteristics, organizational content strategy, and leader characteristics - can explain the usage of different types of strategic management tools.

The third paper studies the strategic question of make and buy in public organizations. Often, this has been an either *or* question, i.e., a question of either making *or* buying. However this paper investigates whether four different theoretical explanations (transaction cost economics, neoclassical economics, a resource-based view and institutional theory) can explain the use of potential make *and* buy in public organizations. Three of the explanations are formerly applied in a private company study (Parmigiani, 2007). Our paper investigates the make and buy question in four service areas of Danish municipalities. The fourth and last paper focuses on whether there are differences in the leadership styles applied by public and private managers. It also looks into whether such differences can be explained by the leaders' job context and whether this can explain potential differences in the leadership styles of public and private managers. This is done using a large Danish survey (The Danish Management Barometer, see Hildebrandt, Jensen, Laursen,

Madsen, Ulhøi, & Waldstrøm, 2005) with a total of 949 respondent managers from both public and private sectors.

Overall, to get a more comprehensive view, the dissertation studies the application of management theory by studying different levels of analysis. There are four different levels of analysis in this dissertation: sector, organizational, departmental, and individual level. The first paper on the theoretical application of different strategic management theories focuses on the sector level discussing which theories are applicable in the public sector. But this paper also focuses on the organizational level by investigating the differences between types of public organizations. The second paper focuses on the organizational level when investigating the application of strategic tools. However, it also introduces the individual level by studying principal characteristics such as professional norms and management education. The third paper focuses on the make and buy question which is often investigated on an organizational level. Yet, it is studied on departmental level where the make and buy decision are made. Finally, the fourth paper focuses on the leadership styles of managers which primarily is an individual level analysis. However, we try to understand how the sector and organizational levels influence the managers' leadership style. In relation to understand public organization after NPM it is relevant to investigate changes on the different levels. For instance it is relevant to study NPM's influence on the classical differences between public and private organizations. Understanding how NPM influences the differences between public and private organizations in relation to differences found at different levels in former studies (Perry & Rainey, 1988; Nutt & Backoff, 1993). In the first theoretical paper we study how these changes at different levels are changed due to NPM in relation to strategic management. And in the leadership paper we also investigate the relationship between different levels by scrutinizing the relationship between sector, job context and leadership style.

The last three papers all apply a survey methodology. Generally, there are rather few quantitative studies in public administration and management compared to other research fields according to Boyne (2002b). This is not to neglect the potential value of other methodologies such as for instance more in depth case studies. For instance, for the paper on strategic management in upper secondary schools, a large number of in depth interviews at different schools were also conducted together with interviews of other key actors in this organizational field. However, for each paper the usage of survey methodology is based on what may best answer the research question(s). In relation to the leadership paper the survey methodology was due to this large and unique data set, The Danish Management Barometer. In relation to the make and buy study the survey design was chosen to apply an overall framework (Parmigiani, 2007) from a management study and investigate whether it also could help us understand make and buy in public organizations. Finally, in relation to the paper on strategic management tools, to our knowledge, no paper scrutinizes the changes of application of strategic management tools due to New Public Management by applying a quantitative approach. However, limitations and problematic issues occur when relying on questionnaire data. This is particularly so when, as in this dissertation, these are based on key informant designs and moreover apply single method designs, apart from the application of some secondary data in the strategic management tools paper and the make and buy paper, in the latter primarily for control reasons. Yet, in all three survey papers we make a major effort to validate the data and results. The two surveys we conducted ourselves were both tested through a number of interviews with both potential respondents, experts in the field, and other researchers. The construction of all the variables is shown in all papers and in most cases we apply formerly validated constructs. In relation to the key informant issue in the paper on leadership style, we are bound by our use of The Danish Management Barometer data. However, since we investigate

leadership style based on job context, the research question is on individual (manager) level. In the make and buy study we apply the same framework formerly applied by Parmigiani (2007) who also use a key informant methodology. And in relation to the strategic management tools paper, we argue that it is a rather factual question whether the schools apply tools which is the key variable in that specific study. Moreover, we encounter the classic problem with cross sectional data and lack of time, the problems with causality, and non-respondent bias. In relation to the latter, the surveys have reasonable respondent rates ranging from 43 to 62 percent. Also, none of the tests for non-respondent bias show major problems.

However, the dissertation's contribution is not methodology application in public organizations and management research, though the public management research field generally seems a bit behind the general management field in relation to methodology and statistics analysis applied in the top management journals (Kelman, 2005). In the dissertation the methodologies are primarily used to analyze and shed light on the application of different management theories in public organizations. We mostly apply traditional solutions chosen for their relevance for the specific research questions and data. We primarily begin with factor analyses for the construction of the variables. This is followed by different forms of regression and logit analyses depending on the issues at stake. However, in each paper major method sections account for the specific methods and analyses applied. In the following there will be a resume of each of the papers, their results and contribution.

THE FOUR PAPERS, THEIR MAIN RESULTS AND CONTRIBUTIONS

The first single authored paper "*Strategic Management when Profit Is not the End: Differences Between Public Organizations*" is a theoretical investigation of the possibilities for applying different strategic management theories in public organizations and also focused on the differences

between types of public organizations by offering a classification schema in relation to the relevance of different strategic management theories. A number of earlier studies have studied the application of strategic management in public organizations (Ring & Perry, 1985; Bryson & Roering, 1987; Moore, 2000; Ferlie, 2003). This paper investigates the application of strategic management more specifically by analyzing what are probably the two most influential strategic management theories in private companies (Spanos & Lioukas, 2001). One is Porter's strategic positioning (Porter 1980; 1985) which focuses on choosing a clear strategy and position in the market so as to exploit market imperfections having an outside-in perspective. The other is the Resource-Based View (RBV) of strategy (Barney 1991; Peteraf & Barney 2003) and its newer version of Dynamic Capabilities (Teece, Pisano, & Shuen, 1991) which focuses on the development and exploitation of the organization's resources having an inside-out perspective on strategy. Even though they are the most cited and widely used theories in private companies, the literature about strategic management in public organizations does not pay much attention to them. This is our reason for choosing these as our main theories. We then investigate these in relation to strategic management in public organizations (Bryson, 2004; Moore, 1995; Rainey, 2003). Most papers and books focus on aspects of strategic management other than strategic positioning and RBV, e.g., Miles and Snow's classic typology used in public organizations (e.g. Meier, O'Toole, Boyne, & Walker 2007; Andrews, Boyne, Law, & Walker, 2008, 2009a, 2009b). Yet, RBV has recently received more attention (Carmeli & Tishler, 2004; Bryson, Ackermann, & Eden, 2007).

This paper investigates whether it is a coincidence that Porter and RBV receive so little attention, or whether it is because their fundamental assumptions prevent them from being applied in public organizations. The paper compares the fundamental assumptions behind the two strategic management theories with the context of public organizations and offers some propositions about

the use of the theories in public organizations. The aim is to discuss the possibilities for application of different strategic management theories in public organizations. This is a question of whether these strategic management theories can be used conceptually in public organizations with their specific characteristics (Bryson, 2004; Moore, 1995). Naturally, this also has implications for the managers' use of strategic management. However, this paper does not intend to be directly prescriptive because the analyses need further empirical grounding. The analyses show that it is difficult in *traditional* public organizations to apply Porter's strategic positioning because it focuses on value appropriation, competition, profit, and choice of market and customers. In relation to RBV it seems more applicable in traditional public organizations due to its focus on value creation and efficiency which is also fundamental in public organizations; on the other hand, RBV also focuses on profit and inimitableness which is not in line with the traditional public organization. However, the analyses raise a fundamental issue in relation to strategic management in public organizations, namely the issue of different types of public organizations. The analyses of Porter and RBV show that the possibilities for applying the theories depend on the types of public organizations involved.

The paper analyzes this issue by focusing on the main dimensions which have importance for the use of different types of strategic management in public organizations. The paper offers a classification schema (based on ideas from former typologies Perry and Rainey, 1988; Dunleavy, 1991; Wilson, 1989), saying that the degree of administrative autonomy, the degree of performance-based budget and the degree of market-like conditions together affect the need and possibilities for the application of strategic management in the specific types of public organizations. Depending on the degree of these three factors, public organizations can use different kinds of strategic management theories. For instance, this makes strategic positioning more applicable in some types of public organizations.

The second single authored paper “*Application of Strategic Management Tools after an NPM Inspired Reform: Strategy as Practice in Danish Upper Secondary Schools*” also studies strategic management application in public organizations. This is done by investigating how strategic management tools are applied before and after NPM changes. This is investigated in Danish upper secondary schools which, in this context, are interesting public organizations because they typically have had their focus on pedagogical issues and professionalism in individual subjects. Traditionally, they have not been influenced much by NPM (Klausen, 2004). Due to a larger Danish structural reform (Agreement on a Structural Reform, 2004), the upper secondary schools change towards more business-like conditions. They become self-governed with their own boards. They also become taximeter financed according to the number of students enrolled. Applying the framework from the first paper, we can argue that the schools have more administrative autonomy after the reform. They also have performance-based budgets and more competition-like conditions.

The reason for investigating the application of strategic management tools is the lack of quantitative studies investigating how public organizations apply strategic management (tools) and especially whether possible changes due to NPM have a great influence on strategic management in public organizations (Ferlie, 2003). This paper investigates which strategic management tools and analyses are applied and whether changes take place in the usage of different types of tools after an NPM reform. Also, explanations are sought for the application of different types of tools.

The use of strategic management tools is not an issue often studied in the general strategic management literature (for exceptions see Clark, 1997; Frost, 2003; Gunn & Williams, 2007; Jarzabkowski & Giulletti, 2009, Spee & Jarzabkowski, 2009). Following Clark (1997), we here

define strategic management tools as concepts, analytical frameworks, techniques and methodologies that assist strategic managers in their decision making. In the literature on the topic there is a long list of arguments for the importance of investigating and understanding strategic management tools. Like Gunn and Williams (2007), we argue for the need of research that studies the application of strategic management tools because strategic tools are the cornerstone of strategic management (Vinzant & Vinzant, 1996). Furthermore, strategic management tools are argued to enable and improve strategic thinking (Clark, 1997). Moreover, Osborne and Gaebler (1992) highlight that these tools give organizational direction. Finally, there is a newer trend in strategic management literature focusing on strategy as practice (e.g. Whittington, 1996; Jarzabkowski, 2005). According to this trend, more studies ought to investigate how organizations actually work with strategy (Jarzabkowski, 2005) – and there tools are often more important than the theories because it is tools the practitioners apply (Jarzabkowski & Giuletti, 2009, Spee & Jarzabkowski, 2009).

Former studies of strategic tools in public organizations are carried out by Poister and Streib (2005) who studied the usage of tools in municipalities over long periods of time. Their focus is on strategic planning and tools integration with other management activities (Poister & Streib, 2005). Their results show no dramatic expansion in application. Different tools are argued to be important in public organizations. For instance, some studies show how the value chain and the resource based view of strategy can be applied in public organizations (Williams & Lewis, 2008; Bryson, Ackermann & Eden, 2007; Carmeli & Tishler, 2004). However, there is a lack in understanding of the NPM reforms, their influence on the application of different types of tools, and what explains the usage of specific types of tools. Specifically, it is necessary to look at what tools are applied, whether changes in application take place due to the reforms, and what different types of tools are

used by different kinds of organizations and leaders. Due to the NPM reforms we expect that competitive and efficiency oriented strategic tools are more widely applied because these match the NPM changes in the public sector (Hood, 1991; Pollitt & Bouckhaert, 2004). The paper investigates: *How does an NPM inspired reform influence the application of strategic management tools in public organizations, and what explains applications of different types of tools?*

The results show that the usage of strategic management tools increases after the NPM reform. The increase is especially apparent with a) competitive oriented strategic tools and partly b) internal economic oriented strategic tools. Though, there are some of the tools which still are not often applied. The explanations for the application of the different types of tools were tested using the organizational contexts: schools size, economic pressure, competitive pressure and changes in demand as well as school strategy, here following Miles and Snow's typology (e.g. Andrews et al., 2008, 2009a, 2009b), but also leader characteristics such as traditional education orientation and formal management education (Hambrick & Mason, 1984). The results show that degree of management education, prospectors (and to a lesser extent defenders), economic pressure, as well as demand decreases are positively associated with the application of competitive oriented strategic tools applied after a reform, while traditional education oriented tools are negatively related. Furthermore, lower numbers of competitors, defenders (and to a lesser extent prospectors) are related to the usage of internal efficiency oriented strategic tools after a reform. Finally, former applications of the tools are also very important in relation to understand application of these two types of tools after a reform. The large increase in applications of some types of tools, together with the different types of explanations for these, shows a further need for understanding strategic management tools in public organizations and also the consequences of the increase of application of these tools.

The third paper “*Make and Buy – An Alternative to Make or Buy? An Investigation of Four Theoretical Explanations*” – with Niels Peter Mols and Anders R. Villadsen as co-authors - focuses on contracting out, a highly relevant topic in both strategic management and in public management. Contracting out has become increasingly important due to different modernization initiatives in the public sector in the last three decades (Kettl, 1993, 2005; Hodge, 2000; Greve & Ejersbo, 2005). The fundamental question, as it has typically been posed, is whether public organizations should produce their services themselves or contract them out either to private companies, non-profit organizations or other public organizations. The issue has been investigated from many different theoretical perspectives in public organizations. Transaction cost economics, neoclassic economics and public/rational choice, institutional theory, and the resource-based view of strategy (Brown & Potoski, 2003a, Boyne, 1998; Domberger & Jensen, 1997; Hansen, Mols, & Villadsen, 2008) have all been used to answer the question of whether to make or buy.

Most of the theories are developed for the analyses of private companies, but they have been used when looking at public organizations because of their focus on the question of whether to make or buy. However, due to the differences between public organizations and private companies, it has also been discussed whether these theories are appropriate to be used in public organizations (Moe, 1987; Milward & Provan, 2000; Van Slyke, 2003). In the literature there has been focus on the differences between types of services and markets (Brown, Potoski, & Van Slyke, 2006) and on managing the contracting process (Brown & Potoski, 2003b) and managing the market (Brown & Potoski, 2004). However, our paper asks whether there are theoretical explanations of why some public organizations both produce and contract out the same service?

The few studies of why some public organizations both produce internally and contract out the same service, however, have interesting results. They show that public organizations often do both with the same service at the same time (e.g., Hefetz & Warner, 2007; Warner & Hefetz, 2008). This has been shown to be an efficient choice (Miranda & Lerner, 1995) and a growing phenomenon (Warner & Hefetz, 2008). However, the literature on this does not draw on the literature on simultaneous make and buy in private companies although this is a growing field of study (Bradach & Eccles, 1989; Dutta, Bergen, Heide, & John, 1995; Parmigiani, 2007).

We look at four different theoretical explanations for why some public organizations can benefit from using both internal production and external suppliers for the same type of service at the same time. Explanations of *transaction cost economics* point to advantages in simultaneous make and buy which stem from moderate levels of asset specificity and uncertainty due to services characteristics (Dutta et al., 1995; Parmigiani, 2007). The explanations of *neoclassical economics/rational choice* stress the benefit of a) having scale economics and flexibility at the same time as well as b) simultaneous scope economics of both one's own organization and that of the suppliers (Porter, 1980; Harrigan, 1984; Parmigiani, 2007). The explanations of *the resource-based view of strategy* focus on a) developing expertise by making *and* by learning from the suppliers' expertise; and b) how to better deal with technological uncertainties by trying to both understand by making *and* by getting diverse views from suppliers (Mayer & Salomon, 2006, Parmigiani, 2007). Finally, the explanations of *institutional theory* focus on simultaneous make and buy by reference to a) competing institutional forces, and b) conflicts between institutional and economic forces.

These four theories are investigated using a mail based survey to four different services in all 98 Danish municipalities. The four areas are the cleaning services of schools, road maintenance, job

activation and maintenance of IT applications – all areas which both make and buy to a considerable extent. We use many of the same constructs as Parmigiani's study (2007) of private companies. She tests whether three of the theories we use can explain simultaneous make and buy of the same product in private organizations. She does not consider institutional theory which is a new explanation of make and buy. Parmigiani's study shows support for aspects of all three theories. We investigate whether these theories can also explain make and buy in four different types of services in public organizations. Our survey of make and buy in public organization finds that make and buy is a normal phenomenon in Danish municipalities. Moreover, we show that it seems to be a steady choice. However, we do not find support for the explanations we have proposed indicating the need for other explanations of make and buy in public organizations.

The fourth paper "*Comparing Public and Private Managers' Leadership Styles: Understanding the Role of Job Context*" – which is a joint paper with Anders R. Villadsen - focuses on the differences between public and private managers and their leadership styles. We apply management theory in the form of general management theory and investigate whether there are differences in their applied leadership styles. In the literature on public administration and public management, a significant number of studies have compared public and private managers (for a review see Boyne, 2002a, Rainey & Chun, 2005). Only a few of these studies focus on leadership differences (Bourantas & Papalexandris, 1993; Hooijberg & Choi, 2001; Podsakoff, MacKenzie, Ahearne, & Bommer 1995). However, there is a need for empirical studies to study leadership theory in public organizations (Van Wart, 2003; Fernandez, 2005). This need arises due to lack of understanding of potential distinct public organizations characteristics in general leadership research where a generic approach often is applied (Hooijberg & Choi, 2001; Kellerman & Webster, 2001). This need for studies of leadership in public organizations has become even more relevant because of the changes

in relation to New Public Management (Pollitt & Bouckhaert, 2004). In this connection, some argue that the differences in relation to public and private leadership are getting smaller (Kellerman, 1999). Public organizations are argued to become increasingly disparate (Olsen, 2006), there is a need for understanding the impact of organizational characteristics on leadership behavior (Hooijberg & Choi, 2001). This is especially interesting because substantial differences in the work context of public and private organizations have been found (e.g., Perry & Rainey, 1988; Rainey & Chun, 2005; Boyne, 2002a). In relation to leadership studies, the consequences of these differences have mostly been investigated at employee level. This study relates to this debate by investigating differences in leadership styles between public and private managers. This is done with an explicit focus on how the managers' job contexts in the two sectors influence their choice of leadership style. By job context we mean variables such as job autonomy, job complexity and role clarity. We argue that the managers' job context in significant ways may facilitate and support the use of specific leadership styles. An explicit focus on the job context of managers and its link to leadership styles has to our knowledge not been used in previous studies and may be instrumental in a comparison between public and private managers.

In this study we use a broad conceptualization of leadership to identify two distinct leadership styles among Danish managers. We focus on two classical leadership styles (Judge, Piccolo, & Ilies, 2004): People-oriented leadership which focuses on supporting, participative and delegating elements, and task-oriented leadership which incorporates aspects such as controlling, instructing, rules and result-oriented behavior. Our paper investigates the following research questions: *Are managers' job context related to their leadership style? Are there differences in leadership style between public and private managers? And if so, can differences in the job contexts of public and private managers explain these differences.*

The fourth paper addresses these questions by means of a large scale survey (The Danish Management Barometer, see Hildebrandt et al., 2005) of private and public managers in Denmark with a total of 949 respondents.

The results show that people-oriented leadership is used by managers who perceive their job to be more complex but with a larger amount of job autonomy. Conversely, task-oriented leadership is employed by managers who perceive role clarity, but who enjoy a smaller degree of job autonomy in performing their job. These results are similar for both public and private managers. However, public managers more often apply a people oriented leadership style while private managers more often apply a task oriented leadership style. This difference may partly be explained by differences in job context. This is also related to the possibilities of management theory application in public organization because the results indicate that it would probably affect the leadership styles if public organizations are changes towards more like private companies.

IMPLICATIONS

The results show that there is a need for further research into the application of management theory in public organizations. First, the theoretical paper shows major differences between the possibilities of application of Porter's strategic position and resource-based view of strategy. The latter is much more in line with traditional public organizations. However, the paper highlights the importance of understanding the differences between types of public organizations especially after NPM reforms. The argument is that the more autonomy, performance-based budgeting and funding, and competition-like condition the more theories like strategic positioning would be applicable in public organizations. In the second paper, the investigation of strategic management tools

application after an NPM reform shows a major change making especially competitive and internal efficiency economic oriented strategic tools more often applied. However, in regard to explanations for the usage of these tools, the results are more mixed. This makes a call necessary for further investigation of the actual application of management theory in public organizations and how this application influences both intended and un-anticipated performances. The third paper applies a general management framework and investigates whether the make and buy phenomenon in public organization can be understood via transaction cost economics, neoclassical economics, the resource-based view of strategy and institutional theory explanations. However, the results show that we cannot find the same empirical evidence for the theoretical explanation as the former study carried out by Parmigiani (2007) which highlights that management theory explanations cannot always be transferred to public organizations. On the other hand, the results show that make and buy is a major empirical phenomenon, and apparently a steady choice in the municipalities. Therefore, further investigation is needed into the phenomenon of make and buy in public organizations. Finally, the last paper compares the leadership styles of public and private managers and shows major differences in these. These differences are clearly associated with major differences in job context between public and private managers. This indicates the need for further understanding of the differences between public and private organizations especially due to the NPM changes.

In relation to the findings of the dissertation's papers it is important to notice that even though specific management theories or tools can be or are applied, this does not necessarily mean that the application has the expected consequences in relation to performance. As Brunsson and Olsen (1993) argue, many reforms are based on strong rationalistic understanding of public organizations. However, the real effects of reforms are sometimes more questionable because many reforms may

only lead to legitimization of specific types of organizations (or management tools) instead of leading to real changes and better performance (Brunsson & Olsen, 1993). This is also in line with the organizational intuitionism arguments that, even though we see changes in application, these changes may not necessarily have any real effects because, maybe, they are only applied because this is expected of the organizations. For instance, in paper 2's study of tools we do not know if there is some form of decoupling influencing (Rowan & Meyer, 1983), so that the organizations only apply the more competitive and efficiency tools because it is expected of them. Yet, the results show both indications for and against this decoupling, e.g., in some cases those in most dire need of the tools are also the people who apply them, while in other cases, however, this is not the case. Moreover, the dissertation does not investigate the more general influence these NPM change and the application of management theories can have on democratic societies. As du Gay (2000) and Olsen (2006) argue, there are good reasons for why we have bureaucracies. But as Olsen (2006) also argues, we need different kinds of organizations in the public sector for various purposes. The goal with this dissertation is not to study the balance between these different kinds of organizations but instead to determine how management theories can be applied in different types of public organizations. Yet naturally, there can also be some negative aspects associated with the application of tools, for instance, the focus of the organizations may be set on very narrow goals so that the overall public interests are forgotten.

Apart from these reservations the dissertation's results show interesting perspectives for the future both in relation to public management and public management literature. First, the dissertation shows the importance of understanding of the type of public organization one is dealing with. This shows that the application of strategic management theories in public organizations depends on the type of public organizations one is dealing with as shown in the theoretical paper. Moreover, the

leadership paper indirectly suggests that a change in job context could influence a manager's choice of leadership styles. This is relevant in relation due to the fact that many NPM reforms actually could change the managers' job context. Second, another aspect shown in this dissertation is that public management is a relevant research area because of its distinct public characteristics. This is for instance seen in relation to the leadership paper which exposes some major job context differences between public and private managers. Moreover, the make and buy paper shows that the applications of management theories as explanations for the empirical phenomenon lack explanation power in public organizations. This indicates the need for the study of public organizations specifically. Third, the dissertation shows some changes in public organizations, for instance, they apply more strategic management tools after the reform. However, it is difficult to explain why different schools use these tools more. It seems that environmental and organizational characteristic, organizational content strategy, leader characteristics, and former application, to some degree, come into play. The combination of these results indicates the need for more research into public management and the application of management theory in public organizations. More specifically, we need understanding of the possibilities and limits of management theory, as well as the differences between types of public organizations, and further research into how these public organizations actually apply the management theories. This is not an argumentation for that we need to dismiss all general management theories and creating separate public management theories instead. However, we need to take in account both learning from general management theory and public administration and investigate these in relation to try to understand management in public organizations. This is also what Ferlie (2003) argues for a field of public management.

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ESSAY ONE:

**Strategic Management when Profit is not the End:
Differences between Public Organizations**

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Abstract

This paper discusses the usefulness/limitations of different strategic management theories in public organizations by analyzing Porter's strategic positioning and the Resource-Based View of strategy and shows that there are important reservations, e.g., due to their focus on value appropriation (profit). However, the possibilities for applying these theories in public organizations vary considerably depending on the types of public organizations involved. What is proposed here is a classification schema of the different types of public organizations following three dimensions: autonomy; performance-based budget; and market-like condition. From this classification, we discuss the relevance of different strategic management theories in different public organizations.

Keywords: *Strategic Management; New Public Management; Resource-Based View of Strategy; Strategic Positioning; Typology*

INTRODUCTION

Over the last couple of decades, the public sector in most countries has undergone many changes due to different modernization initiatives (Kettl, 2005; Pollitt & Bouckhart, 2004). This New Public Management (NPM) development is argued to introduce newer economic theory (e.g. transactions cost economics and agency theory) and management theory in public organizations (Hood, 1991). Due to these changes towards more business-like agencies (Beckett, 2000), it is not surprising that strategic management has a growing impact on public organizations and the relevant literature (Ferlie, 2003). Still, the field of strategic management in public organizations is in many ways in its infancy. Much of the literature is vague in its understanding of strategic management and eclectic when using different theoretical sources without considering their basic assumptions and thereby potential conflicts. This lack calls for more focused research on the use of strategic management in public organizations. However, there is no consensus on what to understand by strategy where some of the classical conceptions are that it is about determination of the long-term goal and objectives of the organizations and adopting the action and resource allocation to these goals (Chandler, 1962) and also about matching the organization with its environment (Hofer & Schendel, 1978). Our paper does not offer a simple overall definition of strategic management because it is a field with many different perspectives (Mintzberg, Ahlstrand, & Lampel, 1998). However, the theories the paper investigates primarily have a deliberate focus on strategy (Mintzberg, et al., 1998) arguing that strategy is somehow planned – or intended to be so. Regarding the traditional split between the outside-in perspective and the inside-out perspective on strategy (Spanos & Lioukas, 2001), the paper includes theories from both perspectives focusing on the environment and the organization as the respective main factors. Overall the strategic management theories have both striking similarities and differences. Therefore, we have to be very specific in our analyses when attempting to establish whether they are applicable in public sector organizations.

