



## Complexity leadership in bureaucratic forms of organizing: A meso model

Mary Uhl-Bien<sup>a,\*</sup>, Russ Marion<sup>b,1</sup>

<sup>a</sup> Department of Management, University of Nebraska, P.O. Box 880491, Lincoln, NE 68588-0491, United States

<sup>b</sup> Educational Leadership, School of Education, Clemson University, Clemson, SC 29631-0710, United States

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### ABSTRACT

We consider Complexity Leadership Theory [Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity Leadership Theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*.] in contexts of bureaucratic forms of organizing to describe how adaptive dynamics can work in combination with administrative functions to generate emergence and change in organizations. Complexity leadership approaches are consistent with the central assertion of the meso argument that leadership is multi-level, processual, contextual, and interactive. In this paper we focus on the adaptive function, an interactive process between adaptive leadership (an agentic behavior) and complexity dynamics (non-agentic social dynamics) that generates emergent outcomes (e.g., innovation, learning, adaptability) for the firm. Propositions regarding the actions of complexity leadership in bureaucratic forms of organizing are offered.

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In recent years, scholars have begun to develop new approaches to leadership grounded in complexity theory (Boal & Schlultz, 2007; Hazy, 2007; Lichtenstein, Uhl-Bien, Marion, Seers, Orton, & Schreiber, 2006; Lord, 2008; Marion & Uhl-Bien, 2001; McKelvey, 2003; Osborn & Hunt, 2007; Plowman, Baker, et al., 2007; Schreiber & Carley, 2008; Schneider, 2002; Schneider & Somers, 2006; Surie & Hazy, 2006; Uhl-Bien, Marion, & McKelvey, 2007). These approaches are motivated by the desire to develop leadership models that more accurately reflect the complex nature of leadership as it occurs in practice (cf. Snowden & Boone, 2007). They represent a growing sentiment that traditional models of leadership are insufficient for understanding the dynamic, distributed, and contextual nature of leadership in organizations (Gronn, 2002; Hunt & Dodge, 2000; Johannessen & Stacey, 2005; Marion & Uhl-Bien, 2001; McKelvey, 2008; Osborn, Hunt, & Jauch, 2002; Rost, 1991; Stacey, 1993, 2003).

At its most basic level, Complexity Leadership Theory (CLT) is about leadership *in* and *of* complex adaptive systems, or CAS. CAS are neural-like networks of interacting, interdependent agents who are bonded in a collective dynamic by common need (Cilliers, 1998; Holland, 1995; Langston, 1986; Marion, 1999). They are capable of solving problems creatively and are able to learn and adapt quickly (Carley & Hill, 2001; Carley & Lee, 1998; Goodwin, 1994; Levy, 1992). As described by Levy (1992 cited in Boal & Schlultz, 2007, p. 413):

A complex system is one whose component parts interact with sufficient intricacy that they cannot be predicted by standard linear equations; so many variables are at work in the system that its over-all behavior can only be understood as an emergent consequence of the holistic sum of the myriad behaviors embedded within. Reductionism does not work with complex systems, and it is now clear that a purely reductionist approach cannot be applied; ...in living systems the whole is more than the sum of its parts. This is the result of....complexity which allows certain behaviors and characteristics to emerge unbidden. (pp. 7–8).

The value of adding a CAS perspective to leadership is that it offers a paradigm for thinking about leadership from which we can more easily explore issues that confound us from a traditional view—issues of shared, distributed, collective, relational, dynamic, emergent and adaptive leadership processes (Drath et al., 2008; Gronn, 2002; Brown & Gioia, 2002; Pearce & Conger, 2003).

\* Corresponding author. Tel.: +1 402 472 2314.

E-mail addresses: [mbien2@unl.edu](mailto:mbien2@unl.edu) (M. Uhl-Bien), [Marion2@clemson.edu](mailto:Marion2@clemson.edu) (R. Marion).

<sup>1</sup> Tel.: +1 864/656 5105.

Complexity theory allows us to explore these issues by focusing on agent interaction through CAS dynamics—the emergent properties through which CAS form and operate.

In the present paper we develop a meso model of Complexity Leadership Theory (CLT) for bureaucratic forms of organizing. CLT is a change model of leadership that helps administrative leaders understand how to design robust, dynamically adapting organizations and how to utilize an often untapped resource: the informal dynamics within an organization. We ground our model in classic work on informal behaviors in organizations (Barnard, 1938; Homans, 1950; Selznick, 1949), but we extend beyond these views to explore the interactive, emergent and dynamic nature—the CAS dynamics—of this informal organization.

