Anna-Maija Nisula

BUILDING ORGANIZATIONAL CREATIVITY – A MULTITHEORY AND MULTILEVEL APPROACH FOR UNDERSTANDING AND STIMULATING ORGANIZATIONAL CREATIVITY

Thesis for the degree of Doctor of Science (Economics and Business Administration) to be presented with due permission for public examination and criticism in the Auditorium 2310 at Lappeenranta University of Technology, Lappeenranta, Finland on the 19th of December, 2013, at noon.
ABSTRACT

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Building organizational creativity – a multitheory and multilevel approach for understanding and stimulating organizational creativity

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Organizational creativity is increasingly important for organizations aiming to survive and thrive in complex and unexpectedly changing environments. It is a precondition of innovation and a driver of an organization’s performance success. Whereas innovation research increasingly promotes high-involvement and participatory innovation, the models of organizational creativity are still mainly based on an individual-creativity view. Likewise, the definitions of organizational creativity and innovation are somewhat equal, and they are used as interchangeable constructs, while on the other hand they are seen as different constructs. Creativity is seen as generation of novel and useful ideas, whereas innovation is seen as the implementation of these ideas. The research streams of innovation and organizational creativity seem to be advancing somewhat separately, although together they could provide many synergy advantages. Thereby, this study addresses three main research gaps. First, as the knowledge and knowing is being increasingly expertized and distributed in organizations, the conceptualization of organizational creativity needs to face that perspective, rather than relying on the individual-creativity view. Thus, the conceptualization of organizational creativity needs clarification, especially as an organizational-level phenomenon (i.e., creativity by an organization). Second, approaches to consciously build organizational creativity to increase the capacity of an organization to demonstrate novelty in its knowledgeable actions are rare. The current creativity techniques are mainly based on individual-creativity views, and they mainly focus on the occasional problem-solving cases among a limited number of individuals, whereas, the development of collective creativity and creativity by the organization lacks approaches. Third, in terms of organizational creativity as a collective phenomenon, the engagement, contributions, and participation of organizational members into activities of common meaning creation are more important than the individual-creativity skills. Therefore, the development approaches to foster creativity as social, emerging, embodied, and collective creativity are needed to complement the current creativity techniques. To address these gaps, the study takes a multiparadigm perspective to face the following three objectives. The first objective of this study is to clarify and extend the conceptualization of organizational creativity. The second is to study the development of...
organizational creativity. The third is to explore how an improvisational theater based approach fosters organizational creativity.

The study consists of two parts comprising the introductory part (part I) and six publications (part II). Each publication addresses the research questions of the thesis through detailed sub-questions.

The study makes three main contributions to the research of organizational creativity. First, it contributes toward the conceptualization of organizational creativity by extending the current view of organizational creativity. This study views organizational creativity as a multilevel construct constituting both of individual and collective (group and organizational) creativity. In contrast to current views of organizational creativity, this study bases on organizational (collective) knowledge that is based on and demonstrated through the knowledgeable actions of an organization as a whole. The study defines organizational creativity as an overall ability of an organization to demonstrate novelty in its knowledgeable actions (through what it does and how it does what it does). Second, this study contributes toward the development of organizational creativity as multi-level phenomena, introducing developmental approaches that face two or more of these levels simultaneously. More specifically, the study presents the cross-level approaches to building organizational creativity, by using an approach based in improvisational theater and considering assessment of organizational renewal capability. Third, the study contributes on development of organizational creativity using an improvisational theater based approach as twofold meaning. First, it fosters individual and collective creativity simultaneously and builds space for creativity to occur. Second, it models collective and distributed creativity processes, thereby, contributing to the conceptualization of organizational creativity.

**Keywords:** organizational creativity, collective creativity, improvisation, improvisational theater, organizational renewal capability, organizational renewal

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Kouvola, November 2013

Anna-Maija Nisula
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   *The author is sole author.*


   *The author of this thesis made the research plan and coordinated the writing of the paper. She collected the data in collaboration with the co-authors, analyzed the data and wrote most of the paper.*


   *The author of this thesis initiated the idea for the paper, made the research plan, and coordinated the writing of the paper. She collected and analyzed the data, and wrote most of the paper.*


   *The author of this thesis made the research plan in collaboration with the co-authors. She coordinated the writing and publishing process of the paper. She collected the data and analyzed the data for one case. She wrote most of the theoretical backgrounds of the paper. The introduction, discussion, and conclusions were written together with the co-authors.*

The author of this thesis initiated the idea for the paper, made the research plan, and coordinated the writing of the paper. She collected and analyzed the data, and wrote most of the paper.


The author of this thesis made the research plan in collaboration with the co-authors. She collected and analyzed the data and wrote most of the paper. She coordinated the writing of the paper.
PART I: OVERVIEW OF THE DISSERTATION
1. INTRODUCTION

“The steady old Väinämöinen
the everlasting wise man
was about to carve a boat
work on a new craft
on the misty headland’s tip
at the foggy island’s end
but the craft-smith needed trees
the boat builder planks:
now, who will seek wood
go after oak for
Väinämöinen’s boat
for the singer’s keel?”

(Kalevala, translated by Bosley, 1989)

The poetry extract is from the Kalevala (collected by Lönnrot), which is one example of distributed, collective, and social creativity. The whole story is comprised of pieces of spoken stories told by a huge number of individuals. Elias Lönnrot collected these stories during his several-year exploration journeys. Although the pieces of the story were told by a number of story-tellers, they all build the same “world.” We do not know the origins of the poets, what the tellers forgot or added on them, or how they became poets and came to tell stories of a common “world”. We do not even know, how Lönnroth “heard” the stories or how he wrote them down. Nevertheless, as a sum, they collectively tell a story about the people (collective). The collective story is distributed, as any single contribution or single story-teller does not lead or dominates the story. It is difficult to identify the origins of each contribution and to determine just how the story was built. The story is collective by nature, as a number of people contribute it by telling a common story and building a common world together. Even the work of Lönnroth cannot be defined only as individual creativity, instead it refers to social creativity (Harrington, 1990), as the purpose of the common story was to add value for others.

