ORGANIZATIONAL IMPROVISATION:
A CONSOLIDATING REVIEW AND FRAMEWORK

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Abstract

Organizational improvisation is increasingly recognized as a relevant area of management research. However, the cumulativeness of research on improvisation in organizations remains low. This article organizes existing contributions on organizational improvisation within a new consolidating framework combining degrees (minor, bounded, and structural) and levels (individual, interpersonal, and organizational) of improvisation. The proposed degree/level framework allows for reviewing the existing literature on organizational improvisation in the management disciplines of strategy, organizational behavior, organizational theory, innovation and marketing in a systematic manner. It also exposes potential areas for future research across management disciplines, research areas, organizational settings and industries, and beyond existing metaphors, most notably of jazz and improvisational theatre.

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Introduction

Accelerating globalization, trade liberalization and the increased interconnectedness permitted by advances in information systems and the Internet render long-term plans obsolete at a moment's notice, and force organizations to nimbly and creatively navigate constantly evolving landscapes (D'Aveni 1994; Hamel and Breen 2007; Schreyögg and Sydow 2010). To illustrate their ability and willingness to improvise and adapt to changing circumstances, some multinationals compare themselves to "a jazz band, not a symphony orchestra" (Steinbock 2010: 107). Chief Executive and former professional comedian Dick Costolo also reports that he regularly applies lessons learned from improvisational theatre to running Twitter (Bilton 2012).

As emergent strategies decreasingly conform to deliberate strategizing (Mintzberg and Waters 1985), organizational improvisation (OI) combines with heuristics[1] to help managers understand and analyze organizational decisions and actions that display the following characteristics. They are complex and dynamic, cannot be understood *a priori* or managed using existing routines, and demand flexible and extemporaneous action (Ciborra 1999; Kamoche and Cunha 2001; Kirsch 1996). OI may thus enable companies to subdue more of the emergent part of their actions and environmental fortuities to their own will (Cunha *et al.* 1999), in particular in environments characterized by high velocity, heterogeneity in experiences, plentiful opportunities and high unpredictability (Bingham and Eisenhardt 2011, 2014).

Yet, fifteen years after Cunha's *et al.* (1999) first review, the cumulativeness of OI research remains low. None of the existing taxonomies takes full account of the different types of improvisation, and most are specific to a single metaphor (in particular, jazz or less frequently, improvisational theatre). The absence of a consolidating framework of OI may be justified under the assumption that improvisation may be inherently uncontained, and that discussions of improvisation may be inherently distorted by the need to force its manifestations into a model. Even so, this absence poses a threat to the future congruence of the field.

The framework of OI introduced in this article addresses these concerns. It illustrates when and under which circumstances OI is inherently uncontained, and when it is not. It also allows for the continual testing of the boundaries of what is and is not legitimately included in discussions of OI.[2] More generally, it synthesizes metaphorical, empirical and anecdotal

works to advance a typology that covers the different forms of understanding OI. The proposed framework allows for reviewing the existing literature on OI in strategy, organizational behavior, organizational theory, innovation, and marketing in a systematic manner, and exposes areas for future research across these five management disciplines and beyond specific improvisation metaphors.

The next section details our research methodology, and outlines the evolution of OI research before and after Cunha's *et al.* (1999) first consolidating review. Section 3 introduces the definition of OI adopted in the article, and examines the "why" (rationale) and "how" (namely, metaphorical and naturalistic studies) of OI research to date. Section 4 lays the foundations of the proposed framework of OI. It discusses six taxonomies most commonly used in the OI literature, and defines degrees (minor, bounded and structural) and levels (individual, interpersonal and organizational) of OI. The combined degree/level framework of OI is introduced in Section 5. A discussion and conclusions section summarizes our findings, highlights the contributions and limitations of the degree/level framework and suggests directions for further research.

Methodology

Although organizations and their members have always improvised to some degree, research into OI is relatively recent. The academic field of management was slow to transcend the historical principles of managerial planning (Taylor 1911) and the definition of improvisation as a dysfunction in planning (March and Simon 1958) or in organizational design (MacKenzie 1986) put forward by the formal strategizing approach (Chandler 1962). New management perspectives emerged in the 1980s to respond to an increasingly dynamic business environment. They challenged conventional wisdom by noting that the environment may change before elaborate plans can be implemented, and by advising managers to create organizations that can flexibly respond to such changing circumstances (Mintzberg 1990; Mintzberg and McHugh 1985; Mintzberg and Waters 1985). Although initially contentious (Ansoff 1991; Mintzberg 1991), these developments led management research to shift its focus towards addressing change and OI (e.g., Jackson and Philip 2010).

This article offers a systematic and comprehensive account of research published in English and investigating OI in strategy, organizational behavior, organizational theory, innovation, and marketing up to June 2014. These five disciplines of management were chosen on the basis of the importance of OI research carried out within their boundaries. We undertook data collection in three complementary steps.

We first carried out systematic manual and electronic searches for all articles published on OI in the following journals. For strategy, organizational theory and organizational behavior: *Academy of Management Journal, Academy of Management Review, Administrative Science Quarterly, Organization Science, Strategic Management Journal, Journal of Management Studies, Journal of Management, Organization Studies* and *Organization*; for innovation: *R&D Management* and *Research Policy*; and for marketing: *Journal of Marketing, Journal of Marketing Research* and *Marketing Science*. These journals were selected on the basis of their relevance to academic research in the five disciplines under study and of their high impact factors. We undertook this first step to make sure that we did not inadvertently overlook OI articles published in top journals.

We then expanded and complemented this first collection with systematic reviews of OI articles in all other publications listed on EBSCO, JSTOR and ScienceDirect. The keywords "improvisation", "organizational learning", "spontaneous action", "spontaneous process", "chaos", "order", "structured", "planning", "jazz" and "theatre" were used to refine the electronic searches. This second step led to the identification of articles dealing with OI in a number of other journals, including (yet not limited to): *British Journal of Management, International Journal of Management, Sloan Management Review*, and *Journal of Organizational Change Management*. Third, we visited three libraries to search for additional publications, in particular books and monographs: the London Business School Library (London, UK), the University of Cambridge Central Library (Cambridge, UK), and the Sibelius Academy Library (Helsinki, Finland).

As Figure 1 attests, studies of OI published before 1990 were few and far between. Following a very successful symposium at the 1995 Academy of Management Conference in Vancouver (Frost 1998, Meyer *et al.* 1998), their number peaked in 1998 with the publication of a special issue of *Organization Science*. A review article in the *International Journal of Management Reviews* followed in 1999 (Cunha *et al.* 1999). Our final sample, give or take involuntary oversights, constitutes the whole population of OI research in the selected five disciplines of management up to June 2014. It consists of 197 studies: 149 articles and working papers, 13 book and conference proceedings chapters, and 35 books and monographs. The overwhelming importance of peer-reviewed empirical articles within this population primarily reflects their precedence in disseminating knowledge in the five selected disciplines.

Insert Figure 1 about here

Research published before Cunha *et al.* (1999) mostly developed along two streams. The first proposes arts-based metaphors, in particular jazz, to illustrate and shed light on improvisation in organizations (e.g., Hatch 1998). This first stream relies heavily on secondary data from musicology monographs (Berliner 1994; Kernfeld 1995; Schuller 1968) and builds on specific authors' experiences of jazz as audiences or – on rare occasions – musicians (Peplowski 1998; Barrett and Peplowski 1998). The second stream of research uses empirical, naturalistic-based illustrations and anecdotal evidence to define improvisation and its causes and effects within organizations (e.g., Crossan and Sorrenti 1997). Both research streams have succeeded in creating interest in OI as a research topic and organizational phenomenon (e.g., Weick 1998).

Noticeable shifts in focus of OI research after 1999 call for a new review. New metaphors of OI have emerged (e.g., Kamoche *et al.* 2000, 2003), and the improvisational theatre metaphor has gained in strength (e.g., Moss Kanter 2002; Vitug and Kleiner 2007). Post-1999, a larger number of contributions set out to investigate empirical implications of OI, particularly in new product development (e.g., Akgun and Lynn 2002; Samra, Lynn and Reilly 2008), in new ventures (Hmieleski and Corbett 2008; Evers and O'Gorman 2011), and under conditions of change and turbulence (Charles and Dawson 2011; Leybourne 2006). The methodology adopted in OI research has also shifted in recent years from a focus on detached theorizing in metaphorical works to conceptually rigorous in-depth case studies and interviews carried out in organizations (e.g., Bigley and Roberts 2001; Plowman *et al.* 2007; Sonenshein *forthcoming*) or about specific events (e.g., Mendonca and Wallace 2004; Brady 2011) during which improvisation took place.

