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The effectiveness and specificity of change management in a public organization: Transformational leadership and a bureaucratic organizational structure

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ABSTRACT

There is an extensive private sector literature on organizational change management. However, recent studies have suggested that the specific context of public organizations may have consequences for the management organizational change. This study examines to what extent different change approaches and transformational leadership of direct supervisors contribute to the *effective* implementation of organizational change in public organizations, and to what extent the bureaucratic structure of public organizations makes the implementation of organizational change *specific*. The implementation of an organizational change in a Dutch public organization is studied using quantitative methods and techniques. The results indicate that bureaucratic organizations may effectively implement organizational change with both planned and emergent change approaches. The contribution of transformational leadership depends on the type of change approach and organizational structure. Transformational leadership behavior of direct supervisors contributes little to planned processes of change, but is crucial in emergent processes of change in a non-bureaucratic context. Although the literature on change management mostly emphasizes the leadership of senior managers, the leadership role of direct supervisors should not be overlooked during organizational change in public organizations.

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Introduction

There is an extensive private sector literature on organizational change management (Armenakis & Bedeian, 1999; Beer & Nohria, 2000; Burke, 2010; Self, Armenakis, & Schraeder, 2007). However, recent studies have questioned to what extent private sector change management techniques are applicable in a public sector context, and have suggested that the differences between the public and private sector could play a role (Boyne, 2006; Karp & Helgø, 2008; Kickert, 2013; Klarner, Probst, & Soparnot, 2008; Rusaw, 2007). Several authors have suggested that the specific context of public organizations may have consequences for the management organizational change (Burnes, 2009; Coram & Burnes, 2001; Isett, Glied, Sparer, & Brown, 2012; McNulty & Ferlie, 2004), but there is little empirical evidence concerning this issue. A recent literature review of research on change management in the public sector by Kuipers et al. (2013) found that most studies emphasize the content and context of change, instead of the implementation process. Moreover, Kuipers et al. conclude that many studies did not address the outcomes or success of a change intervention. Although there is substantial evidence that the implementation

of organization change often fails (Beer & Nohria, 2000; Burke, 2010; Burnes, 2011; Kotter, 1996), there is relatively little evidence about how organizational change can be effectively managed in the public sector (Fernandez & Pitts, 2007; Kickert, 2010).

This study aims to contribute to research on change management in public organizations by addressing the effectiveness and specificity of change management in public organizations. First, this study aims to identify what factors contribute to the *effective* implementation of organizational change in the public sector. As the implementation of organizational change ultimately depends on the support of employees (Bartunek, Rousseau, Rudolph, & DePalma, 2006; Herold, Fedor, & Caldwell, 2007). The concept of employee willingness to change is used to assess the degree to which employees support the implementation of change (Metselaar, 1997). Following the emphasis on the role of leadership in the change management literature (e.g. Gill, 2002; Higgs & Rowland, 2005, 2010; Karp & Helgø, 2008; Kotter, 1996), this study examines to what extent leadership contributes to employee willingness to change in the public sector. Attention is focused on the transformational leadership behavior of direct supervisors. In addition, this study accounts for the effects of different change management approaches that are outlined in the literature on change management (Beer & Nohria, 2000; By, 2005). We refer to these approaches as planned and emergent change (cf. Bamford & Forrester, 2003; Burnes, 1996, 2004; Kickert, 2010).

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Secondly, this study aims to examine to what extent the specific nature of public organizations makes the implementation of organizational change *specific*. A detailed literature exists about the specific characteristics of the objectives, environment, organizational structure of public sector organizations and the characteristics of their employees (e.g. Allison, 1979; Boyne, 2002; Farnham & Horton, 1996; Rainey, 2003; Rainey & Bozeman, 2000). In this study, attention is focused on the organizational structure. Public organizations typically operate under a strict legal framework and are confronted with high demands for accountability (Rainey, 2003). Because of this, public organizations tend to avoid risks by formalizing the operations and centralizing decision-making in the organization (Mintzberg, 1979). The organizational structure of public organizations is therefore generally said to be relatively bureaucratic (Boyne, 2002; Farnham & Horton, 1996). The organizational structure has traditionally been highlighted as a determinant of how organizations change (Burns & Stalker, 1961; Mintzberg, 1979). Moreover, Coram and Burnes (2001) and Isett et al. (2012) have argued that the bureaucratic organizational structure of public organizations may have a bearing on the management of change, but there is limited empirical evidence regarding this issue.

To summarize, the first objective of this study is to assess to what extent transformational leadership and different change management approaches contribute to willingness to change in a public organization. The second research objective is to examine to how these relationships are affected by bureaucratic organizational structure. The central research question is: *How is the effectiveness of transformational leadership behavior of direct supervisors in planned and emergent change affected by a bureaucratic organizational structure?*

In order to address the research objectives, the implementation of an organizational change in a Dutch public organization is analyzed using quantitative methods. In the next section, the literature concerning organizational change in the public sector is reviewed. Moreover, the relationships between leadership, processes of change and the organizational structure are discussed in order to formulate hypotheses. Methods, sample and measures provides an overview of the methods, sample and measures of this study. Results are presented in Analysis and Results, followed by a discussion of the results in Discussion, limitations, and implications for future research. In this section, limitations of the study and recommendations for future research are also discussed. The main conclusions are given in Conclusion.

