

Senior public leaders' perceptions of business intelligence

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Abstract

Purpose – The purpose of this paper is to address the perceptions senior public leaders in local government have regarding the need for business intelligence and their perceptions of the extent to which their organizations are capable of effectively assimilating business intelligence.

Design/methodology/approach – The data are from a survey on local governments' need for and capability to use business intelligence, with a response rate of 50.5 percent, and semi-structured interviews. The survey method originates from private sector research but is adapted to local government conditions in Sweden.

Findings – The leaders' perceptions about the need for business intelligence were fragmented. Their perceptions regarding its use were even more fragmented, both between different municipalities and within municipalities.

Research limitations/implications – The survey is adapted to local government conditions in Sweden and may need further changes to fit other settings. The adaptation and renewal of questions can lead to summation errors in relation to the original survey.

Practical implications – The paper highlights some of the strategic areas where senior public leaders need to advance their business intelligence and prioritize specific organizational capabilities. The dominant logic, enhancing an inward-looking approach, seems to prevent a more thoroughgoing business analysis.

Originality/value – The adaptation of a method that is mainly used in the private sector can give new perspectives to senior public leaders regarding the need for and use of business intelligence and can help them identify the factors that can affect the complexity and volatility in local government settings.

Keywords Strategic management, Local government, Business intelligence, Dominant logic, Senior public leaders

Paper type Research paper

Introduction

Public sector research has devoted much attention to the impact of public organizations' implementation of various control tools from the private sector (Lapsley and Knutsson, 2017; Ramberg, 2017). This research has recently begun to consider the strategic approaches within which these tools are to be applied (Johanson, 2009; Hansen and Ferlie, 2016) and whether strategic management is improving the performance of public sector organizations (Favoreu *et al.*, 2016). The issue of organizational change and performance is also extensive (MacBryde *et al.*, 2014). How strategic management, as a tool for navigating into an unknown future, and how it affects performance in the public sector is particularly interesting if Handy's (1995) thesis – what has worked does not necessarily have to work again – is true. In line with Handy's idea of constant change, Poister (2010) argues that public executives and managers need to better link strategic management to public sector performance and to think more creatively, out-of-the-box, in their strategic management processes to manage increasingly rapid and ambiguous trends and changes in the external environment.

This paper concerns business intelligence, which is an important aspect of creative thinking and is common in public sector strategic planning processes (Bryson and Roering, 1988; Schmidhuber and Wiener, 2018). More precisely, this paper addresses the perceptions senior public leaders in local government have regarding the need for business intelligence, as well as their perceptions of the extent to which their organizations are capable of effectively assimilating their business intelligence. Is it reasonable to believe that all organizations have the same need for business intelligence? Does the need for business intelligence correspond to public sector organizations' capabilities to assimilate their business intelligence? Are there any obstacles to assimilating business intelligence in public sector organizations?



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By addressing senior public leaders' perceptions, the paper contributes to the emerging research directed at strategic management in the public sector. The paper provides in this regard a complementary contribution to the research on a more general and theoretical aggregate level, by analyzing how different strategic school approaches are manifested in practice (Johnsen, 2015; Andrews, 2008). Further, by testing the feasibility and suitability of certain common strategic management models, developed for the private sector but implemented in the public sector, it contributes to this field of research (Hansen and Ferlie, 2016; Favoreu *et al.*, 2016) as well as to research that develops conceptual frames of reference for how strategic management processes can be carried out in the public sector (Johanson, 2009; Olivier and Schwella, 2018; Poister *et al.*, 2010).

Through methodological development to capture perceptions about business intelligence, the paper also adds to our knowledge of how senior public leaders relate to business intelligence and the complexity and volatility in the external environment of local government. This knowledge can be of importance when discussing the future development of strategic management in the public sector.

Theoretical framework

Business intelligence – a part of the strategic management process

Strategy is a broad concept. According to Ackoff (1990), there are a number of similar definitions of the term “strategy” and what it means to make strategic decisions and lead the strategic work (what is usually termed strategic management). Although strategy and strategic planning have long been of interest in public sector research (Eadie, 1983; Berry, 1994; Bryson and Roering, 1988), the broad concept of strategy and strategic management may explain the fragmented picture and the lack of consensus in public sector research on its meaning and content (Johnsen, 2016; Poister *et al.*, 2010).