This discussion of the Kalevala leads us to the theme of this thesis – organizational creativity. How we understand and define creativity guides the rest of its meanings and purposes. The question how to build organizational creativity, calls first the definition of organizational creativity. What is organizational creativity? How could it be developed leads to practice on which creativity is enacted and demonstrated.
1.1. RESEARCH BACKGROUND AND MOTIVATION

Creativity is increasingly important for organizations aiming to cope and thrive in complex and unexpectedly changing environments. Innovative organizations release the innovative and creative potential of their personnel (Axtell, Holman and Wall, 2006), promote creativity and innovation throughout the organization (Shalley, Gilson and Blum, 2000), involve their personnel widely in development activities (Bessant, 2003; Buur and Matthews, 2008), and emphasize employee-driven innovations widely (Høyrup, 2010; Kesting and Ulhøi, 2010). While innovation as a main driver of competitive advantage is highly valued in organizations and in organization studies (e.g., Teece et al., 1997; Eisenhardt and Martin, 2000; Grant, 1996; Tushman and O’Reilly, 1996), creativity in the organizational context is still a poorly understood phenomenon, and compared to innovation studies it is also a less-studied phenomenon within organization studies. More specifically, creativity views within organization studies represent a wide consensus in terms of definitions of creativity. For example, Sullivan and Ford (2010) reviewed 21 articles from two top journals (Journal of Applied Psychology (JAP) and Academy of Management Journal (AMJ)) from 1998 to 2008. The majority of the articles (18) define creativity as the production of novel and useful ideas. However, organizational creativity is defined as the production of novel and useful outcomes (products, services, processes, etc.) by people working together (Woodman et al., 1993), which is quite similar to the definition of innovation: production of value-added novelty in economic and social spheres (Crossan and Apaydin, 2010). Thus, it is difficult to differentiate between the constructs of innovation and organizational creativity. The constructs of innovation and creativity are often used as interchangeably (Crossan and Apaydin, 2010; Styhre and Sundgren, 2005). However, in its narrowest meaning, creativity is connected with the front-end of the innovation process, as the generation of novel and useful ideas (West and Richter, 2009; Amabile, 1996), whereas the implementation of these ideas is conceptualized as innovation (West and Richter, 2009). Accordingly, most innovation studies recognize creativity as a precondition of innovation (e.g., Styhre and Sundgren, 2005; Bessant and Caffyn, 1997), without truly providing contributions on the theory building of organizational creativity.

It seems that the research streams of organizational creativity and innovation have advanced somewhat separately, although they could provide plenty of synergy advantages. While
innovation has been augmented as an all-embracing construct in organization studies, to reason multiple efforts and activities, creativity is left in a minor role in these discussions. In fact, at least to some extent, in every innovation is embed creativity, albeit the interest of researchers and practitioners has been on the outcome (i.e., innovation and the judgment of it). In innovation views, efficiency and rationality (Yuan and Woodman, 2010) override the emergence and primary source of innovation (i.e., creativity, passion, emotions, experiences, change, mistakes, the meaning of creation, and social interaction, all of which are sources of creativity). An example is the argument to release the innovative potential of employees for the success of organizations in complex and unexpectedly changing environment (Axtell, Holman and Wall, 2006; Amabile, 1988; Oldham and Cummings, 1996). Innovative potential (Axtell et al., 2006), nevertheless, essentially includes creativity. When people innovate, they create something novel, improve their work practices, or develop new processes. Accordingly, creativity and innovation seem to be essentially intertwined or even inseparable. In addition to innovation, creativity can be attached on most organizational activities and it can thereby benefit organizations through multiple ways.

Current conceptualizations of creativity inform the current understanding of creativity in organization and organizational creativity. The individual-creativity perspective, originating from psychology, dominates organization studies and the views on how creativity is understood (Zhou and Shalley, 2009). One stream of organizational creativity models (Woodman, 2009; Amabile, 1997; Woodman et al., 1993) has adopted this view as a basis of creativity in their modeling. According to the individualistic-creativity view, creativity is a cognition-based attribute and a skill, creative thinking and idea generation skill, of an individual (e.g., West and Richter, 2009; Amabile, 1996; 1997; deBono, 1992). Thereby, it is possessed (or not) by particular “supraindividuals,” as Hargadon and Bechky (2006) describe. The main limitation of such a view is that creativity is limited to thinking and idea generation, leaving the rest of its meanings with minor consideration. Another perspective understands creativity as complex combinations of intrapersonal (cognition, emotions, passion, imagination) and interpersonal (social) characteristics of an individual (e.g., Chiksentmihalyi, 1996; Gardner, 1993). Both of these views emphasize the influence of contextual factors on individual creativity (Chiksentmihalyi, 1996; Amabile, 1996, 1997). The main limitation of these views is that they attach creativity as a characteristics of
particular creative individuals (or a collection of few creative individuals), rather than seeing all organizational members as having creative potential.

A few creative individuals do not make the creative organization, nor do creative outcomes result from a single creative idea, instead “...creativity involves a large number of people from different disciplines working effectively together to solve a great many problems” (Catmull, 2008, p. 4). In addition to individual creativity, creativity can be seen as a collective creativity (Sawyer and DeZutter, 2009; O’Donnell et al., 2006; Hargadon and Bechky, 2006), which a perspective views creativity as a social, distributed, collaborative, and interactive process. In its proper meaning, it is creativity by a collective (a number of individuals achieving shared interest, goals, or principles) as a whole. In such collective endeavor, the people involved complement each other, trigger and invite each other to contribute, and extend their limits (John-Steiner, 2000), and, thereby, the collective is more than a sum of the individuals. Thus, collective creativity better describes the process of creation as an undertaking of interplaying individuals. The limitation of the current models of collective creativity is that they do not explain the role of individual creativity in that collective, nor do they explain organizational creativity as creativity by an organization.