Theoretical background and hypotheses

Organizational change in public organizations

Public organizations are often confronted with the need to implement organizational changes. However, the processes through which organizational change in public organizations come about have received relatively little attention in academic research (Kickert, 2010; Kuipers et al., 2013). A prominent line of research that focuses on organizational change in public organizations is the public management reform perspective (e.g. Boyne, Farrell, Law, Powell, & Walker, 2003; Kickert, 2007; Ongaro, 2010; Pollitt & Bouckaert, 2004). This perspective focuses on “the deliberate changes to the structures and processes of public sector organizations with the objective of getting them (in some sense) to run better” (Pollitt & Bouckaert, 2004, p. 8). However, the public management reform perspective is focused on the content and effects of organizational changes on the sector or national level (e.g. Ackroyd, Kirkpatrick, & Walker, 2007; Heinrich, 2002; Pollitt, 2000), rather than on the implementation processes

in individual organizations. As a consequence, the reform perspective has contributed little to insights about how the implementation of organizational change in the public sector is managed.

Theory on the management of organizational change management has traditionally been based on private sector research, cases and examples (Stewart & Kringas, 2003; Thomas, 1996). Change management research has addressed the role of contextual factors during organizational change (Armenakis & Bedeian, 1999; Pettigrew, Ferlie, & McKee, 1992; Pettigrew, Woodman, & Cameron, 2001), but not the specific contextual characteristics of public organizations (Kuipers et al., 2013). In the past decade, the issue of change management in public organizations has received increased attention (Fernandez & Pitts, 2007; Fernandez & Rainey, 2006). Recent studies have focused on organizational changes in different types of public sector organizations, such as health care organizations (Chustz & Larson, 2006; Isett et al., 2012; Klarner et al., 2008; McNulty & Ferlie, 2004), local government organizations (Liguori, 2012; Seijts & Roberts, 2011; Zorn, Page, & Cheney, 2000) and central government organizations (Coram & Burnes, 2001; Ryan, Williams, Charles, & Waterhouse, 2008; Sminia & Van Nistelrooij, 2006; Stewart & Kringas, 2003; Stewart & O'Donnell, 2007).

Despite the increased attention for organizational change in public organizations, the literature has two considerable shortcomings. Based on a review of the literature on organizational change in public organizations between 2000 and 2010, Kuipers et al. (2013) state that most of the studies were based on case-based design using qualitative methods. Such studies often emphasize the importance of leadership during change in public organizations (Karp & Helgø, 2008; Klarner et al., 2008; Ryan et al., 2008). Other than research conducted in the private sector (e.g. Herold, Fedor, Caldwell, & Liu, 2008; Higgs & Rowland, 2005, 2010; Liu, 2010), little research has studied the effects of leadership during change in public organizations (Fernandez & Pitts, 2007). A first shortcoming is thus that existing research has little attention for the *effectiveness* of leadership and different approaches to change. An exception is Hennessey (1998), who studied the influence of leadership competencies during the implementation of ‘reinventing government’ changes in the United States.

A second shortcoming concerns the lack of empirical evidence about the *specificity* of organizational change in the public sector. A central point of view in public management research is that private sector insights may not be applicable in public organizations (Boyne, 2006). There is a large literature on the specific characteristics of public organizations (e.g. Boyne, 2002; Rainey, 2003). In addition, many studies have suggested that the specific public sector context may influence organizational change (Isett et al., 2012; Klarner et al., 2008; McNulty & Ferlie, 2004). However, little research has empirically addressed the question what is specific or distinct about change in public organizations (exceptions are Kickert, 2013; Robertson & Seneviratne, 1995). While many recent studies have studied change in public organizations, the distinctive characteristics of public organizations are generally not accounted for in the design or variables of these studies (e.g. Chustz & Larson, 2006; Isett et al., 2012; Klarner et al., 2008; Sminia & Van Nistelrooij, 2006; Tummers, Steijn, & Beckers, 2012). As such, there is little empirical evidence about what makes change management specific in public organizations.

In order to formulate hypotheses about the effectiveness of organizational change in public organizations, change management and leadership theory is reviewed subsequently. Then, the relations between change and a bureaucratic organizational structure are discussed in order to formulate hypotheses concerning the specificity of organizational change in public organizations.

Processes of organizational change and its leadership

The support of employees is crucial for the successful implementation for organizational change (Bartunek et al., 2006; Herold et al., 2007). One of the central assumptions of the change management literature is that employee support for the implementation of organizational change is not only dependent on what changes – the content of change – but also on the process of change through which organizational change comes about (Armenakis & Bedeian, 1999; Self et al., 2007). Organizational change is thus something that can be managed. In this study, the concept willingness to change is used to account for the support of employees concerning organizational change. Metselaar (1997:42) defines willingness to change as “a positive behavioral intention towards the implementation of modifications in an organization’s structure, or work and administrative processes, resulting in efforts from the organization member’s side to support or enhance the change process.”