Taking Stock: Definition, Rationale for and Existing Studies of OI

Organizational Improvisation: A Definition

As a young, interdisciplinary and occasionally uncontained concept, OI has struggled to develop a comprehensive definition. There is, however, a high level of agreement on many of its properties (Vera and Crossan 1999). The word *improvise* comes from the Latin *providere*, "make preparation for", and its derivative *improvisus*, "unforeseen" (Oxford Dictionaries 2014). Improvisation thus involves dealing with the unforeseen without the benefit of preparation.

Improvisation is organizational when it is done by the organization or its members. It therefore occurs at various levels, and different dynamics apply to it depending on whether

improvisation happens within one (*individual*), between two or a few (*interpersonal*) or amongst many (*organizational*) individual actors. Table 1 provides an overview of central OI research, which it lists by primary level. As Table 1 illustrates, OI research has mainly focused so far on the individual and organizational levels. There also seems to be no major trend in how contributions differ in their description of improvisation. Since improvisation is a fairly commonly used concept in everyday discourse and given the challenges associated with trying to contain it, some research even eschews all explicit definitions of OI. Taking the term for granted, however, may lead to confusion and misunderstandings.

Insert Table 1 about here

The overarching theme in the literature featured in Table 1 is spontaneous action without preparation, described mainly as convergence of composition and performance (nine papers in Table 1, including Baker *et al.* 2003; Crossan *et al.* 2005), unfolding (five papers, including Barrett 2000; McKnight and Bontis 2002), and emergence (four papers, including Hutchins 1991; Lockford and Pelias 2004). Some authors also define spontaneous action without preparation as extemporaneousness (e.g., Moorman and Miner 1995; Schuller 1968), immediacy (e.g., Weick 1993b, 2001; Lockford and Pelias 2004); quickness (e.g., Meyer 1998; Holbrook 2007); and real-time formulation and implementation (e.g., Perry 1991; Pasmore 1998). Others see individual reflection in or on action as a key element of responsive action (Schön 1987; Yanow and Tsoukas 2009). Closely related recurring concepts are spontaneity (twelve papers in Table 1), bricolage (six), intuition (four), and "adhockery" (two).

In what follows, we define OI as the conception of unhindered action as it unfolds, by an organization or its members, often (yet not exclusively) in response to an unexpected interruption or change of activity. This definition foregoes additional qualifiers, since its austerity already obliges organizations and organizational actor(s) to act extemporaneously, spontaneously, intuitively and *ad hoc* in an emergent manner. The convergence of planning and action is also not used in this definition, since it seems to imply that any rapid decision-making, due to a degree of convergence, is improvisational. Yet, improvisation is not deciding *just before* acting but *whilst* acting. OI is generally assumed to take place first and foremost in organizations that tolerate failure (Cunha *et al.* 2009; Sonenshein *forthcoming*), have a working environment that supports improvised work (Leybourne 2010b), and have minimal resistance to change (Leybourne 2006). In some instances, improvisation may also

act as a political statement and serve a political agenda within the organization (Janos and Rich 1994).

Rationale for Organizational Improvisation

Weick notes that: "even if organizations are capable of improvising, it is not clear they need to do it" (2001: 301). Unforeseen circumstances are not a necessary condition for improvisation: jazz bands, for instance, or newly formed start-up teams fully expect improvisation. Even so, OI is often triggered by some unexpected event that requires immediate action and cannot be addressed using pre-approved, "safe" routines and solutions (Hatch 1997; Moorman and Miner 1998b; Weick 1993a). Dealing with the unforeseen may involve removing barriers to instinctual ideas, or building new ideas out of nothing. The unforeseen may come either from outside or within the organization.

From *outside* the organization, the external environment may become so complex as to render planning unfeasible (Cunha *et al.* 1999) or counterproductive (Mintzberg 1994). The organization may also face market and technological turbulence (Akgun *et al.* 2007; Nunez and Lynn 2012; Pavlou and El Sawy 2010), or an unpredictable environmental shock (Chelariu *et al.* 2002; Crossan *et al.* 1996) or crisis (ten Brinke *et al.* 2010; Mendonca and Wallace 2004; Webb and Chevreau 2006). Such disruptions may compel the organization to improvise (Crossan and Sorrenti 2002) and to proactively train itself to improvise crisis procedures – for instance, in the context of mental simulations of initial responses to aircraft accidents (Barreto and Ribeiro 2012) or in response to the situated practices and problems of users implementing large-scale Enterprise Resource Planning (ERP) change (Charles and Dawson 2011). OI scholars generally agree that external triggers for improvisation proliferate as markets become more dynamic.

From *within* the organization, the impulse to improvise may come about when the enactment of a new vision requires emergent changes (Mintzberg and McHugh 1985) that may be addressed by improvisation (Crossan *et al.* 1996; Perry 1991). As the organization deliberately develops safer contexts for improvisational actions, skunk-works teams may also work on specific projects in unconventional ways with an aim to developing them fast and with minimal managerial interference (Janos and Rich 1994; Moorman and Miner 1998a). By improvising, an organization seeks to gain longer-term benefits beyond the situation at hand. It may also break free from flawed mental models of itself and its environment susceptible of preventing it from predicting otherwise foreseeable changes (Cunha *et al.* 1999; Senge 1990). Improvisation is commonly seen to promote greater organizational flexibility (Cunha *et al.*

1999). Even so, Barrett's (1998) discussion of "provocative competence" mostly concerns top-down provocation, and Berniker states that: "The task of the managers' jazz combo is to make music. The role of employees is to dance" (1998: 583).

Improvisation brings high autonomy in the context of clear rules (Cunha *et al.* 2003). It may help the organization to learn to improvise better (Crossan *et al.* 1996; Chelariu *et al.* 2002), to innovate (Vera and Crossan 2005), to explore new solutions (March 1991), or to perform certain activities better through routinizing successful improvisations (Miner *et al.* 1997; Ferriani *et al.* 2011). Team improvisation also positively impacts the effectiveness of new product development processes (Akgun and Lynn 2002). Coupled with unlearning and in conditions of environmental turbulence, it facilitates team flexibility, learning and new knowledge development (Chelariu *et al.* 2002). Ultimately, team improvisation influences new product success (Akgun *et al.* 2007). Among employees, OI may lead to higher motivation (Eisenberg 1990), to feelings of success (Eisenberg 1990) or to stronger teams (Powers 1981). In increasingly inter-connected organizational ecosystems, acting in inter-firm networks that do not have a single leader also often involves OI (Pavlovich 2003).

OI however has a dark side, and may not be significantly associated with satisfactory project outcomes (Leybourne and Sadler-Smith 2006). Thus, entrepreneurs who are avid improvisers and confident in their ability to succeed may develop new ventures with record sales growth, but they also seem to be the least satisfied with their work (Hmieleski and Corbett 2008). This result may be due to a tendency to spread themselves too thinly (Baker and Nelson 2005), and points to the risk of stress and psychological burnout associated with excessive improvisation (Hatch 1999). By going against the idea that improvisers find themselves in the enhanced mental state of "flow" (Csikszentmihalyi 1990) or "groove" (Barrett 1998, 2000) when improvising, this result may also reveal limitations of the theatre and jazz metaphors of OI (Hmieleski and Corbett 2008).

The effects of improvisation on financial performance may be delayed in time (Bergh and Lim 2008), and improvisation may even have negative organizational consequences (Aram and Walochick 1996). Organizations may over-eagerly generalize successfully improvised solutions to wrong contexts (Kamoche and Cunha 2001), and neglect planning and preparation by over-legitimizing OI (Eisenberg 1990). Excessive improvisation and improvisation without clear rules and boundaries may lead to lack of focus and unwanted variation in the delivery of products or services (Cunha et al. 2009: 666; Hatch 1999). Tackling every challenge with an *ad hoc* improvisational task force may also hinder the development of experience-based teams (Kamoche and Cunha 2001; Weick 1998).