One stream of organizational creativity studies (Hennessey and Amabile, 2010; Amabile, 1997; Woodman et al., 1993) highlights useful and novel outcomes, and some of them focus on the process through which novel and useful outcomes are created (Fisher and Amabile, 2009). What is common for these studies is that they tend to refer to organizational creativity as creativity in the organization, and/or explain organization-level creativity as an aggregate of both individual and group creativity under various contextual factors (both levels of analysis specific factors and environmental-contextual factors). Woodman et al. (1993) refer to organizational creativity as creative performance of a complex social system, which constitutes the creative performance of its constituent groups and the organizational aspects to foster it. In sum, organization is seen mostly as a context rather than as a creative entity. Another stream of studies (i.e., collective creativity studies) (Sawyer and DeZutter, 2009; Hargadon and Bechky, 2006; O’Donnell et al., 2006; Drazin et al., 1999) understands creativity as creativity by a system, albeit their focus is (Sawyer and DeZutter, 2009; Hargadon and Bechky, 2006) on groups and, therefore, on small-scale systems. In addition, Csikzentmihalyi’s (1990) and Harrington’s (1990) views on creativity refer to more a
systemic and collective perspective on creativity. The collective views of creativity understand creativity as a collective endeavor emerging in interaction (i.e., it is seen as social, distributed, contextual, and situational). However, few of them truly contribute to the theory building of the construct of organizational creativity.

Hence, it still remains unclear what organizational creativity is and how it could be developed. New perspectives are required to advance understanding of organizational creativity, from the relatively static and individual creativity driven view, toward a more dynamic conceptualization of organizational creativity. For that purpose, this thesis draws from the knowledge-based view of the organization (e.g. Spender, 1996), the theory of organizational renewal capability (Kianto, 2008), the literature of improvisation, and the practice of improvisational theater to broaden the understanding of organizational creativity and its development. Organizational renewal capability, defined as the ability of an organization to renew itself (Kianto, 2008; Pöyhönen, 2004; Eisenhardt and Martin, 2000; Leonard-Barton, 1995), is fundamental for organizations operating in changing environments. The relationship between organizational creativity and organizational renewal is an interesting and understudied field within organization studies. In current studies, organizational creativity is seen as a precondition of change and innovation (Woodman, 2009; Styhre and Sundgren, 2005; Kilbourne and Woodman, 1999). Like Pöyhönen (2004), in line with Weick (1993), suggests, organizational renewal (change) should be understood driven by creativity and innovation. Moreover, Woodman (2009) states that the same processes may lie beyond both creativity and change. Consistent with Kianto (2008), Crossan and Berdrow (2003) connect strategic renewal with organizational learning. Thereby, the motivation of this study arises from the weaknesses described above, both in the understanding and conceptualization of organizational creativity and the possibilities provided by the views of improvisation and organizational renewal capability for building novel understanding of organizational creativity. Thus, the two questions arise: Can organizations demonstrate creativity as a whole? How can organizational creativity be developed? Could it be possible to view organizational creativity as a collective creativity and creativity by an organization?

To sum up, this study offers both theoretical scrutiny and empirical evidence for understanding and building organizational creativity. First, it complements the current
relatively narrow conceptualization of organizational creativity by drawing from the knowledge-based view of organization (e.g., Spender, 1996), from organizational renewal capability theory (Kianto, 2008), and from the literature (Vera and Crossan, 2005; Moorman and Miner, 1998) and practice of improvisation (e.g. Johnstone, 1979). Thereby, the study extends understanding of organizational creativity by suggesting an approach to understanding organizational creativity as an organizational-level phenomenon. Second, the study provides empirical evidence through a cross-level study about the relationship between organizational-level practices, factors, and mechanisms effecting individual-level creativity (improvisation). Third, the study provides empirical evidence about the development of organizational creativity. Based on the model of organizational renewal capability, it provides an approach to building organizational creativity as an organizational-level construct. Basing and drawing from an improvisational-theater based approach, the study provides an approach both to stimulating and modeling collective creativity, and thereby also to organizational creativity.

1.2. RESEARCH GAPS AND RESEARCH OBJECTIVES

The research gaps of the study arise from the weaknesses of the current understanding and models of organizational creativity in explaining the full meaning of organizational creativity. Thus, the overall objective of this study is to build on what is known and to broaden both the conceptualization and development of organizational creativity.

The first research gap addressed in this thesis concerns the definition and conceptualization of organizational creativity. The research of organizational studies and creativity has identified a number of individual, group, and contextual factors effecting creativity. Accordingly, these views (e.g. Amabile, 1996; Woodman, Sawyer and Griffin, 1993; Woodman and Schoenfeldt, 1990) of organizational creativity share some characteristics. They base on the individual-creativity view, and explain organization-level creativity as an aggregate of both individual and group creativity under various contextual factors (both level-of-analysis-specific factors and environmental-contextual factors) and are outcome oriented. These views represent an interactionist view of organizational creativity, through which organizational creativity is seen as creativity in the organization, and the organization
is seen mainly as a context rather than as a creative entity. Another stream of studies (i.e., collective creativity studies) advances toward a view of seeing creativity as the creativity of a system (Sawyer and deZutter, 2009; O'Donnell et al., 2006; Drazin et al., 1999). That view presents creativity as a collective endeavor emerging in interaction (i.e., social, distributed, contextual, and situational). Collective creativity better describes the process of creation, although it does not explain the role of individual creativity in that collective, nor does it explain organizational creativity as an organizational-level construct, as the focus tends to be on the group level. Hence, new perspectives are needed to advance understanding of organizational creativity from relatively static views toward more dynamic views and conceptualization of organizational creativity. A wide set of factors (both individual and contextual factors) effecting creativity in organization are mapped. To build on that knowledge, it is time to look not only on the relations between these factors, but beyond these factors, at the underlying facets, to enhance understanding of organizational creativity.

The second research gap addressed in this study concerns the development of organizational creativity. The dominating role of individual creativity and the outcome perspective (Zhou and Shalley, 2009; Driver, 2008) have influenced the development of organizational creativity. The focus of the current creativity techniques (Basadur et al., 2000; deBono, 1992; Osborn, 1953) has been on facilitation of idea generation, problem solving, and problem definition in particular cases, rather than on developing organizational creativity. The current research shows a wide set of individual, group, and contextual factors, and the assumption is, that through modifying these factors, increased creative outcomes can be achieved (Driver, 2008). In fact, the current conceptualization of organizational creativity has influenced and guided the development of it. Hence, due the lack of coherent understanding of organizational creativity, there is a lack of studies on how organizational creativity could be built. However, within innovation studies, principle of high-involvement innovation (Bessant, 2003) and employee-driven innovation (Kesting and Ulhøi, 2010) as well as various participatory and multi-stakeholder innovation views (e.g., Buur and Matthews, 2008) have arisen to foster innovativeness throughout the organization (Kesting and Ulhøi, 2010; Bessant, 2003) or among diverse and multiple participating members (Buur and Matthews, 2008). For example, Bessant and Caffyn (1997) provide a step-by-step approach for organizations to evolve toward becoming learning organizations. Otherwise, the reported participatory innovation processes tend to be facilitated by researchers or by
consultants. In addition to single creativity techniques, there are few overall approaches to building organizational creativity.