The change management literature consists of many different approaches, strategies, interventions and actions through which change can be implemented (e.g. Burke, 2010). The literature is dominated by the distinction between planned and emergent processes of change (Bamford & Forrester, 2003; By, 2005). Planned change occurs through a process of rational goal-setting in which change objectives are formulated in advance and implemented in a top-down fashion. The central assumption is that the organization must go through a number of phases in order to successfully change to a desired future state (Burnes, 1996, 2004). The emergent approach to change is a more devolved and bottom-up way to implement change (By, 2005). The content of change is not the starting point as in the planned approach to change, but rather the outcome of an emergent change process. Employees are not seen as passive recipients of the organizational change, but are stimulated to actively contribute to the change process (Russ, 2008).

Leadership is generally highlighted as one of the key drivers of the implementation of organizational change (Herold et al., 2008; Higgs & Rowland, 2005, 2010, 2011; Liu, 2010). A great deal of the change management literature is therefore concerned with change leadership. Change management refers to the process of change: the planning, coordinating, organizing and directing of the processes through which change is implemented, while leadership is aimed at the motivation and influence of employees (Gill, 2002; Spicker, 2012). Change management can thus be seen as a *sine qua non*, while the successful organizational change ultimately requires leadership to be enacted (Eisenbach, Watson, & Pillai, 1999). Research on change leadership is mostly directed at the role of senior executives or the role of a guiding coalition at the top of the organization (e.g. Fernandez & Rainey, 2006; Hennessey, 1998; Kotter, 1996). However, Burke (2010) argues that senior managers often initiate organizational change, while the implementation of change relies on lower level leadership. This study is therefore aimed at examining the contribution of leadership enacted by direct supervisors.

The main leadership theory that emphasizes organizational change is the theory of transformational leadership (Bass, 1985, 1999). This theory states that “by articulating a vision, fostering the acceptance of group goals, and providing individualized support, effective leaders change the basic values, beliefs, and attitudes of followers so that they are willing to perform beyond the minimum levels specified by the organization” (Podsakoff, MacKenzie, & Bommer, 1996, p. 260). Transformational leadership can be expected to be especially effective in times of organizational change (Conger, 1999; Herold et al., 2008; Liu, 2010; Pawar & Eastman, 1997; Shamir & Howell, 1999). Den Hartog, Van Muijen, and Koopman (1997, p. 20) argue how transformational leadership can ultimately transform the organization “by defining the need for

change, creating new visions, [and] mobilizing commitment to these visions.”

Although studies often highlight the importance of leadership during change (e.g. Gill, 2002; Kotter, 1996), there is little empirical evidence concerning the influence of transformational leadership on employee support for change (Burke, 2010; Herold et al., 2008), especially in the public sector (Fernandez & Pitts, 2007). Rather than seeing change as a contextual factor which may influence the effectiveness of transformational leadership (Pawar & Eastman, 1997; Shamir & Howell, 1999), Eisenbach et al. (1999, p. 84) have argued how transformational leaders can be expected to execute the phases of change that are highlighted in the literature on planned organizational change (e.g. Fernandez & Rainey, 2006; Kotter, 1996). For example, transformational leaders may initiate change by developing an appealing future vision for the organization, which is generally seen as a crucial first step in the implementation of planned change (Kanter, Stein, & Jick, 1992; Kotter, 1996). Moreover, transformational leaders can be expected to contribute to the implementation of change by providing intellectual stimulation through the formulation of challenging objectives and the stimulation of new ways of thinking (Eisenbach et al., 1999). Similarly, Higgs and Rowland (2011: 329) have noted parallels between the idealized influence and inspirational motivation provided by transformational leaders, and the behaviors of leaders in the implementation of planned change, such as envisioning a future state, role modeling and giving individual attention to employees (Gill, 2002; Higgs & Rowland, 2010).

In planned processes of change, transformational leaders can thus be expected to be uniquely effective change leaders (Eisenbach et al., 1999; Higgs & Rowland, 2011). However, organizational change can also come about through emergent processes of change (Burnes, 2004; By, 2005), and different change processes may call for a different role of leadership (Weick & Quinn, 1999). Rather than initiating and directing the implementation of change, leadership in emergent processes of change may consist of delegating responsibilities and creating capacity among employees to implement the change (Higgs & Rowland, 2005, 2010; Van der Voet, Groeneveld, & Kuipers, 2013). The following hypothesis is proposed:

H1. A higher degree of transformational leadership will increase the effectiveness of a planned process of change, but it will not increase the effectiveness of an emergent process of change.

Bureaucratic organizational structures and processes of change

In recent years, several studies have investigated the influence of contextual factors on the outcomes of organizational change (e.g. Devos, Buelens, & Bouckenoghe, 2007; Rafferty & Restubog, 2009; Self et al., 2007). Several authors point out the relevance of organizational structure as a relevant contextual factor during organizational change. For example, Weick and Quinn (1999) argue that classic machine bureaucracies will require being unfrozen before organizational changes can take place. Similarly, Coram and Burnes (2001) argue that a planned approach to change is most suitable for rule-based, rigid structures. Burnes (1996) states that a top-down bureaucratic management style is associated with planned change, while a more decentralized, flexible management style corresponds with emergent change. However, little research has focused on how the effectiveness of different change approaches is affected by a bureaucratic organizational structure.