Public sector research in strategic management has taken different paths (Poister *et al.*, 2010). Some research argues that the public sector's use of strategy frameworks applied in the private sector fails to take into account the complex content of strategy in the public sector (Andrews *et al.*, 2008). On the other hand, Hansen and Ferlie (2016) argue that strategic management models can be used in public organizations, especially if they are influenced by new public management reforms, if the models' core features correspond to control conditions the organization operate in, such as the degree of administrative autonomy, performance-based budgeting and market-like competition. Researcher argue for a more collaborative strategic approach, recognizing different stakeholders' perspectives, the political nature and decision-making process when shaping public sector strategy (Bryson *et al.*, 2009; Favoreu *et al.*, 2016; Schmidhuber and Wiener, 2018).

Strategic management in the public sector can further be said to be surrounded by a belief in the importance of planning, which appears to be the predominant view of strategic public sector work (Johnsen, 2015). This may be contradictory considering that much recent public sector research has been centered on the increasing complexity of the public sector and how this development makes more planning and follow-up increasingly difficult (Schillemans and van Twist, 2016). Although the research to build a realistic and robust theory of public strategic management is growing, the study of practice is advocated (Bryson *et al.*, 2009; Favoreu *et al.*, 2016; Poister *et al.*, 2010).

However, there seems to be a smallest common denominator where strategic planning and management usually involve an organization's relationship to its external environment (Knutsson *et al.*, 2008; Pettigrew, 1987; Poister *et al.*, 2010). This relationship is characterized by data collection, description and interpretation of, for example, threats and opportunities, degree of uncertainty, risks and rate of change in the external environment (Duncan, 1972; Ghemawat, 2006). We choose to call this activity business intelligence. The idea is, given how management describes and interprets the results of their business intelligence, that the organizations' resources and capabilities, such as internal control system and organizational structure, are

configured in such a way that they support the strategy management has decided on (Barney, 1991). As such, business intelligence is an important activity in the strategic management process, supporting managers to make informed decisions in their planning and management activities (Foley and Guillemette, 2010). Other labels for business intelligence include external analysis, environmental analysis, external environmental assessment and situation analysis. Business intelligence in a local government setting can cover issues such as political, economic, social and technological trends or different data on stakeholders such as clients, customers, payers, competitors and collaborators (Bryson and Roering, 1988).

Obstacles to assimilating business intelligence

Business intelligence involves a lot of uncertainty, which can be remedied with facts but ultimately deals with decision-makers' and other involved stakeholders' values and perceptions about the future. Bryson *et al.* (2009) argue that to understand the effectiveness of strategic planning in the public sector we may need to see it as a contextual complex process of knowing, including complex cognitive, behavioral, social and political practice. This complexity explains why steps in the strategic management process, for example business intelligence, often fail (Bryson and Roering, 1988; Schmidhuber and Wiener, 2018). The complexity creates different kinds of distortions and biases in managers' decision-making processes (Kahneman *et al.*, 2011) when they develop business intelligence and prevents them, not least when it comes to weak signals of change, from interpreting and acting on changes in the external environment (Day and Schoemaker, 2005, p. 135):

The challenges [...] often begin as weak signals at the periphery, the blurry zone at the edge of an organization's vision. As with human peripheral vision, these signals are difficult to see and interpret but can be vital to success or survival.

Schoemaker *et al.* (2013) define weak signals as seemingly disconnected pieces of information that at a glance can be interpreted as background noise but looked at more closely could be part of a larger pattern of emerging change. Their own research findings suggest that more than 80 percent of global companies fail to see, interpret and act on weak signals. The difficulties are partly explained by complexity, but also by various individual biases such as filtering, when we "see signals we are expected to see," or organizational biases such as groupthink. It is better if there is consensus in the management team rather than disagreements and conflicts caused by new information or new perspectives on a potential challenge (Kahneman *et al.*, 2011; Schoemaker and Day, 2009). Prahalad (2004) argues that organizations' dominant logic, like blinders, may prevent managers from thinking and acting differently during conversion pressure. Over time, the dominant logic forms and becomes a proof of what works successfully given the organizational mission, and it manifests itself in employees' socialization, influencing how employees think and work, and it also becomes deeply embedded in the organization's structure, control systems and processes. As long as everything remains unchanged, the dominant logic ensures continued success. The blinders remove the disturbing signals from the chosen direction, but can also filter out signals that indicate the need for development and renewal. Different kinds of obstacles and dominant logics fostered by the institutional framework surrounding local government and how these affect the need for and use of business intelligence is a concern in this paper. The magnitude of institutionalized behavior, which can be based on different dominant logics, has also attracted researchers in the fields of both private and public sector research in management and cooperation (Ezzamel *et al.*, 2012; Pache and Santos, 2013; Ramberg, 2017; Kuhlmann and Bogumil, 2018).