The third research gap addressed in this study concerns the nature of various development methods to stimulate and build organizational creativity. In this respect, the underlying assumptions beyond these methods refer to the conceptualization of creativity, which thereby guides the development approach. One stream of development approaches (i.e., creativity techniques based on an individual-cognition-based perspective of creativity) understands creativity as a cognition-based attribute and a skill of an individual. These methods focus on training creativity thinking and idea generation skills (e.g., Sullivan and Ford, 2010; Amabile, 1996; 1997; deBono, 1992), such as divergent and convergent thinking. Another view understands creativity as the complex combination of intrapersonal (emotions, passion, imagination) and interpersonal (social) characteristics of an individual (e.g., Chiksentmihalyi, 1996). Both views emphasize the influence of contextual factors on individual creativity (Amabile, 1996, 1997; Chiksentmihalyi, 1996). These views attach creativity to characteristics of particular creative individuals (or the collection of few creative individuals), rather than seeing all employees as a creative potential. Moreover, the high emphasis on creative thinking and idea generation leaves the other meanings (embodied and social nature of creativity) of creativity in minor role. The view that creativity is embodied, and that it emerges in action and interaction, and often without thinking, is not supported in individual-thinking-based creativity views, which separates creativity from practice. Instead, collective-creativity views differ from individualistic views, and emphasize emergence and the distributed and social nature of creativity. The most creativity techniques focus on fostering individual-thinking-based creativity, such as divergent and convergent thinking, but there are few approaches to foster creativity as a collective creativity. Therefore, a novel and broader understanding of creativity is needed, toward which improvisational theater provides some suggestions.

The objective of this thesis is to study the development of organizational creativity within the organization. To understand how organizations could consciously build their creative capacity and release the creative potential of their employees throughout the organization enables the building of organizational characteristics and capabilities that, in line with Spender (1996), are difficult to imitate, and which thereby form the basis of the competitive
advantage of an organization. These organizational characteristics also determine, of the kinds of creative undertakings an organization can take, how they can take them, and at what speed. For that objective, this study draws from theories and models of organizational creativity and the literature and the practice of improvisational theater, and the literature of organizational renewal capability, to build a broader understanding of organizational creativity and to stimulate it. Thereby, the study contributes to three literature streams: organizational creativity and the development of organizational creativity, improvisation, and organizational renewal. The main research question is as follows:

_How can organizational creativity be built within an organization?_

The main research question is addressed through three sub-questions. The first sub-question concerns the conceptual part of the study, and it is addressed by means of a literature review from among the literature of organizational creativity, organizational renewal, and improvisation. The aim is to form a synthesis of the three reviewed literature streams to conceptualize organizational creativity and to base the development of it. Accordingly, the first sub-question is:

**RQ1: What is organizational creativity?**

The second sub-question concerns the development of organizational creativity. Whereas relying on theoretical bases, the research question is somewhat empirical by nature, as the research questions in developmental cases used to be (Eriksson and Kovalainen, 2008). It is addressed by means of literature and empirical studies concerning the development approaches of organizational creativity. It is based on the conceptualization of organizational creativity gained from the first sub-question and it contributes on it by providing empirical evidence for the theory building. The second sub-question is as follows:

**RQ2: How is organizational creativity developed?**

The third sub-question concerns the stimulation of organizational creativity with the improvisational theater based approach, and, likewise, it relies on theoretical bases by simultaneously taking from the empirical research through which it contributes on the theory. This sub-question is mainly addressed with an action-research approach. Its main basis is on
the utilization of the improvisational-theater-based training in various workshops to form a more holistic picture about the development of organizational creativity as well as on conceptualization and building a theory of organizational creativity. The third sub-question is as follows:

**RQ3: How might an improvisational-theater-based approach foster organizational creativity?**

### 1.3. OUTLINE OF THE STUDY

The thesis consists of two parts: the introductory part (I) and the publication part (II). The introduction of the thesis concerns the literature review, and it represents the conceptual part of the thesis addressing on the first sub-question. Each of the six publications had a research question of its own, through which the three subquestions of the study are addressed in an overlapping manner. Figure 1 illustrates the outline of the thesis, and Table 1 gives a more detailed outline of the thesis, in terms of the research questions.

*Figure 1: The outline of the study*
### Table 1: Research questions and the outline of the study

<table>
<thead>
<tr>
<th>Publication title</th>
<th>Research question of the publication</th>
<th>BUILDING ORGANIZATIONAL CREATIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Introduction</td>
<td>Conceptual</td>
<td>1. What is organizational creativity?</td>
</tr>
<tr>
<td>1. The relationship between supervisor support and individual improvisation</td>
<td>What is the effect of the perceived supervisor support on individual improvisation? What is the mediating effect of self-efficacy and perceived empowerment?</td>
<td>2. How is organizational creativity developed?</td>
</tr>
<tr>
<td>7. The effect of organizational knowledge management practices on individual improvisation</td>
<td>What are the possible causal relationships between the constructs: individual improvisation, knowledge sharing, and knowledge creation, utilization of experiential knowledge and utilization of documented knowledge?</td>
<td>3. How might an improvisational-theatre-based approach foster organizational creativity?</td>
</tr>
<tr>
<td>3. Stimulating organizational creativity with Improvisational Theatre Based Approach.</td>
<td>How improvisational theatre based approach stimulates organizational creativity?</td>
<td></td>
</tr>
<tr>
<td>4. Fostering team creativity and innovativeness with playfulness: a multi-case study.</td>
<td>How could playfulness be applied for intentionally enhancing team creativity and innovativeness?</td>
<td></td>
</tr>
<tr>
<td>5. Fostering participatory innovation with two creativity methods.</td>
<td>Comparison of two methods to foster participatory innovation—similarities and differences in fostering participatory innovation?</td>
<td></td>
</tr>
<tr>
<td>6. Assessing and developing organizational renewal capability in the public sector.</td>
<td>1. What does renewal capability mean in the context of the public sector i.e. what are the key organizational mechanisms enabling continuous change in this setting? 2. How could this capability be assessed? 3. How could it be developed?</td>
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</tbody>
</table>
1.4. DEFINITIONS AND SCOPE

Creativity is difficult to define, although, for the research purposes, some kind of workable definition is necessary.