In organization theory, the term bureaucracy refers to an ideal typical organization that stresses a formal hierarchy, rules, specialization, impersonality, routine and merit-based

employment (Morgan, 1996). In general, the term bureaucracy is more often used to refer to negative aspects of rule-based, mechanistic organizations than to the ideal type organizational structure. The degree to which an organization is bureaucratic is dependent, among others, on the degree of centralization and formalization (Aiken & Hage, 1971; Burns & Stalker, 1961; Mintzberg, 1979). Rainey (2003) and Rainey and Bozeman (2000) also list red tape as a characteristic of bureaucracies. In this study, a bureaucratic organizational structure is defined as a high degree of centralization, formalization and red tape (compare Burns & Stalker, 1961; Rainey, 2003). Centralization refers to the degree to which members participate in decision-making (Aiken & Hage, 1968). Formalization is the degree to which organizational activities are manifested in written documents regarding procedures, job descriptions, regulations and policy manuals (Hall, 1996). Red tape concerns the negative effects of these rules, procedures and instructions (Bozeman & Scott, 1996). Red tape is, by this definition, thus necessarily a pathology and formalization can be said to lead to red tape but is not by itself red tape (Pandey & Scott, 2002).

As there is little empirical evidence concerning the direct relationships between organizational structure and processes of change, we base our arguments on the broader literature about organization theory, innovation, entrepreneurship and strategy. A high degree of centralization can be said to diminish the likelihood that organizational members seek new or innovative solutions (Atuahene-Gima 2003; Damanpour 1991). Similarly, centralization is related to stability, while innovative, prospecting organizations are characterized by decentralized decision-making structures (Andrews, Boyne, Law, & Walker, 2007). Moon (1999) argues that centralized organizations are less responsive to environmental demands, because mid-level managers and operators are less autonomous and flexible in their interactions with clients. A high degree of formalization can also be expected to impede processes of adaptation and learning. The amount of required paperwork and written rules tends to cause administrative delay and poor communication with costumers (Hage & Aiken, 1970). Moreover, a high degree of formalization is negatively related to innovation (Walker, 2008), experimentation and ad hoc problem solving efforts (March & Simon, 1958) and managerial entrepreneurship (Moon, 1999). Red tape can also be expected to impede an organization's capability to adapt to its environment, as it may cause unnecessary delays (Bozeman & Scott, 1996). Moon and Bretschneider (2002) find that red tape is negatively related to the implementation of IT innovations.

Most of the above studies delve into the relationship between organizational structure and change. As such, a bureaucratic organizational structure can be expected to lead to the adoption of a planned approach to change, while a non-bureaucratic organizational structure would make the adoption of an emergent approach more likely. However, as the organizational structure forms the context in which changes take place, the organizational structure is seen as a moderating influence on the effectiveness of processes of change in this study (compare Self et al., 2007). Hypotheses are therefore formulated about the moderating influence of a bureaucratic organizational structure on the effectiveness of planned and emergent approaches to change:

H2. The more bureaucratic the organizational structure, the more employee willingness to change is positively influenced by a planned process of change.

H3. The less bureaucratic the organizational structure, the more employee willingness to change is positively influenced by an emergent process of change.

Methods, sample and measures

Case selection and methods

An organizational change within the Dutch public organization Urban Development Rotterdam (*Stadsontwikkeling Rotterdam*) was selected as a case for this study. This organization is the result of a recent merger of two former organizational units: the Development Agency Rotterdam (DAR) and the Agency of City Construction and Housing (ACCH). The organization was selected because of the organization-wide changes in both the organizational structure and culture that were taking place at the moment of data collection. The departments within the organizational units approached the organizational changes in different ways. For some, the organization-wide changes resulted in programmatic, planned change processes. For other departments, the changes took the form of more gradual, emergent changes. A quantitative approach was used to address the study's hypotheses. An online questionnaire was used to measure the perceptions of individual employees regarding the organizational structure, the leadership style of their direct supervisor and the current organizational changes in their organization. The data were collected in May 2012. In all, 580 of 1353 employees filled out the online survey, a response rate of 42.8%.

Procedure

In order to account for the moderating effect of the bureaucratic structure on the relationship between the change process and willingness to change, two groups of respondents are compared that differ significantly on the degree of bureaucratic organizational structure. The measure of the degree of bureaucratic structure is outlined first. Subsequently, the method of distinguishing between high and low level of perceived bureaucratic structure is explained.

The conceptualization of bureaucratic structure in this study is a combination of separate measures for centralization, formalization and red tape (compare Rainey, 2003). Aiken and Hage (1968) propose a measure for centralization that consists of two dimensions: 'participation in decision making' and 'hierarchy of authority.' In an examination, Dewar, Whetten, and Boje (1980) confirm the validity and reliability of these scales. In accordance with other research, for example Jaworski and Kohli (1993) and Pandey and Wright (2006), centralization is measured with the Aiken and Hage (1968) scale for 'hierarchy of authority.' This measure consists of five items that are measured on a fourpoint Likert scale. The Cronbach's alpha for this measure is .864. Aiken and Hage (1968) also propose a measure for formalization. However, Dewar et al. (1980) conclude that the discriminant validity of these scales is unsatisfactory. Another measure is proposed by Desphande and Zaltman (1982). This study uses a shortened version of this scale that is also used by Jaworski and Kohli (1993). This measure consists of 7 items. The items are measured on a fourpoint Likert scale and the Cronbach's alpha for this measure is .728. In order to assess the level of red tape experienced, the single item measure proposed by Pandey and Scott (2002) is used. According to the authors, this measure is most congruent with conceptual definitions offered by Bozeman (1993) and Bozeman and Scott (1996).