Ultimately, organizations consistently struggle to achieve a balance between countervailing forces of organizational efficiency (control) and adaptability (improvisation) (Ciborra 1999; Leybourne 2010a; Nunez and Lynn 2012; Schreyögg and Sydow 2010). Large-scale distributed systems specifically deal with the improvisational paradoxes of learning (learned improvisation and reflective spontaneity), organizing (planned agility and structured chaos), and belonging (collective individuality and anxious confidence) through the "enacted emergence" of collective agility (Zheng et al. 2011). On balance, researchers tend to emphasize positive over negative outcomes (Magni *et al.* 2008; Vera and Crossan 2005), and OI may show positive effects in the right context (Vera and Crossan 2005). Yet, improvisation is inherently neither positive nor negative (Baker, Miner and Eesley 2003; Crossan *et al.* 2005; Magni *et al.* 2009; Miner *et al.* 2001).

Metaphors and Empirical Studies of Organizational Improvisation

Since improvisation in organizations involves a number of human actors dependent on complex local circumstances, individual instances of OI are hard to model. Improvisation is generally more openly discussed and documented in the arts (including music, theatre and dance) than in business, and using metaphors derived from these sectors allows researchers to draw meaning from alternative sources. A metaphor is a "comparative figure of speech […] through which humans create meaning by using one element of experience to understand another" (Morgan 1980, 1998: 4). As an "invitation to see the world" (Barrett and Cooperrider 1990: 222), a metaphor presents an alternative social reality (Tsoukas 1993), and connects the lay and scientific discourses (Tsoukas 1991). It also offers "an epistemologically valid approach to making sense of organizations" (McCourt 1997: 511).

Metaphors used to explain improvisation include conversation (*e.g.*, Berliner 1994; Hatch 1998; Ramos 1978; Weick 1998), problem solving (Bernstein 2000; Ramalho and Ganascia 1994), games (Hudak and Berger 1995), stories (Tanenbaum and Tanenbaum 2008), and role theory, Indian music and music therapy (Kamoche *et al.* 2000; 2003). Improvisational theatre is the second-most common metaphor in OI (Crossan 1997, 1998; Crossan *et al.* 1996; Gagnon *et al.* 2012; Gibb 2004; Koppett 2002; McKnight and Bontis 2002; Meyer 2005; Singh and Sonnenburg 2012; Vera and Crossan 2004, 2005; Vitug and Kleiner 2007; Weick 1993a). As theatrical interaction happens primarily with words, its lower level of abstraction generally makes theatrical improvisation more intelligible to people than musical improvisation.

Even so, OI has been associated with jazz from the outset (Bastien and Hostager 1988). To this day, jazz improvisation has spawned more OI literature than all other metaphors combined, and has become the primary hermeneutic and sense-making metaphor for explaining improvisation in organizations. Correspondingly, most taxonomies of OI use specific jazz terms to illustrate particular types of improvisation. The following reasons may explain the prevalence of the jazz improvisation metaphor.

First, researchers resorting to it may assume that it will resonate more with readers and organizations than other metaphors. Whereas jazz and improvisation are intrinsically linked in people's minds, improvisation is less readily associated with symphony orchestras or baroque music (for instance) – even though it is also practiced within such musical formations and genres. Second, jazz represents improvisation at its most intricate (Kamoche *et al.* 2003), and offers 97 years of documented development since the first recording in 1917 of *Livery Stable Blues* by the Original Dixieland Jazz Band. Third, jazz improvisation provides a wealth of parallels to OI. It starts from a certain structure that frames improvisation but does not cage it: "Although "breaking the rules" is important, musicians are aware of rules for how to innovate, rules about breaking the rules" (Sawyer 1992: 259; Crossan 1998). Moreover, just as musicians juggle between exploiting the past and exploring the future (March 1991), organizations must collectively respond to change in real time (Barrett 1998, 2012; Crossan and Sorrenti 1997; Meyer 2005; Sawyer 1992). Similarities also exist in roles and responsibilities: to improvise together, says jazz pianist Dave Brubeck, "somebody has to mind the store, to give the improviser more freedom to get out on his own" (Kao 1996b: 25). In jazz bands as in organizations, improvisation has *intrinsic* value when musicians or employees choose to improvise, or *instrumental* value when musicians or employees are made to do so, either in response to unforeseen internal or external circumstances or in exchange for incentives.

The mainstream business literature often draws parallels from jazz to organizational creativity and flexibility (Kao 1996a). Jazz can also contribute to other fields of management (Crossan *et al.* 2005), including: change management (Barrett and Hatch 2003; Mantere *et al.* 2007; Orlikowski 1996); learning and knowledge capture (Crossan and Sorrenti 2002; King and Ranft 2001; Miner *et al.* 2001; Vendelø 2009); new product development (Eisenhardt and Tabrizi 1995; Kamoche and Cunha 2001; Moorman and Miner 1998a; Sutton and Hargadon 1996); organizational adaptation and renewal (Brown and Eisenhardt 1997; Crossan *et al.* 1996); strategic decision making (Eisenhardt *et al.* 1997; Holbrook 2007); technology use and related change (Orlikowski and Hofman 1997); outsourcing (Silva 2002);

negotiation (Balachandra *et al.* 2005; Wheeler and Morris 2002); social intrapreneurism (Grayson *et al.* 2014) and management education (Meyer and Shambu 2010). Our understanding of OI resulting from the jazz metaphor can also enrich and inform parallel and tangential streams of research (e.g. Bathurst and Williams 2013).

The analogy between jazz and management, however, is not perfect. Jazz may bring fresh perspectives to management, as jazz clarinetist Ken Peplowski remarks: "There's nothing worse than someone just doing their job: just doing the minimum that's required. My job as a manager would be a lot simpler and more satisfying if more employees understood improvisation. Doing the minimum is impossible in a jazz group" (Peplowski 1998: 561). Yet, the jazz metaphor has its limits: "[Jazz] is artsy, performed disproportionately by people of color, still has an undercurrent of booze and drugs surrounding it, and frankly doesn't sell that well to a broad base of customers. In short, it's the antithesis of much of what we think about when we think about business" (Mirvis 1998: 591). Although metaphorical OI research still largely outnumbers empirical OI research, some scholars consequently point out that improvisation is "more than a metaphor" (Crossan 1998: 593). They advocate going beyond critiques of the metaphor and using "jazz as a means to larger insights into collective action" (Hatch and Weick 1998: 604). They also recommend experiencing improvisation "in the context of a group that makes improvisation their profession" (Crossan and Sorrenti 2002: 45), and transcending the metaphorical level to explore what actually happens in jazz improvisation (Dennis and Macaulay 2007; Sawyer 1992).

Efforts to shift the analysis to naturalistic managerial settings (Magni *et al.* 2009) are manifest in empirical studies of OI. The latter deal with general (e.g., Brown and Eisenhardt 1997; Miner *et al.* 2001; Moorman and Miner 1998a; Orlikowski 1996) or specific activities in organizations (e.g., service performance and recovery: Chang 2006; John *et al.* 2006; Cunha *et al.* 2009), and with specific shocks that necessitate improvisation. For example, the Mann Gulch wildfire (Weick 1993b), hurricane Camille (Mendonca and Wallace 2004), the failure of a ship's navigational system (Hutchins 1991), the battle of Stalingrad (Brady 2011) or the Apollo 13 (Rerup 2001) and Columbia (Starbuck and Farjoun 2005) space shuttle crises.

Notable instances of non-crisis OI include 3M's discovery of the Post-it note (Peters and Waterman 1982), Honda's motorcycle strategy in the USA (Pascale 1984; Crossan *et al.* 1996), Brazilian conglomerate SEMCO's day-to-day management (Crossan *et al.* 1996) and the improvisation-minded "adhocracy" of the National Film Board of Canada (Mintzberg and McHugh 1985). More recent cases encompass creative resourcing (that is, acting on objects

to creatively solve problems) in "BoutiqueCo" (Sonenshein *forthcoming*) and the emergent radical revitalization of "Mission Church" [3] as an inclusive outreach day center and diverse congregation (Plowman *et al.* 2007). Non-crisis OI also manifests itself in new venture internationalization (Evers and O'Gorman 2011; Prashantham and Floyd 2012), and festival management (Larson 2011). Empirical studies of OI usually start with a known instance of improvisation and trace its links to other organizational actions *ex post* (Miner *et al.* 2001). By linking improvised decisions to prior organizational actions, such studies also reinforce the idea that improvisation involves tapping into instinctual ideas that improvisers already know subconsciously.