Individual creativity is an ability of an individual to demonstrate originality and novelty in her or his knowledgeable actions. In addition to cognition (thinking and idea generation), it includes both the social and embodied nature of creativity. Creativity is, thereby, essential part of action, rather than separate from it.

Group-level creativity is as an ability of a collective to demonstrate novelty in its knowledgeable actions as a whole. It therefore is a process of creation, and grounded by the emergence, social, contextual, and distributed characteristics of activity. Hence, group-level creativity refers here to collective creativity. In addition to pure collective creativity, the various degrees of collectivity and collaboration are included in group-level creativity, including the view that collectives or teams are not necessarily stable, but are ongoing and developing entities as well. The degree of collectivity can be temporal (i.e., it can vary along the creative process). In this sense, collective creativity is creativity by a system.

Organizational creativity is as an overall ability of an organization (knowledge system) to demonstrate novelty on its knowledgeable actions (on what it does and how it does what it does). Organizational creativity is a multi-level phenomenon consisting of individual, group, and organizational-level creativity. As an organizational-level construct, organizational creativity is demonstrated novelty by an organization as a whole.

An organization is seen here as a dynamic knowledge system demonstrating novelty in its knowledgeable actions. In terms of organizational creativity, this view refers to the organization’s ability to compose, create, and recreate its distributed knowing in a situational and novel manner, and to build on that. In fact, it concerns utilization and creation of knowledge and flows of knowledge. “To demonstrate novelty”, is grounded with the assumption that creativity, essentially intertwined with knowledge, is demonstrated in the knowledgeable actions of an entity (individual, group, or organization). Novelty refers to new understanding and new combinations of knowledge and knowing as well as originality and the capability to shape, reshape, and achieve organizational goals.
The word *useful* is an attribute of the current definitions of creativity and organizational creativity, as organizational creativity is defined as “production of novel and useful outcomes” (Woodman et al., 1993) and likewise creativity is defined as generation “useful and novel ideas” (Amabile, 1996). To reason, why the word *useful* lacks from the definition of organizational creativity of this study needs further discussion. Usefulness often refers to the outcomes of the process of creation, either at the individual level (ideas) or at the organizational level (organizational outcomes). Nevertheless, usefulness is somewhat problematic when attached to creativity. In exceptional circumstances or when something unplanned happens, even the production of a normal repertoire of organizational outcomes (for example, services) can demand creativity. Another problem is, that judgment of usefulness is dependent on the evaluation process (timing of evaluation and compared to what) and the evaluators. The truly creative initiations might be easy to discard because they require too much effort and changes (e.g., Mueller et al., 2012). In fact, *useful* can be even opposite to creativity – a kind of killer phrase for the creative process. Namely, creativity grounded by emergence requires along the process of creation, wanderings in alternative “worlds,” experimentation, seeing differently, silly ideas, mistakes, chances, common sense making, and continuously reshaped goals. Hence, the word *useful* is not included in the definition of organizational creativity of this study. Anyhow, it is embed in the term *knowledgeable activity.*

The scope of the study on building organizational creativity limits the scrutiny of the thesis on the intraorganizational context. Within that frame, the scrutiny is limited to creativity in its broadest sense. That is, creativity is seen as demonstrated on knowing and on what one (individual, team, or organization) does. Accordingly, the focus of this study is on the creation and use of knowledge i.e., on knowing (Alvesson, 2001; Gherardi, 2000), which is seen as emerging in practice, as social, emotional, embodied, intellectual, and collective phenomena (O’Donnell, Meyer, Spender and Voelpel, 2006; Chia, 2003; Tsoukas and Vladimirou, 2001; Tsoukas, 1996). This limits the study on the knowledge-based view of the organization (Pöyhönen, 2004; Spender, 1996; Grant, 1996; Kogut and Zander, 1992). In contrast, the resource-based view, understanding knowledge more as a “stock,” is left aside. Further, the main scope of the study is to build on and stimulate organizational creativity, which is the reason for leaving out the studies examining the causal effects of organizational creativity on the performance of an organization.
The focus of the study on both advancing understanding of organizational creativity and on development of organizational creativity leads to a multiparadigm study. A multiparadigm approach accepts varied definitions of creativity as well as utilization of various research designs and approaches (Styhre and Sundgren, 2005), and it enables us to build a broader and more vivid view on the construct organizational creativity than would be possible with a single-paradigm view. Table 2 shows the paradigm categorization of Burrell and Morgan (1979), presented by Richards and De Cock (1999), on which they located the views of some key scholars of creativity (Styhre and Sundgren, 2005). The most current models of organizational creativity represent the functionalist paradigm (Taylor and Callahan, 2005; Styhre and Sundgren, 2005; Drazin et al., 1999), which is characterized by objectivity and order (Styhre and Sundgren, 2005; Taylor and Callahan, 2005; Richards and De Cock, 1999). Common for functionalist studies is that they are outcome-oriented (creativity is novel and useful outcomes) and use quantitative (objective) studies based on an individual-cognition view of creativity. Interpretetivist studies, on which Taylor and Callahan (2005) locate the collective creativity view of Drazin and his colleagues (1999), in turn, represent subjectivity and order. The view deviates from outcome-oriented view of creativity through which creativity is understood as a more subjective and qualitative phenomenon (Taylor and Callahan, 2005). The interest of the interpretetivist studies is on the creative process and on the experiences of the individual. The radical humanism paradigm concerns subjectivity and change (Taylor and Callahan, 2005; Burrell and Morgan, 1979). According to radical humanism, creativity is understood as a self-actualization, the purpose of which is seen to be limited by the environmental constrains. Thereby, the interest of humanist studies of creativity is on releasing the potentiality of individuals. Hence, the emphasis is on the experiences of individuals, both individually and collectively (Taylor and Callahan, 2005; Burrell and Morgan, 1979). A few current studies concerning organizational creativity can be located in the group of radical humanist studies. Only the study of Sawyer and DeZutter (2009), based on improvisational theater, represents this paradigm view of radical humanist studies. Radical structuralist studies refer objectivity and change, viewing conflicts as a key source of social change (Taylor and Callahan, 2005; Burrell and Morgan, 1979). Likewise, the radical structuralist studies are rare among organizational creativity studies. The radical structuralist view acknowledges that there are certain structures, processes, or arrangements that can foster creativity in organizations (Taylor and Callahan, 2005).
The motivation to use the paradigm categorization of Burrell and Morgan (1979) here is to orient the study at hand into the field of the previous studies mapped by Richards and De Cock (1999). In terms of that field, this study represents a multiparadigm view, as it aims to understand the construct of organizational creativity as a multilevel construct from different paradigm perspectives. This is in line with Styhre and Sundgren (2005), who studied organizational creativity as a multiparadigm phenomenon, representing all these four paradigms (Sundgren, Dimenäs, Gustafsson and Selart, 2005; Sundgren, Selart, Ingelgård and Bengtson, 2005; Sundgren and Styhre, 2004; Sundgren and Styhre, 2003), and they encourage scholars to continue that approach. In the following the paradigm perspectives of this study are discussed in detail.