Managers' perceptions are important

Although management's perceptions about organizations' external environment have been considered important for understanding organizational behavior, research on the highly

dynamic context of public leadership and public sector senior leaders' perceptions about the external environment has been rarely heeded (Andrews, 2008; Hartley, 2018). Andrews' (2008) contribution to filling this gap is data from a survey where local government managers' perceptions about their degree of uncertainty are analyzed. The uncertainty is described in terms of complexity (linked to the socio-economic and political environment) and dynamics (in terms of the ability to predict change and the rate of change). Andrews finds that perceptions in various respects seem to affect the effectiveness of the operations.

The present study supplements Andrews (2008) in the sense that it captures senior public leaders' perceptions in terms of complexity and dynamics (degree of volatility), and it also connects perceptions of the external environment to indirect perceptions about the municipality's ability to perform and deliver results. Further, the present study is aimed at senior public leaders, while Andrews' study captures perceptions from the underlying executive levels. This implies that the present study has a classic perspective that sees the highest executive level as implementing and ultimately responsible for strategic management in organizations (Ackoff, 1990). It is how the board and the executive level perceive potential and actual changes in the external environment that affects the strategic agenda, and decisions made at this level are expected to affect the organization as a whole. This strand of thinking, however, is arguable when public sector leadership is not necessarily exercised at the highest organizational level nor by isolated individuals (Van Wart, 2011; Hartley, 2018). The top management level in a local government setting is also where one can expect a high impact of political rationality that can be based on dominant logics other than traditional strategic approaches.

Because managers' perceptions, both pronounced and unaltered, interfere with what they see and how they act on different signals of changes, Day and Schoemaker (2005) have developed a diagnostic tool. They have tested the tool in many different contexts, mostly in the private sector. The idea behind the tool is to help managers detect, interpret and act on weak signals. In this paper, the diagnostic tool is used to capture senior public leaders' perceptions on business intelligence.

Research method

The diagnostic tool is a survey, which was conducted as a web survey to senior public leaders: the chairman of the executive board, the municipal CEO, CFO and chief of development. The first three positions are very common in Swedish municipalities, but not all have a chief of development. These respondents represent those senior public leaders in Swedish municipalities that usually have an overarching responsibility for the municipality's strategy and control processes. By asking multiple respondents, we try to cover a variety of perceptions on the strategic management process, following Bryson *et al.*'s (2009) argument on what constitutes strategic planning processes.

Day and Schoemaker's (2005) survey is structured in nine blocks of questions and has a total of 44 questions, where the respondents assess their perceptions on a Likert scale (1–7). We have largely chosen to keep the labels of the different blocks of questions in our survey (Appendix), but adapted some of the language to a Swedish municipal context. The largest adjustment in the survey has been on the question level for each block of questions. Our adaptation and renewal of the survey's questions can lead to errors, both regarding the summary and how we capture respondents' perceptions. However, before the survey was sent, all the questions were tested and discussed with a selection of the sample. The summation of needs and capabilities can contain various measurement errors. For example, it is possible to question the summation and accompanying categorization that the original survey is based on.

The survey was sent to 91 respondents in 26 municipalities, and the response rate was 50.5 percent. The 26 municipalities correspond to 9 percent of all municipalities in Sweden, reflect a strategic selection of Swedish municipalities (Table I), and were part of a national research program concerning the development of local government services. As shown in

Table I.

The survey sample

	Large cities and municipalities near large cities	Medium-sized towns and municipalities near medium-sized towns	Smaller towns/ urban areas and rural municipalities	Sum
Municipal CEO	1	5	6	12
CFO	2	10	7	19
Chief of development	2	3	4	9
Chairman of executive board	1	2	3	6
Sum	6	20	20	46
Representation (%)	13	43	43	
Share of municipalities in each municipality group (%)	16	37	47	

Table I, the study has a representation of 13 percent of large cities and municipalities near large cities. This corresponds fairly well with the overall picture in Sweden, where 16 percent of the municipalities represent this group. For medium-sized towns and municipalities near medium-sized towns, the representation is 43 percent in the study and 37 percent overall. Smaller towns/urban areas and rural municipalities have an overall representation of 43 and 47 percent, respectively. However, it is not possible to say anything about the statistical significance of the study other than that it was never the purpose of the study.