Therefore, we propose a theoretical investigation of the possibilities for applying different strategic management theories in public organizations¹, here defined as both publicly owned and publicly funded organizations (Wamsley & Zald, 1973). These public organizations are argued to be different from private companies. Generally public organizations have a greater infusion of political criteria, more formal, institutional constraints; goals are often complex, vague, multiple, and conflicting with vague mandate, and economic markets and performance indicators are often absent (Rainey, 2003). Therefore, we investigate whether specific strategic management theories are applicable in public organizations. More specifically we look at what are probably the two most influential strategic management theories in business (Spanos & Lioukas, 2001). One is Porter's strategic positioning (Porter, 1980; 1985; 1991; 1996) which focuses on choice of strategy and position in the market as means to exploit market imperfections. The other is the Resource-Based View (RBV) of strategy (Barney, 1991; 1995; Peteraf & Barney, 2003) which focuses on developing and exploiting the organization's resources. The reason for choosing these theories is that even though they are the most cited and also widely used in private companies, the literature about strategic management in public organizations does not pay much attention to them. More papers and books focus on other aspects of strategic management, e.g., on the strategic processes (Bryson, 2004) or on Miles and Snow's classic typology used in public organizations (e.g. Andrews, Boyne, Law, and Walker, 2008, 2009a, 2009b; Andrews, Boyne, Meier, O'Toole, & Walker, 2005; Andrews, Boyne & Walker, 2006; Meier, O'Toole, Boyne, & Walker, 2007), than on strategic positioning and RBV – though RBV has received more attention recently. This paper investigates whether it is a coincidence that Porter's strategic positioning and RBV receive so little

¹ The question of application of strategic management theory in public organizations is not new (Ring & Perry, 1985; Bryson & Roering, 1987; Ferlie, 2003).

attention, or whether it is because their fundamental assumptions prevent them from being applied in public organizations. On one hand and in line with some earlier studies, e.g. Ferlie (2003), the paper argues that there are major problems with applying some strategic management theories (like strategic positioning) from the private sector in general in the public sector. On the other hand, however, there are also major possibilities for applying them in some specific types of public organizations. The paper compares the fundamental assumptions behind the two strategic management theories with the context of public organizations. Moreover, the paper proposes a classification schema highlighting the differences between types of public organizations arguing that these differences influence the application of strategic management theories in public organizations. Based on the analyses, the paper offers two propositions about the use of the theories in public organizations. The aim is to discuss whether these strategic management theories can be applied in public organizations where the approach is a conceptual one. Naturally, this also has implications for managers' use of strategic management, but this paper does not intend to be directly prescriptive, because the analyses need further empirical grounding.

The analysis raises a fundamental issue in relation to strategic management in public organizations, namely the issue of different types of public organizations. The analyses of Porter and RBV show that the possibilities for applying the theories depend on what type of public organizations are involved. In dealing with this issue, the analyses focus on the main dimensions important for the use of different types of strategic management in public organizations. A classification schema is utilized to illustrate that the degree of administrative autonomy, the degree of performance-based budget and the degree of market-like conditions combined affect the need and possibilities for applying strategic management in specific types of public organizations. Depending on the degree of these three factors, public organizations can use different kinds of strategic management. The

typology is also illustrated in relation to strategic positioning and RBV using Danish upper secondary schools as an example.

The paper is organized as follows: first a short review of the comparisons of the differences between private companies and public organizations in relation to strategic management. The aim is to give an outline of what could be labeled the *traditional* public organization. The next sections present Porter's strategic positioning and RBV followed by a comparison of its main assumptions and models with the characteristics of traditional public organization. These two sections discuss how the differences between private companies and traditional public organizations affect the possibilities for applying the two theories. A classification schema of public organizations is presented in the last section to help clarify under what conditions different strategic management theories are most relevant and applicable. The paper ends with a conclusion and guidelines for future research.

PUBLIC ORGANIZATIONS VERSUS PRIVATE COMPANIES

There is a large body of literature on the differences between public organizations and private companies (Perry & Rainey, 1988; Rainey & Chun, 2005; Boyne, 2002). Various papers seek to understand the differences between strategic management in public organizations and private companies (e.g. Nutt & Backoff, 1993; Moore 2000). Traditionally, however, the question has been one of whether there are significant differences between public organizations and private companies (Allison, [1980] 2004; Bozeman, 1987). Some state that the differences are overrated and that private and public organizations can use generic management (Simon, 1995). Others state that the differences are all-important. It is our contention that a better understanding of the differences is needed. Yet, we are also interested in differences between types of public organizations because

they can be more significant than the differences between some types of public organizations and private companies. Thus, the reason for making the comparison between public organizations and private companies is primarily to have a frame of reference for our further analyses of the strategic management theories.

According to Mark Moore, the special characteristic of public organizations is their goal of creating public value (Moore, 1995). This is unlike the goal of private companies which to create shareholder value, i.e., maximize long term profit. In public organizations the goal is to achieve a social mission (and fulfill their mandate) for the stakeholders (Moore, 2000). This shows two fundamental characteristics about the strategic management of public organizations that are important to remember: First, public organizations have a mandate which it is their mission to fulfill. This is often forgotten in the literature about strategy in public organizations (Bryson, 2004). Second, there are more stakeholders to satisfy in public organizations (Bryson 2004). Unlike private companies where money is generated from sales revenues, public organizations get their money from tax appropriation, (Moore, 2000). Moreover, Moore defines a way to goal achievement which is very interesting: Private companies achieve their goals by finding and exploiting the firm's competences and by positioning. This could be a definition of strategic management combining the RBV of strategy and strategic positioning. Public organizations achieve their goals by finding better (more efficient and effective) ways to fulfill their mission (Moore 2000). Nutt and Backoff also carry out a thorough comparison of strategic management strategies in public organizations and private companies (Nutt & Backoff, 1993). The following summarizes the major differences found in this comparison and briefly describes how some types of public organizations change due to NPM, Table 1.

TABLE 1:**Traditional Public Organizations, Private Companies and Public Organizations after NPM**

Traditional public organizations	Private companies	Public organizations after NPM
<i>Environmental and relational</i>		
Oversight bodies compose market	People's buying behavior defines market	Competition and free choice make buying behavior more important but boundaries for market size is still a political decision
Collaboration among organizations offering a given service	Competition among organizations offering a given service	More competition but still also collaboration. More diversity between types of public organizations
Financing by budget allocations (free services)	Financing by fees and charges	More activity-based budgets and performance-dependent funding but still not much user payment
Mandates and obligations limit autonomy and flexibility	Autonomy and flexibility limited only by law and internal consensus	More disaggregation which gives more autonomy to public organizations but still limits due to political regulation of the boundaries for the public organizations actions
Political influence stems from authority network and from users	Political influence is indirect	More autonomy because of disaggregation but still political influence and especially through the users (more free choice)
People must fund and consume the organization's services	Consumption voluntary and payment based on use	E.g. free choice reduces the coerciveness of public organizations
Ownership public and	Ownership clear	Still many stakeholders, however

multiple stakeholders. Citizens often act as owners and impose their expectations about organization's activities	(shareholders) and fewer stakeholders	disaggregation gives fewer but also stronger stakeholders because they have a more well-defined opponent. Citizens still act as owners (even more because of the customer perspective)
<i>Organizational</i>		
Goals are shifting, complex, conflicting and difficult to specify	Goals are clear and agreed upon	Goals are clearer e.g. due to more performance orientation and more disaggregation
Equity-dominant concern	Efficiency-dominant concern	Efficiency a key word in NPM but equity still important
Authority limits because under a governmental umbrella where implementation is contingent on stakeholders beyond the authority leader's control	Agency management largely independent on outside influences	More disaggregation gives more control but still political influence especially regarding the boundaries of the public organizations
Performance expectations are vague and in constant flux, changing with elections	Performance expectations are clear and fixed for long term periods, creating urgency	Performance expectations are clearer because more autonomous public organizations and more demand for making performance visible

Note: First two rows summarized from of Nutt and Backoff (1993). Third row own adoption based on arguments from Pollitt & Bouckaert (2004), Kettl (2005), Hood (1991)

The following analyses primarily focus on the possibilities for applying the two strategic theories in the *traditional* public organizations.

STRATEGIC POSITIONING AND TRADITIONAL PUBLIC ORGANIZATIONS

Strategic positioning is concerned with how to choose a clear strategy and position in the industry so as to exploit market imperfections. Porter is one of the main authors on strategic positioning (Porter, 1980; 1985; 1991; 1996). However, since he is a very prolific writer in various fields, we want to clarify that this paper concentrates on his strategic positioning, especially his theories of competitive advantages and generic strategies, the 5 forces model (Porter, 1980) and also shortly the value chain model (Porter, 1985).

To understand strategic positioning, it is important to understand its theoretical background. Porter's main ideas have their roots in industrial organization (e.g. Bain, 1959) – a subfield of neoclassic economics which focuses on concepts like economics of scale and scope. In the classic industrial organization literature, the unit of analysis is the whole group of organizations (the industry). Porter in his strategic positioning, however, focuses on the individual organization in the industry: how can the organization best position itself in the industry to achieve a competitive advantage? Or in more simple terms, how should the (private) organization maneuver to earn a profit? The competitive advantage is a fundamental concept for Porter and strategic management literature in general (Cockburn, Henderson, & Stern, 2000). The idea is that the organization, compared to other competitors, has an advantage from which it can make a profit. However, competitive advantage is not enough; it is also important that it is a sustained competitive advantage. The question for Porter is often how the organization can use market imperfections to appropriate most of the total value created. Although, parts of his work focus on the creation of value, e.g., the value chain (Porter, 1985), he is primarily interested in how to capture value.

The way to achieve a competitive advantage is to choose a clear strategy. There are two different overall generic strategies: The *low cost* strategy has a focus on cost advantage. The *differentiation strategy* focuses on offering different products or services than competitors that customers are willing to pay for (Porter, 1980). Finally, there is also the focus strategy where the main concern is a special group of customers or products with a focus on either low cost or differentiation. It is important for an organization to choose one clear strategy; otherwise it will be stuck in the middle (Porter, 1980).

One of Porter's fundamental models is the 5 forces model (Porter, 1980) which is one of the most widely used strategic management models in private companies. It explains the attractiveness of industries through 5 different forces. First the attractiveness depends on the *bargaining power of suppliers* and *bargaining power of buyers*. The more power each have, the less attractive the industry. The *threat of new entrants*, the *threat of substitutes* and the *industry competitors and their degree of rivalry* also lessen industry attractiveness. Based on this analysis, the organization is to choose which industry to be in and what position (generic strategy) to hold within that industry. However, it should also use the model to make its own industry more attractive, for instance by creating entry barriers for new entrants.

Another aspect of strategic positioning is its concern for the effect of a given strategy in all parts of the organization. This is captured in the value chain model (Porter, 1985) which focuses on all the activities that are required to bring the product or service to the end customers and users. The important thing is that the chosen strategy is applied throughout the chain.

To sum up, two of the most important ideas behind strategic positioning are: The theory has an *outside-in* focus on strategy by which the strategy focuses on the external environment (here especially industry). Moreover, the strategy is concerned with making choices (or trade offs), e.g. of overall strategy, of industry but also of what not to do (Porter, 1996). It also concentrates on fit (Porter, 1996) – the idea that the strategy should fit the organization, the context etc.

However, the important question here is whether strategic positioning can be applied in public organizations. Strategic positioning clearly receives less attention in the literature on strategic management in public organizations than in the literature on strategic management in general (in private companies). Few papers discuss strategic positioning (e.g. Boyne and Walker, 2004) and it is even harder to find empirical studies that use the strategic positioning concepts in public organizations. The public organization literature offers different answers to why there are problems using Porter in public organizations. Bryson and Roering (1987) claim that it is difficult for public organizations to know what industries they are in and which forces are influential. However, this is also a problem in many private companies. Furthermore, strategic positioning focuses on competition, while traditional public organizations focus more on collaboration (Bryson & Roering, 1987). Ferlie (2003) has a precise description of the problems with applying strategic positioning in public organizations. He argues that the problem arises because of its strong focus on markets, competition and competitiveness. These are concepts that are difficult to apply in public organizations because they are underdeveloped here (Ferlie, 2003). Moreover, these concepts are becoming more important in parts of the public sector where a change is taking place towards what Ferlie calls quasi-markets (Ferlie, 2003). Ferlie has two main points; the concepts do not match public organizations, and part of the public sector is changing to allow for the application of the concepts. Both points are analyzed more thoroughly in this paper. We also go on to examine how it

affects the possibilities for application of strategic positioning when some public organizations are changed due to, e.g., NPM initiatives and whether the possibilities for application are better in some types of public organizations than others. But first we will examine the application of strategic positioning in *the traditional public organization* and look at what problems arise with some of the fundamental concepts in strategic positioning.

First, the overall goal of using strategic positioning is that organizations gain an advantage over their competitors which it then uses to maximize profit. In public organizations, a problem with this kind of strategic management thinking is the focus on appropriation of value to the organization by using market imperfection instead of creating value or ensuring overall efficiency. Public organizations traditionally have multiple stakeholders to serve with a specific mission and mandate and not a strict focus on profit for shareholders (Moore, 2000; Bryson, 2004).

Second, strategic positioning holds assumptions that do not match the situation of a traditional public organization, because it focuses on the choices of customers or what markets to serve and which generic strategy to apply. The problem in public organizations is that this kind of freedom of choice is not possible because there is a mandate to fulfill. Public organizations are not free to choose their markets or customers. They are tied to a specific 'market' and their customers are the citizens. The concept of generic strategies is also difficult to apply in public organizations for instance because they can not choose customers who are willing to pay extra. Still, Porter's focus on the external environment can be an important aspect of strategic management in public organizations, but the overall focus should be on value creation for all relevant stakeholders. Therefore, the external environment focus could be on stakeholder analyses (Bryson, 2004).

Yet, parts of Porter's theory can be applied in traditional public organizations – especially the value chain concept (Bryson, 2004) because fundamentally it deals with how to ensure alignment between the parts of the value creating activities. And generally the concept of fit is equally important in public organizations and private companies.

However, the overall analysis shows that there are difficulties in applying strategic positioning in traditional public organizations. Major parts of the reservations are due to its focus on competition and appropriating of value. However, the outside-in perspective on strategy is not necessarily where the problems with strategic positioning are because other outside-in perspectives do not have the problems in relation to traditional public organizations as strategic positioning. For instance the network perspective on strategy (Powell, 1990) is not necessarily as focused on competition and appropriating value. Instead the network perspective focuses on relations to other partners in the external environment where the focus is not necessarily on market competition and moreover appropriating value from others is not the cornerstone – instead there are more focus on these reciprocal networks where organizations are mutual dependence on each other (Powell, 1990). And in relation to public organizations these networks – in contrast to strategic positioning - have been investigated a lot in public administration and management research but with different perspectives (Berry, Brower, Choi, Goa, Jang, Kwon, & Word, 2004). The general argument is that public organizations can improve efficiency and quality in service delivery by effectively facilitating and managing networks with collaborators (Agranoff & Maguire, 2003).

The resource-dependence theory (Pfeffer & Salancik, 1978) is another example of theory which also has an outside-in view on strategy but not necessarily in the same way as strategic positioning. Where strategic positioning focuses on competition between competitors the resource-dependence

theory instead focuses on competition for resources which could also be argued to be an issue in traditional public organizations. Therefore, the resource-dependence theory is interesting in relation public organizations though not much studied (Rainey, 2003).

Yet, the reason for the relevance of investigating strategic positioning in relation to public organizations is that differences between types of public organizations affect the application of strategic positioning as we will show later in the paper. This indicates that this kind of theory is applicable in organizations which are very strongly oriented toward NPM. First, we turn to the RBV of strategy to analyze its potential for application in the traditional type of public organization.

THE RBV VIEW OF STRATEGY AND TRADITIONAL PUBLIC ORGANIZATIONS

The literature on RBV is much more fragmented than the literature on strategic positioning. However, the literature on RBV has an internal focus on strategy in common, according to which the organization's internal resources are the main sources of competitive advantage. The literature has been growing since Wernerfelt (1984), Prahalad & Hamel (1990), Barney (1991) and others focused on organizational resources under the name of core competences and capabilities. The following concentrates primarily on Barney's widely used version of the RBV (Newbert, 2007) and the more recent variant of RBV, dynamic capabilities (Teece, Pisano, & Shuen, 1997) which has been very popular in recent years.

The fundamental assumptions in Barney's RBV are that firms are *heterogeneous* with respect to their resources and that resources are *not perfectly mobile* (Barney, 1991). The goal of using an RBV strategy is still to gain a competitive advantage but now by implementing a value creating strategy that is not simultaneously being implemented by other competitors and one that can be

sustained when these competitors are unable to duplicate it (Barney, 1991). The fundamental strategy is to exploit and develop the organization's heterogeneous resources to gain a competitive advantage and to earn a higher profit than the competitors. An important question is then, what characterizes these resources? Here Barney introduces the influential VRIN framework (Barney, 1991), later changed to VRIO (Barney, 1995). According to which, resources need to be Valuable, Rare, Inimitable and Non-substitutable and Organized if they are going to lead to a competitive advantage.

The fundamental idea behind the RBV is that it sees the organization's internal resource as the source for sustained competitive advantage. Because of this, RBV has an *inside-out* perspective. Moreover, the main focus is on *efficiency* because its concern is how to use the organization's internal resources most efficiently to gain a competitive advantage (Teece et al., 1997) and *value creation*, which Peteraf & Barney, two of the founders of RBV, argued to be a key concept in their joint work on clarifying the RBV concept (Peteraf & Barney, 2003).

Moreover, there has also been a more dynamic version of RBV which has focused on the rapid and unpredictable change many organizations work under. This variant argues that there is a need for dynamic capabilities (Teece et al., 1997, Eisenhardt & Martin, 2000). These dynamic capabilities often consist of simple and experimental processes which especially focus on using knowledge and knowhow in new ways to solve complex issues through adapting to the environment (Eisenhardt & Martin, 2000). The focus is not on static resources but instead on integrating, building and reconfiguration of resources and competences to deal with the many and major changes in environment (Eisenhardt & Martin, 2000).

In recent years more attention has been given to RBV in public organizations than to Porter's strategic positioning. Some empirical investigations of RBV in public organizations, e.g., Carmeli and Tishler (2004), show a positive relation between resources and the performance of public organizations. Some studies (Bryson, Ackermann, & Eden, 2007; Pablo, Reay, Dewald, & Casebeer, 2007) have suggested how to use RBV in public organizations. The question we wish to address here is whether there are theoretical limits for the application of RBV in public organizations. Ferlie argues that RBV can be applied in public organizations because templates of strategic resources used in private companies are also relevant in public organizations (Ferlie, 2003).

Still, RBV addresses ways to gain profit, achieve a competitive advantage and create strategies that cannot be imitated by others, all of which are problematic to implement in traditional public organization. However, there are also important differences compared to strategic positioning. First of all a very important aspect of RBV is that it focuses on value creation – how to use and develop resources to create value. It is an important aspect that is very different from many other concepts of competitive advantage and sustained competitive advantage in strategic management, for instance strategic positioning, which often focuses on how much value the shareholder can earn in the form of profit. These other strategic management theories can be said to have value appropriation at the core instead of value creation. This is also Peteraf and Barney's (2003) argument for why RBV is more suitable for other types of organizations than private companies – they point to non-profit organizations. However, the argument also holds for public organizations.

In the same line of argument, a lot of RBV literature focuses on efficiency (Teece et al., 1997), which is also relevant in traditional public organizations because it is important to use resources

efficiently (note that there are also other goals in the public sector, e.g. equality). So even though both strategic positioning and RBV focus on profit (or rent), it is important to recognize that the focus is different in the two approaches. Porter focuses primarily on achieving rent from positioning in the industry and thereby using market imperfection to appropriate value, which can be a way to achieve monopoly rent through protection and barriers for competitors. RBV, on the other hand, focuses more on becoming better than competitors at implementing value creating strategies with a focus on exploiting resources optimally. This is more like Ricardian rent, which is achieved by owning a valuable resource (Mahoney & Pandian, 1992). The difference between strategic positioning and RBV has also been characterized as strategizing versus economizing (Williamson, 1991) where strategizing deals with market power and economizing has to do with efficiency (Tece et al., 1997).

RBV's focus on value creation and efficiency points to the possibility of applying RBV in traditional public organizations. But when analyzing the RBV literature, the most common way to distinguish resources to create value and efficiency is to use the VRIO framework (Barney, 1995). The question is then whether this framework primarily focuses on value creation and efficiency or perhaps also on value appropriation. By analyzing the VRIO framework in the public context, it is naturally also important in relation to public organizations that resources are *valuable*. On the other hand, the concept that resources need to be *rare* and *inimitable* is not necessarily a good characteristic in traditional public organizations. The rareness focuses on the fact that few other organizations have the resources. To be inimitable in RBV, it is important for the organization to have the resources for itself, because this helps it gain a comparative advantage over other organizations. However, in public organizations it is not the ultimate goal to ensure that you have some resources that others do not have or cannot get. The goal is to fulfill the organization's

mandate and mission. This can sometimes best be reached by sharing resources and letting other organizations imitate them through collaboration. Finally, the *organizing* part of using the resources is also important in public organizations.

Moreover, the dynamic capability view, which focuses on change and adaptation to dynamic environments, has many similarities to the environment which many reformed public organizations experience. They have to build and reconfigure resources and competences which they also have to integrate with other organizations. Often they have to do this in new ways in an experimental search, and as for dynamic capabilities, the outcome is often unpredictable. Though there have been some studies of dynamic capabilities in public organizations (Pablo, et al., 2007), the research field may grow rapidly in the future as it has been seen in relation to private companies.

Our conclusion about RBV in traditional public organizations is that it is theoretically reasonable to focus on the organization's heterogeneous resources and on the resources being valuable and organized to create value and efficiency. However, the RBV focus on keeping (isolating) the resources for the organizations itself is not compatible with the traditional type of public organization. It can be contrary to the value creation – not for the organization – but for the stakeholders. Still, the overall goal in RBV is competitive advantage and profit. So the different contexts for private companies and public organizations are also important in relation to applying RBV. Still, the type of public organization is essential in relation to understand application potential and relevance of different strategic management theories because some public organizations have been changed to quasi-market organizations and need to use market logic with focus on competitive advantage, competitors, quasi-profit etc. Finally, the concept of dynamic capabilities seems to

match the condition in many public organizations that have to adapt to new situations and requirements while going through unpredictable change.

STRATEGIC MANAGEMENT IN DIFFERENT TYPES OF PUBLIC ORGANIZATIONS

Until now the focus has been on two different strategic management theories – strategic positioning, primarily with an external focus, and RBV, primarily with an internal focus. Both have competitive advantage as their goal (and especially sustained competitive advantage) is to earn more profit in the long term for their shareholders than their competitors. But as we have argued, there are also important differences between the two theories: Where strategic positioning concentrates primarily on value appropriation, RBV concentrates more on value creation, for instance in terms of efficiency, which makes it more applicable in public organizations.

Still, the concepts of competitive advantage and sustainable competitive advantage are problematic in traditional public organizations because the end goal is profit for shareholders and not to create value for all stakeholders. However, there are also important reservations to this critical view of the possibilities for applying these theories in public organizations, because some types of public organizations are actually meant to act more like private companies (Beckett, 2000). These public organizations, which act more like private companies, are a fundamental parts of many modernization programs such as NPM, Reinventing Government etc. where the goal is to create autonomous public organizations (Pollitt, Caulfield, Smullen, & Talbot, 2004) with well-defined narrow groups of stakeholders they have to serve. They are accountable for their performance, their budgets are dependent on their performance (Hilton & Joyce, 2003), and they have to work on more market-like conditions with competition (Kettl, 1993). In these public organizations the competitive types of strategic management theories like strategic positioning make more sense, because the goal

of public organizations here is to act like private companies. And the reason for introducing these kinds of public organizations in the public sector is that competition should give a more efficient and effective public sector.

This section focuses on the differences between public organizations. The argument is that the differences between types of organizations influence not only the need for strategic management but also how applicable and relevant different types of strategic management theory are. The paper shows how some types of strategic management theories are better applied in some types of public organizations. As mentioned, the public sector is going through changes due to modernization programs and different NPM initiatives, but an important aspect of these initiatives is that the changes affect different types of public organizations differently – some go through major changes, others are not affected (Pollitt & Bouckaert, 2004). Therefore, it is fundamental to understand which type of public organization you are dealing with when analyzing whether to use strategic management or not – and when analyzing which type of strategic management to apply. This paper offers a classification scheme arguing that the degree of administrative autonomy, performance-based budget, and market-like competition influences the possibilities for application of strategic management theories in public organizations.

Degree of administrative autonomy

The first dimension in the classification schema is the organization's *degree of administrative autonomy*. A traditional distinction is made between economic and administrative autonomy. In the former, the organization has economic freedom, often in a competitive situation (Chubb & Moe 1988). Here, we focus on administrative autonomy, which is a fundamental aspect when it comes to strategic management because it sets the boundaries for strategic action. In the literature about

traditional strategic management and private companies, autonomy is not a big issue – probably because it is expected that companies have autonomy to act. In public organizations this is not necessary the situation, because public organizations can be restricted by their mandate (Bryson, 2004). Politicians decide the organization's degree of autonomy which traditionally has been highlighted as a constraint in relation to the strategy in public management (Ring & Perry, 1985). In many countries politicians have expanded the scope of autonomy for certain public organizations in order for them to reach goals in a given modernization program (Pollitt & Bouckaert, 2004). One such goal is often to make semi-autonomous agencies (Pollitt et al., 2004) with the expectation that these perform better than the more traditional, highly restricted public organizations.