Table 2. The paradigmatic views of Burrell and Morgan (1979) and the creativity studies located under them (Styhre and Sundgren, 2005; Richards and De Cock, 1999)

<table>
<thead>
<tr>
<th>Sociology of radical change</th>
<th>Sociology of regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subjective perspective</strong></td>
<td><strong>INTERPRETIVIST</strong></td>
</tr>
<tr>
<td>RADICAL HUMANIST</td>
<td>Subjectivity and Order</td>
</tr>
<tr>
<td>Subjektivity and Change</td>
<td>(e.g., Weick, Drazin et al., Hargadon and Bechky)</td>
</tr>
<tr>
<td>(e.g., Csikzentmihalyi, Bergson, Sawyer and deZutter)</td>
<td></td>
</tr>
<tr>
<td><strong>Objective perspective</strong></td>
<td><strong>FUNCTIONALIST</strong></td>
</tr>
<tr>
<td>RADICAL STRUCTURALIST</td>
<td>Objectivity and Order</td>
</tr>
<tr>
<td>Objectivity and Change</td>
<td>(e.g., Amabile, Woodman, Ekvall, Kirtin)</td>
</tr>
<tr>
<td>(e.g., Richards, De Bono)</td>
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</table>

First, the study represents the **radical humanist** paradigm. The study aims to broaden the view of creativity from pure individual-cognition views toward a more vivid view. That is, in addition to creative thinking, creativity is essentially embodied, social, emerging, human, and collective phenomena – “demonstration of novelty in knowledgeable actions”. In fact, the embodied, collective, and emergent nature of creativity cannot be measured, which leads to the observation that creativity must be studied through qualitative methods. In this study, the radical humanist view refers to improvisational-theater-based view of creativity, and on the development of group creativity with it (publications 3, 4, 5). Second, the study also represents the **interpretetivist** paradigm. The study views creativity as a qualitative
phenomenon, but also understands the frames and the diverse constrains of organizational contexts. This perspective refers to the long-term-action research and development process of organizational renewal and creativity presented in publication 6. This study utilizes the survey, which captures the perceptions and experiences of the organizational members in terms of creativity and renewal enabling and hindering issues in their work environment.

Third, in terms of the radical structuralist paradigm, the study examines the organizational processes and mechanisms affecting creativity in organizations, under which categorization the publications 1 and 2 fall. They examine the relationship between organizational-level practices and individual improvisation through a quantitative method, as an aim to find the practices and mechanisms effecting individual-level creativity and individual creative behavior.

The scope of the study on building organizational creativity leads to some assumptions of departure. In addition to conceptual discussion, the objective of the thesis is to study the development of organizational creativity, which mainly refers to and constitutes the participative and action-research-oriented approaches of the study (Eriksson and Kovalainen, 2008). Therefore, the action research approach is one in which both theory and practice are intertwined. Further, the focus on the phenomenon creativity demands to understand both human beings and reality in a particular manner, because creativity is an inherently human and a social phenomenon, notwithstanding the level of analysis (Rickards and De Cock, 1999; Styhre and Sundgren, 2005). In fact, both of these issues concern the ontological and epistemological basis of the study that guides the researcher in qualitative research (Baetson, 1972; Denzin and Lincoln, 2003). The following section discusses the underlying assumptions of this study.

The ontology of the study concerns such issues as the nature of reality and question about the idea of man (Denzin and Lincoln, 2003). In contrast to worldviews that assume environments are stable, predictable, objective, knowable, and controllable, this study bases on the assumption that environments of creativity are dynamic, increasingly turbulent, unknowable, unpredictable, and ambiguous. In such environments, meaning and subjectivity override intention and objectivity. This leads to another assumption, which assumes reality as negotiable, socially shaped, and an ongoing process rather than constituting of a single truth. In fact, knowledge and the world are coupled in a coevolving relationship (von Krogh
and Roos, 1995). Onward, the third assumption understands continuous change as a normal and embedded condition of organizational reality. Concerning the view on human being this study assumes all human beings both as knowledgeable (in line with several scholars e.g., Bessant, 2003; Blackler, 1995; Nonaka and Takeuchi, 1995;) and potentially creative (Johnstone, 1979; Spolin, 1977). Thereby, the ontology of this study is mainly grounded by subjectivism. However, as a multiparadigm study, it also partially represents objectivism, in terms of two publications (publications 1 and 2).

The methodological choices are rooted in the ontological and epistemological basis of the study, and will be discussed in detail in the empirical part of the study (chapter 6).

2. ORGANIZATIONAL CREATIVITY

To study organizational creativity this study draws from the three main literature fields: organizational creativity, improvisation, and organizational renewal. The twofold focus of this study, both to understand what organizational creativity is and to study how it could be built, leads us to draw from these three distinct fields of literature.

2.1 THEORIES AND MODELS OF ORGANIZATIONAL CREATIVITY

Organizational creativity or creativity in organizations has been studied under varied constructs, such as organizational creativity (Andriopoulos, 2001; Amabile, 1996; Woodman et al., 1993), collective creativity (O’Donnell et al., 2006), creativity in organization (Driver 2008; Drazin et al., 1999; Amabile, 1997), creative collectives (Hargadon and Bechky, 2006), and distributed creativity (Sawyer and DeZutter, 2009). Next, the key models and conceptualizations of organizational creativity and creativity in organization are reviewed and presented (Table 3) in terms of how they view organizational creativity and what observations they provide for building organizational creativity.