In 14 municipalities, there was a single respondent. Three municipalities had two respondents. Seven municipalities had three respondents, while one municipality had four. Four semi-structured interviews with senior public leaders were conducted to supplement the survey data. In these interviews, the need for business intelligence was discussed, but the focus was on getting a richer empirical understanding of the actual capacity to develop and use business intelligence and implement decisions based on these efforts. The selection criteria for the interviews were chosen to capture different municipal sizes and both managers' and politicians' perceptions.

Findings

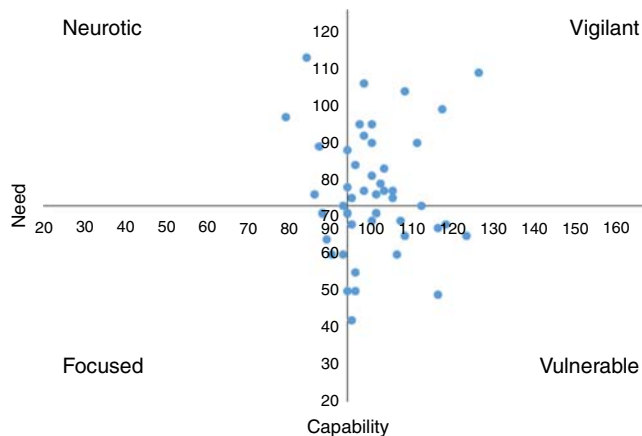
The overall picture

Figure 1 shows that respondents' perceptions about the need for business intelligence are relatively similar. The perceptions of the need are rather centered in the middle of Figure 1, with some emphasis on the importance of business intelligence. More varied are the perceptions of the municipalities' capability to work with business intelligence. Respondents' perceptions range from very good to a relatively low assessment of the capabilities.

In terms of the characteristics used by Day and Schoemaker, a few municipalities appear to be neurotic in the sense they have too extensive business intelligence relative to their perceived needs. Most of these belong to the group of large cities and municipalities near large cities with a commuting population, while one belongs to the group of smaller towns/urban areas and rural municipalities. In the case of the commuter municipalities, a coherent picture of the respondents is given, while the perceptions of the respondents in the smaller municipality give a more varied picture, especially in terms of the capability of their municipality.

Significantly more respondents perceive the municipality they represent as vulnerable. The ones in Figure 1 stand out either because they have a big need or low capacity or a combination of the two. Most of these municipalities belong to the group smaller towns/urban areas and rural municipalities with a commuting population.

Most respondents, however, seem to perceive that their municipality is well prepared relative to their needs. These respondents represent municipalities that are either commuter municipalities or smaller cities. Also, the representatives from the large cities make the assessment that they are vigilant. A few municipalities touch on the characteristic of



Source: Adapted from Day and Schoemaker (2005) original Peripheral Vision Scoring Tool

Figure 1.
Overall perceptions of municipalities' needs for and capabilities related to business intelligence

being focused. Respondents for these municipalities have different positions in their respective municipalities.

The high number of vulnerable municipalities can be problematic. As mentioned earlier, vulnerable municipalities need to develop their capabilities given how they perceive their external environment. To be focused or vigilant is basically good, but these municipalities also run the risk of missing weak signals. Overall, these findings raise new questions, which will be further elaborated in the two following paragraphs.

The need for business intelligence

Respondents' perceptions of the need for business intelligence are relatively unified, with an assessment spread of 79 to 126, where the lowest and highest possible values are 24 and 168, respectively. Of 46 respondents, 38 are in the range of 79–108. Thus, a relatively clear picture of the need exists.

There are some needs where respondents seem to agree on a high need for business intelligence. The ambition to grow and to focus on the overall goals has the highest average (5.8 and 5.7, respectively). This can be interpreted in different ways and was also something that emerged in the semi-structured interviews. Both growth and the municipalities' efforts to get a more centralized governance structure were prominent in these interviews, regardless of municipality size. Based on the fact that growth usually raises questions about the priorities of available resources, it is also reasonable for these two questions to be given equal assessment. This applies to municipalities that are struggling with declining as well as with increasing populations. It is notable that the average for growth is higher for politicians (6.5) than for the managers (5.6).