Moving Forward: Laying the Foundations of the Degree/Level Framework

This section sets the foundations of a new typological framework of OI that is both generalizable and applicable across OI metaphors and naturalistic managerial settings. The proposed degree/level framework aims to overcome the field's incongruence and ensuing low cumulativeness (Cunha *et al.* 1999) by distinguishing between various types of OI. Currently, papers with this aim tend to distinguish either between different degrees (*e.g.*, Kamoche *et al.* 2003; Moorman and Miner 1998a, 1998b; Zack 2000) or between different levels of improvisation (*e.g.*, Crossan *et al.* 2005; Lewin 1998; Vera and Crossan 2004, 2005). The absence of a common typology may be seen as liberating under the assumption that OI is inherently uncontained, and consequently inherently uncontainable. It is a setback however to expanding, comparing and mapping existing findings.

The degree/level framework advances a typology that covers the different forms of understanding improvisation as a process that takes place in organizations. The proposed three-by-three matrix presents two core questions with simple alternative answers. First, at what level does improvisation happen: within an individual actor (*individual*), between two co-workers or a few in a (small) team (*interpersonal*), or within the entire organization (*organizational*)? Second, to what degree does improvisation happen: does it relate to performing an existing task in a different manner (small degree – *minor*), improvising a different task toward the same outcome (medium degree – *bounded*), or improvising a different task toward a new outcome (large degree – *structural*)? The following sub-sections review the most commonly used taxonomies, degrees and levels of OI.

Common Taxonomies of Organizational Improvisation

Four nominal taxonomies (three dichotomous distinctions and one four-way classification) appear repeatedly in the improvisation literature. The three dichotomous distinctions are as follows. First, *product* improvisation affects the outcome of what is done, whereas *process* improvisation changes the way something is done (Miner *et al.* 1997). Second, *behavioral* improvisation refers to changing organizational actions, whereas *cognitive* improvisation gives new meaning to external stimuli (Miner *et al.* 1997). Third, *idiomatic* improvisation happens within an existing vernacular such as jazz music, whereas *non-idiomatic* improvisation is completely free (Bailey 1992). The first two distinctions are essentially organization-centric, and the third stems from musicology. All of them provide interesting complements to the dimensions of our proposed framework.

The four-way classification was also developed in musicology, in the context of jazz improvisation (Kernfeld 1995): *paraphrase* improvisation builds on existing themes; *formulaic* improvisation on musical formulas; *motivic* improvisation on musical motifs; and *modal* improvisation on scales. Due to their strong association with musical performance, none of these four categories is particularly well suited to feature in a framework aimed at transcending metaphors. Nor do they allow for an ordinal ranking.

Two main ordinal categorizations appear in the literature on improvisation. Again, the more common of the two stems from musicology. It is a four-part continuum of *interpretation* to *embellishment*, *variation* and finally "true" *improvisation* (Berliner 1994: 66-71). This typology presents two difficulties. First, it sets an unnecessarily low ceiling for improvisation, as improvisation that involves "reworking pre-composed material" (Berliner 1994: 241) must exist within song structures (Kamoche *et al.* 2003; Zack 2000) and thus cannot be structural. Second, it limits the definition of improvisation: since interpretation, embellishment and variation are mutually exclusive from improvisation, *minor improvisation* becomes an oxymoron. Berliner's (1994) improvisation is thus restricted to one form only: *bounded improvisation*.

The second main ordinal categorization distinguishes between four genres: *classical* with minimal to no improvisation; *traditional jazz/swing* with improvisation within strong structures; *bebop* with minimal structural modification; and *post-bop* with emerging structures (Zack 2000). Although this typology acknowledges the full range of improvisation from *minor* ("classical") to *structural* ("post-bop"), it is inextricably tied to music, and as such precludes generalization to other metaphors or organizational settings.

All six classifications have contributed to improving our understanding of OI. None of them is comprehensive, however, and several are specific to music. The degree and level axes detailed in the next two sub-sections account for the main existing typologies of OI (Berliner 1994; Zack 2000) and contribute to the congruence, cumulativeness and transparency of the OI field.

Degrees of Improvisation: Minor, Bounded and Structural

Improvisation happens to different degrees, and is not a dichotomous on/off activity. These degrees can be placed on a continuum ranging from tweaking minor details to dramatically changing large structures (Schloss and Jaffe 1993), and from almost completely planned to almost completely extemporaneous (Moorman and Miner 1998b). Our proposed framework lowers the threshold and raises the ceiling of Berliner's (1994) classification to reflect the breadth of OI degrees. Degrees of improvisation range from modest improvisation within an existing process or product (*minor improvisation*) to improvising new processes or products within established structures (*bounded improvisation*), and to improvising new structures (*structural improvisation*).

Minor improvisation reflects modest adjustments to pre-existing processes (Moorman and Miner 1998b) – for instance, by applying an existing solution in a new way rather than coming up with a new solution. It is variously termed interpretation, embellishment or ornamentation (Berliner 1994; Hatch 1997; Preston 1991; Weick 1996). Although such processual flexibility is not unique to OI, any comprehensive typology of OI must include this lower end. Innovative embellishment of work routines happens regularly in organizations, whether encouraged or not (Brown and Duguid 1991; Meyer and Shambu 2010). Such flexibility and allowance for constant adjustments in business processes is consequently widely acknowledged across management disciplines – for instance, as flexible manufacturing in operations research (*e.g.*, De Meyer *et al.* 1989; Jaikumar 1986) or as rhythmic performance in project management (Leybourne 2010a). Similarly, jazz musicians vary in timbre (that is, sound quality) even in monotonous routine performances (Berliner 1994). Jazz musicians improvising in demanding tempi or actors partaking in fast-paced improvisation league tournaments are also likely to fall back on mastered "licks" (that is, pre-rehearsed solutions that work well enough when the improviser has no time to explore more creative options: Berliner 1994; Weick 1998) or "simple rules heuristics" (Bingham and Eisenhardt 2011, 2014). They return to the building blocks when in doubt, in order to refocus and get the audience back on their side.

Alternatively, minor improvisation may also reveal the existence of upper limits to improvisation in complex high-velocity environments and organizations (Cunha *et al.* 2003; Eisenhardt 1989). The latter call for lower degrees of improvisation defined as trying to achieve an objective in a new, creative way (*e.g.*, Vera and Crossan 2005), and higher degrees of improvisation defined as converging composition and execution (*e.g.*, Moorman and Miner 1998b). This discrepancy further justifies our call for a new typology of OI.

Bounded improvisation involves improvising novel processes or products within existing structures, which delineate clear boundaries and provide a template within which bounded improvisation takes place (Berliner 1994; Moorman and Miner 1998b). Scholars who do not distinguish between degrees of improvisation usually discuss it as bounded improvisation. Others refer to bounded improvisation as *chorus paraphrasing* (Preston 1991) or *formulaic improvisation* (Weick 1996).

In organizations, bounded improvisation entails incremental innovation. That is, coming up with new products that have a link to existing products (Kamoche and Cunha 2001; Miner *et al.* 1997), or as in the case of Sun Microsystems, planting a directional seed from the top down to explore network computing (Moss Kanter 2002). Such a balance of template guidance and improvisation may also manifest itself as an established new product development process carried out in tandem with encouraged inclusion of improvisation (Samra *et al.* 2008; Song *et al.* 2011). Building upon a foundation of "how things are done" can result in improving the coherence and speed of actions within organizations, particularly in dynamic environments (Dewett and Williams 2007).

Whereas bounded improvisation involves improvising a novel process or product within an existing structure, *structural improvisation* implies improvising the very structure itself. OI can occur "within forms, with forms, and beyond forms" (Zack 2000: 227). Yet, most OI research describes improvisation within clearly defined structures. Although it involves discarding clear links to the original and coming up with something novel (Hatch 1997), radical improvisation is also rarely identified as having the capacity to transcend and redefine structures (Moorman and Miner 1998b; Zack 2000: 230). Structural improvisation does.