Csikszentmihalyi’s (1994) creativity model represents the systemic view on creativity in organization, capturing both the social and cultural contexts in which the individuals operate. In this system, the person (individual) and the contextual factors (the field or people of the domain), and the domain (rules, language, practices) all together influence the creative act.
The ideas and insights are initiated by individuals, which are thereafter judged, maintained and developed by the people of the domain. Although the model recognizes the contextual factors, the level of analysis is an individual one.

The componential theory of organizational creativity and innovation (Amabile, 1997) suggests that contextual issues either inhibit or facilitate creativity in organizations (Amabile, 1997). The model is rooted in an individual-cognition-based creativity model (Amabile, 1996). It describes how individual-level componential creativity is integrated with the work environment for innovation (Amabile, 1997). The model builds the relationship between creativity and organizational innovation. In the model, individual and team creativity (with components of domain-relevant experience, creativity-relevant skills and processes, and intrinsic motivation) feed the innovation of the work environment, while the work environment (organizational motivation, management practices, and resources), in turn, affects individual and team creativity. The weakness of the model is that it limits creativity into the individual and team level, seeing them as similar kinds of processes, based on individual-cognition-based creativity. In contrast, innovation is considered as a work environment or as organizational-level desired outcome. Thus, the model does not explain creativity as organizational-level phenomena, but, instead, its focus is on particular creative individuals and groups, and on the contextual factors.

The improvisational creativity theory (Fisher and Amabile, 2009) develops further and complements the compositional creativity view (based on Amabile’s (1996) componential model). The compositional model views creativity as consisting of five steps (task identification, preparation, idea generation, validation, and outcome), processes which are equal, notwithstanding the entity. Improvisational creativity is a highly novel, responsive, and appropriate activity in which the various stages of creativity happen, albeit simultaneously. Thus, problem definition, idea generation, and idea execution are carried out within low temporal separation (Fisher and Amabile, 2009). This is enabled by the contextual factors: expertise, creativity-relevant processes, intrinsic motivation, and work environment (Fisher and Amabile, 2009). The authors integrate the improvisational-creativity element into the compositional creativity model, and understand it as feeding creativity in such circumstances where it is appropriate, such as in an emergent crisis, in unexpected opportunities, and in
exploring novelty. Organizational improvisation is defined in this model as “improvisational actions in an organizational context” (Fisher and Amabile, 2009, p.18).

The interactionist model of organizational creativity (Woodman, 2009; Woodman et al., 1993; Woodman and Schoenfeldt, 1990) presents a multilevel model of organizational creativity. Based on individual creativity, it suggests, that both individual attributes (cognition, personality, motivation, and skills) and contextual factors (group- and organizational-level factors) influence individuals’ creativity in organizations. Group creativity is seen as a function of individual-level creativity and group characteristics, whereas organizational creativity is seen as a function of group creativity and organizational characteristics (Woodman et al., 1993). Organizational creativity is defined as “production of novel and useful outcomes by people working together in complex organizational context” (Woodman et al., 1993, p.294). Thus, this view represents the outcome-oriented view into creativity. The four components (creative process, creative outcomes, persons, and situation) of organizational creativity and interaction of these components form the behavioral creative potentiality of an organization (Woodman and Schoenfledt, 1990). Organizational-level creativity is proposed to be a creative performance of the social system (organization), which is aggregate from the creative performance of its constituent groups, and the organizational enhancement of creativity (Woodman et al., 1993). Even though the model recognizes the creativity of social systems, this model does not explain creativity as an organizational (collective) undertaking.

Drazin, Glynn, and Kazanjian (1999) present the multilevel (intrasubjective, intersubjective, and collective levels) theory of creativity in organizations, in which they define creativity as a process of engagement in creative acts. In their study, they use the sense-making process as a creative act. The focus is on the interaction process between individuals and particularly on a sense-making process on which individuals contribute (Drazin et al., 1999). Albeit, the focus of the model is on individuals and on their engagement, the authors note that the organizational-level creative process is not simply a function of individual or group efforts. Instead, organizational creativity emerges from negotiating multiple and potentially competing interests between different communities or groups within an organization. More specifically, it consists of the creative engagement of different communities in the action
concerned. Further, the authors suggest that an organizational process should recognize “when creative behavior occurs and who engages in creative behaviour” (Drazin et al., 1999, p.291). The model, thereby, recognizes organizational creativity as comprising complex interdependencies, through which individuals, communities, and organizational systems can create meanings to impact creativity in organization (Drazin et al., 1999). As a contribution, they suggest to operationalize individual inclusiveness, both individual and collective creative engagement, and changes in cognitive mapping, to study their changes over time for understanding organizational creativity.

The collective creativity model (Hargadon and Bechky, 2006) represents a collective and somewhat advanced form of collective creativity. The model focuses on behaviors that trigger moments for creative insights to emerge, instead of on contextual group and organizational factors. The action and interaction at the collective level is the basis of collective creation. In this interaction, the situations as well as the contributions of actors are continuously reframed and shaped by the people involved, which triggers possibilities for the emergence of creative insights. Based on the ideas of collective cognition and collective mind of Weick and Roberts (1993), Hargadon and Bechky (2006) suggest that creative solutions are built by recombining existing ideas, which is one limitation of the model. Collective mind refers to the mindful patterns of interrelated activities and practices among people over time (Hargadon and Bechky, 2006; Weick et al., 1999). Involvement in a group comes from attention and energy that individuals direct to the particular interaction with others (Hargadon and Bechky, 2006) rather than from what they have. This view is consistent with that of Drazin and his colleagues (1999), who understand collective creativity as engagement in activity. Thereby, the focus is on the interaction and moments in which the perspectives and experiences of the people involved meet in a ways that lead to distinctly new solutions. As Hargadon and Bechky, (2006) note, collective perspectives do not deny the individual creativity in the collective, instead their focus is elsewhere and on other aspects in that complex phenomenon.