In a similar way, the question of significant changes in the next few years ($m = 5.2$) and the demographic composition of the population ($m = 5.1$) can be linked to each other. A vast majority of Sweden's municipalities are struggling with the challenge of an increasing proportion of the population getting older, which in itself is also a significant change. To have growth by getting a younger population in the municipality can be seen as a way to counter this development. Coherence also prevails in respondents' perceptions about the municipal equalization system where all but the richest municipalities assess the dependency on the system as high (A nationwide system to level the playing field and give equal conditions to all municipalities, mainly financed by central government grants).

The assessment of the need is, as we mentioned earlier, relatively unified. Between the three blocks, however, there appear to be some differences. The perception of complexity is higher than the corresponding perception of volatility. In other words, senior executives find the complexity of municipal mission implementation more challenging from a strategic perspective than the question of how stable (or unstable) the external environment is. It can also be noted that the overall perception of Block 1 indicates that the municipalities have high ambitions in terms of growth and renewal.

It is worth noting that there are differences between how politicians and managers perceive the need. For example, the politicians perceive the latest forecasts to be more reliable than the managers do. Likewise, the politicians are more likely than the managers to perceive that applicable regulations (laws, regulations and public agency requirements) rarely changed. Overall, the politicians tend to perceive less of a need for business intelligence than the managers do.

The capability to use business intelligence

If the respondents' assessment of needs is relatively similar, the assessment of the capabilities available to meet the needs varies more. The dissemination of respondents' assessments of the capabilities of their own municipalities is from 42 to 113, where the lowest and highest values are 18 and 126, respectively. The spread is not only large between municipalities but also within different municipalities where several individuals responded. Thus, different assessments of the capabilities in the municipalities are made.

Respondents' greatest coherence regarding capabilities is in their indication that goals and visions are developed in broad dialogue and participation ($m=5.4$) and that the management team regularly discusses business intelligence ($m=5.1$). These two perceptions deal with something significant about how to incorporate the perception of future needs and the priority the management team gives the work of understanding their future. On the other hand, there is also a relatively high level of consistency with regard to whether there is an incentive to encourage and reward business intelligence, where the average assessment is 3.2.

Certainly, the survey indicates a fragmentary picture of the municipalities' capabilities to give business intelligence meaning and consistency. However, when different perceptions can be given a little different weight by the respondents, generally, and given each opportunity/purpose, the capabilities in practice do not necessarily have to be as fragmented as they appear to be in the survey.

The section of the survey capturing the municipal capability related to business intelligence consists of Blocks 4–8. The overall perception is that much time and work is being spent on business intelligence. Likewise, the information systems seem to provide sufficient support for this work. One might expect larger municipalities to have better information systems, but this is not supported by the survey. Further, goals and visions are achieved in broad participation and flexibility is high in the overall planning process. On the other hand, the use of scenario techniques, and the extent to which citizens and other stakeholders are integrated into the work of formulating goals and visions, has a low assessment.

In terms of organization and incentives for business intelligence, the overall picture is that the municipalities are neither good nor bad at this. Those who stand out are the politicians who assess these capabilities higher than the executive management. In comparison with the managers' perceptions, the politicians perceive that there are more and more resources allocated for business intelligence. Also notable is that respondents perceive it to be quite good to listen to signals from the external environment and share their experiences with each other.

Regarding capabilities, the politicians tend to be more positive than the managers. For 15 of the 18 questions, the politicians are more positive than the managers.

Discussion and conclusions

A fragmented picture, but weak capabilities stand out

This paper has addressed the perceptions senior public leaders in local government have regarding the need for business intelligence, as well as their perceptions of the extent to which their organizations are capable of effectively assimilating business intelligence.

The findings of the study show a fairly comprehensive picture of senior leaders' needs for business intelligence, while the findings on how they perceive their organizations' capabilities related to business intelligence are more fragmented, both for the material as a whole and internally in municipalities. Furthermore, it is difficult to find a match between senior leaders' perceptions about their need for business intelligence (strong or weak needs) and their organization's capability to work with business intelligence.