Significant differences exist in the degree in which the organizational structure of the departments within the organization is bureaucratic. Departments within the organization were classified according to the organizational unit they were formerly a part of. However, some departments (mostly staff departments such as personnel, finance and IT) in the merger organization are a mix

of both DAR and ACCH employees. These cases were therefore removed from the dataset. The effective sample consists of 284 employees. A *t*-test indicates that the reported score on perceived bureaucratic structure is significantly higher among respondents in former DAR departments than respondents in former ACCH departments ($F = 4.552, p = .044$). Although the concepts concerning the organizational structure are measured at an individual level, the data show that former DAR departments are significantly more bureaucratic than the departments that were part of ACCH. In order to account the moderating effect of organizational structure, a highly bureaucratic model (employees in DAR departments) is compared with a low bureaucratic model (employees in ACCH departments).

Measures

A full list of measures is given in appendix A. Unless stated otherwise, all measures were based on a five point Likert scale.

Planned change and emergent change. Despite the dominance of the planned and emergent approach to change in the literature on change management, the literature offers virtually no quantitative measures for these concepts. The only available measure is proposed by Farrell (2000). This measure consists of six items for planned change and five items for emergent change and is measured on a seven point scale. The Cronbach's alpha for the measure of planned change was unsatisfactory. Similar to the original study by Farrell (2000) and based on a factor and reliability analysis, three items of this scale for planned change scale were not included in the analysis. Despite these modifications, the Cronbach's alpha is only .688.¹ The Cronbach's alpha for the measure of emergent change is .739. However, one item was removed as it did not load on both the factor of both planned and emergent change in an exploratory factor analysis. As a result, the internal consistency of the scale was improved to a Cronbach's alpha of .820, which can be considered to be very good (DeVellis, 1991). However, these alterations make it apparent that the current available measures for planned and emergent change proposed by Farrell (2000) are not fully valid and reliable. This issue is further discussed in the discussion of this study.

Transformational leadership. The measure of Podsakoff, MacKenzie, Moorman, and Fetter (1990) for transformational leadership was used. This measure consists of 21 items and contains the dimensions articulating vision, provide appropriate model, foster acceptance goals, high performance expectancy, individual support and intellectual stimulation. Cronbach's alpha for this measure was .944.

Willingness to change. Willingness to change is measured based on the validated scale by Metselaar (1997). The measure consists of 4 items with a Cronbach's Alpha of .890. The concept willingness to change is preferred over other psychological constructs such as commitment to change (Herscovitch & Meyer, 2002) or cynicism to change (Bommer, Rich, & Rubin, 2005), because it not only measures employee attitudes about change, but also their behavioral intentions.

Controls. We control for age, education level (ranging from 1: Primary school through 7: Ph.D.) and organizational tenure. Moreover, dummy variables are included to account for the gender of respondents and whether or not respondents have a supervisory position.

Analysis and results

Descriptive statistics and correlations

The mean scores, standard deviations and correlations of all variables in this study are presented in Table 1. The mean scores of the variables indicate that the average age of the sample is 45.8 years with an average tenure of 12.7 years. The average score on education level is 5.1 (range 1–7), which indicates a relatively highly educated workforce (5 = applied university). The majority of the respondents is male and 13% of the respondents has a supervisory position. The average scores on planned and emergent change are just below the theoretical mean of 4 on the 7-point Likert scale. The score on willingness to change shows a mild favorability toward the organizational changes in the organization. The correlations indicate a relatively strong correlation between planned and emergent change (.358, $p < .01$). Moreover, all central variables (emergent change, planned change and transformational leadership) are positively and significantly related to employee willingness to change.

Regression analyses

The hypotheses are tested by means of linear regression. Interaction variables were computed in order to account for the interaction effects between transformational leadership, planned change and emergent change (H1). The independent variables were therefore standardized for the analysis. Moreover, a low and high bureaucracy model are compared in order to account for the moderating effects of organizational structure (H2 and H3). The general model consists of both the low and high bureaucracy model. Sample size, constant and adjusted R square are reported for all three models.

The regression analysis for the general model indicates that both planned and emergent processes of change are positively related to employee willingness to change. The effect of planned change is significant ($p < 0.05$), while the effect of emergent change is not. Transformational leadership is also positively and significantly related to willingness to change. Of the control variables, age and supervisory position are positively related to willingness to change, while a negative relationship exists between tenure and employee willingness to change.

In the low bureaucracy model, there are considerably less significant explanatory variables for employee willingness to change. Neither the planned approach to change nor the emergent approach to change is positively related to employee willingness to change. The control variables indicate that supervisors are significantly more likely to have a positive attitude toward organizational changes in the organization. In the high bureaucracy model, both planned and emergent change are positively and significantly related to employee willingness to change. Hypothesis 2 is supported by the data because planned change is positively related to employee willingness to change in the high bureaucracy model, but not in the low bureaucracy model. Hypothesis 3 is rejected, since emergent change is also more effective in the high bureaucracy model than in the low bureaucracy. Similar to the general model, the effects of age and tenure are significant in the high bureaucracy model. The positive effect of transformational leadership behavior of direct supervisors is no longer significant in the low and high bureaucracy model.