Structural improvisation may occur when disparate areas of an organization become linked when least expected, sometimes leading to the redefinition of the mission or business strategy (Blank 2005). An internal corporate venture group may also create a product that is inconsistent with the firm's existing strategy (Burgelman 1983), or existing organizational

structures may be so dramatically shaken by a crisis that they have to be subsequently discarded (Rerup 2001; Weick 1993b).

Levels of Improvisation: Individual, Interpersonal and Organizational

Whereas the minor, bounded and structural degrees of improvisation represent a continuum, the individual, interpersonal and organizational levels of improvisation are distinct from one another. The typology borrows from the organizational learning terminology of individual, group and organizational levels (Argyris and Schön 1978; Nonaka and Takeuchi 1995). This three-way classification has proved useful in other fields, including organizational creativity (Woodman *et al.* 1993) and knowledge management (Nonaka and Konno 1998). As within these other fields, OI research initially focused on the individual level before expanding towards the interpersonal and organizational levels (Miner *et al.* 2001). Ultimately, an organization is responsible for the provision of the right culture and environment to promote product innovation (De Tienne and Mallette 2012), spontaneity and simultaneous consciousness (Soules 2002), and desired amounts of improvisation at the individual, interpersonal and organizational levels (Seelig 2012).

Individual improvisation happens in organizations when employees adjust their work in real time to emerging information or are stretched beyond their routines to deliver a novel solution to a problem. Team-level antecedents, such as team behavioral integration and cohesion, influence the process of resource exchange among individual team members, and consequently positively affect individual improvisation too (Magni *et al.* 2009). New information technologies increase the scope of individual improvisation, and the Internet provides entrepreneurial improvisers with a global reach in real time (Kao 1996b). A predisposition to engage in improvisation within the organization denotes a positive individual attitude toward improvisation (Magni *et al.* 2010). Yet, improvisation is not inherently a positive individual attribute: "field observations [make] clear that improvisation can also be unskilled and can cause harm" (Miner *et al.* 2001: 329; Pavlou and El Sawy 2010).

The image of an improvising jazz soloist is generally used to illustrate OI – so much so that large parts of the literature focusing on organizational aspects of improvisation underline the individual's freedom to improvise and tinker within the organization. Creative improvisation rarely flows from simply "trying harder" (Werner 1996). Individuals always bring their backgrounds and memories into the improvisation (Crossan and Sorrenti 2002; Cunha *et al.* 1999). They learn to improvise by understanding the purpose behind a process,

and then reconsidering this process itself: "What's the message for business people who want to improvise better? Take some skill that you have mastered and unlearn it" (Mirvis 1998: 587).

Interpersonal improvisation transcends the individual level and takes place in small teams where real-time adjusting and responding is bi- or multilateral. Collective improvisation often happens interpersonally, without the whole organization joining in. The stimuli of others enable teams to brainstorm new ideas that no member could have developed alone (Sutton and Hargadon 1996), and experimental skunk-works teams can piece together novel solutions from parts all around the organization (Moorman and Miner 1998a). Information technologies can promote interpersonal improvisation by helping to overcome physical distances (McKnight and Bontis 2002). Just like individual improvisation however, interpersonal improvisation is not always "mindful", and may be marred by cognitive errors (Vuori and Vuori 2014; Bingham and Eisenhardt 2014).

Interpersonal improvisation also happens in jazz bands and improvisation leagues, for instance when the drummer picks up and responds to the saxophonist's idea, or when an actor agrees to another's offer and builds on it (respectively).

Organizational-level improvisation refers both to the ability of the whole organization to improvise and to the institutionalization of structures or practices that enable or lead to improvisation within the organization. Although labeling one specific type of OI as "organizational-level" might sound confusing in the eponymous field, this terminology is correct: OI is improvisation by an organization or its members.

Organizational-level improvisation: "contributes to and is an outcome of organization absorptive capacity for new knowledge, structural flexibility, market flexibility, operational flexibility, intrapreneurial culture and of the organization path dependence of exploitation and exploration adaptations" (Lewin 1998: 539). Organizational-level improvisation may be an aggregation of individual improvisations or a fundamentally collective and seamless process (Miner *et al.* 2001). When a jazz band improvises organizationally, the whole unit develops extemporaneous ideas in new, emerging ways. In mainstream jazz, pianist Bill Evans's egalitarian "first great trio" (1959 to 1961) pioneered organizational-level improvisation, where all could break their instruments' conventions and improvise as a single, organic unit.

The Degree/Level Framework of Organizational Improvisation

The degree/level framework introduced in Table 2 synthesizes the above discussion and accounts for the complexity and variety of improvisation modes within organizations. It is a novel attempt to make sense of OI and to identify future research areas. The degree/level framework is distinct from existing classifications in three ways: it requires limited technical knowledge; it makes clear distinctions that allow simple ordinal classification; and it transcends metaphors, organizational settings and industry environments. To this third point and inasmuch as it accommodates all the metaphors used in OI research and all the studies carried out in naturalistic settings, the framework allows for the first comprehensive mapping of the OI literature across disciplines and research areas.

Several studies of OI elaborate on the full range of degrees (*e.g.*, Cunha *et al.* 1999; Kamoche *et al.* 2003; Moorman and Miner 1998a, 1998b; Zack 2000) or levels (*e.g.*, Crossan *et al.* 2005; Lewin 1998; Vera and Crossan 2005) of OI. Yet, very few explicitly incorporate both. Some state that they do not differentiate between different types of OI (Magni *et al.* 2008), and many give no particular thought to the matter. Accordingly, assigning all 197 contributions into particular cells in the framework would be in large part unfeasible – although some of their findings may be classified more readily. Each of the nine cells detailed in more detail below represents a different type of OI, and is labeled with a title derived from the existing OI literature.

Insert Table 2 about here

Minor/individual: "Spontaneous practice"

Spontaneous practice occurs when an individual improvises within an existing process. With creativity and innovation becoming major issues in mainstream management (Hamel and Breen 2007), organizations can train managers and employees to be spontaneous (Vera and Crossan 2004), and workers have increasing leeway to engage in minor improvisation and extemporaneously perform given tasks differently. Such spontaneous action requires a high level of competence that often comes from practice and experience. Rather than spontaneous *practitioners*, these improvisers are consequently described as spontaneous *practicers* (Berliner 1994; Weick 1998).

Although easy to comprehend conceptually, the minor/individual form of improvisation is actually extremely complex and hard to implement in practice. Spontaneous practicers, by definition, find themselves in no position to feed off the work of others and

improvise off their offers. They are akin to performers left alone on stage to improvise in front of an audience.

Bounded/individual: "Expert leadership"

Expert leaders improvise completely novel actions within the confines of existing organizational structures (Barrett and Peplowski 1998). This type of improvisation is best suited to situations where experts are given an objective and autonomy to reach it through any means necessary. Other organizational members are given little room for creativity outside the expert leader's core objective. Expert leaders are sometimes described as "wartime CEOs", and come into their own when their organization struggles to fend off imminent existential threats: for instance, disruptive changes to the industry (Horowitz 2014). Andy Grove's drive to move Intel away from the fast-commoditizing memory business (Grove 1996) and Steve Jobs's return to Apple when it was on the brink of bankruptcy (Isaacson 2011) provide illustrations of expert leadership improvisation.

A common picture painted in IO research is of a lone jazz soloist improvising musical phrases in the spotlight before an accompanying orchestra/organization. The bebop era featured virtuosic individual soloists whose improvisation was principally bounded. Lone actors and dancers improvising new dialogue or movement in the spotlight before their company during a live performance also act as expert leaders.

Structural/individual: "Dropping tools"

Individual actors may go beyond improvising the way of performing a given task to break free from existing organizational structures and "drop [their] tools" (Weick 1996). Structural/individual improvisation takes place irrespective of the organizational context and is inherently uncontained. When the approaching Mann Gulch wildfire overcame the efforts of 16 firefighters, smokejumper Wagner Dodge surprisingly broke from the known structure of firefighting and ordered his 15 colleagues to "drop your tools" (Weick 1993b: 635). Refusing to follow, 13 of these firemen died, whereas Dodge spontaneously improvised an escape fire that saved his life. US Airways Captain Chesley Sullenberger's emergency landing of a commercial flight into the Hudson River in January 2009 after both plane engines were incapacitated by a flock of birds provides another organizational illustration of dropping tools (Pavlou and El Sawy 2010). In the performing arts, jazz pianist Keith Jarrett and French actor Fabrice Luchini are also famous for individually improvising structures during their live shows.