Andrews (2008) concludes that managers' perceptions of dynamics and complexity affect the way they work with their organization's strategies, structures and processes.

He also concludes that managers' perceptions of political insecurity directly affected the efficiency of the operation positively. It is the population's socio-economic and demographic profile, the degree of cooperation and the media's monitoring that contribute most to the complexity in this study. The degree of volatility is influenced by senior leaders mostly due to the high dependence on the equalization system, the high probability of significant changes over the next five years, and whether municipalities have been affected by unexpected events in recent years.

These perceptions point to a number of concerns of strategic interest for senior public leaders regarding both the need for more advanced business intelligence and the need to prioritize certain capabilities. Three of these concerns are highlighted in our concluding discussion. One is the obstacles to assimilating business intelligence. A second concern, connected to the obstacles, relates to the question of how possible and useful it may be for local governments to strengthen their business intelligence capabilities by systematically using the diagnostic tool applied in this study. How changes, due to sector dynamics and complexity, can be strategically managed to meet future demands on local government is a third concluding concern.

Dominant logic of internal control seems to exclude business intelligence

Compared with Andrews's findings, this study's overall findings do not show a strong link between the need (degree of complexity and volatility) for business intelligence and the ways in which senior leaders work with or prioritize business intelligence. The weak link between the "outer" and the "inner" (Pettigrew, 1987) processes of strategic management may be explained by complexity or individual and organizational biases such as filtering or groupthink (Kahneman *et al.*, 2011). However, the interviews made it clear how difficult it was for senior leaders to talk about business intelligence. They seemed to lack the language for it. We asked questions about it, but the senior leaders focused on internal governance issues. They talked more about the planning and control processes they use in their municipality than about business intelligence specifically. They also stressed the renewed importance they gave to the municipal overview planning and how it is increasingly seen as an integral part of the overarching municipal control system. Although the senior leaders understood the importance of business intelligence, the institutionalized behavior, encouraged by the dominant logic of internal control, seemed to discourage extensive use of business intelligence. The dominant logic, encouraging local government to focus on internal control systems, has been noted by researchers following NPM reforms (Ramberg, 2017; Kuhlmann and Bogumil, 2018).

The senior leaders of the three larger municipalities mentioned that they had planning resources that worked with business intelligence, but sometimes they felt that they had an inadequate analytical capability. A striking shortcoming they identified had to do with

implementing decisions linked to the municipality's overall planning, a shortcoming that was also obvious in the survey findings. The tone from the smallest municipality, however, was different. This municipality had a part-time planner, which had a negative impact on the capacity to plan and use business intelligence. Compared with the three larger municipalities, it was easier for the small organization to implement the municipal planning decisions. Fewer employees and less distance between senior leaders and the operational level (school, elderly care) resulted in senior leaders promptly receiving signals from the operational level when problems arose. It was also easier to spread strategic information to several units. Expressed in terms of the dominant logic of internal control, the institutionalized strength of the smallest municipality's internal control systems was not enough to prevent vital business intelligence from spreading in the organization.

The usefulness of the diagnostic tool

If local government organizations have a need for more systematic approaches to detect, interpret and act on changes in the external environment, our study indicates that diagnostic tools, such as the one used in this study, may be useful. However, there is a need to adapt to local conditions (Hansen and Ferlie, 2016). Furthermore, the adjustments made to Day and Schoemaker's (2005) diagnostic tool for this study can surely be further refined. For example, attempts could be made to more clearly distinguish between factors/questions affecting municipal stability and municipal complexity.

A systematic approach can support a more common language between senior public leaders when discussing and analyzing business intelligence. Awareness of different internal perceptions about potential changes, and how well the organization's capabilities can manage these, will also be more explicit when this kind of diagnostic tool is used. To get strategic management processes to flow smoothly is not easy, and definitely not helped by different internal perceptions about organizational direction and its motive. The survey indicates different perceptions between senior managers in the same organization, but also differences in perceptions between the chairman of the executive board and the municipality's senior public leaders. Such differences are due to the different roles politician and civil servants have in local governments. However, it is reasonable to expect that huge differences too at the executive level will not strengthen the strategic management process. In the long run, systematic approaches to renew both thinking and acting in relation to external changes may create some incremental changes in the content of the dominant organizational logics. Even if these logics are strong and reluctant to radically change, there are examples of how new shared governmental logic can be established (Fan and Zietsma, 2017).

