Chapter 59
Feral Systems as Institutional Phenomena:
A Framework for Analyzing Persistent Computer Workarounds

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ABSTRACT

Feral systems, which sometimes manifest as computer workarounds, are recognized in the IT literature, but little attention has been paid to their persistence. The persistent reality of some computer workarounds may be traceable to discordant top-down institutional environmental pressures and bottom-up influences of day-to-day operational work. The authors build on the constructs of neo-institutional theory to de-black-box the workaround as situated practices built upon institutional logics of work practices, power to decouple by social actors, and material constraints of work. They extend the IT research on computer workarounds by casting them as emergent outcomes that exhibit institutional characteristics lending credence to the existence of feral information systems.

INTRODUCTION

The spawning grounds for computer workarounds have been the very systems that promise to abate such practices. The co-existence of shadow systems (Behrens, 2009) or skunkworks (Kerr, Houghton, & Burgess, 2007) suggests persistence at the scale of information systems. Our starting point is the definition of feral information system (FIS) by Houghton and Kerr (2006, p. 137) which are developed by individuals or groups of employees to help them with their work that circumvent existing organizational information systems.

DOI: 10.4018/978-1-5225-3923-0.ch059

The workaround literature has not differentiated on scale so the broader interpretation is used here. The emergence of *computer workarounds* as a research topic reflects the growing theoretical interest in behaviors surrounding the use (and "non-use") of IT artifacts so as to account for the "specific social and historical contexts" as well as the "detailed practices" (Orlikowski & Iacono, 2001, p. 132). The focus of this research has been the organizational impact of the workarounds such as improvised outputs (e.g., Boudreau & Robey, 2005) or its antecedents such as user resistance (e.g., Ferneley & Sobreperez, 2006) conceived as locally constituted transient phenomena (Kobayashi, Fussell, Xiao, & Seagull, 2005). Despite their prevalence in practice (Orlikowski & Yates, 2006), the larger questions of continued *persistence* and extra-local influences of computer workarounds remain to be theoretically explored. We choose institutional theory to further theorize these characteristics of workarounds (Chiasson & Davidson, 2005; Orlikowski & Barley, 2001).

IT scholars have applied institutional approaches in their work for some time (Barrett & Walsham, 1999; J. L. King et al., 1994; Kling & Iacono, 1988; Mignerat & Rivard, 2009). They highlight the role of institutional forces, especially the influence of government policy, industry and professions. More recently, researchers have utilized institutional theory-based explanations to highlight key IT adoption and diffusion dynamics at both the organizational and the extra-organizational levels (Avgerou, 2000; Butler, 2003; Currie, 2004; Currie & Swanson, 2009; Jensen, Kjærgaard, & Svejvig, 2009; Swanson & Ramiller, 1997; Wiredu, 2012). Although computer workarounds may exhibit distinct institutionalized characteristics and persistence as social IT phenomena, they are largely absent from the institutionally-inspired IT research.

We focus on the continuing co-existence of both the computer workaround and the "worked around system" in its original design configuration that includes the mandated policies and procedures. This persistence and resilience of computer workarounds can be viewed as a quintessential institutional phenomenon which then enables us to draw on neo-institutional theory (R. L. Jepperson, 2002). Consequently, our core research question becomes: *Are there potential interactions and influences linking enacted computer workarounds and an institutionalized macro environment, and how are these manifested in practice?*

In this context, computer workarounds can be seen as a means to decouple day-to-day practices of system usage from the intended system design. The term decouple (a system) from practice is used broadly, with particular attention in this article to decoupling and loose coupling (Meyer & Rowan, 1977; Weick, 1976). Specifically, the underpinnings of social action patterns vis-à-vis computer workarounds within day-to-day work practices can be tied to the continuing institutionalized pressures of the macro environment, creating an opportunity to study up close the micro-macro linkage (Barley & Tolbert, 1997).

We employ two cases to illustrate the common underpinnings of computer workarounds that emerge from both bi-directional institutional pressures and the variations of decoupled practices. The first case involves an integrated tax system within a national internal revenue service agency and the workaround practices which are enacted to support the collection of tax arrears. The other case involves a medication dispensing system in a teaching hospital and the workaround practices which are enacted around the approvals needed to dispense restricted anti-microbial drugs. In both cases the computer workarounds are persistent and appear to show extra-local influences, which afford us the opportunity to draw upon institutional theory to examine the underlying action patterns.

The contributions of this paper are twofold. First, computer workarounds are cast as institutionalized action patterns within organizations which are influenced by their macro environments—going beyond