

# Chapter VII

## Individual Improvisation in Information Systems Development

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### ABSTRACT

*Improvisation is rapidly becoming an important issue for both scholars and practitioners. Organizations that operate in turbulent environments must learn to swiftly adapt and respond to such instability, especially in areas as innovation and new product development. In such contexts, traditional top-down, carefully-planned approaches to innovative projects may represent an obstacle to effectively dealing with environment uncertainty. Prior research on improvisation has focused considerable attention on the centrality of improvisation in individual and group outcomes, while less emphasis has been placed on how individual attitude toward improvisation is formed. In an attempt to fill this gap, we will theoretically analyze the antecedents of individual attitude toward improvisation, by looking at the information systems development (ISD) domain. In particular, the outcome of this chapter is the development of theoretical propositions which could be empirically tested in future research.*

### INTRODUCTION

Improvisation has become an important issue for both scholars and practitioners. Organizations operating in turbulent environments must learn to

swiftly adapt and respond to them, especially in areas as innovation and new product development (Brown & Eisenhardt, 1997; Kamoche & Pina e Cunha, 2001). In such contexts, traditional top-down, carefully-planned approaches to innovative

projects may represent an obstacle to effectively dealing with environment uncertainty (Kamoche & Pina e Cunha, 2001). Indeed, improvisation may enable managers to continuously adjust to change through a creative process that allows for the development of novel and useful solutions (Crossan, Pina e Cunha, Vera, & Cunha, 2005).

Improvisation has been studied in domains as different as organizational learning (Miner, Bassoff, & Moorman, 2001) technology implementation (Orlikowski & Hofman, 1997) and new product development (Kamoche & Pina e Cunha, 2001). Research has addressed the issue of improvisation at different levels of analysis: individual, group, and organization (Moorman & Miner, 1998). Similar, multi-level approaches have been applied to investigate the dynamics of improvisation-related concepts as creativity and innovation. However, differently from research on creativity and innovation, research on improvisation is still at an immature stage (Kamoche & Pina e Cunha, 2001). First, studies on improvisation suffer from an over-reliance on the use of metaphors as jazz music, theatre, sports, and public speaking (Pina e Cunha, Vieira da Cunha, & Kamoche, 1999). This view tends to obscure the notion that “improvisation is more than a metaphor” (Crossan, 1998). A key challenge for future research is to go beyond the metaphorical conceptualization of improvisation, to provide theoretical insights grounded in business organizations. Second, prior research has focused considerable attention on the centrality of improvisation in individual and group outcomes (Kamoche & Pina e Cunha, 2001), while less emphasis has been placed on how individual attitude toward improvisation is formed.

In order to address these two issues that have not been exhaustively developed by previous studies, we theoretically analyze the antecedents of individual attitude toward improvisation in the information system development (ISD) domain. In particular, following the suggestions put forward by Orlikowski (1996), we focus on open-ended, customizable technologies which are related to complex organizational changes. In our opinion,

knowing what factors influence the intention to engage in improvisational behaviour is a necessary condition to support improvisation and, thus, to “(...) make sense of complex situations and put us in closer touch with human experience” (Ciborra, 1999b).

By relying on the organizational theory of improvisation, the aim of this chapter is to provide a theoretical contribution to the IS field by developing a theoretical framework on the antecedents of individual attitude to improvise in the ISD. In particular, the outcome of this chapter is the development of theoretical propositions which could be empirically tested in future researches.

The remainder of this chapter is structured as follows. The following section describes the concept of improvisation, underscoring its overall characteristics, as well as the peculiarities in the ISD domain. Building on improvisation theory, we next develop a theoretical framework and propositions that describe how the individual, social, and organizational dimensions affect individual attitude toward improvisation. Finally, we offer recommendations for future research in both the ISD and improvisation domains.

## **BACKGROUND**

### **The Concept of Improvisation**

Improvisation has been defined as a form of intuition which guides action in a spontaneous way (Crossan & Sorrenti, 1997) or as “the conception of action as it unfolds—acting without the benefit of elaborate prior planning” (Kamoche & Pina e Cunha, 2001), and “drawing on available cognitive, affective, social, and material resources” (Kamoche, Pina e Cunha, & Vieira da Cunha, 2003). Improvisation can be regarded as “the deliberate and substantive fusion of the design and execution of a novel production” (Miner et al., 2001). Furthermore, Moorman and Miner define it as “the degree to which composition and execution converge in time” (1998).

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