Minor/interpersonal: "Synchronization"

Synchronization occurs when team members become particularly attuned and sensitive to one another's actions and reactions as they collectively adjust or apply existing processes or solutions in new ways. Synchronization is sometimes termed "peak performance" (Gilson *et al.* 2001) or "flow" (Csikszentmihalyi 1990; Marotto *et al.* 2007). It translates into repeat wins for the best sports teams (Gilson *et al.* 2001), and those moments of collective virtuosity displayed by classical orchestras that are impossible to quantify and difficult to describe without resorting to subjective criteria (Marotto *et al.* 2007).

The concept of synchronization comes directly from music. It describes the process of tuning in, which is sometimes described in organizational change as "the groove" (Barrett 1998, 2000, 2012; Barrett and Hatch 2003). The groove describes the rhythmic synchronization of instrumentalists, particularly in jazz between the bassist and drummer. Such rhythmic synchronization forms the bedrock of the music, and requires ongoing micro-level interpersonal adjustment and sensitivity to the relevant organizational partner(s).

Bounded/interpersonal: "Yes-and"

The "yes-and" rule of improvisation is known across performing arts and is the most popular OI concept derived from improvisational theatre. It consists in unconditionally accepting ("yes") and building on ("and") improvisational offers from others. Yes-anding is interpersonal, since it describes one individual's response to another's initiative. It is also bounded, since the very principle of yes-anding acts as a minimal structure that frames the improvisation without being subject to it (Crossan 1997, 1998; Crossan *et al.* 1996; Vera and Crossan 2004, 2005; also in Koppett 2002; McKnight and Bontis 2002; Meyer 2005).

Evidence of yes-anding abounds in improvisational jazz and comedy. For instance, the HBO long-running hit comedy "Curb Your Enthusiasm" (2000-2011) is famous for its absence of script: actors were only given a few loose guidelines, and were encouraged to improvise in a context of "planned spontaneity" (Pavlou and El Sawy 2010).

Structural/interpersonal: "Minimal Structuring"

Minimal structuring provides managers and employees with a paradoxical combination of guidance and permission (Sonenshein *forthcoming*) or of rigidity and freedom (Cunha *et al.* 2009): "This combination provides space for creative approaches to emerge, while guaranteeing focus and countering drift" (Cunha *et al.* 2009: 665). A set of big, immutable rules (namely, goals and responsibilities) clarifies what is non-negotiable, while also giving

employees flexibility to improvise, self-organize and creatively solve problems (Sonenshein *forthcoming*). Semi-structures also provide a form of minimal structuring that enables high performance through the combination of both efficiency via repeatability and flexibility via enabling real-time adaptation through improvisation. They allow systems to poise at the "edge of chaos", a dissipative equilibrium between too much and too little structure (Bingham and Eisenhardt 2014).

Research on structural/interpersonal improvisation highlights the key role of managers as sense-givers (Plowman *et al.* 2007; Sonenshein *forthcoming*). It shows that interactions among organizational members and managers mold structures (Plowman *et al.* 2007), interactions between people and structures shape and generate the resources needed for creativity (Sonenshein *forthcoming*), and interactions between employees and clients inside structures may be used as tools for improvising (Cunha *et al.* 2009). Managers who build and sustain high-quality connections based on mutual positive regard, trust, and active engagement on both sides with colleagues, supervisors, subordinates and customers also have a profound impact on an organization's energy levels and capacity for collaboration, coordination, learning and adaptation (Dutton 2003).

Embracing equivocality (that is, acknowledging that there is no single right answer to problems) is a prerequisite to minimal structuring, which: "assumes an aesthetics of imperfection, meaning the acceptance of honest mistakes, less than perfect planning, and emergence" (Cunha *et al.* 2009: 662). To allow minimal structuring, the management team needs to adopt a hands-off stance, and let employees experiment with ideas and test heterogeneous solutions (Sonenshein *forthcoming*). Improvisers need to be action-oriented, quick to react and encouraged to act on the spot using available resources (Plowman *et al.* 2007; Cunha *et al.* 2009; Sonenshein *forthcoming*). Mutual accountability must prevail over individual responsibility (Cunha *et al.* 2009).

Minimal structuring characterizes improvisation in the form of creative resourcing at BoutiqueCo both in resource-constrained and resource-substantial periods (Sonenshein *forthcoming*). Minimal structuring is also at play in Mission Church's continuous radical change from a declining silk-stocking to a diverse congregation, which occurred through the interplay of small changes (starting with the initial simple act of offering breakfast to the homeless), amplifying actions (including the opening of a medical clinic and the use of language, symbols and signals to reinforce the church's commitment to its new emerging vision), and contextual conditions of initial organizational decline, changes in leadership, identity struggles and ongoing organizational conflict (Plowman *et al.* 2007).

Highly effective service recovery (Cunha et al. 2009) and Saatchi & Saatchi's internal definition of creativity as: "stretching the walls of the elastic-sided sandbox" provide other illustrations of minimal structuring. In jazz, any pair of musicians in Miles Davis's 1963–68 quintet could jump out of the existing harmonic structure and improvise a new one interpersonally, without the greater organization necessarily departing from the initial harmonic structure.

Minor/organizational: "Space for experimenting"

Many organizations have moved away from mechanistic, top-down approaches of management to define structures more loosely, encourage novel ways of performing routine tasks, and create space for experimenting. Equipping organizations with "internal market information" can increase the odds of building new ideas with greater customer value and market success (Kyriakopoulos 2011; Olson *et al.* 1995). Communities-of-practice also regularly modify work practices within and around organizations (Brown and Duguid 1991).

Organizations may give employees space to explore their creativity by working on their projects differently (Hamel and Breen 2007), for instance by granting "slack capacity" (Damanpour 1991; Rosner 1968) in employees' work routines to allow for creative experimenting and "jamming" with ideas (Grayson *et al.* 2014; Kao 1996a). Google employees are encouraged to devote some of their time to pursuing new projects, IBM launched a series of "global jam sessions" inspired by Kao (2006a), and increasing numbers of organizations stage Lego® Serious Play® workshops (Hadida 2013). The more organizations practice with improvisation, the stronger they become at it (Leonard-Barton and Leonard 1995).

Bounded/organizational: "Constrained improvisation"

Meaningfully-constrained improvisation is defined as extemporaneous improvisation performed with a clear understanding of, respect for and allegiance to the structures and objectives of the organization (Bigley and Roberts 2001).[4] Constrained improvisation is aligned to the organization's goals, and inherently contained. Freelancing, which is perceived as detrimental to organizational effectiveness and goal completion, is socially sanctioned. Constrained improvisation relies on good communication within the organization, and on striking the right balance between top-down pre-planned, explicit and centralized structuring mechanisms developed to meet most contingencies at corporate level and bottom-up, emergent and more diffuse improvisation and local accommodation to address the unforeseen

at task level (Bigley and Roberts 2001; Brady 2011). In situations where resources are in short supply, circumstances are changing rapidly and communication may be difficult, preparedness and improvisation constitute the twin foundations of crisis response (Drabek and McEntire 2002).

Toyota's NUMMI assembly plant (Adler et al. 1999), the Incident Command System (ICS) of a large California fire department (Bigley and Roberts 2001) and the Russian Army during the battle of Stalingrad (Brady 2011) provide illustrations of constrained improvisation. Model changeovers exemplify the high levels of bureaucracy and flexibility displayed at the NUMMI plant, where organizational flexibility increases through the transformation and expansion of traditional bureaucratic structures (Adler *et al.* 1999). Similarly, the highly bureaucratic ICS encourages improvisation with tools (to optimally use the limited resources available in the trucks), rules (when violations of standard operating procedures are needed), and routines (which sometimes need to be adjusted to accommodate local circumstances) in unforeseen, turbulent, time constrained and hazardous circumstances (Bigley and Roberts 2001).