Degree of performance-based budget

Two widely used typologies of public organization are Wilson (1989) and Dunleavy (1991). Wilson distinguishes between types of public organizations through two criteria: how observable is output and outcome, respectively. Dunleavy (1991) distinguishes between public organizations based on their budgeting. These two typologies focus on two fundamental aspects: Wilson focuses on output and outcome, which is a very performance-oriented framework, and categorizes public organizations according to how their performance can be observed. Dunleavy focuses on the public organization's budget which is the basis for what the organization can achieve. This paper's classification schema combines the two variables and focuses on the *degree of performance-based budgets*. Performance measuring has been used for many different purposes (Behn, 2003). Here the focus is on performance measurement in order to make performance-based budgets and more precise budgets that are funded due to performance (Jordan & Hackbart, 1999). The question is whether the organizations have fixed budgets without relation to their performance, or at the other extreme, are budgets based solely on performance (e.g. through activity based budgets). This

dimension is closely related to the distinction between input-based and output-based budgets where the trend with NPM has been a movement towards more output-based budgets (Rubin & Kelly, 2005). Still, problems can occur with performance-based budgeting because there is a tendency to focus on the aspects that are measured while forgetting those that are not measured. Furthermore, many public tasks have a character that makes them difficult to measure (Wilson, 1989). Therefore, the argument here is not that we need a de- or increase in performance-based budgets, but that the degree of performance-based budgets influences the possibilities for applying strategic management. Furthermore, it is important to understand that different public organizations serve different ends. This is also Olsen's argument for the need to rediscover bureaucracy as one type of public organization we need (Olsen, 2006).

Degree of market-like competition

Among the many typologies of public organizations, one of the most cited in the literature is Perry and Rainey's (1988) which is based on 3 criteria: ownership (public/private), funding (public/private) and social control (polyarchy/market). This typology is very clear and useful, but its primary focus is on the area between public organizations and private companies. This is also where much recent work on public management has had its focus when studying organizations which are a cross between public and private (Jørgensen, 1999). But here attention is only given to public organizations that are both publicly owned and publicly funded – the two first characteristics in Perry and Rainey's (1988) classic typology. Therefore, the classification schema in this paper only uses a modified version of their idea of social control (polyarchy versus market) as one of three dimensions. The last dimension we apply in our classification schema is the *degree of market-like condition*. The question is whether control is primarily political or performed via some form of market-like condition. What we have here is a continuum with many different degrees of market-

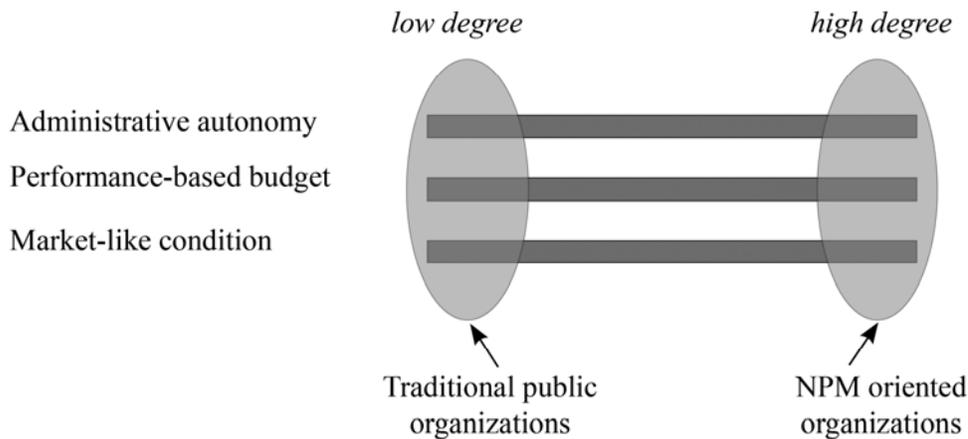
like condition, e.g., internal competition. One indicator of the degree of market-like competition is how much it threatens the survival of the organization. In high competition the organization may be forced to close.

The overall classification schema

Two questions regarding the three dimensions is whether they are separate dimensions or not, and what the relations between them are. Our argument is that they are connected while remaining three different dimensions. The first dimension pertains to how much freedom an organization has to manage in relation to achieving its mission; the second has to do with how the organizations receive funding for achieving the mission and whether it varies with their performance; the third dimension concerns whether an organization competes with others in achieving its mission in the best and most efficient way.

Based on this classification schema (see figure 1) there are two extreme types of public organizations where all three dimensions are either low or high. The first example of this could be the classical bureaus with tasks of authority (e.g. issuing passports or building licenses) which are highly restricted. Traditionally these bureaus have fixed budgets regardless of performance and competition. These are also examples of the traditional public organizations as they are described earlier in the paper. The second example could be private-like NPM-inspired agencies (e.g. some public schools, where the children have a free choice of school and the schools are funded according to the number of students) with great scope of action and fewer restrictions; they have performance-based budgets, work in equal competition with private companies, and must close if they cannot compete.

Figure 1: Differences between public organizations



The question is how this classification schema helps analyze the application of strategic management theories in public organizations. In a very general perspective, the need for strategic management is highest: 1) when there is a high degree of freedom to act, because if everything is regulated there is no room for strategic management; 2) when there is a high degree of performance-based budgeting, because if the budget is fixed, the results of strategic management are not as necessary; and 3) when there are market-like conditions, because this threatens the survival of the organizations, which increases the need for strategy. Again this is just an attempt to give a general perspective, yet bear in mind that strategic management can be understood in many different ways. We therefore need to look at each theory in relation to the different types of organizations.

Looking at Porter's strategic positioning, it is clear that the possibilities for application are best when there is a high degree of all three dimensions: autonomy, market-like condition and performance-based budget. Autonomy should be high because one of the fundamental aspects of

Porter is that the organizations choose (Porter, 1996) their strategy, their industry. Market-like condition should be high because the goal is to achieve a competitive advantage by using market imperfections (Porter, 1980). This indicates that strategic positioning is built on an assumption of market-like condition. Finally, the goal of strategic positioning is to perform better than competitors (to earn more profit) which assumes that the budgetary funding should be performance-based.

An empirical example

The Danish upper secondary schools are an example of public organizations where strategic positioning potentially could be applied because their conditions have changed in an NPM direction as a result of the Danish Structural Reform (The Danish Ministry of the Interior and Health, 2004). First, the upper secondary schools have more autonomy because they are now self-governing with their own boards. They are responsible for more tasks: e.g. they decide which study directions to offer the students, and in the long run they also decide their capacity for students. Furthermore, their budgets have changed from fixed budgets to taximeter-financing. So now they budget according to the number of students who pass an exam. This means they have to compete against other schools. Earlier upper secondary schools were assured a certain number of students because they were allocated to them by a public committee in the counties.

Although the upper secondary schools still are public organizations which are publicly owned, funded and limited by their mandate, strategic positioning can be applied, because each school now has a choice of where it wants to position itself in the “industry” of upper secondary schools: e.g. they can differentiate themselves by offering particular study directions, or even merge with other schools such as business colleges or other upper secondary schools. Furthermore, they compete with the other upper secondary schools, not to appropriate profit, but for the number of students as

this influences the size of their budget. So even though the schools are not profit-oriented, they are free to focus on appropriation of students. Several factors could prevent a school from applying strategic positioning: different institutional factors (Scott, 2007), e.g., path dependency. In this example, the school leaders (the principals) have, for years, primarily focused on pedagogical leadership and the professional norms in that area. The professional norms are a classical constraint in relation to application of different management theories in the public sector, but the important aspect here is that the schools can apply strategic positioning if they want to because their situation has changed.

RBV also requires some autonomy, although not to the same degree as strategic positioning, because it is not about choosing, but more about creating value and efficiency (Peteraf & Barney, 2003). However, it could be argued that there is a need for performance-based budgets because such budgets would indicate value creation and efficiency. Finally, the degree of market-like conditions needed depends on which aspects of RBV are in focus: if the focus is on value creation and efficiency there is not necessarily a need for the market-like condition, but if the focus is on competitive advantage and isolation of resources then the market-like condition is a fundamental prerequisite.

As indicated, there is a need for understanding the whole classification schema, both because there are many different types of organizations but also because different strategic management theories have different focus. Until now, the different dimensions have primarily been treated as either high or low degree (dichotomy), but there are different levels in the continuums. Furthermore, it is important to analyze whether the dimensions are exogenously or endogenously given. Analyzing the 3 dimensions, the overall picture is that all 3 are exogenously given, but it is also important that

public organizations can try to influence and change these dimension e.g. by influencing the politicians in their regulation of the organizations' autonomy and their budgets. It is still relevant in all types of public organizations to understand the organization's mandate and its stakeholders. This is a main assumption in the literature about strategic management in public organizations (Bryson, 2004).

That for instance Porter's strategic positioning and similar theories are becoming easier to apply after NPM may not seem surprising. However, the classification schema highlights the difference between public organizations and the factors making different strategic management theories and tools more applicable. Public management literature generally searches to combine two traditions. On the one hand, public administration focuses on democratic standardization, and the fact that public organizations are based on electoral mandates and therefore accountable to the public. On the other hand, generic management argues that there are no major differences between public and private organizations in relation to management (Ferlie, 2003). A fruitful way to investigate whether specific management theories can be applied in public management is by being very clear regarding the type of public organization one is targeting. This classification schema shows that strategic positioning actually is applicable in some public organizations today. These are found in most countries after different NPM reforms. However, the classification schema also highlights that many public organizations are still very politically influenced, have complex goals which are weakly defined, and have many stakeholders influencing their decision making (Rainey & Chun, 2005). Together these factors result in low degrees of administrative autonomy, performance-based budget, and market-like conditions. Therefore, we need to understand the differences between public organizations and between different types of strategic management theories. The classification is not exclusively a question of NPM. It generally tries to classify public organizations

according to key variables in strategic management research. For instance as argued network theory or resource-dependence theory may be strategic management theories which, as strategic position, has an outside-in perspective. Yet, these do not require the same degree of market-like competition as strategic positioning. The classification schema can therefore be useful when attempting to understand and analyze strategic management theory in public organizations. Future research should test whether this classification schema and similar typologies are meaningful ways to describe public organizations and whether differences in types of organizations result in different application of tools and theories. Based on the paper's argumentation, we therefore propose the following two propositions for future research.

Proposition 1: Strategic management theories focusing on strategic positioning and market competition as well as how to use market imperfection to earn profit are less likely to be applied successfully in *traditional public organizations* than strategic management theories focusing on exploiting and developing the organizations' resources with the goal of value creation and efficiency.

Proposition 2: The usefulness of strategic management theories conceptualized for private companies depends on *the types of public organization*: the higher the degree of (a) administrative autonomy, (b) performance-based budget, and (c) market-like condition, the more likely it is that strategic management designed for private companies is applied successfully in a public organization.

CONCLUSION AND DIRECTION FOR FUTURE RESEARCH

The literature about strategic management in public organizations is a growing field, but it is immature in terms of clear theoretical grounding. Therefore, this paper analyzes the applicability of strategic management in public organizations – not in general terms because there is no general consensus about what strategic management is – but in relation to two specific strategic management theories, Porter’s strategic positioning and RBV of strategy. We conclude it is important which type of public organizations you analyze, because type determines the applicability of the theories involved. If the organization is a traditional public organization highly restricted with a fixed budget and not working on market-like conditions, then a strategic management theory like Porter’s strategic positioning cannot be expected to be applied successfully, because it focuses on value appropriation and choice of market and customers. If the organization is more like an NPM organization with a high degree of autonomy, performance-based budgets and market-like conditions, then strategic positioning is applicable. The applicability of RBV in relation to the traditional public organizations proves ambiguous, because a dual focus is revealed in the analysis. On one hand, RBV focuses on value creation and efficiency which is also fundamental in public organizations. On the other hand, it also focuses on profit and inimitableness which is not in line with the traditional public organization. In relation to the classification schema, RBV does not necessarily demand a market-like condition, but applying RBV requires that the organization has some degree of autonomy and performance-based budgets if it is going to ensure a focus on efficiency. One general aspect that is important when considering the application of different strategic management theories in public organizations is profit orientation. This is a significant contrast to the goal of public organizations which is the mission or mandate, not shareholder interests. This also holds for NPM organizations, although they sometimes have elements that make them seem like profit-oriented organizations with a focus on a narrow group of stakeholders. The

implication of this paper is therefore that it is not possible to determine the possibilities for applying strategic management in public organizations without knowing the type of strategic management theory and the type of public organization involved.

The future research needed is more empirical studies of the applicability of different strategic management theories in public organizations, including surveys to form a general overview trying to understand the differences between types of public organizations. Also needed are qualitative studies of the applicability of theories in practice. Furthermore, it is important to understand the differences between types of public organizations. So, there is a need to operationalize typologies of different types of public organizations. Public organizations are much more diverse today than habitual thinking argues, especially after the last two decades of modernization. Finally, some of the most important work would be to try to integrate the question of application in different types of public organizations with the performance of the organization.

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ESSAY TWO:

**Application of Strategic Management Tools after an NPM Inspired Reform:
Strategy as Practice in Danish Upper Secondary Schools**

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Abstract

Strategic management is said to become increasingly relevant in public organizations due to NPM changes. However, there is a lack of studies investigating how public organizations actually apply strategic management tools which is an important aspect of strategy as practice. This paper investigates which strategic management tools are applied and whether changes take place in the application of different types of tools after an NPM reform. Also, explanations are sought for the application of different types of tools. These are both environmental and organizational explanations - such as size, economic pressure, competition, and demand changes - and internal and managerial explanations - such as strategic organizational focus, principal education and professional orientation, as well as former usage of strategic management tools. This is investigated in Danish upper secondary schools where a reform made them self-governed and taximeter financed. The results show that the application of strategic management tools increases after the NPM reform - especially competitive oriented strategic tools and internal economic oriented strategic tools. Though, there are some of the tools which still are not often applied. Finally, there seems to be a variety of explanations of the usage of these tools.

Keywords: *strategic management; management tools; strategy as practice; New Public Management; reform*

INTRODUCTION

Several studies investigate the application of strategic management in public organizations (Ring & Perry, 1985; Bryson & Roering, 1987; Moore, 2000; Ferlie, 2003; Bryson, 2004; Hansen, 2007). Also, recent empirical studies analyze the use of strategic management in public organizations (Carmeli & Tishler, 2004; Pablo, Reay, Dewald, & Casebeer, 2007; Llewellyn & Tappin, 2003; Bryson, Ackermann, & Eden 2007; Meier, O'Toole, Boyne, & Walker 2007; Andrews, Boyne, Law, & Walker, 2008, 2009a, 2009b; Williams & Lewis 2008). However, most of the quantitative studies apply the Miles and Snow typology (e.g. Andrews et al., 2008, 2009a, 2009b; Andrews, Boyne, Meier, O'Toole, & Walker, 2005; Andrews, Boyne & Walker, 2006; Meier et al., 2007). Therefore, apart from the Miles and Snow typology there is a shortage in quantitative studies of the strategic management application in public organizations. This is particularly apparent after NPM which has changed the conditions for strategic management in public organizations making strategic management more applicable and relevant (Ferlie, 2003; Hansen, 2007). For instance, there is no major research regarding what kinds of strategic management tools and analyses public organizations and managers apply after NPM changes even though it is a major aspect of strategic management and especially strategic planning. As Bryson argues, strategic planning is "*a set of concepts, procedures, and tools designed to help leaders, managers, and planners think, act, and learn strategically*" (Bryson, 2004, p15). Therefore, these strategic tools are a key aspect of strategic management. Although the importance of for instance implementation has been highlighted especially by Mintzberg (1994) who is known for his critic of strategic planning. Despite this critic of strategic planning and thereby also some strategic tools it is relevant to understand whether public organizations actually apply these tools and which factors explain the application of these. In the newer tradition of strategy as practice the goal is primarily to understand what is going on in practice (Jarzabkowski, 2004). In this tradition tools are often considered as

more important than the theories because these are what the practitioners apply because theories often are too abstract to apply in practice (Jarzabkowski & Giuletti, 2009, Spee & Jarzabkowski, 2009). Strategy as practice focuses on managerial agency and situated activity (Jarzabkowski, 2005), based on a rather pragmatic tradition (Johnson, Langley, Melin, & Whittington, 2007). The question is what is going on in the organizations' situation and what can explain it.

The use of strategic management tools is not an issue often studied in the general strategic management literature (Clark, 1997). However, there are some interesting exceptions (Clark, 1997; Frost, 2003; Gunn & Williams, 2007; Jarzabkowski & Giuletti, 2009). Following Clark (1997), we define strategic management tools as concepts, analytical frameworks, techniques and methodologies that assist strategic managers in their decision making. In the literature there is a long list of arguments for the importance of investigating and understanding strategic management tools. Like Gunn and Williams (2007), we argue for the need of research that investigates the application of strategic management tools because strategic tools are the cornerstone of strategic management (Vinzant & Vinzant, 1996) and because strategic management comprises a set of concepts, procedures and tests (Bryson, 2004). This clearly indicates that tools are a significant aspect to investigate. Furthermore, strategic management tools are argued to enable and improve strategic thinking (Clark, 1997). Moreover, Osborne and Gaebler (1992) highlight that these tools give organizational direction. Finally, according to strategy as practice literature (e.g. Whittington, 1996; Jarzabkowski, 2003, 2004, 2005) more studies ought to investigate how organizations actually work with strategy. Here strategic management tools are an important aspect to investigate (Jarzabkowski & Giuletti, 2009, Spee & Jarzabkowski, 2009). Here we focus on whether tools are applied and not how the tools are applied in practice (Spee & Jarzabkowski, 2009)

Due to different NPM reforms with focus on efficiency and management (Hood, 1991), investigating the question of strategic management tools application is especially needed in public organizations because NPM introduces concepts like competition and market (Ferlie, 2003). In relation to public organizations, strategy as practice has also been argued to be an interesting field for future research (Barzelay, 2006; Greve, 2007). Former studies of strategic tools in public organizations are carried out by Poister and Streib (1994, 2005) who studied the application of tools in municipalities over long periods of time. Their focus is on strategic planning and tools integration with other management activities (Poister & Streib, 2005). Their results show no dramatic expansion in application. However, they show stronger integration with other management and decision-making activities (Poister & Streib, 2005). Furthermore, Gunn and Williams (2007) investigate public organizations together with private organizations in their study. However, they do not analyze the public organizations as a specific group. Different tools are argued to be important in public organizations. For instance, studies show how the value chain and the livelihood schema (a tool based on the resource based view of strategy) can be applied in public organizations (Williams & Lewis, 2008; Bryson, Ackermann & Eden, 2007). However, there is a lack in understanding of NPM reforms and their influence on the application of different types of tools, and also what explains the application of specific types of tools.

The application of strategic management tools is an important issue in the understanding of how public organizations act after the NPM changes. Naturally, there can be some decoupling between the strategic management analyses and the way the organizations act (Meyer & Rowan, 1977). However, the strategic management tools often have some influence on the actions of the organizations, because tools assist strategic managers in their decisions making (Gunn & Williams, 2007). Therefore, there is a need for an investigation of strategic management tools application in

public organizations after NPM inspired reforms. Specifically, it is necessary to look at what tools are applied, whether changes in application take place due to the reforms, and what different types of tools are used by different kinds of organizations and leaders. Due to the NPM reforms we expect that competitive and efficiency oriented strategic tools are more widely applied because these match the NPM changes in the public sector (Hood, 1991; Pollitt & Bouckhaert, 2004). Based on the above the paper tries to answer the following research questions:

How does an NPM inspired reform influence the application of strategic management tools in public organizations, and what explains whether public organizations apply different types of strategic management tools after a reform?

These questions contribute to the understanding of what happens in relation to the application of management tools after an NPM reform: whether strategic management tools are more often applied after the reform. We are not focusing on *how* often each organization applies specific tools but *whether* they apply them. If they apply tools, we look into *which* types of tools are more often applied after the reform and *which* organizations apply them. The paper both focuses on understanding the overall application for the whole group of organizations but also attempts to understand the differences in application due to organizational and leader characteristics. Therefore, the paper contributes to the understanding of what tools are actually applied before and after the reform and which organizations and leaders apply these different types of tools. The results show changes in tools applied before and after the reform and also in the type of tools. The latter could be expected due to NPM changes. The paper also tests a diversity of explanations of application of specific competitive and efficiency oriented strategic tools. Overall, the study thereby contributes with a distinct focus on a very explicit and applied level of strategic management which is rarely

illuminated in studies of strategy in public organizations. Moreover, NPM is often said to make public agencies more competitive and efficiency oriented. It is not as clear whether this happens in a uniform way or whether organizations exhibit differences in their response to NPM reforms. This study focuses on a very tangible and concrete level of competitive and efficiency orientation, namely the application of specific strategic management tools. This allows for thorough analysis of application across the population of organizations under study as well as organizational level analysis of some of the important factors driving the use of different tools. In this way the study investigates the heterogeneity in reform responsiveness that can be empirically observed.

We investigate these questions by applying Danish upper secondary schools as the empirical setting. These are interesting public organizations because they have typically had their focus on pedagogical issues and professionalism in individual subjects. Traditionally, they have not been influenced much by NPM (Klausen, 2004). Due to a larger Danish structural reform (Agreement on a Structural Reform, The Danish Ministry of the Interior and Health, 2004), the upper secondary schools change towards more business-like conditions. They become self-governed with their own boards and taximeter financed according to the number of students enrolled.

The first section of the paper introduces the setting of Danish upper secondary schools. The second section focuses on the concept of strategic management and choice of tools. This is seen in relation to public organizations and NPM changes, and proposes several hypotheses about the change in applications of different types of tools and the explanations hereof. The third section introduces method, data collection, and variables. The fourth section shows the results of the study. The fifth section discusses the results and the implications of these for future practice and research.

RESEARCH SETTING

Danish upper secondary schools offer education for students after their compulsory education. These schools aim at giving the 16 to 19 year old a general education and preparation for further education. It is interesting to see how upper secondary schools apply strategic management due to the changes in their context that follow from the Danish structural reform, which is described in the *Agreement on a Structural Reform* (The Danish Ministry of the Interior and Health, 2004). The changes are relevant to investigate because the upper secondary schools become more business-like. Traditionally, they have been focused on pedagogical issues and professionalism in the individual subjects (Klausen, 2004). After the reform they have become taximeter financed according to their number of students. Also, earlier they were part of the counties which meant that budgetary decisions were not up to the school principals because each county set individual budgets for each school (Pallesen, 1998) and principals were free to focus on education. The reform officially made schools self-governed with their own boards with responsibility for the overall direction of the schools as of 1/1 2007. Due to these changes these schools are an interesting research setting for investigating application of strategic management tools after an NPM reform.

Earlier, they have been very isolated from larger NPM reforms even though Denmark generally is argued to have made NPM changes (Greve, 2006). Furthermore, a former case study by Klausen (2004) of five upper secondary schools indicates that strategic management was not frequently applied before the reform. Also, the schools are very similar in management structure although their context changes very much after the reform. After the reform the schools are still both publicly owned and funded (Wamsley & Zald, 1973), but now self-governed *public* organizations and funded nearly completely based on their activity level.

Therefore, the reform has very different effects on different schools. Over a five year period the schools will be almost totally taximeter financed due to the reform (some small and geographically isolated schools will receive extra payment). The result is that some schools have large budgetary cuts (up to 19 percent) while other have an increase in funding (up to 15 percent). Differences can be significant even within the former counties. Due to the taximeter financing the size of each school becomes a highly important factor for their management. There are some fixed costs regardless of school size. Earlier, the county made sure that all schools had a reasonable number of students, and did not allocate resources after a strict taximeter. After the reform, the students and thereby the budgets are allocated between the schools within specific areas in each region. This takes place via a so called binding partnership between the schools which means that the schools in the area decide the allocation of students between the schools. Due to the free choice of school, the schools have to take into account the students' wishes, the schools' study offering, and the students' time of transport to school. However, the combination of free choice of school and taximeter financing enforces competition between schools which means a potential risk of bankruptcy. However, there are also extreme differences in competition. Some schools nearly have a local monopoly with no real competitors while other schools exist in intense competition for students. The latter is especially the case in some larger cities. Furthermore, each school's capacity for students is also very different from area to area. Some areas have a large excess of school capacity in relation to the number of students in the area, and other areas have a shortage of capacity. However, despite these differences between Danish upper secondary schools, they are highly comparable when it comes to the investigation of the application of strategic management tools. This combined with the changes make them an interesting research setting.

STRATEGIC MANAGEMENT TOOLS IN PUBLIC ORGANIZATIONS

Strategy is in the classical conception about determination of the long-term goal and objectives of the organizations and adopting the action and resource allocation to these goals (Chandler, 1962) and also about matching the organization with its environment (Hofer & Schendel, 1978). But today strategic management includes many different perspectives (Mintzberg, Ahlstrand, & Lampel, 1998). In public management literature a number of articles have discussed differences and similarities between strategic management in public and private organizations. Ring and Perry (1985) argue that public organizations are constrained in their actions. Nutt and Backoff (1993) highlight many differences. They stress, for instance, that competition and efficiency are key elements in private organizations while cooperation and equity are public counterparts. Furthermore, Moore (1995, 2000) argues that the goal of public organizations is to create public value not profit for the shareholders.

Nevertheless, there have been major changes in public organizations over the last couple of decades making the public organizations more in need of strategic management (Ferlie, 2003; Hansen, 2007). We have seen that public organizations are becoming more autonomous (Pollitt, Caulfield, Smullen, & Talbot, 2004); their budgets and funding are more performance-based (Hilton & Joyce, 2003); they are more competition oriented (Kettl, 1993; Ferlie, 1992); and more efficiency oriented. All of which make strategic management more needed in public organizations (Hansen, 2007).

However, even though many researchers argue for the application of more strategic management in public organizations, few studies actually investigate whether changes occur in strategic management in public organizations after the introduction of NPM in the public sector. Particularly few studies apply a quantitative design apart from the studies applying the Miles and Snow

typology. One way to investigate whether there is an increase in strategic management is to test whether public organizations apply strategic management tools more frequently after reform changes. This is a deliberate view (and not incremental) on strategic management in Mintzberg's terminology (Mintzberg & Waters, 1985). This is not to say that the deliberate view and planned strategy is the superior aspect of strategic management. However, it is an important part of strategic management. Naturally, strategic management tools do not necessarily say anything directly about their strategic action. Yet, as former argued, in practice tools are often what are applied – not theories (Jarzabkowski & Giuliatti, 2009). Application of tools indicates whether strategic management is on the agenda and how organizations frame their strategy. Thus, it could be a potential way to investigate and understand strategy in practice. The hypothesis is that strategic management tools are more frequently applied after the reform which, with its focus on self-governing and taximeter financing, clearly can be seen as an NPM reform. The reason for this is that the schools, due to self-governing, are expected to act strategically. This could both be due to the fact that it is expected of such self-governed schools and due to a real need because of taximeter financing which means that the schools' survival is not assured per se. Furthermore, based on the former argument that competition and efficiency are becoming part of the public sector through these reforms (Hood, 1991), we argue that more competitive and efficiency oriented strategic management tools will be applied. Examples of competitive oriented strategic tools could be different analyses of competitors and marketing plans to deal with competition, and examples of efficiency oriented strategic tools could be analyses of resources and competencies and different financial analyses. Therefore, the following hypotheses are proposed:

H1a: The NPM reform introducing self-governing and taximeter financing increases the application of strategic management tools in general.