The regression analyses in Table 2 indicate that there are two significant interaction effects. In the general model, the interaction effect between planned change and transformational leadership is negatively related to employee willingness to change. In Fig. 1, this interaction-effect is plotted to allow interpretation.

¹ This value is below 0.70, which is seen as an acceptable degree of internal consistency. However, Kline (1999) states that a Cronbach's alpha below .70 can be acceptable for a psychological construct. DeVellis (1991) states that while a value of over .70 is respectable, a value between .65 and .70 is minimally acceptable.

Table 1
Means, standard deviations and correlations.

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Age	45.80	10.19	1								
2. Female gender (1 = yes)	0.37	0.24	-.204**	1							
3. Education level	5.10	1.14	-.269**	-.006	1						
4 Tenure	12.74	10.37	.614**	-.211**	-.258**	1					
5. Supervisory position (1 = yes)	0.13	.38	.185**	-.149*	.102	.130*	1				
6. Planned change	3.73	1.19	.129 [†]	-.092	-.092	.025	-.028	1			
7. Emergent change	3.99	1.20	.118	-.063	-.082	.119	.131*	.358**	1		
8. Transform leadership	3.20	0.64	.067	.019	-.029	-.026	.142*	.276**	.269**	1	
9. Willingness to change	3.57	0.73	.037	-.027	.127*	-.099	.206**	.238**	.220**	.254**	1

[†] Indicates a significant effect on the $p < .05$ level.

** Indicates a significant effect on the $p < .01$ level.

Table 2
Regression analysis.

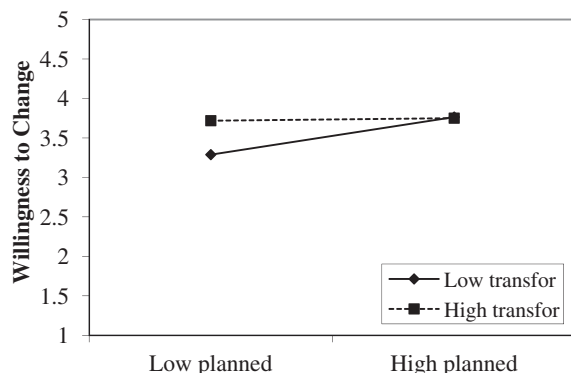
	General model (n = 200)	Low bureaucracy model (n = 105)	High bureaucracy model (n = 95)
Constant	3.630	3.538	3.657
Age	.179 [†]	.043	.259 [†]
Gender	.061	.073	.049
Education level	.086	.111	.129
Tenure	-.226**	.019	-.406***
Supervisor	.172 [†]	.224 [†]	.096
Planned change	.169 [†]	.113	.251 [†]
Emergent change	.139+	-.038	.237 [†]
Transformational leadership	.142 [†]	.199 [†]	.154
Planned* transformational	-.173*	-.124	-.085
Emergent* transformational	.046	.222 [†]	-.106
Adjusted R square	.192	.109	.336

[†] Indicates a significant effect on the $p < .1$ level.

* Indicates a significant effect on the $p < .05$ level.

** Indicates a significant effect on the $p < .01$ level.

*** Indicates a significant effect on the $p < .001$ level.

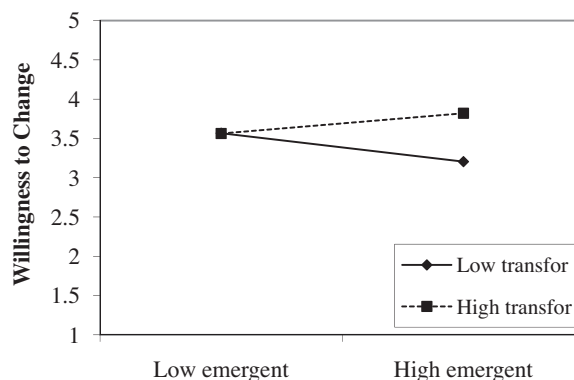
**Fig. 1.** Interaction effect planned change and transformational leadership (general model).

The interaction effect plotted in Fig. 1 indicates that the effectiveness of a planned process of change is dependent on the leadership style of the direct supervisor. In processes that have little characteristics of a planned change process, a higher degree of transformational leadership contributes to a higher level of employee willingness to change than a lower degree of transformational leadership. However, in a process that has many characteristics of planned change, this added value of a high degree of transformational leadership is no longer present.

The second interaction effect in hypothesis 1 concerns the combined effectiveness of an emergent change approach and transformational leadership. Hypothesis 1 states that a higher degree of transformational leadership of direct supervisors will not increase the effectiveness of an emergent approach to change. In the general model, the data support the data, as the effect of the computed interaction effect is not significant. However, in the low

bureaucracy model, the relationship between emergent change and employee willingness to change is positively and significantly affected by a transformational leadership style. In order to interpret the effect, the interaction effect is plotted in Fig. 2.