If change in local government is beyond recall

The idea that the internal control documents are supposed to include information from changes in the external environment, through prioritized and qualified business intelligence, is a vital principle in the theorizing surrounded strategic management. However, this idea does not seem to be a guiding strategic principle that is grounded in the present study. This is not a problem if everything continues to be as it always has been. But, if it is reasonable to assume that more extensive changes are likely in the coming years with increasing pressure to be innovative and improve performance (Hartley *et al.*, 2013; Schillemans and van Twist, 2016), change may be beyond recall.

The perceptions addressed in the present study also indicate this development. The respondents have strong perceptions concerning the degree of external change and the demand for renewal of local government. But the solutions seem to be directed to an inward-looking approach where goals and visions are achieved with broad participation. External input, such as the involvement of citizens' and other stakeholders' needs and demands, has little impact on these processes.

Brilliant people can surely create brilliant things together. But just talking to like-minded people in the same room is insufficient if one is striving for the creative, “out-of-the-box” thinking about the future Poister (2010) calls for. From mainly a private company perspective, Schoemaker *et al.* (2013) suggest better early warning systems so companies can grasp the need for changes before their competitors. According to them, these systems have three important ingredients: systematic and repeatable organizational capacity for business intelligence, the need to cross organizational boundaries and interact in more purposeful networking activities to extend the reach of business intelligence, and the use of scenario-planning techniques to manage the complexity and uncertainty inherent when sense making the future.

However, public sector organizations have different institutional frameworks and missions than private companies, there is a different kind of competition in the sector. To serve the needs and demands of different stakeholders in a given society or territory is usually central. Given the complexity and problematic nature of the use and impact of strategic management in the public sector, a more collaborative approach seems to be a way forward. Schmidhuber and Wiener (2018) argue for a systematic and collaborative use of public open foresight to capture weak signals and build scenarios. There is empirical evidence that collaboration can strengthen innovation in the public sector (Hartley *et al.*, 2013) and that a more collaborative approach to strategic management processes is suitable to manage the inherent complexity and volatility in the external environment (Bryson *et al.*, 2009; Favoreu *et al.*, 2016).

It is challenging to manage creative thinking – to ask employees to take actions that cross organizational and social borders in order to establish new working relations, and to renew responsibilities and organizational structures. Public leaders must overcome a range of institutional, bureaucratic and cultural factors (Poister, 2010; Hartley *et al.*, 2013; Favoreu *et al.*, 2016). Regarding the need to adapt to changes by innovation, Hartley *et al.* (2013, p. 827) argue that public leaders need to see themselves “as meta-governors who are orchestrating collaborative arenas that harvest ideas and practices from a range of innovators.” Schoemaker *et al.* (2013) use similar arguments when they argue for more vigilant executive leadership in the private sector. This is a concern if we take a classical strategic approach to how and where leadership and strategic thinking take place. However, there is plenty of evidence showing that the “how” and “where” of leadership and strategic thinking have been changed in the public sector (Van Wart, 2011). The findings of this study may also be interpreted in line with this strand of thinking.

Finally, this study indicates differences regarding the executive levels’ perceptions on local government’s need for and capability to assimilate business intelligence. The differences are partly connected to the Swedish institutional framework for local government. The framework for Swedish municipalities differs from that of many other public organizations in that they are relatively protected, at least in the short run, with their own income tax and a high degree of self-government. This means that municipalities in Sweden have a longer respite time before they have to adapt to external changes compared to the private sector, where competition is much higher and it is easier to abandon the company.

Although Swedish conditions for local government are taken into consideration, this study indicates a need for more elaborate research on business intelligence in local government. In this three concluding paragraphs, we have highlighted local government capabilities and obstacles, in terms of dominant logics, with regard to assimilating business intelligence as one interesting area of further research. Further, it would be of interest to examine how a more systematic approach to business intelligence can be useful and adapted to different local government conditions. Empirical research on meta-governance and how senior public leaders can manage the role of orchestrating collaborative arenas is also an interesting strand of research with strong connections to the development of strategic management, business intelligence and change in local governments.