H1b: The NPM reform introducing self-governing and taximeter financing increases the application of more competitive and efficiency oriented strategic tools.

Hypotheses for application of competitive and efficiency oriented strategic tools

This leads us to ask which schools apply specific strategic management tools and, especially, which schools apply the more competitive and efficiency oriented strategic tools. By competitive oriented strategic tools we understand tools which focus on competitors, markets and positioning like for instance in Porter's framework (1980, 1985). By efficiency oriented strategic tools we understand tools which for instance focus on resource and competences. This is due to the fact that the Resource-Based View of strategy is argued to focus on efficiency (Tece, Pisano, & Shuen, 1997; Peteraf & Barney, 2003). In the following we hypothesize that different kinds of variables influence the application of these types of tools after a reform. The variables are size, economic pressure, competition, and demand changes - and internal and managerial explanations - such as strategic organizational focus, principal education and professional orientation, as well as former usage of strategic management tools.

To begin with we argue that it is plausible that organizations under pressure to survive apply these more competitive and efficiency oriented strategic tools. Organizational survival is a key aspect of strategic management (Chakravarthy, 1982) which goes for both public and private organizations. In relation to upper secondary schools, a clear indicator of crisis is school size, since the average cost becomes high when schools are small due to the fixed cost. Therefore, there seems to be economics of scale (Besanko, Dranove, Shanley, & Schaefer, 2006) by having more students especially in relation to small and midsize schools. The lower the number of students, the more difficult it is to make the school survive. Therefore, we expect more application of both competitive

and efficiency oriented strategic tools by the smaller the schools. Also, if schools experience economic pressure which is not necessarily directly related to their survival, we expect a more frequent application of competitive and efficiency oriented strategic tools. Schools may experience economic pressure due to the reform and apply more competitive and efficiency oriented strategic tools. The logic for this reaction is that more students would make the economic pressure less severe and also with better possibilities to run the schools efficiency.

Also competitive pressure is expected to rise due to this kind of NPM. Pressure from competitors is expected to influence the application of tools. The more competitive pressure the school is under, the more competitive oriented strategic tools are they likely to apply. In private management terminology we argue that the schools search for a sustained competitive advantage (Cockburn, Henderson, & Stern, 2000). Moreover, the general change in demand for the school's study is also expected to influence the application of strategic management tools. The more the demand for the schools' study seat decreases, the more schools could be expected to try to increase the demand by use of different strategic management tools especially competitive oriented strategic tools. Overall, we argue that organizational size, economic, competitive pressures and demand changes are related to the application of specific strategic management tools. This could be seen as focused on strategic fit as in the tradition of Chandler (1962), Andrews (1971) and onwards. Though there are many different forms of strategic fit (Venkatraman & Camillus, 1984), the general argument is focused on fit between for instance strategy, environment, resources and organization. Based on the above we argue for the following four hypotheses:

H2a: The smaller the school, the more likely is it that competitive and efficiency oriented strategic tools are applied.

H2b: The greater the economic pressure, the more likely is it that competitive and efficiency oriented strategic tools are applied.

H2c: The greater the competitive pressure, the more likely is it that competitive oriented strategic tools are applied.

H2d: The more the demand decrease, the more likely is it that competitive oriented strategic tools are applied.

It is not only economic and competitive pressure that we expect influence. We also expect individual organizational strategies within each school and the personal characteristics of school leaders to influence the application of tools. One influential parameter in the application of tools is the organizational strategy orientation which the school follows in relation to their environment. Another influential parameter is the professional values (Perry & Hondeghem, 2008; Davies & Coates, 2005) and education of the leader (Hambrick & Mason, 1984) because these heavily influence the choices made and tools applied. First, we argue that organizational strategy influences application of strategic management tools. The organizational strategy is here based on the Miles and Snow typology (Miles, Snow, Meyer, & Coleman, 1978, Miles & Snow, 1978). This strategy theory is focused on strategy content – that is the strategic orientation the organizations follow. As Jarzabkowski and Giullietti (2009) argues, this kind of organizational content strategy and similar strategy theories are what most strategy research investigates even though these are not necessarily what is interesting in practice. It is however, relevant to understand how the practice relates to these theories of strategy that have been the key area in research. Therefore, it is also relevant to investigate whether the tools applied can be associated with the content strategy the organizations follow which could be expected. This could help make the link between strategic theories and tools (and practice). The expectation is that different strategic management tools are associated with

specific content strategies. We focus on three of their strategies: prospectors, defenders, and reactors. We leave out their fourth strategy, analyzers, because it is an intermediate category between prospectors and defenders (Andrews et al., 2008). It is a degree of the two other categories (Boyne & Walker, 2004; Meier et al., 2007). Prospectors are organizations that focus on market opportunities and experiment with responses to environmental changes (Miles et al., 1978). Defenders are primarily focused on the price and quality of their operations (Miles et al., 1978), or as Andrews et al. (2009) argue, they focus on better performance for limited core services. Finally, reactors primarily make adjustments when they are forced to do so by, e.g., environmental pressure (Miles et al., 1978). In Miles and Snow (1978), these organizational strategies are closely related to how the leader perceives and responds to their environment. Our overall argument is that schools which are prospectors or defenders apply more competitive and efficiency oriented strategic tools, respectively. Therefore, we expect that prospectors apply especially the more competitive oriented strategic tools while defenders apply especially the more efficiency oriented strategic tools. Regarding reactors we do not expect any specific application of tools, thus reactors are relevant to include as a control for the relationship between a non strategy – which is often how reactors are perceived in the literature. The interesting aspect is whether these overall content strategies are related to the application of tools. An argument against such a relation could be that the tools are only applied due e.g. institutional isomorphism and not because of the school's strategies. We therefore propose the following:

H3a: The greater the prospector focus, the more likely is it that competitive oriented strategic tools are applied.

H3b: The greater the defender focus, the more likely is it that efficiency oriented strategic tools are applied.

Moreover, we expect that the leader's professional values and potential management education influence the application of tools. Principals with a strong focus on what we call traditional education (pedagogical, academics practice and schools culture) are expected to apply efficiency and competitive oriented strategic tools to a lesser degree due to the fact that they focus on their own professional values (Meyer & Hammerschmid, 2006). Finally, the longer management education the principals have, the more we expect them to apply these strategic management tools because the leader's formal education influences the strategy of their organization (Hambrick & Mason, 1984). Thus, we propose that:

H3c: The more the principal is oriented towards traditional education, the less likely is it that competitive and efficiency oriented strategic tools are applied.

H3d: The longer the management education of the principal, the more likely is it that competitive and efficiency oriented strategic tools are applied.

METHOD

Sample and preparation

We constructed a questionnaire for the specific purpose of testing these hypotheses. This was combined with official secondary data on upper secondary schools. In this survey we sent questionnaires to the school principals using a single key informant data collection methodology (Cambell, 1955). We found that the school principals had the most detailed and thorough knowledge of the strategic management tools of the schools. Naturally, the board members and especially the chairmen could serve as potential informants. However, they do not have substantial knowledge of tool application before the reform. Another issue is whether the respondents had the

knowledge about the specific school's strategy. The principals had been working for the school for an average of 12.4 years (s.d. = 9.9), and had an average of 10.4 years of experience as principals (s.d. = 7.9) which indicates that they have specific experience and knowledge². However, we were aware of the potential problem with the key informant data collection and the risk that the principals may not know, remember or due to social biases otherwise refrain from giving a truthful answer. We were especially concerned with the retrospective dimension of asking the principals which tools they applied before the reform. Asking retrospective questions based on the respondents is traditionally argued to be a problem in management studies (Golder, 1992). However, in our case it is not necessarily a severe problem because our questions regarding whether they applied a specific tool before the reform are factual and they do not go far back in time (2 years). Furthermore, we highlighted that tools application need to be in writing to make it a more specific question whether they applied these tools or analyses. It would be more problematic if the retrospective questions pertained to attitudes or valuations. Moreover, it is also relevant to investigate the tool application just after the reform, because we are interested in what happens after a reform, and it would also be more difficult for the principals to remember whether they applied the tools before the reform if we waited a longer period. Changes in tools could also be expected to appear changes rather quick while results of a reform on for instance performance would require a longer period of time. Furthermore, there is a risk of social desirability bias due to the fact that principals probably want to be favorable (King & Bruner, 2000). Therefore, they potentially report answers which do not correspond with the actual application of tools. However, we compared the answers of four of the schools qualitatively with their written materials (memos, strategies, etc.) and with interviews before and after the reform which indicate no problems with the questionnaire answers. The correspondence between the answers of the four schools in the questionnaire and the written

² Some principals had no experience from the school before the reform while others had no experience as principals before the reform. However, generally these principals did not respond to the questions regarding application of tools before the reform.

material, and interviews should not be confused with the question of whether the tools are primarily applied to seem legitimate which is the case in some situations (Westphal, Gulati, & Shortell, 1997). Moreover, if social desirability bias was a problem, it could be argued that it probably would bias the results in a more conservative direction as it is most likely to de-emphasize the differences before and after the reform.

The six page questionnaire was sent by mail in 2008 with a cover letter and a return envelope. Approximately three weeks later we sent out a reminder. A further three weeks after that we phoned the principals to remind them. 81 of 123 principals responded giving a response rate of 66 per cent. Based on several tests (Armstrong and Overton, 1977), we concluded that non-response bias is not a serious problem in this study. We tested for differences in variables applied in this study by comparing all responses from before and after the reminder and found no differences at a 5 percent significant level. Furthermore, we tested for differences between responders and non-responders - we tested for school sizes and percentages of budgetary change due to the reform and found no difference at a 5 percent significant level.

Measures

The constructs of the survey are partly well tested ones, partly new constructs we made for the purpose of investigating the use of strategic management tools in upper secondary schools. The new constructs were first discussed with various researchers who have a research interest in the setting. It was later discussed at a group meeting with faculty members in the field. These initial interviews primarily tested the face validity of the constructs, i.e., they focused on whether the constructs measured what they were meant to measure. The constructs were validated through interviews with several people from the organizational field of upper secondary schools. A regular pilot study

would be difficult due to the limited number of schools in the study, so the validation of the questionnaire and its items through interviews became extremely important. The pretesting consisted of the following. First, 7 interviews with principals were conducted. The principals filled out the questionnaire and discussed the questions. Most interviews lasted between 1½-2 hours. Second, the questionnaire was also filled out by and discussed with the Principal Association chairman, a representative from the very influential Teacher Association, two officers from the education departments of the former counties, one employee from the new regions and one employee from the Regions Association. Also, interviews on the subject were carried out with people from the Ministry of Education - the Institutions Department. These interviews, further interviews with board members and one with a chairman, helped verify that the constructs measure what they were expected to measure. The survey was also part of a larger study of strategic management in upper secondary schools which helped verify its validity.

The scales for measuring the different variables are the traditional Likert scales where respondents are asked to give an answer on a 7 point scale between 'totally agree' and 'totally disagree' and, on a similar scale, give an answer between a 'very high degree' and 'not at all'. The scales were chosen because they made application of factor analysis possible.

Strategic management tools

We started with a list of tools which we fashioned on former studies (Poister & Streib, 2005; Frost, 2003). Later in the paper combine some of the tools into two overall types of strategic management tools. In the pre-interviews with the potential responders we asked whether they knew the tools, what the tools meant and whether they used the tools. Here, we excluded a couple of potential tools, e.g., the five forces model (Porter, 1980), because it did not seem to be well-known and thoroughly

understood by the interviewed principals. Furthermore, some tools were merged because the principals had difficulty distinguishing between them. This was especially the case for values, vision and mission. We ended up with a list of the following strategic management tools: Overall strategy and overall objective of the school, values, vision and mission statements, SWOT analysis, environment, competitors, and position analyses, marketing plan, customer analyses, analysis of resource and competencies as well as analysis of long-term financial situation. Compared with other studies (e.g. Clark, 1997, Jarzabkowski & Giulletti, 2009) the list consists of more simple and well-known tools and analyses. It would not be meaningful to apply the same sample of tools because most of these tools would not be known and used in these schools (e.g. PESTLE, Portfolio matrices). Moreover, actually we do not know how often these more simple tools are applied in schools or public organizations in general. We then investigate whether they apply these strategic management tools and analyses before and after the reform. However, both the application before and after were tested in the same questionnaire asking the principal which tools they used before and after the reform. As formerly argued, it is problematic to ask retrospective questions (Golder, 1992). However, it is our claim that the former application of strategic management tools is a rather factual question whether they use the analyses and tools before and after the reform. Moreover, the distinction made between tools applied before and after the reform is also very clear in the principal's context. Furthermore, it was less than two years since the reform was implemented. We also emphasized that the strategic management tools needed to be in writing in order to avoid confusion of, for instance, whether a school had an analysis of competitors when they had had a discussion of competitors at some moment.

Based on our list of tools we construct two overall types of tools in relation to test our proposed hypotheses. The first types of tools are the *competitive oriented strategic tools* which we

theoretically expect to include analyses of 1) competitors, 2) marketing, and 3) position in relation to competitors, respectively. The second types of tools are the efficiency oriented strategic tools, which are more difficult to define exactly in our study. However, we argue that analysis of internal resources and competences is oriented towards efficiency due to the close relation to the Resource-Based View of strategy which is argued to focus on efficiency (Teece, Pisano, & Shuen, 1997; Peteraf & Barney, 2003). Moreover, the analysis of long-term financial situations focuses on efficiency in an economic sense due to the need for schools to run efficiently. However, to let the efficiency variable based on these two tools better capture the meaning of the related tools, we name it *internal economic oriented strategic tools* in the following. Still, we argue that the variable measures efficiency in a broad sense³. In later analyses we apply each of these two overall types of tools as dependent variables where we focus on whether the schools apply at least one tool within each of the two overall types of the tools. We do not focus on how many tools they apply within the specific overall types of tools but whether they apply at least one tool of that type. Therefore, we construct a dummy variable indicating whether or not they apply at least one tool within an overall type of tools before and after the reform, respectively. However, to validate the results we also investigate how many tools they use within a specific type of tools. Here we coded the total number of tools applied within a specific overall type of tools before and after the reform, respectively.

Variables explaining applications of different types of strategic management tools

In this section we describe the construction of the variables which are used to investigate which kinds of schools and leaders apply different types of strategic management tools to test the formerly

³ We also analyzed whether the tools within these two theoretical constructs are related empirically. We carried out two analyses. We investigated whether the tools correlated and whether the principals' perceived importance of the different tools are related applying factor analyses. Combined these analyses show that the tools within each of our two overall theoretical constructs are related as expected. However, in the correlation analysis we also see some correlation with other tools – especially customer analysis. In the factor analysis the tools within the two theoretical constructs combine in two specific factors.

stated hypotheses. In this analysis we apply both variables from the questionnaire and variables from the official budgets and annual reports for the schools, data on applicants for the schools' study seat etc. The first variable is *school size* which here is measured as the total number of student at the schools on all class levels. The second variable measures *economic pressure*. Here we use the percentage difference between the schools' budgets before the reform and their taximeter financing when the reform is fully implemented. This is calculated based on the same number of students attending each school before and after the reform. As mentioned, some schools get a budget increase, others get a budget decrease. We calculated a single continuous variable ranging from budgetary decrease to budgetary increase. It was reversed so higher values indicate higher budgetary decreases and more economic pressure. Budgetary decreases are reversed to positive to capture economic pressure and budgetary increases reversed to negative, respectively. A primary decisive factor for the degree of economic pressure is what county the schools were associated with before the reform. For the year before the reform, the budget numbers are provided by the Ministry of Education and based on numbers from the former counties. The budget numbers after the reform are based on the Ministry's official calculation of the schools' future budget with the same number of students.

For *competitive pressure* we use a measure based on the number of competitors the principals perceive they have. We use a factor combining their answers on the two questions of how many competitor they have and how many intense competitors they have - both measured from none to six or more (Cronbach's alpha: 0.72). This gave us an indicator of the competitive situation. As a measure for the *demand decrease* for the school's study, we have used the change in the number of student applicants for the school over a two year period up to the reform 1/1 2007 based on official

data on the number of applicants⁴. A single continuous variable was calculated measuring the relative increase or decrease in number of applicants in the period. This measure was reversed, so higher numbers corresponds to larger decreases in student demand for the school. Decreases are reversed to be positive to capture demand decrease and increases reversed to negative, respectively. All these variables are utilized to explain the tool applications based on the particular situation each school is in.

However, we also have a set of variables we apply in order to understand whether the school's strategy and the principal's orientation and characteristics influence the application of different types of strategic management tools. We use the same constructs as Andrews, Boyne, Law and Walker in their studies where they construct and apply measures of the organization's strategy in relation to the Miles and Snow typology trying to measure the degree to whether they are *prospectors, defenders* or *reactors* (see Andrews et al., 2008, 2009a, 2009b – who again have applied items and measures from Snow & Hrebiniak, 1980; Stevens & McGowan, 1983; Miller, 1986). Some of the items were part of the pre-interviews where they were specified with examples to match the school context. We find the same overall variables and related items as the former studies. However, using a cut off point of 0.4, we deleted four items. So, as it was the case with two of the other studies (Andrews et al., 2009a, 2009b) not all items from the original study (Andrews et al., 2008) were applied. We find the same three factors as in the earlier studies. However, as indicated by the factor analysis in Appendix 1, there are some problems with distinguishing the prospector and defender variables by the use of these formerly tested items. This is indicated by the

⁴ We also included variables to test for geographical differences in our analysis. We tested whether the degree of urbanisation in the municipality where the school is located influenced the application of the tools. We also constructed a dummy variable for schools within metropolitan area (Copenhagen area) and for major cities (the three largest cities). However, neither of these were significant when included in models with the other variables and they did not influence the other results significantly. Due to a rather small number of observations we do not include these variables in the further analysis.

low eigenvalue for defenders. However, the Kaiser-Meyer-Olkin (KMO) is above 0.60. Therefore, and primarily because we find them theoretically meaningful, we apply these variables in further models⁵. Yet, this problem of distinguishing prospectors and defenders can also be due to the fact that the respondents have difficulties understanding concepts and questions related to strategy. This will be discussed more thoroughly in the discussion.

We also introduce our own measure for the school principal's *traditional education orientation*. We measured this with four items based on the principal rating of the importance of general education, pedagogical issue, academics practice and school culture. The factor analyses for the Miles and Snow typology and the new measure for traditional education orientation can be seen in Appendix 1. In the later analyses these variables are based on extracted factor scores. Finally, we investigate whether the principals have a *management education* by dividing their education into three groups: those who did not have any management education, those who had some, but less than six months of management education, and finally those having more than six months of management education⁶. We coded these three 1, 2 and 3, respectively.

Finally, we also applied a variable controlling for the former application of the specific types of tools. The expectation is that schools applying tools before the reform are more inclined to apply the same tool after the reform. This is interesting because we intend to understand the application of strategic management tools after an NPM reform.

⁵ To insure that the results in the later models are not significantly biased by the construction of the variables, we also carry out a factor analysis without the defender items. This shows only two clear factors: prospector and reactor. Excluding the defender variable does not mean that the results for the other variables in the models change the results materially apart from one relationship which was a bit less significant.

⁶ We also controlled for the educational background (from natural science, social science or humanities) using dummy variables. The results are not reported here, but they did not show significant results.

In the analysis we use models with the overall type of strategic management tools – *competitive oriented strategic tools* and *internal economic oriented strategic tools* - as dependent variables. We constructed a logit model for each of the two overall types of tools where we analyze the relationship between the different independent variables and whether they apply at least one tool within each of the two overall types of tools, respectively. We also constructed ordered logit models – not reported - where we analyze whether the number of tools applied within each overall type of tool is related to the different dependent variables. Moreover, we tested for multicollinearity by calculating the variance inflation factors (VIF) for our models. The VIF were all below 2 which is well below the recommended level of 10 (Kennedy, 1998).

RESULTS

In Table 1 we see the usage of strategic management tools before and after the reform.

TABLE 1**Strategic management tools application proportions before and after the reform**

Written strategic management tools	Before reform	After reform	Probability of no differences
Overall strategy of the school	55.8	88.3	0.183
Overall objective of the school	82.7	93.4	0.925
Values and vision and mission statements	72.2	93.6	0.648
SWOT analysis of the school (i.e. analysis of strengths, weaknesses, opportunities and threats)	12.3	41.8	0.020*
Analysis of the school's environment	8.8	30.4	0.001**
Analysis of the school's competitors (i.e. an analysis of each competitor)	1.3	7.6	0.036*
Analysis of the school's position in relation to competitors	5.1	15.8	0.001**
Marketing plan (i.e. how to attract potential students)	13.9	27.8	0.000**
Customer analysis (i.e. what do potential pupils demand?)	11.3	27.8	0.000**
Analysis of the school's internal resources and competencies	22.2	35.9	0.082
Analysis of the school's long-term financial situation (at 5-7 years' sight)	17.3	60.8	0.000**

* $p < 0.05$, ** $p < 0.01$. The numbers before and after the reform are the percentages of schools applying the tools before and after the reform. The probability for difference is found via a chi2 test using only observations where answers are available both before and after the reform. Therefore N varies in the tools with the lowest N of 74.

As shown in Table 1, the strategic management tools most frequently applied in upper secondary schools before the reform are overall strategy of the school, overall objective for the schools and values, vision and mission. These were also the most frequently used tools after the reform. They all had a usage of approximately 90 percent. Table 1 also shows that all tools are more frequently used after the reform. Although not all of them are at a significantly higher level. We further see that the

analysis of the school's environment, the analysis of the schools position in relation to its competitors, the marketing plan, and the analysis of its long-term financial situation are significantly more in use after the reform (at a 1 percent significant level). Also the SWOT analysis and the analysis of competitors are significantly more in use after the reform. Together these results show that strategic management tools are more frequently applied after the reform.

Apart from the analysis of the school's internal resources and competencies, where there is only a difference at a 10 percent significance level, Table 1 shows a significant increase after the reform for all tools within the two overall types of tools. For all three tools within the *competitive oriented strategic tools* there are significant differences in application before and after the reform. Therefore, it seems plausible that upper secondary schools apply more competitive oriented strategic tools after the reform. However, it is important to notice that far from all schools apply these competitive oriented strategic tools. For instance, only 7.3 percent apply an analysis of competitors. Furthermore, the analysis of the long-term financial situation in the *internal economic oriented strategic tools* is significantly more frequently applied after the reform which also partly supports that there is significant more application of internal economic oriented strategic tools. In the following we investigate which schools apply these different types of strategic management tools.

As argued, we run an analysis for each of the two overall types of strategic management tools with variables predicting their application after a reform. We run a logit model which is based on whether the school applies at least one tool within that specific type of tools. Furthermore, we have also constructed a set of ordered logit models, because the type of tools consists of the number of tools applied by the schools. For instance, the competitive oriented strategic tools applied by the schools are 0, 1, 2 and 3 depending on the number of tools within the specific type of tool. These

ordered logit models showed only limited differences in relation to the logit models and are therefore not reported. The results indicate that the explanations of the application of at least one tool within an overall type of tool and the number of tools applied within an overall type of tool are similar. For each overall type of tool, we show a logit model including all explaining variables. We also run models not reported here. In these we leave out the variable for whether the schools applied at least one tool within the specific tools before the reform. These serve to test the effect on the pseudo R2 measures and help us investigate whether the former application of the specific tools is the primary explanation for application of tools after a reform. The pseudo R2 measure in parentheses is for the model without the former application of the tools. As shown in the former theoretical section, we are interested in understanding which schools apply these competitive oriented and internal economic oriented strategic tools after the reform.

In Table 2, we show the logit models for whether the schools apply at least one tool within each of the overall types of tools. For the competitive oriented strategic tools the results show that a number of the variables are significantly related to the application of this type of tools. We see that the former usage of the tools is significantly positively related to the application of this type of tools. We also run a model showing that the pseudo R2 measure dropped from 0.50 to 0.22 when removing the variable for former usage of this type of tools. Former usage is therefore an important explanation of the application after a reform. Moreover, the models also show that the variable for measuring the economic pressure due to the reform - the percentage change in budget (reversed) - is significantly negative related to the application of the competitive oriented strategic tools. This supports the hypothesis that schools apply more competitive oriented strategic tools when they are under economic pressure. The results also show that a decreasing demand for study seats is related to more frequent application of at least one of the competitive oriented strategic tools as expected.

TABLE 2**Logit models for strategic management tools applied**

	Competitive oriented strategic tools	Internal economic oriented strategic tools
	Logit	Logit
Size (total number of students)	0.00	0.00
Economic pressure	0.27**	-0.04
Demand decrease	3.97**	0.98
Perceived number of competitors	-0.38	-1.38***
Prospector	2.75***	.95**
Defender	1.88**	1.16***
Reactor	-0.57	0.03
Traditional education orientation	-1.54**	0.14
Degree of management education	2.12***	-0.04
Former application of that overall type tools	6.68***	2.40***
Constant	-6.30	.55
N	61	67
Chi test	0.000	0.007
Pseudo R2	0.50 (0.22)	0.29 (0.20)

*** p < 0.01 ** p<0.05 * p<0.1. Logit models are based on whether the schools apply at least one tool within that type of tools. Pseudo R2 in parentheses are the pseudo R2 for the models without the variable for former application of at least one of these tools.

One-tailed test for hypothesized relationships; two-tailed for controls

The model for competitive oriented strategic tools also shows that prospectors apply at least one competitive oriented strategic tool. This supports the hypothesis that prospectors are more inclined to apply this type of tools. Defenders are also significantly related to competitive oriented strategic tools however not as strongly as prospectors. Moreover, the model shows that competitive oriented strategic tools are negatively associated with the traditional education orientation supporting the hypothesis that principals (leaders) with focus on these professional norms do not apply these competitive oriented strategic tools. Finally, the model illustrates that the degree of management education is associated with the application of competitive oriented strategic tools.