Just as ICS supervisors provide their subordinates with a degree of latitude to improvise, coordinate their own routines and address unexpected problems on the ground, General Vassily Chuikov relaxed the hierarchical command and control structure of the Russian army in Stalingrad to combine formal structure (planned action) and improvisation (adaptive reaction to events as they unfold) at the front line. Heedful interactions through storytelling and personal examples of exceptional bravery contributed to morale and rapid socialization of new troops. A series of tactical improvisation moves combining active defense, hugging the enemy to prevent aerial attacks, and sniper and small storm-group attacks also helped the Russian army regain ground and create a permanent state of strain and fear in their German enemy (Brady 2011). In music, chord changes within songs illustrate constrained improvisation (Barrett and Peplowski 1998).

Structural/organizational: "Platform organization"

A platform organization possesses a "readiness to sport whatever organizational form is required under the circumstances" (Ciborra 1996: 103). It is "a virtual organizing scheme, collectively shared and reproduced in action by a pool of human resources, where structure and potential for strategic action tend to coincide in highly circumstantial ways" (Ciborra 1996: 115). A platform organization may consequently opportunistically pursue any emerging business opportunities (Ciborra 1996). In practice, structural/organizational

improvisation may still be rare in established organizations. Even so, entrepreneurial *ad hoc* teams, nimble virtual organizations, open innovation systems and flexi-time have made platform organizations viable.

The jazz metaphor (in particular, free jazz) provides multiple opportunities to illustrate the ambiguous, emotional and temporal characteristics of platform organizations (Hatch 1999; Holbrook 2007; Kamoche and Cunha 2001; Zack 2000): "Where antecedents, influences and outcomes interact simultaneously, as in free jazz, a structuration perspective (Ranson *et al.* 1980) might be more appropriate" (Kamoche *et al.* 2003: 2027).

Discussion and Conclusions

Our understanding of OI has gone a long way since this concept was first dismissed by managerial planning (Taylor 1911) and formal strategizing (Chandler 1962). After Cunha's *et al.* (1999) review, new approaches to OI have emerged. They propose new metaphors, more precise and numerous empirical investigations of OI (most notably, in new product development: e.g., Akgun and Lynn 2002; new ventures: e.g., Hmieleski and Corbett 2008; and new conditions of change and turbulence: e.g., Charles and Dawson 2011), and a greater emphasis on conceptually rigorous methodologies based on in-depth case studies and interviews (e.g., Mendonca and Wallace 2004; Plowman *et al.* 2007; Sonenshein *forthcoming*).

This article set out to review existing knowledge of OI and consolidate it in a novel and comprehensive framework combining degrees (minor, bounded, and structural) and levels (individual, interpersonal, and organizational) of OI. The degree/level framework reconciles metaphorical, empirical and anecdotal OI studies, and allows for a systematic review of existing contributions in strategy, organizational behavior, organizational theory, innovation, and marketing. As such, it introduces a taxonomy that accounts for the various forms of improvisation that take place in organizations. By explicitly categorizing types of OI, the degree/level framework illustrated in Table 2 also aims to help researchers deal with the richness and extensiveness of this process.

Our efforts to define and illustrate the degrees and levels of OI and to assign their combinations to one of the nine cells of the proposed degree/level framework contribute to unveiling the complexity and vibrancy of improvisation in organizations. Perhaps counter-intuitively, we also hope that they help emancipate this concept from all limiting semantic yokes. Take the often-made assumption, for instance, that OI may be "inherently uncontained", previously mentioned in this article. Our analysis demonstrates that this is not

true of all types of OI delineated in the literature and in the degree/level framework. In fact, OI is much more dynamic and multifaceted than most contributions give it credit for, and manifests itself in processes that range from inherently contained (e.g., constrained improvisation) to inherently uncontained (e.g., dropping tools).

As OI research evolves, we anticipate an increase in studies exploring and analyzing the situations described in the nine cells of the framework. We also expect the boundaries of what is and is not legitimately included in the degree/level framework to be tested, stretched and revisited to include new forms and dimensions of improvisation as they emerge within organizations. Two sets of limitations of existing OI research and by extension, of the proposed degree/level framework provide a roadmap for future OI research.

First, existing OI research categorized in the degree/level framework (Table 2) offers a static picture of the various degree/level combinations. Very few studies explain, for instance, how and why organizational members learn and evolve from improvising alone (*individual*) to improvising with one or few others (*interpersonal*) and onto improvising with a whole organization (*organizational-level*). Nor do they offer a detailed approach to how and why individuals, teams and organizations progress from improvising how existing tasks are performed (*minor*) to improvising new tasks within existing structures (*bounded*) and onto improvising beyond existing structures (*structural*). As such, existing research does not explain whether cells operate as necessary precursors to one another, or whether shortcuts or diagonal "jumps" in the framework (e.g., from minor/individual straight to bounded/interpersonal) are achievable and sensible. Similarly and as already pointed out by Magni *et al.* (2009), very few studies analyze the influence of antecedent variables at one level (e.g., interpersonal) on improvisation at another level (e.g., individual).

In future research, we advocate the development of more cross-level analyses of OI. In particular, we recommend investigating evolutionary and learning paths that allow individuals, teams and organizations to move from one cell to another in the framework and determining desirable paths across degrees and levels of OI. The actual desirability of inter-cell movements may also depend on individual, interpersonal and organizational contexts and circumstances on the one hand, and on the nature of improvisation tasks on the other. Systematically investigating such moderating effects of OI offers an additional direction for future studies, particularly with regards to leadership and followership.

Thus, although existing research has identified positive influences of OI on leadership (e.g., Bastien and Hostager 1988; Gagnon *et al.* 2012; Newton 2004; Vera and Rodriguez-Lopez 2007), it has not investigated so far the relationship between the mental models of

leaders and OI. An analysis of the nine cells in Table 2 with a focus on mental models could shed new light on OI. For instance, leaders and managers may perceive surprise as "an opportunity for creativity" and improvisation or as "an indication of poor control" and "a stimulus for finger pointing and blaming" (Plowman *et al.* 2007: 540). Their tolerance for surprise, in other words, may condition the degree and level of improvisation permitted and the success or failure of its outcome within the organization.

At the other end of the leadership spectrum, the role of audience engagement in the OI process and in the success or failure of its outcome begs particular attention. At the end of a concert, conductor Benjamin Zander customarily gives a round of applause to audience members, whom he sees as active co-creators of his orchestra's live performance (Zander and Zander 2000). In the context of OI, audiences may consist internally of one or several co-workers, and externally of partner organizations (e.g., suppliers and distributors) and other stakeholders (e.g., competitors, consumer groups, industry experts and regulators). So far, the OI literature has paid little attention to these constituents.

This may be an indirect consequence of its emphasis on the jazz metaphor. Since theatre audiences speak the (verbal) language of the improvisers, audience engagement may be seen as more of a prominent feature in theatrical improvisation than in jazz improvisation. In mainstream jazz concerts and festivals, often only a fraction of the audience speaks the (musical) language of the improvisers. Conversely, in jam sessions at jazz clubs where most of the audience is composed of fellow musicians, the sense of audience feedback may be just as prominent as in theatrical improvisation.
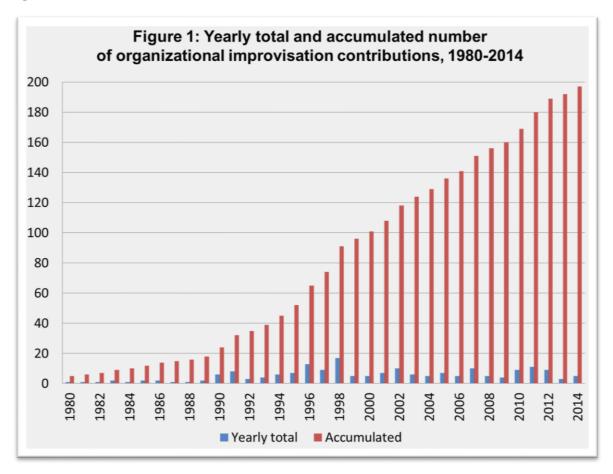
Improvisers feed off the energy, attention levels and reactions of their audience. The degree/level framework does not exist in a vacuum: levels of improvisation change depending on who is witnessing the improvisation process, and how at ease the improvisers are. Thus, three individuals improvising on their own will lead to very different outcomes from three individuals improvising together, with 100 friends, or with 100 co-workers (for instance). The audience, be it defined as co-workers watching an "expert leader" improvising processes or products in the spotlight, project leaders observing their teams as they "synchronize", or scholars documenting "platform organizations", can play an important role in nurturing or hindering OI. More specific illustrations and empirical tests may lead to the inclusion of a new audience engagement dimension in the degree/level framework.