The interaction effect in Fig. 2 indicates that the effectiveness of emergent change is dependent on the transformational leadership activities of direct supervisors. In processes with little emergent characteristics, the degree of employee willingness to change is not affected by transformational leadership behavior. However, in highly emergent processes of change, a high degree of transformational leadership behavior significantly increases the effectiveness of an emergent approach to change. Moreover, the absence of transformational leadership in this situation will decrease the effectiveness of an emergent change process.

**Fig. 2.** Interaction effect emergent change and transformational leadership (low bureaucracy model).

Summing up the results of both interaction effects, the data contradict hypothesis 1. According to our study, a transformational leadership style is of little added value in planned processes of change. Rather, the effects of a planned change approach and the transformational leadership behavior of direct supervisors seem interchangeable: either a transformational leadership style or a highly planned approach will lead to comparable levels of employee willingness to change but a combination of both does not lead to increased effectiveness. In contrast, and contrary to hypothesis 1, transformational leadership behavior of direct supervisors does increase the effectiveness of emergent processes of change, but only in situations with a low degree of bureaucratic organizational structure.

Discussion, limitations, and implications for future research

The results of the study are contrary to the theoretical expectations expressed in hypothesis 1. It was assumed that transformational leadership of the direct supervisor would be beneficial in planned processes of change, while it would be redundant in more emergent change. However, the results indicate that in highly planned processes of change, a low and high degree of transformational leadership results in an equal level of employee support. A possible interpretation of this unexpected result is that planned processes of change are already very management driven. The leadership role is mostly filled in by higher level managers or a guiding coalition at the top level of the organization (e.g. Fernandez & Rainey, 2006; Kotter, 1996). Because of this, the additional contribution of the leadership of direct supervisors may be very limited.

Moreover, the result concerning the effect of transformational leadership in an emergent process of change is contrary to hypothesis 1. In the general model, there is no significant moderating effect of direct supervisor transformational leadership behavior on the relationship between emergent change and employee willingness to change, which is according to the theoretical expectations. However, in the low bureaucracy model, a significant interaction effect does exist. When change processes take on more emergent characteristics, the transformational leadership behavior of direct supervisors becomes a crucial condition for creating employee support. Without a transformational leadership role of direct supervisors, an emergent change approach is negatively related to employee willingness to change. The presence of transformational leadership behavior results in a positive relationship between an emergent change approach and the willingness of employees to implement change. While planned change approaches rely on the leadership of senior managers to be enacted (Kanter et al., 1992; Kotter, 1996), emergent processes of change are more bottom-up and devolved. Such change processes therefore rely more on the leadership behavior of lower level managers (Borins, 2002; Van der Voet et al., 2013).

In the literature on organizational change, planned change is assumed to be more appropriate for highly bureaucratic organizations (e.g. Coram & Burnes, 2001; Weick & Quinn, 1999). In their study of organizational change in six Australian federal agencies, Stewart and Kringas (2003) indeed find that top-down approaches are most applied. In this study, the effectiveness of planned and emergent change processes was examined. The results of this study indicate that both planned and emergent processes of change are viable options for bureaucratic organizations. This could indicate that a combination of both planned and emergent change may be an effective approach to organizational change in bureaucratic organizational settings. This result is coherent with Ryan et al. (2008), who have argued that planned change should be supplemented with other change strategies. Several authors

(for example Beer & Nohria, 2000; Sminia & Van Nistelrooij, 2006) discuss the simultaneous application of both planned and emergent approaches to change. In a highly bureaucratic organization, an organizational change may require the top-down activation of employees by a top-management intervention, after which a bottom-up process may be initiated in which employees are involved in establishing the exact course of action. The data do not support hypothesis 3. Emergent change in itself was not found to be significantly related to employee willingness to change in the low bureaucracy model. In this situation, emergent change can only be an effective approach to change when combined with a transformational leadership style of direct supervisors.

Most of the research concerning planned and emergent change is qualitative. In this study, planned and emergent change were measured with a quantitative measurement scale. The only available measure in the literature is proposed by Farrell (2000). However, both the reliability and validity of the measurement instrument has proven to be insufficient. First, the internal consistency of the scale for planned change is below the generally accepted Cronbach's alpha of 0.70. Even after dismissing several items, as is also done by the original author, the internal consistency remains below .70. Second, one of the items of the scale of emergent is poorly formulated as it loads on both the factor of planned and emergent change in a factor analysis. Third, the validity of both scales is questionable, as the items do not encompass the full concepts of planned and emergent change. The scale for planned change includes items that account for the top-down, management-driven and controlled nature of planned change, but misses items that account for the clearly formulated objectives (By, 2005), the desired future state (Burnes, 1996, 2004) and the emphasis on the resolution of conflict (Burnes et al., 2009). The measure for emergent change is based entirely on aspects of organizational learning and environmental adaptation, and misses aspects of the local, bottom-up, participative nature of emergent change (Bamford & Forrester, 2003) and its emphasis on improving organizational capability (Beer & Nohria, 2000; Weick, 2000). A first recommendation for future research is therefore to improve the available measures for planned and emergent change by elaborating on the conceptual range of the measures and testing the consistency of the measure in a confirmatory factor analysis. Follow-up research based on a mixed mode approach may prove especially fruitful. The combined application of qualitative and quantitative research methods may contribute to the formulation of quantitative measures, informed by an earlier qualitative step. Mixed method research may thus result in the creation of better, more informed quantitative measures and more resonance between qualitative and quantitative research on change management.