For internal economic oriented strategic tools we also run a logit model for whether the schools apply at least one tool within the overall type of tools. The model shows that a low number of

competing schools perceived by the leader is likely to prompt the application of more internal economic oriented strategic tools. This is interesting because it may be expected that more competitive pressure could cause a higher usage of internal economic oriented strategic tools due to the pressure on the school. Moreover, as expected, the models illustrate that defenders are more inclined to apply more internal economic oriented strategic tools and that prospectors are positive related to the application of these tools but not as significantly so as defenders. We also find that the former usage is significantly related to the usage of the internal economic oriented strategic tools. Yet, we run a model excluding this variable. Without this variable the pseudo R2 measure drop from 0.29 to 0.20 again indicates that the former application is an important explanation for tool application after the reform.

Together, the results in Tables 1 and 2 support hypotheses 1a and 1b showing that schools apply tools more frequently after an NPM reform, and that schools apply more efficiency oriented strategic tools (here measured by the variable *internal economic oriented strategic tools*) and especially competitive oriented strategic tools. Yet, the results do not support that school size is associated with the applications of competitive and internal economic oriented strategic tools as expected in hypothesis 2a. Economic pressure is shown to be associated with the application of competitive oriented strategic tools but not with internal economic oriented strategic tools. This partly supports hypothesis 2b. Competitive pressure (measured as the perceived number of competitors) is not related to competitive oriented strategic tools as expected in hypothesis 2c. However interestingly, a lower perceived number of competitors is related to the application of internal economic oriented strategic tools. A decreasing demand is related to more application of competitive oriented strategic tools which supports hypothesis 2d but not related to internal economic oriented strategic tools. Moreover, we find that both defenders and especially prospectors

apply competitive oriented strategic tools while both prospectors and especially defenders are associated with the application of internal economic oriented strategic tools. These findings partly support hypotheses 3a and 3b. Moreover, the traditional education orientation is negatively associated with the application of competitive oriented strategic tools as expected in hypothesis 3c but not with internal economic oriented strategic tools. Finally, the findings show that the more management education the principal has acquired, the more frequent is the application of competitive oriented strategic tools. This partly supports hypothesis 3d. However, we do not find the same relationship for the internal economic oriented strategic tools.

DISCUSSION

The first markedly distinct result of this survey is that an NPM reform clearly influences the application of strategic management tools in public organizations which have not previously been influenced much by the reform. We see a raise in number of tool applications especially in the types of tools oriented towards more competition and efficiency (the latter measured as internal economic oriented strategic tools) which are also key aspects in NPM reforms (Hood, 1991; Pollitt & Bouckhaert, 2004). This indicates that the schools and their principals apply tools that match their overall environment investing the whole group of schools as one. When the schools are becoming taximeter financed and self-governing, we see a rise in the application of both competitive and internal economic oriented strategic tools indicating that the sector, in their tool application, is in line with the NPM agenda. Whether their actions also change is another question. The consequences cannot be seen yet. However, generally this result indicates that public organizations after an NPM reform to a higher degree apply strategic management tools traditionally primarily applied by private companies. Still, in relation to strategy as practice there is a need for more research into whether they apply these tools in a similar way (e.g. in the same phases of the strategy process) and

with the same success (perceived value) (Jarzabkowski & Giuletti, 2009, Spee & Jarzabkowski, 2009). Generally, strategy as practice literature highlights the importance of understanding strategy as practice in different contexts where public organizations are highly interesting (Jarzabkowski & Fenton, 1996). It would especially be interesting to conduct a future research design that includes both public and private organizations which are similar on other aspects.

Still, many of the schools do not apply these competitive oriented strategic tools and internal economic oriented strategic tools. The competitive oriented strategic tools are particularly infrequently implemented. Yet, when investigating the explanations for tool application, we cannot conclude that schools expected to be in most dire need of the competitive and efficiency oriented strategic tools are the ones which apply tools most frequently. Though, we find that schools with the bigger budgetary reductions also are those who more often apply competitive oriented strategic tools. And moreover, that the schools with decreasing demand also more often apply competitive oriented strategic tools. However, we do not find that small schools and schools with many competitors apply these tools more often which indicates that each school's particular situation does not necessarily explain its specific tool applications. Actually, schools with a perceived low number of competitors more often apply internal economic oriented strategic tools. In relation to this an interesting question is whether schools with perceived low numbers of competitors also have, for instance, a low of number of other schools within travel distance. A reservation pertaining to the measurement of the perceived number of competitors is that if principals are not focused on competition, this may influence their perception of number of competitors. However, if this is the case, we would expect that principals who perceive many competitors also apply more competitive oriented strategic tools which we do not find support for.

Moreover, we observe that the specific type of organizational strategy perceived by leaders is associated with the application of these kinds of tools. We see that the strategic orientation measured by the Miles and Snow typology has major implications for the application of strategic management tools. This shows the importance of the school's (and leader's perceived) strategy for the school's applications of tools. We see that prospectors more often apply at least one competitive oriented strategic tool which is clearly in line with the expected. A further suggestion of this tendency is that defenders more often apply internal economic oriented strategic tools. However, we also find that prospectors are related to internal economic oriented strategic tools and that defenders are related to competitive oriented strategic tools. Neither of the relations is as significant as the relationship expected in the hypotheses, but they are still significant. These results highlight the former described problems with separating the strategies. It also suggests that the most interesting question is whether the schools have a strategic orientation or not – as we can see, reactors are not related to any of the two overall types of strategy tools. Moreover, we find that each school's usage of internal economic oriented strategic tools is negatively associated with the perceived number of competitors. This observation runs counter to what could be expected if prospectors and defenders are closely related. However, based on Miles and Snow we argue that the defender strategy is used specifically in environments where they can “*seal off a portion of the market in order to create a stable domain*” (Miles et al., 1978, p550) which could be a market with few competitors. So the school strategy (perceived by the leader) is clearly associated with the applied strategic management tools. This makes it important to understand how the leaders perceive their organization's situation and environment. The results may be taken to suggest that the school leader's perception of their situation and thereby chosen strategy differs from the expected in their situation. This indicates the need to understand the concepts of enactment and interpretation (Weick, 1995) in relation to the application of strategic management tools. The relationship

between organizational strategy and strategic tools is relevant because there seems to be a missing link in strategy literature between strategy theories and practice (Jarzabkowski & Guilietti, 2009). However, future studies attempting to relate strategy theories (e.g. organizational strategies) and strategy as practice (e.g. tools) would benefit from research designs set up so as to reduce potential problems of common method bias.

Moreover, the cultural and professional values of the leaders (here principals) are expected to have a great influence on the application of tools. The principals are expected to be bound to traditional education values, because they lack experience with NPM reforms. The results show that traditional education oriented principals less often apply competitive oriented strategic tools. Yet, the results in the models do not suggest that a traditional education orientation is associated with the applied internal economic oriented strategic tools. This indicates that these competitive oriented strategic tools run counter to the traditional education orientation. However, for the internal economic oriented strategic tools the correlation matrix in Appendix 2 shows a positive relation and the sign in the model is also positive which indicates that the traditional education orientation does not run counter to these tools. This could indicate that principals with a traditional education orientation (strong professional norms) try to insure efficiency while opposing attempts to compete.

Furthermore, the principals' management educations cannot explain the usage of the internal economic oriented strategic tools. Yet, for the competitive oriented strategic tools, management education is associated with a more frequent application of tools. In this case the explanation may even be stronger due to the fact that most principals probably have their management education from the *Danish Institute for Upper Secondary School Pedagogic*. Although this institute offers a management line, it does not use much New Public Management inspired literature. However, here there is especially a reservation due to the cross-sectional status of the survey. Maybe principals,

who are most favorable of these tools, are the ones to take this management education.

Additionally, a former study of strategy as practice shows an increasing use of strategy tools when people have more management education. Though, it is not clear whether these results are due to higher career effects according to their selection to further management education (Jarzabkowski & Guillette, 2009). However, in our results, where all respondents have similar position, we still find management education differences in the application of specific tools. Overall, our study indicates a need for understanding the relationship between the leader and the application of strategic management tools.

Additionally, the survey shows a strong relationship between the specific tools each school applies before and after the reform. This could be an argument for a path dependency argument (Pierson, 2000). Generally, this study indicates the need for further studies to apply, for instance, institutional theory, e.g., investigating differences between early and late adopters (Tolbert & Zucker, 1983). A proper examination of these differences is difficult to carry out in our study due to the low number of organizations which applied the tools before the reform. Also the related question of whether the organizations apply tools primarily to seem legitimate or because of different technical or competitive elements in their environment needs further investigation (Rowan & Meyer, 1977; Scott, 2007). This study finds no strong support for contingencies such as size and competitors to explain the application. However, economic pressure and demand decrease seem to have an influence. This could be interpreted as immediately pressures influence the application. But generally it would require real longitudinal data to answer the question of whether this is the case or not.

This survey highlights the need for future research into the understanding of the application of tools and the roles of strategic management tools in public organizations after NPM. Especially, there is a need for understanding of the performance consequences of introducing the tools. Research should consider both intended and un-anticipated consequences in a longitudinal perspective. The present survey shows these major changes in application of tools due to a reform, though many still do not apply these tools. However, it cannot be argued from the application whether it shows actual influence on the performance. For instance, the lack of application when this seems most needed – for instance when the school is small and when there are many competitors - can be taken to indicate that some schools may primarily apply the tools to seem more legitimate in their environment. However, we know that boards have a major influence on strategy processes in most schools which probably also explains the application of tools. Our primary focus here, however, lies on the explanation of the application by the schools situation, strategy, and their principals. Together these aspects show the importance of understanding whether the application of tools is the results of an actual need in the specific situations of the schools or just tools the schools apply to appear legitimate. Therefore, more in-depth studies of the actual application of tools in public organization and the consequences of these for the school actions are needed.

Moreover, a reservation in relation to our study is that the schools are all of the same special type of public organization which makes the generality to public organizations in general more precarious. However, because we expected strong cultural and professional values, we have tried to control for this potential problem by applying the traditional education orientation variable. However, again it is important to mention the boards which probably have a strong influence on the rise in application of tools. This highlights that further research of strategic management in public organizations should take the role of boards into account.

Furthermore, another major reservation in relation to our study is that formerly applied constructs such as the Miles and Snow constructs from the public management literature (Andrews et al., 2008, 2009a, 2009b) are difficult to apply in a school setting. This is due to the fact that it is difficult to distinguish between prospectors and defenders in the application of these constructs in the schools. Apart from the fact that the formerly valid constructs may not be valid in the school setting, it could also be argued that this kind of strategic thinking is unusual for principals which makes their answers less consistent. However, the results remain robust if defenders are excluded. This is in line with former studies arguing that the important question is whether they have a strategy or not. The reactor is then seen as no strategy. However, the overall problem remains one of telling how principals understand and interpret (Weick, 1995) the concept of strategic management. Therefore, we also need to link research on strategic management theories with research on what is going on in practice.

Finally, the study would have been stronger if the survey population was larger. However, the fact that it is possible to investigate the application of strategic tools before and after an NPM reform in a comparable setting has its advantages. But a larger N survey would have made more sophisticated analyses possible.

CONCLUSION

The survey shows a rise in application of strategic management tools in Danish upper secondary schools after the NPM inspired reform which introduced taximeter financing and self-government. The survey also shows that specific strategic management tools, which were not frequently applied before the reform, were significantly more often applied after it. The application of SWOT, the

analyses of the schools environment, strategic position and competitors increase especially, but the analyses of customers and internal resources as well as long term financial analysis also increase in application. Though, there are some of the tools which still are not often applied for instance analysis of competitors. Still, the most widely applied tools are the overall strategy and objective of the school and values, mission and vision.

Based on theoretical arguments and our further empirical evidence, we argue for the investigation of two overall types of tools; competitive oriented strategic tools and internal economic oriented strategic tools. The paper tests several theoretical arguments for why schools apply these two types of tools after the reform. The explanations focus on the organizational context and the environment of each school, i.e., its size, economic as well as competitive pressures and demand changes.

Explanations based on the school's strategy (prospector, defender and reactor) were also tested, as were the characteristics of the leader. The latter focuses on the professional values of the leader measured as the importance the principals relate to different traditional education issues and on the leader's length of management education. The survey shows that defenders (and prospectors to a minor extent), schools with few competitors and principals with more management education are positively related to the application of internal economic oriented strategic tools. Schools under economic pressure (due to reform), prospectors (and defenders to a minor extent), and principals with more management education are positively related to the application of competitive oriented strategic tools. Traditional education oriented leaders are negatively related. Finally, a highly important variable for explaining the application of strategic management tools is whether the tools were applied before the reform.

These results contribute to our knowledge about strategic management in public organizations. For one thing, understanding the application of strategic management tools in public organizations before and after a reform has not previously been attempted via a quantitative design. Moreover, the results show what goes on in practice in relation to strategy in public organizations. However, the paper cannot answer the related questions regarding the consequences of applying different types of strategic management tools in public organizations. Here we both think on their performance both expected and unanticipated and also both in the short and the long term.

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APPENDIX 1:

Prospectors, Defenders, and Reactors

Variable/items	Factor loadings			Eigenvalues	Cronbach's alpha
Reactor					
We change provision (e.g. specialized areas) only when under pressure from external agencies	0.84	-0.07	-0.04		
The service (e.g. specialized areas) explores new opportunities only when under pressure from external agencies	0.83	-0.08	-0.03		
We give little attention to new opportunities for service delivery	0.43	-0.35	-0.03	1.65	0.75
Prospector					
Searching for new opportunities is a major part of our overall strategy	-0.18	0.71	0.09		
We seek to be first to identify new modes of delivery	-0.03	0.65	-0.08		
We often change our focus to new areas of service provision (e.g. specialized study areas)	-0.08	0.46	-0.48	1.31	0.66
Defender					
We seek to maintain stable service priorities (e.g. list of courses)	-0.12	0.00	0.60		
We focus on our core activities	-0.08	0.17	0.51	0.87	0.55

Factor analysis (Principal Component). Orthogonal rotation (Varimax). N=77. Items measured on 7 point Likert scale.

Traditional Education Orientation

Variable	Factor loadings			Eigenvalues	Cronbach's alpha
<i>Traditional education orientation</i>					
Focus on providing general education		0.63			
Academic practice in the teaching of each subject		0.72			
Maintaining the general culture of Danish upper secondary schooling		0.57			
Focus on pedagogy		0.64		1.62	0.72

Factor analysis (Principal Component). Orthogonal rotation (Varimax). N=77. Items measured on 7 point Likert scale.

APPENDIX 2: Correlation matrix (Kendall tau b) together with mean and std.

	Mean	Std.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Number of competitive oriented strategic tools applied	0.51	0.84													
2. Number of internal economic oriented strategic tools applied	0.96	0.80	0.09												
3. Size (total number of students)	642	188	-	0.19											
4. Economic pressure	1.30	6.92	0.06	-0.16	-0.32										
5. Demand decrease	-0.11	0.35	0.18	0.02	0.02	-0.05									
6. Perceived number of competitors			0.07	-0.11	-0.04	-0.12	0.00								
7. Prospector			0.22	0.23	0.04	-0.24	-0.05	0.21							
8. Defender			0.09	0.21	0.02	0.06	-0.15	-0.04	-0.04						
9. Reactor			-				-0.03								
			0.07	-0.01	-0.20	0.17		-0.09	-0.18	-0.01					
10. Traditional education orientation			-				0.07								
			0.02	0.25	0.05	0.06		-0.07	0.04	0.15	0.04				
11. Degree of management education	2.02	0.80	0.15	-0.08	-0.08	-0.03	0.15	0.17	-0.04	0.03	-0.01	0.01			
12. Former number of competitive oriented strategic tools applied	0.19	0.49	0.41	0.10	0.07	-0.09	0.02	-0.06	0.15	-0.03	-0.04	0.05	-0.18		
13. Former number of internal economic oriented strategic tools applied	0.39	0.68					-0.10								
			0.04	0.38	0.00	-0.05		0.01	0.13	0.08	-0.08	0.13	-0.11	0.34	

* Correlations marked with bold p<0.05.

ESSAY THREE:

**Make and Buy – An Alternative to Make or Buy?
An Investigation of Four Theoretical Explanations**

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Abstract

The question of whether public organizations should provide services themselves or buy them from external suppliers has become increasingly relevant due to public sector modernization. The literature has focused on it as a question of either make or buy. Contrary, we focus on the reasons for public organizations to simultaneously produce and contract out similar services. The paper investigates different theoretical explanations for concurrent make and buy. A survey of Danish municipalities shows that make and buy seems to be a steady choice. However, the results show little support for the theoretical explanations indicating the need for more public-oriented explanations

Keywords: *contracting out, local government, transaction cost, rational choice, resource-based view, institutional theory*

Introduction

Contracting out is one of the biggest research areas in the public management literature, and it has become increasingly important due to different modernization initiatives in the public sector in the last three decades (Kettl, 1993, 2005; Hodge, 2000). The fundamental question is whether public organizations should produce their services themselves or contract them out either to private companies, non-profit organizations or other public organizations. The issue has been investigated from many different theoretical perspectives (Amirkhanyan, Kim, & Lambright, 2007): the most influential are transaction cost economics (Brown & Potoski, 2003a, 2004) and different versions of neoclassic economics (Prager, 1994; Domberger & Jensen, 1997) such as the more public oriented public choice and rational choice (for a review see, Boyne, 1998). Also, institutional theory (Brown & Potoski, 2003a) and the resource-based view of strategy (Barney, 1999) have been used to answer the question of whether to make or buy.

Most of the theories are developed for the analyses of private companies, but they have been used when looking at public organizations because of their emphasis on economic efficiency and thus their argued universal focus on the question of whether to make or buy. However, due to the differences between public organizations and private companies, it has been questioned whether the theories are useful for understanding and for providing normative guidelines for public organizations. For instance, it has been discussed how contracting out influences democracy (Moe, 1987), hollows out the state (Milward & Provan, 2000), causes problems with dependence on suppliers (Van Slyke, 2003), and whether it can ensure public value and public interest. There has been focus on the differences between types of services and markets (Brown, Potoski, & Van Slyke, 2006) and on managing the contracting process (Brown & Potoski, 2003b) and managing the market (Brown & Potoski, 2004). Despite these very

comprehensive studies of make or buy in the public sector, one important question remains to be asked:

Why do some public organizations both produce and contract out the same service?

The few studies investigating why some public organizations both produce in the organization and contract out the same service show interesting results. They show that public organizations often make and buy the same service at the same time (e.g., Hefetz & Warner, 2007; Warner & Hefetz, 2008); that this combination of market and internal production is an efficient choice (Miranda & Lerner, 1995); and that it is a growing phenomenon (Warner & Hefetz, 2008). The number of papers on simultaneous make and buy in private companies is growing, e.g., under the name of plural form of governance (Bradach & Eccles, 1989), dual distribution (Dutta, Bergen, Heide, & John, 1995), and concurrent sourcing (Parmigiani, 2007). Yet, in public management literature contracting out has primarily been treated as an either or question. Depending on transactions, services or markets characteristics, organizations are argued to benefit from either making or buying the services. This paper reviews theoretical arguments why some public organizations can benefit from using both internal production and external suppliers for the same type of service at the same time.

We take into account four different theoretical explanations. First, *transaction cost economics* explanations point to advantages of a hybrid solution, i.e., combining make and buy, when organizations face moderate levels of asset specificity and uncertainty due to service characteristics (Dutta et al., 1995; Parmigiani, 2007). Second, *neoclassical economics/rational choice* explanations stress the benefit of having both scale economics and flexibility, and furthermore scope economics of both one's own organization and the suppliers (Porter, 1980; Harrigan, 1984; Parmigiani, 2007). Third, *the resource-based view of strategy* explanations focus on a) developing expertise by making *and* by

learning from the suppliers' expertise; and b) how to better deal with technological uncertainties by trying to both understand by making *and* by getting diverse views from suppliers (Mayer & Salomon, 2006, Parmigiani, 2007). Finally, *institutional theory* explanations focus on simultaneous make and buy by reference to a) competing institutional forces, and b) conflicts between institutional and economic forces.

In order to investigate whether the four theories can explain the choice of combining make and buy in public organizations, a mail based survey is carried out on four different services in all 98 Danish municipalities. We use many of the same constructs as Parmigiani's study (2007) of private companies. She tests whether these theories can explain simultaneous make and buy of the same product in private organizations (apart from institutional theory which is a new explanation of make and buy).

The first section of the paper introduces the question of simultaneous make and buy of the same service in relation to public organizations. The second section presents a set of hypotheses about make and buy from the four different theoretical perspectives. The third section introduces the survey, the Danish context, the measures and the variables. The fourth section presents the results of the survey. Finally, the fifth section focuses on the implications for research and practitioners.

Four different theoretical explanations

Few studies attempt to explain why public organizations simultaneously make and buy (Miranda & Lerner, 1995; Hefetz & Warner, 2007; Warner & Hefetz, 2008) though many studies show empirically that public organizations do combine internal and external production (e.g., Hefetz & Warner, 2004;

Potoski & Brown, 2003a). Furthermore, it is also shown that it is not a one way street, where there is only becoming more contracting out. Often public organizations also decide to internalize services that are contracted out (Hefetz & Warner, 2004). Moreover, we often observe for example joint production (Brown & Potoski, 2003a) or public-private partnerships for making services together (Greve & Ejersbo, 2005). However, the results of the few studies of simultaneous make and buy are interesting. First, Miranda and Lerner (1995) argue for the importance of the redundancy between tasks performed internally and externally. They argue that property rights and rational choice theory misunderstand redundant service delivery (make and buy) because they see it as an all or nothing approach. Miranda and Lerner's empirical results - which are based on data from the large International City/County Management survey on US local governments - support that organizations using both internal and external sourcing are more effective. They argue that deliberate redundancy can be better than the conventional wisdom of no redundancy. One reason is that competition between the public organization and suppliers might be preferable to using either make or buy (Miranda & Lerner, 1995).

Warner and Hefetz's study (2008) argues against what they call the market versus planning dichotomy – which they also term the make versus buy dichotomy. They highlight several factors to motivate the use of mixed delivery in public organizations: scale, capacity, transaction cost and the creation of competition in municipal service markets. Their results – which are also based on the International City/County Management survey data from 1992, 1997 and 2002 – show strong empirical support of the existence of make and buy. Furthermore, they show that it is a growing phenomenon.

Together these two studies offer insight that makes it important to investigate make and buy. However, the studies neither use data directly focused on investigating the make and buy question, nor do they draw on the growing literature on make and buy in the private management context.

Therefore, public management literature needs to investigate specific theoretical arguments for this empirical phenomenon. In this paper we propose and investigate different theoretical arguments – primarily taken from private sector literature and especially Parmigiani’s study of concurrent sourcing (make and buy) in private companies (2007). This paper tries to fill parts of the gap between public management literature and traditional management literature, which is claimed to emerge because the two literature streams often fail to integrate (Kelman, 2005). The paper investigates whether these theories can be applied on public organizations. Transaction cost economics, neoclassical economics and the resource-based view of strategy were chosen because they are the most important theories for explaining the choice of governance structure in private companies, i.e., the choice between make, buy, and make and buy. It is interesting to see whether these theories, which are typically perceived as economic theories of the private firm, can be used to explain make and buy in public organizations. We also apply institutional theory, because public organizations are under more institutional pressure than private companies (Frumkin & Galaskiewicz, 2004). However institutional theory is new when it comes to explaining make and buy. In the following, different hypotheses for the four theories are presented. Six of the eight hypotheses are close to the hypotheses presented by Parmigiani (2007), but in this paper we have placed them in the public literature. We also investigate whether the findings support Parmigiani’s findings, which show some empirical support especially to the resource-based view explanation and part of the neoclassical theory and transaction cost economics explanations of simultaneous make and buy.

Like the former studies of make and buy (Miranda and Lerner, 1995; Warner and Hefetz 2008), our study does not focus on the process of make and buy but only the choice and the degree of make and

buy. For instance it could be interesting to investigate whether make and buy is a result of two different processes - either a deliberate decision to make or/and buy, or a competitive tendering process where internal bids can get the job. Our study only focuses on whether the services are produced internally, by suppliers, or simultaneously by internal and external production.

Our goal is to use a variety of theories to shed light on make and buy. The research design is based on the idea of investigating whether different theories can explain make and buy. Even though it can be problematic to use rather different theories in the same study, there are important insights to be gained by this (like e.g., Fligstein, 1985) because together they offer a more comprehensive explanation for the same phenomenon. There is a need for these kinds of studies (Aldrich, 1999). Furthermore, the underlying logic shows some similarities between especially transaction cost economics, neoclassic economics and resource based view of strategy, which may indicate that they to some degree can be seen as complementary. However, the goal is to look at each theory and assess whether it can explain make and buy. In the following the four theories and their related hypotheses are presented.

Transaction Cost Economics (TCE)

Based on what is most efficient, Transaction Cost Economics (TCE) sets out to determine in which situations organizations should make or buy (Williamson, 1985). The theory argues that whether a service should be produced in the hierarchy, i.e., inside the organization or whether it should be bought in the market from suppliers, depends on the characteristics of the service. From a TCE perspective, especially the degree of asset specificity is fundamental for the make or buy choice. The hierarchy is preferable if the task demands large investments in specific assets because it can better protect itself against opportunism and it economizes with bounded rationality. There are a lot of studies investigating

TCE (for a review see David & Han, 2004). Especially the importance of asset specificity has strong empirical support (David & Han, 2004). There are also a number of studies of public organizations drawing on TCE (e.g., Brown & Potoski, 2003a, 2004). The major variables they focus on are transaction specificity and measurement uncertainty (more broadly: performance ambiguity).

The argument in this paper is that make and buy exists along a continuum at the middle of which it makes sense to simultaneously make and buy. This means that with moderate levels of asset specificity it is reasonable to both use the hierarchy and the market. Traditionally, the middle of the continuum has exclusively been argued to be different forms of hybrids (e.g., partnerships), but a recent trend in private management literature argues for simultaneous make and buy (Dutta et al., 1995; Parmigiani, 2007). It is probable that this argument makes an even stronger case in public organizations where other hybrid forms are difficult to construct due to the differences between public and non-profit or private organizations in terms of ownership and overall goal. Our first hypothesis is therefore:

H1a: Moderate asset-specific tasks will more likely be produced simultaneously by make and buy.

The second hypothesis relates to measurement uncertainty. The traditional argument is that greater uncertainty about task performance leads the organization to keep production within the hierarchy to protect itself against opportunism from the suppliers. One major concern in this relation is that the performance of the tasks is difficult for the organization to measure (Williamson, 1985). However, with a moderate level of task uncertainty, the combination of make and buy provides the organization with more information and possible benchmarks. This information and the benchmarks reduce the likelihood

of opportunism despite a moderate level of measurement uncertainty, and therefore the organization both makes and buys (Parmigiani, 2007).

