Back to the Future?
Bureaucracy as an Infrastructure
for Collaborative Knowledge Work

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If things are going well, we talk of cooperation
if they are going badly ...
we speak of "this goddamned bureaucracy."
(Charles Perrow, 1986)

In this paper, I explore the role of a 'classic' organizational form in collaborative knowledge creation: bureaucracy. Bureaucracy is a work organization system geared at uncertainty reduction that includes formal organizational elements, such as specialization, records, procedures, and "offices" in a hierarchical structure (Adler & Borys, 1996; Gajduschek, 2003; Weber, 1978). While commonly viewed as antithetical to knowledge work, collaboration, and innovation, this paper aims to show that under certain circumstances, it may serve as a (necessary) infrastructure for collaborative knowledge work – especially in complex settings.

Scholarship on collaborative knowledge work traditionally emphasizes the importance of communitarian, self-regulated, and occupation-based forms of organization while demonstrating certain skepticism towards bureaucratic structures (Adler, Kwon, & Heckscher, 2008; Barley, 2015; Bechky, 2003; Carlile, 2002; Majchrzak, More, & Faraj, 2012; Nicolini, Mengis, & Swan, 2012). For example, scholars have argued that (vertical) hierarchy hinders lateral relations among knowledge communities (Boland & Tenkasi, 1995) and that formal procedures are inadequate for collaboration across expertise domains (Bruns, 2013). Yet bureaucracy – and thus hierarchy or procedures – is not an immutable pre-determined 'thing.' Instead, it exists in many forms and may produce a variety of outcomes depending on its design and enactment (see Bunderson, van der Vegt, Cantimur, & Rink, 2016 for a similar argument). Indeed, studies show that hierarchy may sometimes enable teamwork and formalization may foster exchanges and relations among experts (Gittell, 2001; see M. B. Pinto, Pinto, & Prescott, 1993).

The problem, as summarized in the epigraph above by Perrow (1986), is that we tend to discuss bureaucracy only when it causes problems (see also Starbuck, 2005). This paper addresses this shortcoming. Using data from a 15-month ethnography in the engineering division of a major aircraft manufacturer, I showcase how bureaucracy operates as an infrastructure for the work of multiple specialist groups involved in the company's product development. More specifically, by studying bureaucracy in practice (Nicolini, 2012), I find that, under certain conditions, it enables collaborative knowledge work by fostering clarity, fairness, integration and streamlined relations.

The paper makes three main theoretical contributions. First, identifying how bureaucracy helps to solve critical challenges in collaborative knowledge work (DiBenigno & Kel-

logg, 2014; Fjeldstad, Snow, Miles, & Lettl, 2012; Gardner, 2016; Nicolini et al., 2012). Second, enriching our understanding of the interplay between formal and informal elements in knowledge work (Bechky & Chung, 2017; Ben-Menahem, Krogh, Erden, & Schneider, 2016; McEvily, Soda, & Tortoriello, 2014; Okhuysen & Bechky, 2009). Third, refining ideas about the role of bureaucratic formalization in lateral relations within organizations and thus extending our understanding about this classic organizational form (Adler, 2012; Adler & Borys, 1996; Gay, 2000; Landsberger, 1961).

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