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Appendix. The survey

How much does your organization <u>need</u> business intelligence?							
I: General orientation of municipal policy							
1. How many committees does the municipality have?							
	≤4	5-7	8-10	11-13	14-16	17-19	≥20
2. Primary municipal goals?							
Goals for the Department	1	2	3	4	5	6	7
							Goals for the Municipality
3. What are the Municipality's growth aims?							
No growth aims							Significant growth aims
4. To what extent does the Municipality invest in renewal?							
To a very low degree							To a very high degree
II: Complexity of the fulfilment of the municipal mission							
5. Applicable regulations (laws, regulations and public agency requirements) rarely change							
Agree							Disagree
6. How challenging are the socio-economic demographics of your municipality?							
Not at all							Very challenging
7. How challenging is the population's demographic composition in your municipality?							
Not at all							Very challenging
8. To what extent are municipal operations in-house?							
Internal suppliers only							External suppliers only
9. To what extent does the Municipality collaborate with external parties (e.g. other municipalities, government agencies, non-profit organizations)?							
Minimal							Extensive
10. The operations are mainly conducted using in-house resources.							
Agree							Disagree
11. Do you perceive that the Municipality's territorial characteristics (number of densely populated areas in the Municipality, its geographical location, long distances) facilitate the implementation of the municipal mission?							
To a very large extent							To a very low extent

12. Does the media actively cover your Municipality?									
To a very low extent									To a very large extent
13. In our Municipality there are good opportunities to expose municipal operations to competition									
Agree									Disagree
14. Do you find it easy to fill vacant positions in your Municipality?									
Very easy									Very difficult
III: Business environment volatility									
15. The business structure of the Municipality is characterized by a small number of large employers									
Disagree									Agree
16. The Municipality's inhabitants can easily access (commuteto) the labor market and the labor market is characterized by a wide range of opportunities									
Agree									Disagree
17. Business sector growth in the region is high									
Agree									Disagree
18. In recent years, the Municipality has been significantly affected by unexpected events									
Disagree									Agree
19. The reliability of the Municipality's latest forecasts has been good									
Agree									Disagree
20. The population of the Municipality has changed significantly in recent years									
Disagree									Agree
21. The driving forces of operational change in your municipality are									
Completely predictable									Not at all predictable
22. The Municipality's dependence on the equalization system is									
Very low									Very high
23. The likelihood of significant changes within the next five years is high									
Disagree									Agree
24. The citizens of the Municipality often mobilize opposition to decisions made									
Disagree									Agree
Total									

What <u>capacity</u> to conduct business intelligence does your organization have?									
IV: Dominant leadership philosophy and orientation									
25. The municipal council regularly discusses matters concerning business intelligence									
Disagree					Agree				
26. The municipal leadership often tests and challenges assumptions that are commonly taken for granted									
Disagree					Agree				
27. The municipal council usually addresses									
Short-term issues					Long-term issues				
V: Support provided by knowledge-management systems									
28. What is the quality of the data used for business intelligence?									
Poor; limited coverage and outdated					Excellent; wide coverage and up to date				
29. To what extent do the employees have access to the data contained in the organization?									
Limited access					Excellent accessibility				
30. To what extent are available databases used?									
Limited use					Extensive use				
31. What is the nature of the tools and systems that facilitate searching in databases									
Outdated, difficult to use					Modern, easy to use				
VI: Policy development									
32. To what extent are goals and visions generated through broad-based dialogue and participation?									
Limited extent					Significant extent				
33. Are different scenario techniques used in the development of goals and visions?									
Never					Frequently				
34. How flexible is your overall policy development process?									

Very low flexibility										Very high flexibility
35. To what extent are the views of citizens and other stakeholders integrated in policy development?										
To a very low degree										To a very high degree
VII: Your organizational configuration (structure and incentives)										
36. Is there any assignment of responsibility for identifying and acting on signs of change?										
Nobody is responsible										Clear assignment of responsibility
37. Are there well-developed procedures in place for detecting imminent changes?										
No routines										Well-developed routines
38. Are there incentives in place for encouraging and rewarding business intelligence?										
None										Well-developed
39. Are there assigned resources for business intelligence?										
None										Extensive
40. Are there designated resources for unexpected events?										
No										Yes
VIII: Your culture (values, beliefs and behaviors)										
41. Is there a willingness and a readiness to acknowledge and address signals about the outside world impact?										
Do not exist;										To a great extent; encouraged
no encouragement										
42. Is there a will and an ability to share business intelligence across organizational boundaries?										
Weak, inadequate										Excellent, constantly ongoing
Total										

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