H1b: Tasks with moderate levels of performance uncertainty will more likely be produced by simultaneous make and buy.

Neoclassical Economics / Rational Choice

Neoclassical Economics focuses on the best use of scale and scope economics. Whether an organization should produce internally or use external suppliers depends on how well the organization can exploit its scale and scope economics (Porter, 1980). In relation to the make or buy question in public organizations, these arguments of neoclassical economics are well-known (Prager, 1994; Domberger & Jensen, 1997). It also has its equivalent theory in relation to public organizations – namely rational choice or public choice. Regarding empirical results the theory has at best mixed results in relation to explain make or buy (Boyne, 1988).

Regarding the simultaneous make and buy the first argument is that organizations try to operate at an efficient scale, but at the same time do not want to over-invest in capacity. Therefore, they choose to simultaneously make and buy when there is uncertainty about the product volume. The organization wants scale economics, but it also wants the flexibility of using suppliers. The latter prevents the organizations from investments in the expensive excess capacity which is otherwise appealing in situations with volume uncertainty (Parmigiani, 2007).

H2a: The greater volume uncertainty of the task, the more likely the task will be produced by simultaneous make and buy. Because the firm can use both its own scale economics and the flexibility of using suppliers.

The second argument for make and buy from a neoclassical perspective focuses on economies of scope. Traditionally, economies of scope aim at reducing the cost of producing two different services when the services share the same input and the simultaneous production of the two different goods leads to better utilization of the shared input (Panzar & Willig, 1981). The argument is that the company should use internal production when scope economics are present. But the argument in this paper is that simultaneous make and buy is more likely when both the organization and its potential suppliers have scope economies (Parmigiani, 2007).

H2b: The greater the scope economies to produce the task for both the firm and the suppliers, the more likely the task will be produced by simultaneous make and buy.

The Resource-Based View of Strategy

The Resource-Based View of strategy (RBV) is one of the most widely used theories in strategic management literature, but it is new in the context of public organizations (Bryson, Ackermann, & Colin, 2007; Carmeli & Tishler, 2004). It is not a classical theory that explains the make or buy question. The fundamental goal of strategy in RBV is to exploit and develop the organization's heterogeneous resources to gain a competitive advantage (Barney, 1991). But RBV has been used in relation to contracting out (Barney, 1999) where the argument is that organizations should focus on the organization's own strong resources and buy other resources from suppliers. Regarding contracting out

in public organizations, it is a new theory (Brown & Potoski, 2004, Hansen et al., 2008). When it comes to the simultaneous make and buy, the argument is that the organization both learns through exploiting and developing the resources from which it has strong expertise but also from the resources where suppliers have strong expertise (Parmigiani, 2007).

H3a: The greater the expertise of both firm and suppliers, the more likely the task will be produced by simultaneous make and buy.

Furthermore, in situations with great technological uncertainty – for instance in public organizations with technically complex services (Brown, Potoski, & Van Slyke, 2007) – there could be a need for both producing and buying. In this case, the organizations both deal with the technological uncertainty by producing, but also obtain knowledge through their suppliers. In this context, the question of contracting capacity arises (Brown & Potoski, 2003b). An argument for simultaneous make and buy is that it would be dangerous not to have the important expertise in the organization. However, the greater the technological uncertainty, the more the organization needs both sources of expertise by both making and buying (Parmigiani, 2007).

H3b: The greater the technological uncertainty of the task, the more likely the task will be produced by simultaneous make and buy.

Institutional Theory:

Public organizations have been argued to be under heavy institutional influence – from regulative, normative, and cultural-cognitive pressures (Scott, 2008) - and also to a higher degree than private

companies (Frumkin & Galaskiewicz, 2004). Likewise, important decisions about public service delivery are under heavy influence from various institutions in public organizations. This has already been investigated and documented in different empirical studies (Brown & Potoski, 2003a, and partly Ashworth, Boyne, & Delbridge, 2009). Institutions provide norms, rules, and expectations that guide and constrain organizational action. It is beyond the scope of this study to provide a thorough outline or test of the institutional effects on make and buy. It may even be impossible within the boundaries of the methodological framework of the paper (Suddaby & Greenwood, 2009). Therefore, we will focus on the effects that working under multiple, often contradictory, institutional pressures can have on contracting decisions. That this is relevant in the study of middle forms is documented by D'Aunno, Sutton, & Price (1991) who show that hospitals try to position themselves in the middle between opposing institutional pressures. Furthermore, we will focus on rather tangible, institutional pressures mainly subsumed in the regulative and normative pillars in Scott's well known framework (2008). These choices make sense as public organizations are working under multiple pressures especially due to the entry of New Public Management in the public sector (Meyer & Hammerschmid, 2006). We argue that different groups of stakeholders will often have opposing views on whether to make or buy the activities. For instance, the rationalities of the administrative system may be in conflict with that of the politicians. The administrative management may focus on getting things done, or on creating budgetary slack (Wilson, 1989) whereas politicians may have ideological, tactical reasons that are countervailing. In this process decision makers on a lower level may find themselves caught in the middle between powerful opposing forces. Hence, we focus on the pressures from two different groups: the government and the local top management which include both the top management and the local political majority. We argue that conflicting institutional pressures make decision makers more likely to handle these conflicting pressures by both making and buying.

H4a: The more conflicting institutional pressure from different institutions (*here government pressure versus local government & top management pressure*), the more likely is it that the task will be produced by simultaneous make and buy.

Furthermore, pressures from key organizational groups may also collide with the “economic rationality” of a decision. That is, a solution that appears to be financially preferable may be different from the politics of key political and organizational members (Brown, Potoski, & Van Slyke, 2007). This may be especially important due to the introduction of New Public Management, which highlights this economic rationality (Hood, 1991). Therefore, decision makers may face conflicting demands from an economic rationality and the wider goals of the organization. The solution may be to satisfice (March & Olson, 1989) and seek a middle ground (D’Aunno, Sutton, & Price, 1991). Again we argue that public organizations that deal with opposing pressures for both making and buying will be more likely to choose a middle form.

H4b: When the institutional pressure (*here local top management pressure*) and economic rationality (*here scale economics*) conflict, it is more likely that the task will be produced by simultaneous make and buy.

Method and data

The survey we utilize for testing these hypotheses primarily uses constructs from Parmigiani (2007). She tests whether transaction cost economics, the resource-based view of strategy, and neoclassical theory can explain simultaneous make and buy (concurrent sourcing) of the same products in private

companies. This survey is therefore partly a replication using well-tested constructs – most of Parmigiani’s constructs are also constructs from earlier studies – but in our study they are replicated in a different context, namely Danish municipalities. Moreover, we have supplemented the survey with our own constructs for the introduction of the institutional theory.

Respondents

Danish municipalities are a major part of the Danish public sector (Greve, 2006). They have a high degree of local autonomy. They are responsible for many services: primary schools, child care and elder care are examples. Traditionally, the municipalities have produced most services themselves, but it has now for several years been considered whether municipalities should produce internally or use external suppliers. In some areas, external suppliers have been used extensively. There are a number of articles and books investigating contracting out in Denmark (e.g.; Pallesen 2004; Greve & Ejersbo, 2005). By studying the prior literature on the topic, reports on Danish municipalities, and qualitative interviews with municipality leaders and municipalities experts, we found four activities where the decision to produce or to contract out is not primarily a political decision. These four activities are sourced in different ways by different municipalities. Some of them are investigated in former contracting out articles (see e.g.; Bloom-Hansen, 2003; Christoffersen, Paldam, & Würtz, 2007). The four activities are: road maintenance, cleaning of schools, IT maintenance, and activation of the unemployed (Danish municipalities are responsible for providing services to unemployed persons seeking work or education/training). In relation to three of the areas we focused on a specific and narrow service area to ensure that we did not include multiple and different service areas. After a pre-test with potential respondents, the questionnaire was sent to the four areas in all 98 municipalities. We collected data based on a single key informant methodology. This means that the informants must be

well informed, willing and able to answer the researchers' questions (Campbell, 1955). These prerequisites were secured by interviews with a few possible key informants when developing the questionnaire. Though, there can be problems when applying a single key informant method (Bowman & Ambrosini, 1997) it is widely used and also used in Parmigiani (2007). Furthermore, based on the interviews and literature on Danish municipal organization, we chose to send the questionnaire to the manager of each activity, which meant that the key informants had a strong knowledge about the specific area. The respondents had been working in the municipal sector for an average of 16.6 years (s.d. = 11.4), and they had an average of 4.9 years of experience in their present position (s.d. = 7.0). The respondents were identified by use of the municipalities' websites or by phoning the municipalities. The four page questionnaire was sent by mail with a cover letter and a return envelope. Approximately three weeks later a reminder, including a questionnaire and a return envelope, was sent to respondents who had not yet answered the questionnaire. The response rate was 43 % total – ranging from 37 % in maintenance of IT application to 53 % in road maintenance. The degree of internal and external supply of the activities varied significantly, as Table 1 shows.

Table 1. Services areas, related response rate and distribution

Area:	Question- naire received	Response rate	Municipalities	Municipalities	Municipalities
			with 0-10 % internal production	with 11-89% internal production	with 90-100% internal production
Cleaning of schools	41	42%	7%	39%	54%
Road maintenance	52	53%	19%	62%	19%
Maintenance of IT applications	36	37%	47%	42%	11%
Job activation *	41	41%	5%	51%	44%
Total	170	43%	19%	49%	31%

* The largest municipality (Copenhagen) had divided its job activation activities into three independent job centers and therefore received three questionnaires making the total population of the study 394.

We tested for non-response by comparing answers from before and after the reminder was sent (following Armstrong & Overton, 1977). Using a one percent level of significance and Kendall's tau-b correlation analysis, we found that only one of the 59 items/questions was significantly correlated with whether the questionnaire was answered before or after the reminder. The item was "When there is a

problem with [activity], we can easily find the cause”. Furthermore, we found no significance (using 1 percent level) on any of the questions in the questionnaire or on the number of people living in the municipality using a chi2-test. Finally, we used t tests to test whether those who answered varied from non-responders. We found no significant differences (using 5 percent level) in number of inhabitants, degree of urbanization, net expenditure per capita, or overall rate of contracting out per capita for any of the four areas apart from the IT maintenance where responders come from slightly larger municipalities with slightly less overall use of contracting out. Based on these results we argue that non-response bias is not a major problem in this study.

Variables

The dependent variable in focus in this study is the municipalities sourcing choice (contracting decision) in four important service areas. We measure this as the distinction between the following three categories: *Make*, *Buy* and *Make and Buy*. The variable was measured by asking the key informants to report the percentage of the service production produced internally by the municipality. The categories then are results of this percentage. We use the distinction that *Make* means that 90 % or more are produced internally, *Buy* means that 10 % or less are produced internally and *Make and buy* means that 11 to 89 % are produced internally. The percentages are chosen for the following reasons: First, the argument could be that between 1 % and 99 % would be make and buy, but empirically it could be problematic that the responders remember the one and only time they did not use their normal sourcing and then say they have some external/internal production (Parmigiani, 2007). Second, it is also common in the literature to use 10 % and 90 % as the distinction (Parmigiani 2007). Third, the comparison to Parmigiani’s study makes it important to use the same percentage (for the service areas’ distribution on the three categories see Table 1). The following analyses therefore use this

categorization, but for validity reasons other categorizations were also tested without significant changes in the overall results of the study.

The most important contribution of this study is to investigate whether make and buy in public organizations can be explained by different theories. The independent variables are composed of different items by use of factor analysis. An example of a variable could be *Asset specificity*, which consists of a factor based on the following three items: “There are several suppliers with the required skills”, “There are a large number of private companies in the market”, and “It would be quick and easy to switch supplier”. For a complete list of the variables, related items, factor loadings, and Cronbach’s alpha see Appendix 1.

The measures were primarily borrowed from Parmigiani (2007) together with our measures for institutional theory. All measures were pre-tested in consultations with employees working in the municipalities and with research colleagues. Therefore construct validity is supported by face validity. The first Cronbach’s alphas resulted in the deletion of a few items, and the first factor analysis showed that the initial measure of supplier expertise had two dimensions. This variable was consequently reduced to the most meaningful, and we deleted the other items which focused more on satisfaction with the supplier. For the final measures the Cronbach’s alphas were over 0.60 for all variables, except for supplier expertise (Cronbach’s alpha = 0.39) and for performance uncertainty (Cronbach’s alpha = 0.59). However, a Cronbach’s alpha of 0.39 is critically low which means that this variable should be interpreted carefully and with reservation. Apart from this exception the general picture is that the variables have an acceptable reliability (Nunnally, 1967). The factor analysis (principal component analysis) of each of the final variables, for which multiple items were used, indicated that the variables

were unidimensional, and the extracted principal component from each of these analyses was used as the aggregate score for each variable in the subsequent analysis. The two highest Kendall's tau-b correlations between the independent variables were 0.47 and 0.44 (see Appendix 2). The rest of the correlations were all below 0.40. The two highest correlations were found between the variable municipality scope and the variables municipality scale and municipality expertise. However, generally the correlations indicate that the independent variables have an acceptable discriminant validity. The correlations between all the created variables in the study and all the individual items were also investigated. They showed that all the items had higher correlations with the variable they were measuring than with any other variables in the study, which is also an indication of acceptable discriminant validity.

Results

Using the make and buy categories, Table 2 shows that 53 of the 170 respondents make the activity themselves, 33 buy the activity and 84 use simultaneous make and buy for the activity. Furthermore, the respondents were asked whether they expected future changes to their present degree of internal production. Table 2 shows the expected future change within the three categories.

Table 2. Make and buy: total number and expected future change

	Totale number	More internal production in the future	The same sourcing in the future	Less internal production in the future
Make: 90-100% internal production	53	2	29	17
Make and buy: 11-89% internal production	84	9	44	27
Buy: 0-10 % internal production	33	2	26	4
Totale:	170	13	99	48

* The numbers do not sum up to the total number due to missing observations on their expected future change.

Although there seems to be a trend for more buying from external suppliers, Table 2 shows the important finding that 44 out of 84 who make and buy expect to utilize the same sourcing in the future. An analysis of these three categories indicates that *Make and buy* is a steady choice. If we in Table 2 compare the *Make and buy* alternative with *Make* and *Buy* combined using a chi-test at a 5 percent significant level, we find no significant difference between the expected future change in internal

production. This is so regardless of the fact that those who either *Make* or *Buy* 100 percent can only expect change in one direction. Due to few numbers in some cells this result should be taken with some reservation. We also constructed a 2x2 table with *Make and Buy* and *Make* and *Buy* combined on one dimension and whether they expect the same sourcing in the future or not on the other dimension. Here, we still can find no significant difference at a 5 percent level. Thus, our finding indicates that the *Make and buy* alternative is a steady choice and not just a transition certain organizations use to go from *Make* to *Buy* or the other way.

In Table 3 we have used the make and buy categories to investigate whether each of the variables from the factor analyses differ in mean values across of the three categories. For each of the three make and buy categories we found the mean value for each variable and tested whether these are significantly different from each other. The purpose of this is to investigate whether the theoretical variables can be used to explain the use of make and buy. We have used the multiple comparative Tukey test to determine whether they are different two by two. The reported Tukey results show the differences between the means. The related confidence intervals and stars indicate whether there is a difference between the two mean values at a 5 percent significance level. In relation to the test of make and buy, the multiple comparisons of mean values are interesting. The differences between mean values for the categories are tested pair wise. Together with the direction (higher/lower) of the difference in mean values, these partial results indicate whether there are significant differences between the means values for the variables in relation to Make, Make and Buy (M&B) and Buy. The direct test of the 8 hypotheses is carried out in the later Table 4 with the multinomial models where interaction variables and control variables are included.

Table 3: Mean Values and Tukey test for Multiple Comparisons of Means

	Mean values			Tukey test	
	Make	M&B	Buy	Make; M&B	Make; Buy
Asset specificity	-0,03	-0,15	0,46	0,11(-0,29;0,52)	-0,61 (-0,12;-1,10)*
Performance uncertainty	-0,20	0,07	0,15	-0,27(-0,69;0,13)	-0,07 (-0,56;0,42)
Volume uncertainty	-0,27	0,18	-0,03	-0,44(-0,86;-0,04) *	0,20 (-0,28;0,69)
Municipality scope	0,43	-0,07	-0,53	0,50 (0,10;0,90)*	0,46 (-0,02;0,93)
Supplier scope	-3,83	-3,17	-2,48	-0,66 (-1,27;-0,04)*	-0,68 (-1,42;0,05)
Municipality expertise	0,56	-0,06	-1,13	0,50 (0,15;0,84)*	1,19 (0,77;1,60)*
Supplier expertise	-0,31	0,11	0,21	-0,42 (-0,84;-0,01)*	-0,10 (-0,58;0,39)
Technological uncertainty	0,07	0,03	-0,19	0,04 (-0,37;0,46)	0,22 (-0,27;0,72)
Government pressure for external suppliers	-0,16	0,19	-0,25	-0,36 (-0,77;0,06)	0,44 (-0,06;0,94)
Local government & top management pressure for external suppliers	-0,58	0,26	0,28		
Municipality scale	-3,66	-4,36	-5,63	0,70 (-0,05;1,45)	1,27 (0,38;2,15)*

* p < 0.05.

The results from Table 3 show that all the significant Tukey tests - apart from asset specificity - are directed as we expect. Contrary to our expectations in hypothesis 1a, the comparison of means for *asset specificity* shows that the mean value of M&B is significantly lower than the mean value of Buy. There are no significant results for the other transaction cost economics variable *performance uncertainty*. The neoclassical economics variable *volume uncertainty* shows a significantly lower mean value for Make than for M&B. The variable *municipality scope* presents a mean for Make which is significantly higher than that of both M&B and Buy. For *supplier scope* the mean value of Make is significantly lower than the mean value of both M&B and Buy. The resource-based view variable *municipality expertise* shows a mean value significantly higher for Make than that of both M&B and Buy, but also a higher mean value for M&B than for Buy. For *supplier expertise* the mean value of Make is significantly lower than that of M&B. The resource-based variable *technological uncertainty* produces no significant results. Finally, the institutional theory variables shows no significant result for *government pressure for external suppliers*, but for *local government & top management pressure for external suppliers* the mean value of Make is both significantly lower than the mean values of M&B and Buy. Finally, mean values of the *municipality scale* variable which we test the institutional theory against is significantly higher for both Make and M&B than it is for Buy.

These partial results indicate that the data behaves as expected in several of the hypotheses. Due to significant results in their related variables, this is especially the case with the hypotheses about internal and external scope (2b), internal and external expertise (3a) and conflict between institutional (management) pressure and economic (scale) rationality (4b). However, these are only partial results and in order to test these hypotheses, we need to look at the multinomial models with the specific interaction terms. These interaction variables are constructed by going back to the original data and by

not using the extracted principal component. Instead the interaction terms are constructed by using the specific items in each related factor. The items are then multiplied with their factor loadings which are then summed. The result is divided with the sum of the factor loadings. Finally, the two variables entering the interaction term are multiplied. By following this procedure, we get the two variables *municipality scope*supplier scope* and *municipality expertise*supplier expertise* which are used to test hypotheses 2b and 3a. For the two institutional conflict hypotheses, we construct the following two variables: *Conflicting pressure for external suppliers: government versus local government & top management* and *conflict between local government & top management pressure versus economics from scale logic (reversed)*. With these we test hypothesis 4a and 4b and expect a make and buy sourcing when there is a conflict. In the construction of the variables, we reversed the *municipality scale* variable so that high numbers indicate low scale economics and thereby a pressure for suppliers. We expect high levels of conflict when the mean values of both variables are high as well as when the mean values of both variables are low. Therefore, we expect a curvilinear relation for these two variables. The variables are constructed in the same way as the interaction variable. However, before multiplying the variables, we subtracted the mean values for both variables. We also change the direction because low and negative values indicate larger differences in pressure.

In the following we set up different multinomial (logit) models for the test of the 4 different theories shown in Table 4. For each theory – apart from transaction cost economics – there is a base model and a model with interaction terms. All models are made with 3 dummies to test the impact of the different service areas. The results for the dummy variables are not reported for reasons of simplicity. However, a large amount of the pseudo R2 can be explained by these dummy variables in the different models ranging from 0.03 to 0.11. The pseudo R2 for models without dummy variables are in parentheses. In

the following we describe our results and compare them to results from Parmigiani's (2007) comparable multinomial model. It should be noted, that her full models simultaneously include all three theories.

As shown in Table 4 the multinomial models do not show the same kind of support for the hypotheses as the Tukey tests indicates. For transaction cost economics we see mixed results and largely insignificant results. For both variables – asset specificity and performance uncertainty – it is hypothesized that a moderate level is associated with simultaneous make and buy which is the case in the model if the variables are associated with both more Make than M&B and more M&B than Buy. Model 1 shows that more asset specificity results in more Make than M&B as expected. However, more asset specificity is associated with less M&B than Buy which runs counter to the expected. Therefore hypothesis 1a cannot be supported. For performance uncertainty there are no significant results as predicted in hypothesis 1b. Overall there is no support for the transaction cost economics hypotheses to explain when a municipality chooses make and buy. Parmigiani's survey (2007) shows some support for both performance uncertainty and primarily asset specificity. In Model 2, where neoclassical economics explanations are tested, volume uncertainty does not explain the simultaneously make and buy as expected in hypothesis 2a where we again expect more M&B than both Make and Buy, respectively. Moreover, model 2 shows that municipality scope is more significantly associated with Make than M&B, and that municipality scope is more significantly associated with M&B than Buy and more associated with Make than Buy. This is interesting in relation to make or buy because it

Table 4: Multinomial (logit) models

	Make vs. M&B	M&B vs. Buy	Make vs. Buy	Make vs. M&B	M&B vs. Buy	Make vs. Buy
TCE						
<i>Asset specificity</i>	0,364*	-0,481*	-0,117			
<i>Performance uncertainty</i>	-0,323	0,2454	-0,078			
Pseudo R2		0,126 (0,035)				
Neoclassical economics						
<i>Volume uncertainty</i>	-0,173	0,399	0,226	-0,169	0,386	0,217
<i>Municipality scope</i>	0,436**	0,516*	0,953***	0,809	-0,368	-0,360
<i>Supplier scope</i>	-0,073	-0,210	-0,283	-0,335	-0,547	-0,882*
<i>Municipality scope * supplier scope</i>				0,060	0,102	0,162
Pseudo R2		0,161 (0,073)			0,167 (0,081)	
Resource-Based View of Strategy						
<i>Technological uncertainty</i>	0,075	0,445	0,524	0,081	0,399	0,481
<i>Municipality expertise</i>	0,759***	1,283***	2,043***	0,108	-0,292	-0,185
<i>Supplier expertise</i>	-0,273	0,139	0,683	-0,870	-0,794	-1,664
<i>Municipality expertise * Supplier expertise</i>				0,100	0,224	0,323
Pseudo R2		0,225 (0,199)			0,229 (0,204)	
Institutional theory						
<i>Local government & top management pressure for external suppliers</i>	-0,994***	-0,355	-1,349***	-1,03***	-0,771**	-1,81***
<i>Government pressure for external suppliers</i>	-0,345	0,294	-0,052	-0,249	0,418	0,169
<i>Municipality scale</i>	0,138	0,434***	0,573***	0,126	0,515***	0,642***
<i>Conflicting pressure for external suppliers: government versus local government & top management</i>				-0,101	0,099	-0,101
<i>Conflict between local government & top management pressure for external suppliers versus economics of scale logic (reversed)</i>				-0,155	-0,211*	-0,155
Pseudo R2		0,242 (0,137)			0,265 (0,154)	

* p < 0.1; ** p < 0.05; *** p < 0.01; N varies between models for the different theories between 161 and 168. All models for the different theories are all significant in chi2 test at 0.01. All models include dummy variables for 3 of the service areas (IT maintenance, Road maintenance and Cleaning of schools), which in a single separate multinomial model account for pseudo R2 of 0,111. However, due to simplicity the results for the service area are omitted.

shows that municipality scope is related to more internal production. However, the interesting question is whether municipality scope and supplier scope combined explain the simultaneous make and buy as in hypothesis 2b so that more combined scope is associated with less Make than M&B and more M&B than Buy. The results regarding the scope interaction term in model 3 do not support such a hypothesis. Also Parmigiani (2007) does not find much support for these neoclassical hypotheses in her multinomial results either. In relation to RBV, model 4 shows that municipality expertise is significantly more related to Make than M&B, more related to M&B than Buy and, finally, more related to Make than Buy. This again is interesting in relation to make or buy because it illustrates that municipality expertise are strongly associated with internal production. However, in model 5 the interaction term between municipality expertise and supplier expertise are not significantly related to M&B as predicted in our hypothesis 3a where we argue that combined expertise results in more M&B. Also technological uncertainty is not significantly related to the use of M&B, and thus the results do not support hypothesis 3b. This is different from Parmigiani's (2007) results which show some support for the combined expertise hypothesis. Finally, in model 6 and 7 we see that local government & top management pressure for external suppliers are more negatively associated with Make than M&B and more negatively associated with Make than Buy. Model 7 also shows us that they are more negatively associated with M&B than Buy. This indicates that institutional pressure for external suppliers is related to more use of external production. To construct the conflict hypothesis between institutional pressure and economic logic, we also include municipality scale in our models which is significantly more related to M&B than Buy and more related to Make than Buy. However, in relation to make and buy the interesting variables are the conflict variables which measure the differences in different institutional pressures for sourcing and differences between institutional pressure and economic (scale) logic for sourcing. However, there is no support in model 7 that these conflict variables are more

related to the simultaneous make and buy as expected in hypothesis 4a and 4b due to the fact that we do not find more M&B when there is more conflict. One result, which is marginally significant, ($p < 0.1$) shows that the conflict between local government & top management pressure versus scale economics is actually more negatively related to M&B than Buy. That a low degree of conflict between institutional pressure and economic rationality is related to more M&B is counter to hypothesis 4b that predicts the opposite.