Another limitation of this study concerns the internal validity of the results. Both dependent and independent variables were measured on the employee level. Therefore, the relationships between the variables may be partly due to the method of data collection (Meier & O'Toole, 2012; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Causal inferences are based on theory, rather than observed temporal sequence. A second recommendation for future research is therefore to measure concepts on multiple levels in the organizational hierarchy and among different groups of respondents, as well as using a longitudinal research design. Because this study is based on a case-based design, the study's results may not be statistically generalized beyond the case that was studied. Similar to most of the change management literature, generalizing results is difficult because of organizational, historical and contextual differences. Future research concerning change management in public organizations should thus emphasize analytical rather than statistical generalization (Yin, 2009).

Despite these limitations, this study has shown that the specific characteristics of public organizations may have important implications for effectiveness of different change approaches and leadership. Another recommendation for future research is therefore to devote more attention to the research of contextual factors influencing the effectiveness and appropriateness of different approaches to change. A possible direction for future research could be the influence of the complex and political environment of public organizations on the implementation and leadership of organizational change.

Conclusion

The aim of this study was to examine the effectiveness and specificity of change management in a public organization. The study assessed to what extent employee willingness to change is explained by transformational leadership and different change approaches. Moreover, the study examined to what extent these relationships were affected by the bureaucratic organizational structures that typically characterizes public organizations. The results indicate that both the planned and emergent approach to change are effective ways of bringing about change in a bureaucratic context. The transformational leadership behavior of direct supervisors contributes little to planned processes of change. However, transformational leadership is crucial in emergent processes of change, but only in a non-bureaucratic context. Although the literature on change management mostly emphasizes the leadership of senior managers, the leadership role of direct supervisors should not be overlooked during organizational change in public organizations.

Appendix A. Measures

Centralization (Aiken and Hage, 1968; Jaworski and Kohli, 1993; Pandey and Wright, 2006)

1. There can be little action taken here until a supervisor approves a decision.
2. A person who wants to make his own decision would be quickly discouraged here.
3. Even small matters have to be referred to someone higher up for a final answer.
4. I have to ask my boss before I do almost anything.
5. Any decision I make has to have my boss' approval.

Formalization (Desphande and Zaltman, 1982; Jaworski and Kohli, 1993)

1. I feel that I am my own boss in most matters. (R)
2. A person can make his own decisions without checking with anybody else. (R)
3. How things are done around here is left up to the person doing the work. (R)
4. People here are allowed to do almost as they please. (R)
5. Most people here make their own rules on the job. (R)
6. The employees are constantly being checked on for rule violations.
7. People here feel as though they are constantly being watched to see that they obey all the rules.

Red tape (Pandey and Scott, 2002)

1. If red tape is defined as burdensome administrative rules and procedures that have negative effects on the organization's effectiveness, how would you assess the level of red tape in your organization?

Planned change (Farrell, 2000)

1. Emanates from senior management.+
2. Occurs through company-wide change programs.
3. Occurs through changing individual knowledge and attitudes.+
4. Occurs in an unplanned fashion.+ (R)
5. Occurs through a systematic process of well-managed events.
6. Is monitored through regular progress survey.

Emergent change (Farrell, 2000)

1. Occurs through continually learning about our environment.
2. Occurs by encouraging employees to understand and adapt to changing circumstances in our environment.
3. Is part of an ongoing process of adapting to our environment.
4. Is a slow process, which emerges over time.+
5. Is about matching the organizations' capabilities to the business environment.

Transformational leadership (Podsakoff et al., 1990)

My direct supervisor ...
Articulating vision

1. Is always seeking new opportunities for the organization
2. Inspires others with his/her plans for the future.
3. Is able to get others committed to his/her dream.

Provide appropriate model

1. Leads by "doing," rather than simply by "telling."
2. Leads by example.
3. Provides a good model for me to follow.

Foster acceptance goals

1. Fosters collaboration among work groups.
2. Encourages employees to be "team players."
3. Gets the group to work together for the same goal.
4. Develops a team attitude and spirit among employees.

High performance expectancy

1. Shows us that he/she expects a lot from us.
2. Insists on only the best performance.
3. Will not settle for second best.

Individual support

1. Acts without considering my feelings. (R)
2. Shows respect for my personal feelings.
3. Behaves in a manner thoughtful of my personal needs.
4. Treats me without considering my personal feelings. (R)

Intellectual stimulation

1. Challenges me to think about old problems in new ways.
2. Asks questions that prompt me to think.
3. Has stimulated me to rethink the way I do things.
4. Has ideas that have challenged me to reexamine some of the basic assumptions of my work

Willingness to change

1. I intend to try to convince employees of the benefits the changes and developments within Urban Development Rotterdam will bring.

2. I intend to put effort into achieving the goals of the changes and developments within Urban Development Rotterdam.
3. I intend to reduce resistance among employees regarding the changes and developments within Urban Development Rotterdam.
4. I intend to make time to implement the changes and developments within Urban Development Rotterdam.

+ Indicates item is not included in the analysis
(R) Indicates item is reversed in the analysis

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