An important point to note about our framework is that the term “complexity” is not intended to mean “complicated,” as was suggested by systems and contingency theorists in the mid-twentieth century (Buckley, 1967; Perrow, 1972). Rather, complexity is a specific term drawn from complexity science (cf. Snowden & Boone, 2007) that refers to the “complex” (CAS) dynamics that result from a rich, evolving interaction of simple elements responding to the limited information with which each of them is presented (Cilliers, 1998). CAS dynamics represent the self-organizing mechanisms through which complex systems develop and change their internal structure spontaneously and adaptively to cope with (or manipulate) their environment (Cilliers, 1998). Complexity leadership, then, is about leadership in and of *complex* (CAS) dynamics. We turn to this important point next.

## 1. Complexity Leadership Theory

Complexity Leadership Theory (CLT) is the study of the interactive dynamics of complex systems (CAS) embedded within contexts of larger organizing systems. The significance of CAS dynamics for the study of leadership can only be understood by recognizing the meaning of the term *complexity* (see Cilliers, 1998, Ch. 1 for a good overview of complexity and CAS; see also Snowden & Boone, 2007).

In complexity science, complexity does not mean a lot of pieces or parts, or being intricate (i.e., “complicated”), as in traditional usage. *If one interprets complex or complexity to mean complicated they are missing the point* (and missing the paradigm shift that complexity offers, see Plowman & Duchon, 2008). Instead, its usage conveys a *sense of rich interconnectedness and dynamic interaction* that is generative of emergence in and among CAS. As described by Cilliers (1998, see p. viii), if a system can be given a complete description in terms of its individual constituents (despite a huge number of components), it is merely *complicated*—e.g., jumbo jets or computers are complicated. If relationships in a system cannot be fully explained by analyzing its individual components because they are not fixed but shifting and changing, it is *complex* (e.g., the brain is complex). This complexity results in novel features (e.g., self-organization) usually referred to as *emergent properties*. For example, natural language, the Brazilian rainforest and social systems are complex because they are richly interactive, emergent, nonlinearly dynamic, and unpredictable (Cilliers, 1998; Snowden & Boone, 2007).

In Complexity Leadership Theory such complexity (CAS) can be seen as occurring in a variety of organizing systems, including bureaucracy (the focus of this paper), network structures (e.g., terrorist networks, see Marion & Uhl-Bien, 2003), open source systems (e.g., Linux, cf. O'Mahony & Ferraro, 2007), markets (e.g., one may view an entire organization as a CAS operating in a market system), heterarchy (Fairtlough, 2005), “starfish” organizations (Brafman & Beckstrom, 2006), etc.<sup>2</sup> Alternatively, the organizing system of interest in the study of complexity leadership may be the CAS itself. The type of organizing system in which CAS are embedded will necessarily change the issue of primary importance in the study of complexity leadership. For example, in bureaucratic organizations that are organized around administrative functions, the primary focus of CLT will be on entanglement between adaptive dynamics (CAS) and administrative structures (bureaucracy). In network organizations absent of clearly identified formal administrative functions, the focus will be more on network and self-organizing dynamics (see Marion & Uhl-Bien (2003) analysis of al Qaeda). In markets the focus will be on CAS within the context of market forces.

Hence, CLT is a contextual theory of leadership—it describes leadership as necessarily embedded in context and “socially constructed in and from a context” (Osborn et al., 2002, p. 798). To study it requires consideration and examination of context in both theorizing and operationalization. In the present paper, since the focus of this special issue is on meso modeling—a concept appropriate to bureaucratic structures and systems—we will focus on complexity leadership in the context of bureaucratic forms of organizing. We will show how CLT can be used to develop a meso model of leadership in bureaucratic organizational systems.

Since complexity leadership is a “change model” of leadership, we will present a complexity framework for change leadership that focuses on enabling the learning, innovative, and adaptive capacity of complex adaptive systems (CAS) within larger bureaucratic structures. In this model, we will recognize both the formal, administrative (bureaucratic) and the informal, complexly dynamic (emergent) nature of change in organizational bureaucracies.

### 1.1. Complexity leadership in bureaucratic organizational forms

As defined by Weber (1947), bureaucratic structures are hierarchical, coordinated by rules, functionally departmentalized, and impersonal. According to Thompson (1967), Jaques (1989), and others, bureaucracy is structurally organized into production functions (e.g., line work), organizational functions (e.g., middle management), and executive functions (e.g., top management, strategic). In today's environment, the vast majority of formal organizations are organized around bureaucratic principles, and bureaucracy provides the context for the bulk of leadership theorizing in organizational studies.

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