Our survey does not show the support for the explanations of make and buy in public organization that Parmigiani's (2007) study does in private companies. Moreover, we do not find support for our institutional hypothesis for make and buy. This lack of support for the hypotheses could be due to the size of the data set. Still, 161-168 respondents should make it possible to test the hypotheses when we test one theory at the time, and when we also control for service area differences. However, there are some problems with the number of respondents. For instance, the group of buys (at least 90 percent of the service) is comprised of only 33 respondents. In the following section we discuss what these findings mean for make and buy in public organizations.

Discussion

Though the analysis provides little support for the proposed hypotheses, it does suggest an interesting perspective. Primarily, it confirms the need for a better understanding of the make and buy issue because it indicates that it is not only a passing phenomenon but a steady choice. The analysis also shows that theories intended for private companies may not provide satisfying explanations for the choice of make and buy in public organization. This is interesting when comparing these results with

Parmigiani's (2007) results which support aspects of the transaction cost economics and the resource based view (capability view) in her multinomial model. In other analyses she also finds some support for the neoclassical explanation. It is reasonable to suggest that the difference in our findings is a result of differences between public and private organizations. It is plausible that the fundamentally different assumptions which are applicable in the two spheres mean that theories intended for private companies are difficult to apply directly to public organizations' choice of concurrent sourcing. For instance, it is a fundamental assumption in transaction cost economics that inefficient governance structures, e.g., organizations, do not survive (Rindfleisch & Heide, 1997). This is not the case for Danish municipalities. Likewise, for neoclassical economics the primary goal is cost efficiency which is not the primary goal for public organizations.

It is not suggested here that public organizations should ignore the insights of private management literature. It is important to test whether these private company theories make sense in public organizations. Otherwise it is like "*ships passing by*" as Pfeffer (2006) metaphorically calls the lack of correspondence between organizational theory and public management literature. Public organization scholars could learn from private company theories but still understand their limits. This study for instance shows that especially municipality expertise has a strong explanation power of make or buy. Therefore, we think public organizations need to look more into the resource based view of strategy for a better understanding of contracting out. This could be due to the fact that the resource based view is more in line with public organization than other strategic management theories (Ferlie, 2003). But in relation to make and buy this study cannot find support for these explanations. This could be due to some of the many differences between public organizations and private companies (Rainey & Chun, 2005), e.g., difference in goals, or more influence from different stakeholders in public organization,

which are aspects that may influence the make or/and buy in public organizations. However, this study is not a closing chapter on make and buy in public organizations. The importance of finding alternative publicly oriented explanations for make and buy should be recognized. Possible explanations could be that too intensive contracting out influences democracy negatively (Moe, 1987), hollows out the state (Milward & Provan, 2000), and causes problems with dependence on suppliers (Van Slyke, 2003) which make the make and buy alternative interesting. This highlights the need for going beyond the mere application of general management research in public organizations. Instead public management research needs to keep in mind the specific characteristics of public organizations, e.g., that they often are constrained by mandate, multiple stakeholders, and complex goals (Rainey, 2003). As Ferlie argues public management research is a place between public administration and general management (Ferlie, 2003)

However, there is also a major limitation by this study namely the large differences between the four service areas which could be a reason for the lack of explanation. Where Parmigiani's investigated make and buy in a rather narrow setting, we tried to apply a more broad approach. Unfortunately, it is not possible to make thorough analyses of the differences between the services areas. Because there are only between 36 and 52 respondents within each service area which then again are divided between different categories. However, this makes a call for future research to understand the difference between different type of service areas in order to understand make and buy like studies have done in relation to make or buy (Brown and Potoski, 2003a). An interesting study could also be to find comparable service areas in public and private organizations and investigate their related sourcing. Moreover, as argued by Hansen (2007) there are also major important differences between different types of public organizations which also could have influenced the results. For instance some public

organizations are actually meant to look like private companies. They have high autonomy, performance-based budgets and are in very competitive situations (Hansen, 2007). Therefore, we have to keep in mind that the public organizations investigated here are municipalities which for instance are not in very competitive situations like other public organizations.

Conclusion

The empirical data shows that simultaneous make and buy is observable in all four service areas. Moreover, the results indicate that Make and buy seems to be a steady choice. They also indicate that there is no larger proportion of expected future change in degree of internal production for those who use simultaneous make and buy than those who use either make or buy. In addition, most organizations, both making and buying, do not expect to change the proportion of services sourced from external suppliers in the future.

Furthermore, the data seem to operate as theoretically expected when using multiple comparisons of mean values except for the transactions cost economics. Most of the results cannot be found when using more sophisticated models (multinomial logistic regression) for testing the hypotheses. But still, the results have some important findings, namely that especially the municipality expertise and the institutional pressure from local government & top management for external suppliers seem to be an important explanation of the choice to make or buy, which makes a call for further investigation of RBV and institutional theory in public organization's contracting out decisions. However, these results do not help explain the make and buy phenomenon.

The general lack of support for the hypotheses for make and buy in the more sophisticated models indicates that future research also needs to investigate other explanations for this empirical phenomenon of simultaneous make and buy, e.g., by using other more qualitative methods to understand simultaneous make and buy. Furthermore, it could be interesting to investigate other theories designed specifically for public organizations, which could be a future research strategy. Especially since our study does not find the same support as Parmigiani's former study in private companies. For instance, this could be investigating the consequences of being public organizations with responsibility for both the supply of activities and for equity and the creation of public value in the broader context. However, the results also highlight the importance of understanding the differences between different service areas in relation to understanding make and buy.

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Appendix 1: The independent variables, the related items and factor loadings

Variables (and their related items)	Factor loadings	Cronbach's alpha
Asset specificity		0.70
There are several suppliers with the required skills	0.73	
There are a large number of private companies in the market	0.88	
It would be quick and easy to switch supplier	0.75	
Volume uncertainty		0.70
Our forecasts for our needs for [activity] are very accurate	0.88	
Our requirements for [activity] are completely predictable	0.88	
Technical uncertainty		0.74
The processes and skills required to carry out [activity] are unlikely to change in the future	0.67	
New technology will change [activity] within the next few years	0.89	
(reversed)		
New procedures and routines will change [activity] within the next few years (reversed)	0.89	
Performance uncertainty		0.59
With drawings and written material we can easily describe the tasks involved in maintaining the municipality's [activity]	0.76	
With a simple evaluation of an [activity] supplier we can easily determine whether they can satisfy our demands	0.73	

When there is a problem with the [activity], we can easily find the cause 0.73

Municipality expertise 0.78

The municipality can easily do [activity] in-house (**reversed**) 0.81

[Activity] requires an expertise that our municipality understands (**reversed**) 0.83

The municipality has internally performed by far most of [activity] for years (**reversed**) 0.71

The skills and competences necessary to perform [activity] are closely related to those skills and competences that we use for similar tasks” (**reversed**). 0.77

Supplier expertise 0.39

The leading private suppliers of [activity] have knowledge that gives them an advantage over other companies (**reversed**) 0.79

We use our suppliers to help us stay updated with innovations (**reversed**) 0.79

Municipality economics of scale

If the municipality handles all [activity], we can reduce the total costs of IT maintenance (**reversed**) 1

Municipality economics of scope 0.84

By making our own [activity], we do/could reduce our overall production costs of other activities 0.93

We do/could better utilize our labour and equipment by making [activity] in addition to our other activities.	0.93
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Supplier economics of scope

By making [activity] for us, our suppliers can reduce their overall production costs since they can make better use of their labour and equipment	1
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Government pressure for external suppliers 0.85

The government expects that we use private suppliers for activities like [activity] (reversed)	0.93
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The association of municipalities expects that we use private suppliers for activities like [activity] (reversed)	0.93
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Local top management pressure for external suppliers 0.86

In the municipality the political majority expects that we use private suppliers for activities like IT maintenance” (reversed),	0.93
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In the municipality the top management team expects that we use private suppliers for activities like IT maintenance (reversed)	0.93
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Appendix 2: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11
1. Asset specificity											
2. Volume uncertainty	0.13*										
3. Technological uncertainty	-0.07	0.15**									
4. Performance uncertainty	0.19**	0.37**	0.11*								
5. Municipality expertise	-0.15**	-0.14**	0.07	-0.14**							
6. Supplier expertise	-0.06	-0.08	0.06	-0.02	-0.07						
7. Municipality scale	-0.02	0.01	0.14*	-0.04	0.40**	-0.07					
8. Municipality scope	0.03	-0.16**	0.06	-0.06	0.44**	-0.05	0.47**				
9. Supplier scope	-0.04	-0.00	0.05	-0.02	-0.31**	0.28**	-0.34**	-0.33**			
10. Government pressure for external suppliers	-0.16**	-0.07	0.15**	-0.02	0.03	0.09	0.03	-0.03	0.05		
11. Local government & top mgmt. pressure for external suppliers	-0.18**	0.01	-0.03	-0.03	-0.14**	0.19**	-0.14*	-0.15**	0.28**	0.26**	

* p < 0.1; ** p < 0.05; *** p < 0.01

ESSAY FOUR:

**Comparing Public and Private Managers' Leadership Styles:
Understanding the Role of Job Context**

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Abstract

Comparing public and private managers is a major subject in the public management literature, but there have been only few empirical studies of the differences in their respective leadership styles. Traditionally, leadership style is explained by the characteristics of the manager, the employees and their job. This study explains leadership by the manager's job context: the degree of job autonomy, job complexity, and role clarity. We argue that differences in job context explain the use of different leadership styles in the public and private sector. To clearly specify the importance of sector, the study investigates both direct and moderating effects. Based on a survey of Danish public and private managers with 949 respondents, this article shows that these job context variables vary significantly between public and private sector managers. The article provides some explanation for why public managers use more people-oriented leadership, while private ones use more task-oriented leadership.

Keywords: *Leadership, Leadership style, Job context, Public-private comparison*

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INTRODUCTION

In the literature on public administration and public management a significant number of studies have compared public and private organizations and managers (for a review see Boyne 2002; Rainey and Chun 2005). Only a few of these studies focus on leadership differences (Bourantas and Papalexandris 1993; Hooijberg and Choi 2001; Podsakoff, MacKenzie, Ahearne, and Bommer 1995). As leadership abilities and skills continually gain importance for public managers operating in rapidly changing public sectors, it is increasingly relevant to study leadership in public organizations (Van Wart 2003; Fernandez 2005). Furthermore, leadership theory has generally had little focus in public management research (Hooijberg and Choi 2001; Kellerman and Webster 2001). The reason to address this issue has become even more relevant due New Public Management changes (Pollitt and Bouckhaert 2004) which are argued to introduce economic and managerial ideas from private companies into public organizations (Hood 1991). The prevailing conception is that NPM introduces more autonomous organizations, where a main goal is to let the manager manage (Kettl 1997). Therefore, some argue in this connection that the differences between public and private leadership are getting smaller (Kellerman 1999).

The literature on leadership in public organizations often focuses on leadership as an independent variable and how it influences various performance measures such as satisfaction (Hooijberg and Choi 2001; Trottier, Van Wart, and Wang 2008; Park and Rainey 2008; Kim 2002) and commitment (Zeffane 1994). Public organizations are increasingly taking new and dissimilar forms (Olsen 2006). Therefore, it is relevant to reassess the theoretical foundations of the impact of organizational characteristics on leadership behaviour (Hooijberg and Choi 2001).

Research has discussed how there are differences in the work context of public and private organizations (e.g., Perry and Rainey 1988; Rainey and Chun 2005). However, whether or not these differences are manifested in different leadership behaviour in the two sectors is less apparent. Especially pertinent is the question of whether differences among managers should be ascribed to organization specific characteristics, or to the environment and sector that an organization works within. The literature on this issue appears to be indecisive. On one hand, public management scholars have argued that disparities between public and private organizations do exist (Perry and Rainey 1988; Rainey and Chun 2005). On the other hand, leadership theorists have stressed how the organization specific context provides generic rationales for different styles of leadership (e.g., Hersey and Blanchard 1969). The question is whether being “public” is an important variable to consider in itself or leadership is contingent on organizational factors independent of the sector of the organization.

Contrary to previous studies which have mainly focused on how *employee* job context is associated with different leadership styles, we posit that the job context of the *manager* influences the use of specific leadership styles. In this, managerial job context is conceptualized by three job characteristics: job autonomy, job complexity, and role clarity. Differences in the job context of public and private managers, we argue, can then explain differences in the leadership styles used in the two sectors. An explicit focus on the job context of managers and its link to leadership styles has, to our knowledge, not been evoked in previous studies.

Management literature suggests little consensus on what leadership is, and how relevant leadership styles should be operationalized (Yukl 2005). In this study we use a broad conceptualization of leadership to identify two distinct leadership styles among Danish managers. We focus on leadership in a broad sense incorporating both management and leadership aspects (Zaleznik 1977). Our main focus is on two classic leadership styles (Judge, Piccolo, and Ilies 2004): People-oriented leadership, which focuses on supportive, participative and delegating elements, and task-oriented leadership, which incorporates aspects such as control, instruction, rules and result-oriented behaviour.

The aim of the paper is to examine whether differences in managerial job context can explain differences in leadership style between public and private managers. The paper addresses this issue by means of a large scale survey of private and public managers in Denmark. The survey had a total of 949 respondents. This encompassing sample involves different managerial levels in a wide variety of different types of organizations. Our analyses show that the perceived job context of public and private managers in Denmark differ considerably. Results strongly suggest that different job contexts are related to the use of more people-oriented leadership in public organizations, and more task-oriented leadership in private sector organizations.

The first section introduces the theory and our hypotheses regarding the relationship between leadership styles, job context and sector. The second focuses on the research setting and the data set. The third section explains how we constructed the main variables from our data, and relates these to previous literature on the topic. The next sections present the methods we used and the results of our analyses. The last section is a discussion with implications for future research.

MANAGER LEADERSHIP STYLES, JOB CONTEXT AND SECTOR

There are surprisingly few comparative studies of public and private organizations with a focus on the leadership styles of managers. This could be a result of the traditionally mainly generic focus on leadership (Kellerman and Webster 2001). The focus of most recent empirical studies of leadership in public management literature is on the distinction between transactional and transformational leadership (e.g., Trottier, Van Wart, and Wang 2008; Rainey and Watson 1996; Park and Rainey 2008). We focus on people- and task-oriented leadership which is conceptually more appropriate for the investigation of leadership at multiple management levels (Van Wart 2005).

There is a large body of literature on the differences between public and private organizations and managers though the empirical evidence appears to be mixed (Rainey and Bozeman 2000, Boyne 2002). However, it appears that public managers typically report to be more constrained on some matters, e.g., public managers seem to have less managerial autonomy, and work in organizations which are more bureaucratic and with more vague goals (Boyne 2002). All of these characteristics may profoundly influence the leadership styles that managers use, and constitute a foundation for basic differences between public and private managers. Therefore, it is relevant to look at the influence of manager job context on leadership style.

Understanding the background and consequences of different leadership styles has been a major subject in general management literature, specifically in the field of organizational behaviour. However, a common denominator of this literature is the scant attention paid to the job context of the manager. Interestingly, leadership has had many different roles in

organizational behaviour theory. It has been used both as a dependent and an independent variable (Yukl 2005). In the present paper leadership is treated as a dependent variable and something to be explained. Originally, leadership theory focused on traits of the leader such as intelligence, personality, physical characteristics, gender (for a review of these studies see Stogdill 1974). However, already in the late 1940s there were changes in attention towards behavioural studies of leadership style exemplified in the Ohio State and Michigan studies (Stogdill 1974). These were some of the first to focus on the leaders' behaviour rather than their personal traits. Both studies argued for distinctions between two different leadership styles (Northouse 2006): people-oriented behaviour (sometimes dubbed consideration and employee orientation) and task-oriented behaviour (sometimes dubbed initiating structure and production orientation). Furthermore, the Ohio State and Michigan studies argued that these were not two leadership styles on a continuum, but rather two different continua (Northouse 2006).

A different argument evolved in the 1960s where leadership researchers argued that a manager's leadership style depends on different organizational contingencies including relationships to employees, power, and task structure (Fiedler 1967), followers readiness (Hersey and Blanchard 1969), the employee's work setting and characteristics (House 1971). These theories argue that the people-oriented leadership style is preferable in some situations while task-oriented leadership is better suited in others. From the 1980s and onwards the leadership literature especially focuses on the distinction between transactional and transformational leadership (Burns 1978; Bass 1985) which often have been used in empirical studies in public management as well.

As indicated above, there is a tradition in leadership research for distinction between two dichotomised leadership styles to which the different approaches and adaptations of the manager can be linked. In this paper we focus on *people-oriented leadership* and *task-oriented leadership*. These two leadership styles relate conceptually to the early behavioural studies of leadership (Judge, Piccolo, and Ilies 2004), and thus constitute different elements of leadership. The two styles are basic constructs of leadership theory. They provide a well tested and parsimonious frame which, however, is not studied much in public management literature (an exception is Bourantas and Papalexandris (1993)). This is so despite the fact that they constitute a general frame which is still applicable in today's organizations (Judge, Piccolo, and Ilies 2004). Below we explain in more detail what we understand by these types of leadership, how they relate to public organizations, and how we construct our variables.

The studies mentioned above illustrate how the leadership styles of managers appear to depend on a number of factors. However, these studies mostly focus on explaining the leadership style by employee characteristics, employee task characteristics, or, in the early trait studies, the basic personal characteristics of the leader. We investigate leadership from an alternative and new angle arguing that leadership style may also depend on the manager's job context. In their leadership they are influenced and constrained by their employees and the context of the employees' work as demonstrated in previous research (e.g., House 1971; Fielder 1967; Hersey and Blanchard 1969). However, the managers' own job context is also likely to be influential. Managers have various degrees of discretion, autonomy and power which give rise to different barriers and incentives to employ different leadership styles. For example managers that are tightly bound by higher level managers or political oversights may be more likely to focus on the tasks and less

likely to take a people-oriented approach to leadership. On the other hand, managers with less clearly defined responsibilities and more autonomy may be more inclined to involve their employees actively in pursuit of better and more innovative task solutions.

Managerial Job Context. Job context and the related concepts of job characteristics, work context and work environment are key areas in organizational literature. Many studies have been carried out in these fields, for instance the classic work by Hackman and Oldham (1975). In previous studies, job context has for instance been related to job motivation and job satisfaction (Wright 2003; Wright and Davis 2003). However, most job context studies have focused on the job context of the employees and not the managers. We focus on three distinct elements of manager job context. These are *role clarity*, *job autonomy*, and *job complexity*, all vital parts of the managers' job context which will constitute the main independent variables of our analyses. As is the case in most other studies of job context, we investigate job context in terms of how a specific job is perceived by the individual (Hackman and Oldham 1975; Wright 2004). We identify these elements of the managers' job context in factor analyses as reported later.

Job complexity. The first variable is the managers' *job complexity* which deals with the question of how many different issues managers needs to deal with, and the dilemmas and the variety of interests they have to cope with on a daily basis. Various arguments can connect job complexity to the managers' leadership style. A job may be so complex that a directive and task-oriented style is not possible. Alternately, a low degree of job complexity makes the directive and task-oriented leadership more appropriate. In relation to people-oriented leadership, a high degree of manager job complexity makes it important for the manager to utilize the skills, competencies, and knowledge of employees. Job complexity is

a traditional variable in organizational behaviour literature. An example of its use is found in the job design model of Hackman and Oldham (1975). The variable is also used in other organizational behaviour studies (e.g. Man and Lam 2003) and in studies on public organizations (e.g. Robertson 1995). It is important to notice that this variable does not measure whether the organization has multiple, conflicting, and vague goals (Rainey 2003). The focus here is on the individual level, and the complexity experienced in relation to the management of ones job. There is no automatic linkage between organizational complexity and job complexity. A person in an organization with complex goals does not automatically occupy a job with high complexity. A job may be simple even though the organizational issues are highly complex.

Job autonomy. The second variable is *job autonomy* which concerns the extent to which the manager influences and prioritizes assignments and their content. If managers have a high degree of job autonomy, we expect them to have much freedom in choosing a leadership style of their own desire. Conversely, if managers have low job autonomy they have little possibility for influencing and prioritizing assignments. Focus is in such instances likely to be directed more closely on the tasks in their leadership.

Job autonomy, like job complexity, is a classic variable in organization studies especially known from Hackman and Oldham (1975). It has been used in empirical studies (e.g. Man and Lam 2003) also in relation to public organizations (e.g. Robertson 1995). It is important to distinguish job autonomy from organizational autonomy (Nutt and Backoff 1993) and decision autonomy (Rainey 2003). Job autonomy focuses on the autonomy of the manager to influence the prioritized job assignments and content.

Role clarity. The third variable is *role clarity* which describes how clearly the responsibility and power of the manager are defined and whether these are matched. We expect that low levels of role clarity are associated with a people-oriented leadership style. If a manager lacks clear responsibility and authority, it is difficult to focus on the task and to employ a leadership style based on control, instruction, rules and result-oriented behaviour. Therefore, the manager may feel a need to involve employees and delegate responsibility. In management literature, role clarity and role ambiguity are used interchangeably as opposite ends of a continuum (see e.g., Moynihan and Pandey 2007; Pandey and Wright 2006). Role clarity and role ambiguity is also a traditional variable in organizational behaviour (Rizzo, House, and Lirtzman 1970; House, Schuler, and Levanoni 1983). They are also used in relation to public organizations (Moynihan and Pandey 2007; Pandey and Wright 2006).

As described above, we expect managerial job context to exhibit differential effects on people- and task-oriented leadership.

Hypothesis 1. Managerial job context influences leadership style

The job context of managers is likely to vary systematically between the public and private sector. Characteristics of public organizations and agencies distinguish these from private organizations in a number of ways (Perry and Rainey 1988; Rainey and Chun 2005).

In relation to the differences between public and private managers' job complexity, it is traditionally argued that public managers have more job complexity. The environments and goals of public organizations are traditionally less stable, more complex and open to

environmental influences, often with a large number of vague goals (Boyne 2002) which often result in more job complexity for the managers.

Public organizations are argued to be constrained in relation to organizational autonomy (Nutt and Backoff 1993) and public managers to have less decision-making autonomy because of the institutional constraints and external political influence (Rainey 2003). A traditional argument is that employees and lower level managers in public organizations are given less autonomy by their superiors (Boyne 2002). In this paper we look at the job autonomy of managers which need not correlate with decision making autonomy as conceptualized in previous research. The concept of job autonomy deals with the extent to which the manager can influence and prioritize assignments and their content. Denmark is regarded as one of the countries where the public sector is decentralized the most (Greve 2006; Christensen, Christiansen and Ibsen 2008) with respect to task responsibility and decision making authority. Even though this is a rather novel variable the characteristics of which are hard to predict, it is likely that public managers in Denmark generally will have considerable job autonomy. It is important to note that this may be true even though their decision making autonomy may be constrained.

Traditionally, public organizations are said to be more bureaucratic (Boyne 2002) which indicates a clear division of responsibility and thereby more role clarity. On the other hand, Rainey (2003) argues that public managers have weak authority and power over their subordinates due to institutional constraints and political influences. Also, public leaders are more reluctant to delegate authority (Rainey 2003). However, role clarity focuses on clearly defined responsibility and authority. Therefore, managers in public organizations –

which are argued to be bureaucratic - are on average likely to have more role clarity than their private sector counterparts.

Based on the above, we advance the following hypothesis:

H2. Job context differs between managers in public and private organizations in Denmark.

Previous research has shown how managerial leadership styles are related to employee job context. Based on the argumentation above we can complement these findings with attention to managerial job context and sector effects. Nearly no studies compare leadership behaviour and styles in public and private organizations (Hooijberg & Choi 2001). The results are mixed regarding whether there are differences in leadership styles between sectors. Bourantas and Papalexandris (1993) in a Greek study find that public managers compared to private managers use less initiating structure but do not differ in relation to consideration. In the meta-study of Lowe, Kroeck, and Sivasubramaniam (1996) it is found that public managers apply more the transformational leadership style than private managers. However, Dulewicz and Higgs study (2005) of three different leadership styles (engaging, involving and goal oriented leadership styles) found no differences between public and private organizations. These mixed results regarding leadership styles between sectors may be due to a lack of attention to the specific job context. As stated, we expect managerial job context to influence the leadership style of managers, and the job context to vary between sectors. Combining the expectations from hypotheses 1 and 2 we suggest the following hypothesis:

H3. Leadership styles differ between sectors.

To fully untangle how managerial job context influence the connection between sector and leadership style, it is necessary to consider possible moderating effects. The question is whether job context affects public managers any different than it affects private managers. Because public managers work under a number of different constraints and with goal ambiguity, they may be more affected by increases in autonomy and complexity. The special context makes it more important always to be ready to adapt and able to change style.

H4a. Job context affects public and private managers differently.

On the other hand, because these job context factors are conceptualized as generic (Hooiberg and Choi 2001), though they are important, they may not differ in their influence across sectors, i.e., an increase in autonomy will be equally influential for the leadership styles of public and private managers.

H4b. Job context affects public and private managers similarly.

Finally, it seems reasonable to expect some residual direct effect contributed by other factors than managerial job context related to the distinctiveness of public sector context such as for instance public ethos or public service motivation, employee job context or political interests. In other words, we do not expect managerial job context to fully mediate sector differences in leadership style.

RESEARCH CONTEXT

In order to investigate our expectations, we used data from *The Danish Management Barometer* which is a large scale survey of Danish managers conducted as a joint effort between researchers and a professional organization of managers (Hildebrandt, Jensen, Laursen, Madsen, Ulhøi, and Waldstrøm 2005). The survey was carried out in 2005 as a nation wide survey with the overall aim of analyzing the managers' perceptions of their work conditions. The survey instrument was a questionnaire with a total of 380 questions grouped into different themes. This was mailed to all participants. Respondents were asked to provide a range of different background information. This data is especially interesting for the testing of our research questions as it provides information on job context and leadership style for a large number of both private and public sector managers. Compared with previous research (e.g. Hooijberg and Choi 2001), this comprehensive design corrects for possible organizational biases that can arise when investigating a larger number of managers within a smaller number of organizations. However, readers should be aware that the data was not collected specifically for the purpose of our study, and we use only part of the data material.

The questions in the survey were developed after a comprehensive literature review of top journals, mostly within the field of management (Brandl, Madsen, and Madsen 2009).

Before sending out the questionnaires, the survey was tested in interviews with 20 managers in various functions. The data we use in this study is from the 2005 Barometer which is the third survey of this kind carried out since 1999. Several items have been revised along the way to improve validity, but unfortunately inhibiting longitudinal analysis of the data.