We therefore propose, as a second suggestion for further research, to investigate the role of moderating effects – in particular, leaders' and managers' mental models and audience engagement – as important components of the improvisation process and

influencers of its outcome. This analysis should also be carried out on the nine cells of the degree/level framework and in the context of inter-cell movements.

We encourage researchers across disciplines to join us in our efforts to shed light on OI, and to use the consolidating degree/level framework to better understand this important and complex organizational phenomenon. The framework also provides a template to assist in thinking about how expected improvisational dynamics may evolve as organizations change over time. In the aftermath of the 2008 economic crisis, most organizations still find themselves severely constrained in their access to resources, and under pressure to make the most of their members in creative and cost-efficient ways. We therefore also encourage leaders, managers and employees to use the degree/level framework as a dynamic analytical and diagnostic tool to help create conditions for successful improvisation in organizations and select the degree and level of improvisation most suitable to their specific and evolving contexts and circumstances.

Figure

Figure 1: Yearly total and accumulated number of organizational improvisation contributions, 1980-2014

Tables

Table 1: Existing Definitions of Organizational Improvisation

Source	Improvisation described as…
Primary level of improvisation: Individual	
Balachandra *et al.* (2005)	Dealing with the unexpected; Responding "in the moment"; Adapting effectively to sudden changes
Barrett (1998)	Inventing novel responses without a plan; Discovering the future as action unfolds
Barrett (2000)	Contemporaneous composition and performance
Barrett and Peplowski (1998)	Creating on the spot without a pre-scripted plan
Brown and Eisenhardt (1997)	Making strategy up as one goes along
Cleary and Groer (1994)	Making numerous interactive in-flight decisions (*psychology*)
Crossan *et al.* (1996)	Ideas emerging in un-planned ways; Taking advantage of opportunities in the moment
Gardner and Rogoff (1990)	Adapting planning to the circumstances (*psychology*)
Hmieleski and Corbett (2008)	The deliberate extemporaneous composition and execution of novel action
Leybourne and Sadler-Smith (2006)	A combination of intuition (also an antecedent to improvisation), creativity and bricolage driven by time pressures
Lockford and Pelias (2004)	Incorporating new information spontaneously to action; Adapting to emergent circumstances (*theatre*)
Machin and Carrithers (1996)	Creating *ad hoc* responses according to circumstances (*anthropology*)
Magni et al. (2009)	The creative and spontaneous behavior of managing an unexpected event
Meyer (1998)	Solving problems in the nick of time
Mirvis (1998)	Making things up as one goes along
Pasmore (1998)	Creating in real time in a flexible fashion
Tanenbaum and Tanenbaum (2008)	A highly contingent and emergent human process (*theatre*)
Weick (1993b)	Immediately inventing substitutes to old order
Weick (1998)	Dealing with the unforeseen without prior stipulation
Weick (2001)	Just-in-time strategy
Primary level of improvisation: Interpersonal	
Akgun *et al.* (2007)	Planning and executing an action simultaneously; Condition by which composition and execution converge in time
Charles and Dawson (2011)	Situated action in making sense of contextual circumstances in emergent problem-solving
Crossan (1997, 1998)	Intuitive and spontaneous action
Magni *et al.* (2008)	The creative and spontaneous process of managing an unexpected event
McKnight and Bontis (2002)	Spontaneously recombining knowledge, processes and structure in real time
Sharron (1983)	Immediate and spontaneous creation process (*sociology*)

Primary level of improvisation: Organizational	
Baker *et al.* (2003)	Convergence of design and execution of novel activities or action
Barrett and Hatch (2003)	Continuous elaboration of the absolutely new
Bastien and Hostager (1988)	Inventing new ideas as performance unfolds over time
Bergh and Lim (2008)	Short-term learning where experience and related change occur at or near the same time and that applies to novel, fast and uncertain actions and decisions. Improvisers draw from information and resources available (bricolage)
Chelariu *et al.* (2002)	Unplanned yet purposeful response to a turbulent, fast changing environment
Ciborra (1996)	Structure and strategy coincide in highly circumstantial ways
Ciborra (1999)	Extemporaneous process
Crossan and Sorrenti (1997; 2002)	Intuition guiding action in a spontaneous way
Cunha *et al.* (2003); Cunha *et al.* (2009)	Conception of action as it unfolds, drawing on available resources (bricolage)
Hatch (1998, 1999)	Playing around and with a structure
Hutchins (1991)	Action emerging without planning
Kamoche and Cunha (1997, 2001)	Contemporaneous composition and performance
King and Ranft (2001)	Combining adhockery with know-how
Miner *et al.* (1997)	Spontaneous and novel actions
Miner *et al.* (2001)	Deliberate and substantive fusion of the design and execution of a novel production
Moorman and Miner (1995)	Extemporaneous action
Moorman and Miner (1998a, 1998b)	Contemporaneous composition and performance
Orlikowski and Hofman (1997)	Responding to spontaneous departures and opportunities through local innovations
Pavlou and El Sawy (2010)	A repeatable capability for frequent and endemic change enhanced with practice and manifested in improvisational capabilities (the purposeful ability to spontaneously reconfigure existing resources to build new operational capabilities to address urgent, unpredictable, and novel environmental situations)
Perry (1991)	Formulating and implementing together in real time
Vera and Crossan (1999)	Reworking (pre-composed) material, influenced by unanticipated factors
Webb and Chevreau (2006)	Performing activities in non-routine or unexpected ways
Weick (1993a)	Continuous reconstruction of processes and designs
Zack (2000)	[Improvising] within forms, with forms, and beyond forms
Zheng *et al.* 2011	Simultaneous conception and execution (real-time planning); Finding solutions from available rather than optimal resources (bricolage)
No primary level of improvisation	
Berliner (1994)	A way of life; reworking (pre-composed) material, influenced by unanticipated factors *(musicology)*
Crossan *et al.* (2005)	Convergence of composition and execution; Conception of action as it unfolds

Cunha *et al.* (1999)	Conception of action as it unfolds
Holbrook (2007)	Responding quickly, flexibly, and self-reflexively to changes
Kao (1996a, 1996b)	Jamming with an idea to create something novel
Lewin (1998)	Human capital flexibility
Peplowski (1998)	Painting oneself in a corner just to get out of it, inspiration in mistakes
Schuller (1968)	Playing extemporaneously, without the benefit of written music, in the spur of the moment *(musicology)*
Vera and Crossan (2005)	The creative and spontaneous process of trying to achieve an objective in a new way

Table 2: The Degree/Level Framework of Organizational Improvisation

		One ←	LEVEL	→ Many
		Individual	**Interpersonal**	**Organizational**
Minor ↑	**Minor**	**Spontaneous practice** (Weick 1998)	**Synchronization** (Barrett 1998)	**Space for experimenting** (Kao 1996a)
DEGREE	**Bounded**	**Expert leadership** (Barrett & Peplowski 1998)	**Yes-and** (Crossan 1998)	**Constrained improvisation** (Bigley & Roberts 2001)
↓ Major	**Structural**	**Dropping tools** (Weick 1993b)	**Minimal structuring** (Plowman *et al.* 2007)	**Platform organization** (Ciborra 1996)

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¹ Heuristics are defined as cognitive shortcuts that emerge when information, time, and processing capacity are limited (Newell and Simon 1972). By providing common structures for a range of similar problems (Bingham and Eisenhardt 2011), they "enable individuals to simplify cognitive processing, conserve attention, and decide more quickly" while also "leaving room to improvise in real time" and allowing "flexibility to improvise for unique features of particular opportunities" (Bingham and Eisenhardt 2014: *in press*).

² We wish to thank one anonymous reviewer for pointing out the challenges and irony of developing a consolidating model of organizational improvisation, and for suggesting ways to address these concerns.

³ The authors of the two studies changed the names of these two organizations to ensure informants' anonymity.

⁴ For the sake of clarity and completeness, please note that Kamoche and Cunha (2001) define "constrained improvisation" as "minimal structures". We opted for the former terminology, however, to avoid confusion with "minimal structuring", which occurs at the interpersonal rather than organizational level.