The sample size of the survey was 1,500 managers. The sampling process was stratified as it took into account the distribution of the workforce in public and private organizations as a proxy for the distribution of managers between the sectors (Brandl, Madsen, and Madsen 2009)⁷. Respondents were identified using a variety of electronic databases and directories of organizations where the names of managers are listed.

Prior to sending out the questionnaire, respondents were telephoned to inform them of the purpose of the survey. After a single reminder was sent by post, the final response rate reached a level of 72 per cent. Because of incomplete answers, the effective response rate for our analyses is 62 per cent. In our final sample of 949 managers, 38 per cent of the respondents are managers in public organizations and 62 per cent of the respondents are managers in private organizations.

In Table 1, we present some descriptive statistics to better characterize the data in relation to gender, age, management level, and experiences differences between public and private managers in the data set. Table 1 shows how public and private managers in the data set differ in some basic ways according to this survey. Notice this statistic is not a description of Danish managers in general but a description of managers in the data set.

⁷ 19 respondents reported that they worked in an organization characterized as a public-private combination. The data on these respondents are insufficient and cannot be entered as a third category.

TABLE 1**Comparison of Public and Private Managers in the data set**

	Public sector	Private sector	Sig.
Female manager	43.8 %	16.2 %	^a P<0.05
Top manager	29.7 %	18.6 %	^a P<0.05
Average age	51.9	45.6	^b P<0.001
Leader experience	16.9	14.1	^b P<0.001
Organizational experience	14.9	12.5	^b P>0.001
Position experience	9.2	8.6	^b n/s

Coefficients for gender and management level reflect the proportion of females and top managers working in each sector. For age and experience the average of each sector is reported and tested for significant difference.

^aKendall tau; ^bT-test

The public sector employs a significantly larger proportion of female managers and there is almost equality between the sexes in the public sector in the data set. However, tests not reported here show that only 33 % of respondents reporting themselves as top managers in the public sector are females in the data set. The table shows that more respondents self-report as top managers in the public sector and that public managers on average are older in the data set. In the data set on average public managers have more leader experience and have also been employed in their organizations for a longer period of time.

CONSTRUCTION OF VARIABLES AND ANALYSIS

We used the sections in the questionnaire relating to leadership style and job context to identify variables for our analysis. We conducted exploratory factor analyses with rotations.

We used eigenvalues of 1 and factor loadings of .40 as initial cut-off points. For the perceived job characteristics variables we used an oblique rotation to allow for correlation between the variables (cf. Northhouse 2006). By calculating the variance inflation factors (VIF) for our regression analyses (see below), we ensured that this did not cause too high levels of multicollinearity. The dependent variables are calculated based on an orthogonal rotation. As some arguments in the literature point to the possibility of these being related, we also did oblique rotations of the leadership items. The results obtained by using these factors were similar on all substantial effects (not reported here, available from authors on request). However, we apply the orthogonal rotation to get the clearest distinction between the two leadership styles. This is also due to the fact that we do not apply both leadership variables together in any models which could have made potential correlation interesting.

All factors have acceptable reliability (Nunnally 1977; cf. Table 2). The Cronbach's alphas are all above .67, the item-to-scale correlation is above .50 for all items. We use the extracted factor scores as variables in the analyses.

Table 2 shows the results of our factor analyses for the variables. The retained factors appear in bold.

TABLE 2

Explorative factor analyses

Dependent variables: People-Oriented and Task-Oriented leadership styles

	Factor loadings		Eigenvalues	Cronbach's alpha
I exercise my managerial job...				
<i>People-oriented leadership style</i>				
Through dialog and coaching	0.57	-0.13		
Through recognition and reward	0.42	0.08		
Through values and attitudes	0.57	-0.04		
Through cooperation and contributory influence	0.61	-0.06		
Through self-management	0.46	-0.07	1.45	0.67
<i>Task-oriented leadership style</i>				
Through follow-ups and monitoring	0.10	0.60		
Through orders and instructions	-0.19	0.72		
Through rules and directives	0.01	0.59	1.26	0.70

Factor analysis (principal factors). Rotation.

Independent variables

	Factor loadings			Eigenvalues	Cronbach's alpha
<i>Role clarity</i>					
My responsibility is clearly defined	0.80	-0.03	-0.02	-0.01	0.03
My power is clearly defined	0.87	0.01	-0.04	-0.02	0.01
My power matches my responsibility	0.57	0.02	0.12	0.07	-0.07
				2.52	0.74

<i>Job complexity</i>							
I consider many different issues	0.08	0.55	0.07	0.07	-0.03		
I am interrupted in my daily work	-0.01	0.52	-0.00	-0.02	0.11		
I have to balance a variety of interests on a daily basis	-0.04	0.72	0.03	-0.02	-0.05		
My job involves a great many dilemmas	-0.01	0.62	-0.10	-0.01	0.13	2.35	0.83
<i>Job autonomy</i>							
I plan my own work hours	-0.02	-0.06	0.73	-0.02	0.11		
I influence the contents of the task I am given	0.06	0.03	0.63	0.11	-0.01		
I decide the priority of the job content I am given	0.03	0.10	0.57	-0.02	-0.12	2.09	0.74
<i>Leader group climate</i>							
Me and my fellow managers support each other	-0.04	-0.01	-0.02	0.72	0.01		
Communication between managers where I work is positive and constructive	0.06	0.02	0.03	0.70	-0.0	1.91	0.75
<i>Work pressure</i>							
My workload is too massive	0.00	0.12	0.05	0.03	0.53		
I work more than I want to	0.01	0.12	0.02	-0.07	0.53	1.76	0.76

Factor analysis (principal factors). Oblique rotation.

Below we describe the variables in more detail.

Dependent variables

As expected, the leadership style items revealed two factors. We label these *task-oriented leadership* and *people-oriented leadership*. These are broad concepts that relate to much of

the classical research on leadership. The factor *people-oriented leadership* incorporates both the supporting, participative and delegating elements (cf. Table 2). The factor *task-oriented leadership* focuses on directive aspects such as control, instruction, rules and result-oriented behaviour. These variables are closely related to variables similarly named in other studies, i.e., people-oriented behaviour/consideration/ employee orientation and task-oriented behaviour/initiating structure/production orientation (Northouse 2006, Judge, Piccolo, and Ilies 2004).

Independent variables

The items on perceived job context characteristics could be contained in five factors. The three factors *job complexity*, *job autonomy*, and *role clarity* are all vital parts of the managers' job context and will constitute the main independent variables of our analyses. The two remaining factors *work pressure* and *leadership group climate* will enter our analyses as control variables because they are important characteristics of the job which are likely to influence the manager's propensity to use one of the leadership styles.

The first variable is leader *job complexity* which is based on questions about how many different issues the leader needs to deal with, and the dilemmas and the variety of interests the leader has to manage on a daily basis. This variable is a traditional variable used in organizational behaviour literature (e.g., Man and Lam 2003). The items used are similar to those developed by Hackman and Oldham (1975), and the logic behind the items is similar to that behind the items in Robertson's (1995) study on public organizations. The second variable is *job autonomy* which is based on the extent to which the manager influences and prioritizes the assignments and their content. The variable *job autonomy* can also be found in various permutations in other studies (e.g., Man and Lam 2003). The items resemble

those found in other public management studies (e.g., Robertson 1995). Again, they are built on Hackman and Oldham (1975). The third variable is *role clarity* which is based on how clearly the responsibility and the power of the manager are defined and whether the responsibility and power are matched. Measures of role clarity are also used in a studies by Moynihan and Pandey (2007) and Pandey and Wright (2006) in which they apply constructs similar to those of ours.

Furthermore, we include two variables for related job characteristics. They will enter our analyses as control variables as they are important characteristics of the job which are likely to influence the manager's propensity to use one of the leadership styles. The first variable is *leader group climate* which indicates the degree of communication and supportiveness in the leader group. A positive leader group climate will generally make it easier for the manager to exercise a desired leadership style, but it is also possible that a positive leader group relationship enables more people-oriented leadership and that a more negative leader group environment makes the leader use more directive and task-oriented leadership. The second control variable for job context is work pressure which indicates whether the overall workload is perceived by the leader to be too heavy. When work pressure is high, managers are expected to focus narrowly on the tasks and use task-oriented leadership styles. The work pressure variable is similar to the variable for job demand in Karasek (1979).

As discussed above, the use of a specific leadership style may be associated with a number of factors. In order to isolate the influence from the managers' job context, we controlled for a range of factors other than the two job characteristics that could be related to one of the other styles.

Personal characteristics have traditionally been connected to leadership style. Therefore, we controlled for *gender* and *age*. Furthermore, experience may be a determinant of leadership style, so we included three measures; *tenure in the current organization*, *tenure in the current job*, and *leadership experience in total*. Finally, we controlled for *management level* operationalized in a 1 through 3 scale (1 being the lowest management level, 3 being the highest), and organization *size* measured as number of employees. Organization size has also previously been used as a proxy for formalization, centralization and bureaucratization (Sorensen 2007).

In Table 3, the descriptive statistics are reported. Some of the correlations are high, indicating that multicollinearity could be a problem. However, the variance inflation factor scores between 1.14 and 4.03 were all well below the recommended level of 10 (Kennedy 1998).

We used OLS regressions for the analysis. To assess the effect of the sector of the manager, we inserted a dummy variable which was coded 1 if the manager belonged to a public sector organization and 0 if the manager belonged to a private one. In separate models we included interaction terms between the three job context variables and the sector variable to test for any moderating effect of belonging to a public organization (Baron and Kenny 1986). We estimated the models using robust standard errors to correct for possible heteroscedasticity (Gujarati 2003).

TABLE 3
Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. People-oriented mgmt	1.00														
2. Task-oriented mgmt	-0.06	1.00													
3. Public	0.27*	-0.28*	1.00												
4. Leader group climate	0.31*	-0.04	0.22*	1.00											
5. Work pressure	0.12*	0.04	0.17*	-0.23*	1.00										
6. Sex (female)	0.18*	-0.14*	0.30*	0.09*	0.07*	1.00									
7. Age	0.16*	-0.16*	0.31*	0.12*	-0.01	-0.02	1.00								
8. Leader experience	0.12*	-0.05	0.12*	0.06	-0.02	-0.08*	0.33*	1.00							
9. Organizational experience	0.04	-0.00	0.09*	-0.01	-0.06	-0.02	0.19*	0.57*	1.00						
10. Job experience	0.02	0.02	0.02	-0.01	-0.03	-0.04	0.09*	0.64*	0.72*	1.00					
11. Management level	-0.19*	0.11*	-0.22*	-0.30*	-0.10*	-0.00	-0.22*	-0.14*	0.06	0.02	1.00				
12. Organization size	0.06	-0.04	-0.01	-0.10*	0.03	-0.06	0.05	0.07*	0.08*	0.00	-0.05	1.00			
13. Role clarity	0.24*	0.01	0.15*	0.68*	-0.09*	0.08*	0.13*	0.10*	0.01	0.02	-0.35**	-0.07	1.00		
14. Job complexity	0.32*	-0.01	0.28*	0.20*	0.73*	0.10*	0.03	0.01	-0.09*	0.05	-0.27*	0.01	0.22*	1.00	
15. Job autonomy	0.31*	-0.09*	0.13*	0.48*	-0.03	0.02	0.10*	0.09*	-0.02	0.00	-0.38*	0.02	0.56*	0.40*	1.00

* $p < 0.05$

RESULTS

Table 4 reports descriptive statistics for the job characteristics in the two sectors.

TABLE 4
Descriptive statistics of perceived job context among Danish managers in public and private organizations ^a

Sector	Role clarity	Job complexity	Job autonomy
Public	0.1759 (0.0441)	0.3113 (0.0351)	0.1354 (0.0365)
Private	-0.1060 (0.0353)	-0.1931 (0.0380)	-0.0882 (0.0359)
Difference	0.2820***	0.5044***	0.2236***

^a T-tests for differences in mean.

*** p<0,001.

Standard errors in parentheses.

Values reported are retained factor scores.

Table 4 reports the mean factor scores for each construct and t-tests for differences in means. Danish managers clearly perceive their job contexts differently in the two sectors. Hypothesis 2 posited that the job context differed between managers of the two sectors in Denmark, a claim that is supported in the table. Below we use regression analysis to evaluate whether these differences in job context can be related to different leadership styles.

Table 5 presents results predicting people-oriented leadership.

TABLE 5
OLS regression predicting People-Oriented Leadership^a

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5
Public	0.1959***	0.1643***	0.1653***	0.1575***	0.1591***
Leader group climate	0.2737***	0.1801***	0.1805***	0.1758***	0.1793***
Work pressure	0.1605***	-0.003	-0.0034	-0.0056	-0.0038
Sex (female)	0.2113***	0.2207***	0.2206***	0.2186***	0.2233***
Age	0.0039	0.0051	0.0052	0.0049	0.0050
Leader experience	0.0066*	0.0057*	0.0056	0.0058*	0.0058*
Organizational experience	-0.0004	0.0013	0.0013	0.0015	0.0014
Job experience	-0.0026	-0.0031	-0.0031	-0.0032	-0.0030
Management level	-0.0258	0.0180	0.0183	0.0166	0.0151
Organization size	0.0335	0.0265**	0.0264**	0.0271**	0.0267**
Role clarity		-0.0537	-0.0767	-0.0532	-0.0539
Job complexity		0.1964***	0.1966***	0.2876**	0.1971***
Job autonomy		0.1294***	0.1283***	0.1316***	0.2105**
Role clarity*Public			0.0143		
Job complexity*Public				-0.0535	
Job autonomy*Public					-0.0472
Constant	-0.2819	-0.2766	-0.2715	0.2924	-0.2877
R ²	0.18	0.22	0.22	0.22	0.22

^a N= 949 in all models. Regressions are estimated with robust standard errors.

*** p<0,01

** p<0,05

* p<0,1

All tests are two-tailed

In Model 1 the control variables are entered along with the dummy variable indicating which sector the respondent belongs to. This base model shows how public sector managers are significantly more likely to use a people-oriented leadership style than private sector managers are (the omitted variable). This result is consistent throughout the five models. In model 2 the three job context variables are entered. It can be seen that a higher degree of perceived job autonomy along with a higher degree of perceived job complexity is significantly associated with the use of people-oriented leadership. However, the perception of role clarity is not related to people-oriented leadership in the models. These results are consistent throughout the models indicating that job complexity and job autonomy as perceived by the managers are robust determinants of this leadership style. In models 3–5 interaction terms multiplying the sector and the three context variables are entered separately. None of these are significant. So it appears that being a manager in a public organization does not influence the effect of the three job context variables on the likelihood of using a people-oriented leadership style. The marginal effect of each of the three job context variables is, in other words, the same for both sectors.

The control variables show results of some interest. People-oriented leadership is facilitated by a supportive leader group climate, but is also associated with managers who have a higher perceived work pressure. The latter point may reflect that managers under pressure need to delegate tasks using a people-oriented approach. Also, female managers and managers in larger organizations use this style more.

The results in Table 5 relate to our hypotheses in important ways. First, job context does indeed seem to predict the use of a people-oriented leadership style. The more perceived

job autonomy and job complexity, the more likely is a manager in our sample to use a people-oriented leadership style. Second, public managers are significantly more likely to use a people-oriented leadership style. These two results provide support for hypothesis 1 and 3. Third, the relation between managerial job context and the people-oriented leadership style does not vary between managers in the different sectors as expected in hypothesis 4b. This suggests that the link between managerial job context and leadership style may have general validity. It also indicates that public and private managers may not be that different. They work in very different contexts, however, which can explain the difference in their likelihood to use a people-oriented leadership style. Next, we turn to the other markedly different leadership style which was found to be present among Danish managers. Table 6 presents results predicting the use of a task-oriented leadership style.

Again, the sector variable is highly significant in all models. Contrary to those of Table 5, the coefficient of Table 6 is negative indicating that private sector managers use a task-oriented leadership style more than public sector managers. In model 7, job context again appears to be a factor which explains managers' leadership styles. However, the results are very different from the relations found above in Table 5. Role clarity is positive and significant except in model 8 where it is part of the interaction term. Job complexity is insignificant in all models. Interestingly, job autonomy again shows significant results, but the coefficient is now negative. Taken together, these results suggest that managers with clearly defined responsibilities but little job autonomy use the task-oriented leadership style. The interaction terms are entered in model 8-10. There is a vague indication that role clarity mitigates the negative relation between managing in the public sector and using task oriented leadership, but generally the marginal effect of the job context factors appear not to be different between the two sectors.

TABLE 6
OLS regression predicting Task-Oriented Leadership^a

Independent variables	Model 6	Model 7	Model 8	Model 9	Model 10
Public	-0.3948***	-0.3984***	-0.3901***	-0.3883***	-0.3951***
Leader group climate	0.0744**	0.0168	0.0194	0.0231	0.0173
Work pressure	0.0958***	0.0312	0.0321	0.0343	0.0314
Sex (female)	-0.1869***	-0.2023***	-0.2032***	-0.1992***	-0.2039***
Age	-0.0105***	-0.0106***	-0.0102***	-0.0102***	-0.0104***
Leader experience	-0.0005	-0.0006	-0.0012	-0.0008	-0.0007
Organizational experience	0.0061**	0.0061**	0.0062**	0.0059**	0.0060**
Job experience	0.0019	0.0019	0.0017	0.0021	0.0019
Management level	0.0706*	0.0614	0.0634	0.0637	0.0634
Organization size	-0.0194	-0.0154	-0.0166	-0.0163	-0.0155
Role clarity		0.1296***	-0.0478	0.01256***	0.1298***
Job complexity		0.0784	0.0806	-0.0561	0.0780
Job autonomy		-0.1441***	-0.1529***	-0.1474***	-0.1964
Role clarity*Public			0.1104*		
Job complexity*Public				0.0789	
Job autonomy*Public					0.0304
Constant	-0.3659	-0.3467	-0.3071	-0.3234	-0.3396
R ²	0.11	0.13	0.13	0.13	0.13

^a N= 949 in all models. Regressions are estimated with robust standard errors.

*** p<0,01

** p<0,05

* p<0,1

All tests are two-tailed.

The control variables show that younger male managers with experience in their present organization are more likely to use the task-oriented leadership style.

Overall, the expected relation in hypothesis 1 between job context and leadership style is again supported, but task-oriented leadership is explained by a markedly different job context configuration than that which explains people-oriented leadership. Also, there appears to be a considerable difference between public and private sector managers when it comes to task-oriented leadership. This leadership style is used significantly more by private sector managers which supports hypothesis 3. However, the lack of supporting results for the interaction terms indicates that it is the job context of the managers that varies between sectors not systematic sector specific responses to job context. Again this supports hypothesis 4b.

The differences in job context between public and private managers in Denmark shown in Table 4 seem to be in line with the result found above in Table 5 and Table 6. Overall the results strongly indicate that different job contexts facilitate different leadership styles between the public and private sectors. This is also the case after controlling for variables like gender, age, and organization size in the regressions. However, importantly, even after including a number of variables on managerial job context, there is a strong direct effect of sector which can be ascribed to special sector characteristics that are not included in the model.

In the following section we will discuss the results and the implications of these in greater detail.

DISCUSSION

The analysis above has shown how the leadership styles used by Danish managers are associated with a number of personal and organizational factors. The main contribution of the paper is showing that public and private managers have different job context, and that

this difference is related to the use of different leadership styles. This finding will be discussed below in further detail.

Explaining the leadership style of public and private managers by looking at their perceived job context is a rather new approach. We find results that strongly support the relationship between managerial leadership style and perceived job context. This can be a result of several factors. First, it suggests that managers to some degree are bound by the structural setting of their job. When employing a soft and people-oriented leadership style that uses dialogue, coaching and extensive delegation of responsibility, this study indicates that managers typically have some degree of job autonomy. The people-oriented management style is also used by managers who perceive their jobs to be more complex. The complexity, of course, may provide a very salient reason to include more social and intellectual resources in the decision making process via a more people-oriented leadership style. Conversely, the managerial job context may also facilitate a harder leadership style which is more focused on the task. When managers have less perceived job autonomy but more role clarity, they will focus on the task at hand. Their performance is easier to measure as it contains little latitude, and the managers can be measured by their output (Wilson 1989). These factors point to the use of task-oriented leadership style, which is confirmed in this study of Danish managers. However, it is interesting to note that even though public managers are substantially less likely to exercise task-oriented leadership, they may become more inclined to do so when they have higher role clarity.

Second, the results may also support an adaptation as well as a selection argument. There is some theoretical debate on the changeability of organizations (Van de Ven and Poole 2005) as well as of the managers' possibility for changing the style with which they lead their

employees (Fiedler 1967). As the data in this analysis is cross sectional, we can only speculate about the background of the findings.

On one hand, the results can be interpreted to mean that managers can adapt their leadership style to the context they work in. However, this does not imply that all managers have the same agility and competence for employing different leadership styles. There may be substantial personal differences making some people more likely to thrive as managers in different types of organizations.

On the other hand, when managers are hired, it is likely that their superiors will look for a profile that fits the context of the job and perhaps even the profile of the preceding manager (Hambrick and Mason 1984). This mechanism may also be part of the explanation for the relation between managerial job context and leadership style.

The results show that there are substantial differences between the leadership styles of public and private managers. This is the case even after three decades of New Public Management, although, the two are perhaps becoming more similar (Kellerman 1999). This paper suggests the general tendency that public managers use softer and people-oriented leadership styles and private managers use more directive and task-oriented styles. As discussed above, the reason for this can apparently be located in organizational characteristics rather than personal differences. Managers appear to be influenced by their job context in much the same ways in the two sectors as indicated by the non-significant interaction terms. This suggests that some of the underlying mechanisms influencing how managers in public organizations lead their employees are not different from those found in the private sector. That is, public managers are not softer because public management is soft *per se*, but, at least partly, because their job context supports a more people-oriented

leadership approach. This is consistent with findings from Hooijberg and Choi (2001) that generally support the applicability of generic leadership theories in public organizations.

In relation to public management research this study highlights the need for research in-between public administration and general management theory (Ferlie 2003). We need public management research to corroborate that public organizations in many respects are similar to private companies but also exhibit specific public characteristics. In this study we see that the job context influence the leadership styles in the same manor in both sectors. However, the study also makes it clear that the general job context differed between the two sectors. Moreover, in relation to understanding the differences in job context it would also be interesting to investigate how differences between public organizations influence these job context variables. For instance, some public organizations are meant to look like private companies. They have large organizational administrative autonomy, performance based budgets, and competition like conditions (Hansen 2007). The question is; do the managers of these different organizations have job context similar to those of traditional public organizations or do their job context look more like that of managers in private companies? This could be interesting to investigate in future studies.

It is important to note that managerial job context does not fully mediate the relation between sector and leadership style. Even when introducing the job context variables, the sector remains strongly associated with leadership style. In this way the results show how sector and managerial job context independently serve to explain some variance in the leadership styles of managers. To investigate more fully what causes this relation is an important task for future studies.

Thus, an implication of this paper is that there seems not to be a simple archetypical public manager, just like there is no simple archetypical private manager. They may primarily just be managers who adapt or are selected to different contexts. However, this study suggests that public organizations have some characteristics which distinguish them from private organizations. These differences are mirrored in different managerial challenges which are resolved using different leadership approaches.

Our study lacks a temporal dimension to inform us about the background and consistency of the results. Such a dimension would also tell us whether there are or have been changes that can be ascribed to the “NPM wave”. However, the findings by Meyer and Hammerschmid (2006) and Moon and DeLeon (2001) seem to indicate that managers are becoming more alike as a result of NPM. Yet, the survey shows both major dissimilarities in the job context of public and private managers and major differences in their leadership styles. However, there is a need for further understanding of how NPM changes affect leadership in public organizations. Generally, a temporal dimension would allow for investigation of how changes in managerial job contexts are related to changes in leadership styles.

Implications and limitations

The findings of this study are still preliminary and call for future research to provide more nuance. One way to validate and build on the results of this study is to explore more closely the differences between various types of public organizations. For instance, it would be especially interesting to see how changes in managerial job context affect the leadership style employed in different types of public organizations. Furthermore, even though job context explains some of the variation between the public and private managers’ leadership

styles, there is still a need for further research aiming to understand the differences. Our analyses leave a large residual to be explored by other factors. These could exist on multiple levels. On the organizational level, the traditional political-administration issue could be investigated, as could the importance of what type of task the organization performs or what customers or clients it serves. Our only organizational level control variable, size, is not sufficient to say anything detailed about these issues. On the individual level it may be time to revisit the importance of the public ethos and related concepts like education and motivation. Generally, this paper highlights the importance of further research into how organizational characteristics influence leadership behaviour (Hooijberg and Choi 2001).

Some limitations of this study should be noted. First, this study does not have a performance variable. It could be relevant to include this in the investigation of whether the relationship between job context and leadership style can help explain the performance of managers, i.e., to look for some kind of optimal fit (Donaldson 2001). Second, this paper focuses on the managers' perceived leadership. It could be interesting to elaborate the findings by investigating the relation between employee and manager perception of the manager leadership styles. Is leadership, whether it being task or people-oriented, also perceived as such by the employees?

There are also some methodological limitations to be noted. The use of a cross sectional survey instrument always severely limits the claims for causality. The findings should be interpreted as pointing to some important and interesting relations. However, we encourage use of better research designs in future research to facilitate causal inference. Also a broad scaled survey like the one used here has advantages as well as disadvantages. By including

respondents from many different organizations working in different contexts with different technologies we enhance generalizability and emphasize sector-level differences. However, the cost is that the average effects reported in the analyses are harder to interpret on an individual level and use for predictive purposes.

CONCLUSION

This paper set out to investigate differences between public and private managers' leadership styles. We have argued that organizational differences between the public and private sector will result in different job contexts for managers who in turn will employ different leadership styles. We have found strong support for this claim. The job context of the managers is a strong predictor of the use of different leadership styles. Interestingly, managerial job context seems to be equally influential in the two sectors. We have focused on two distinct and broadly conceptualized leadership styles. People-oriented leadership is used by managers who perceive their job to be complex and have a larger amount of job autonomy. Conversely, task-oriented leadership is employed by managers who have perceived role clarity, but who enjoy a smaller degree of job autonomy in performing their job.

We think the literature on public management could use more studies that explore in greater detail the mechanisms behind the public-private distinction. This study illustrates how marked differences between the leadership styles of public and private managers do exist in Denmark, and goes a step further to indicate that these differences can be explained partly by organizational characteristics.

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