Distributed creativity (Sawyer and DeZutter, 2009) represents collective creativity and a process view into creativity by basing on improvised-theater-based narratives. Creativity is understood as an ongoing social activity and process. Sawyer (2003) calls group processes of social activity as collaborative emergence. Such collaborative emergence is likely when (a)
activity is unpredictable (not scripted) and it has an open-ended outcome, (b) each individual contributes equally in it, (c) each person’s actions depend on the one just before (anyone can guide the action), and (d) each contribution is determined and interpreted by the others (Sawyer and DeZutter, 2009). Improvised narratives illustrate and model collaborative emergence, on which process the interaction among group members becomes a “more substantial source of creativity than the inner mental process of any single participating individual” (Sawyer and DeZutter, 2009, p.83). This is consistent with the view of Hargadon and Bechky (2006). Hence, both the collective emergence and the nature of distributed creativity are captured in this model. However, Sawyer and DeZutter (2009) do not truly link their study on organizational creativity theories, albeit they use collective cognition as an analogy for their modeling. In addition, the model also provides concrete conditions and behaviors that indicate collaborative emergence (a–d). Likewise, Sawyer and DeZutter (2009) do not truly use collective mind in their study, and their model therefore differs from the collective creativity view presented by Hargadon and Bechky (2006). In fact, this notion leads to observation that collective mind and collective cognition might be even limitations for creativity to occur, as they are based on routines and practiced procedures developed over time. In contrast to individual cognition, Sawyer and DeZutter (2009) refer to distributed (collective) cognition, using it as an analogy for distributed creativity. They see distributed creativity as a more powerful way to explain group creativity, compared to the individual-cognition views.

Consistently with the distributed model of creativity (Sawyer and DeZutter; 2009) and the collective creativity (Hargadon and Bechky, 2006), the “rhizome” perspective of creativity of Deleuze (Deleuze and Guattari, 1988, ref. Styhre and Sundgren, 2005, p.48) views creativity as resulting from a “series of interconnected events and undertakings.” Hence, creativity is connectivity – to make connections between horizontally dispersed issues (ideas, insights, knowledge, materials, events, chances, etc.) that do not seemingly belong together. Seeing creativity as a connectivity and a kind of free play of resources represents the most open-ended and radical perspective on creativity (Styhre and Sundgren, 2005). Resulting of collaborative, collective, and dispersed fields of knowledge, creativity is also contextual. One more aspect is worthy of highlighted in this model: Deleuze and Guattari understand the world as always unfolding and as an opportunity for new connections and new synthesis,
which can be equated with the distributed creativity view of Sawyer and DeZutter (2009). This leads to the observation that to foster organizational creativity and the emergence of novelty both connectivity and interaction need to be fostered, as creativity requires forums (or spaces) and conscious promotion of knowledge exchange and open dialogue throughout and across the organizational borders.

Harrington (1990) defines creativity as a process grounded by originality, adaptiveness and realization, which essentially includes the realization of novel ideas. In addition to private creativity, that gives value only for the creator himself or herself, social creativity gives value also to the others, even if it was created by a single individual. In this respect, most creativity in organizations is social creativity, as its aim is in one way or another to benefit work and the goals of an organization. Creativity is a result of an ecosystem or collective enterprise (Harrington, 1990), which matches the definition of collective. The creativity (value) “of each person’s novel contribution in this collective enterprise was inextricably contingent on the existence of other value-creating people and processes within the working ecosystem” (Harrington 1990, p.148). Thereby, the original insights of each person can be seen as being elaborated and developed by the ecosystem (collective) as a whole (MacKinnon, 1962; Harrington, 1990). Hence, the interaction causes the insights of an individual to emerge. In contrast to individual-cognition-based creativity, which is seen as a product of a single individual, social creativity is seen as being distributed across people, and multiple processes, times and places (Harrington, 1990, p.149). This idea is consistent with distributed creativity (Sawyer and deZutter, 2009) and the rhizome nature of creativity (Styhre and Sundgren, 2005; Deleuze and Gattari, 1988).
### Table 3: The key models of organizational creativity and creativity in organization

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Concept</th>
<th>Definition</th>
<th>View</th>
<th>Theory</th>
<th>Level</th>
<th>Type</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Csikszentmihalyi, (1994, 1988)</td>
<td>Creativity</td>
<td>Creativity is a function of a system constituting of individuals, and social and cultural factors</td>
<td>System</td>
<td>Framework constituting of person, processes, products, and places</td>
<td>Individual</td>
<td>C</td>
<td>DIFI model of creativity</td>
</tr>
<tr>
<td>Amabile, (1997)</td>
<td>Creativity in organization</td>
<td>Creativity is the generation of ideas, whereas innovation is successful implementation of these ideas</td>
<td>Outcome</td>
<td>Componential theory</td>
<td>Individual</td>
<td>C</td>
<td>Componential model of creativity in organizations</td>
</tr>
<tr>
<td>Fisher and Amabile, (2009)</td>
<td>Improvisational creativity</td>
<td>“Organizational creativity is production of ideas for novel and appropriate products, services and processes or strategies in an organization”</td>
<td>Process</td>
<td>Extension to componential theory</td>
<td>Individual</td>
<td>C</td>
<td>Improvisational-creativity model in organizations</td>
</tr>
<tr>
<td>Woodman and Schoenfeldt, (1990), Woodman et al., (1993), Woodman, (2009)</td>
<td>Organizational creativity</td>
<td>“Creation of novel and useful outcomes by people working together in a complex organizational context”</td>
<td>Outcome</td>
<td>Based on individual creativity view</td>
<td>Multilevel: individual, group, organization</td>
<td>C</td>
<td>Multilevel interactionist model of organizational creativity – creativity results from individual attributes and contextual factors</td>
</tr>
<tr>
<td>Drazin et al., (1999)</td>
<td>Creativity in organization</td>
<td>“Creativity is a process of engagement in creative acts, regardless of whether the resultant outcomes are novel, useful or creative.”</td>
<td>Process</td>
<td>Multilevel perspective</td>
<td>Multilevel, intra/inter subjective, collective</td>
<td>C</td>
<td>Model (propositions) of organizational creativity as multilevel and collective sense-making process</td>
</tr>
<tr>
<td>Sawyer and DeZutter, (2009)</td>
<td>Distributed creativity</td>
<td>Novelty is emerging as a collective social creation</td>
<td>Process</td>
<td>Interaction analysis, improvised-theater narratives</td>
<td>Collective</td>
<td>E</td>
<td>The foundations of distributed and emergent creativity</td>
</tr>
<tr>
<td>Deleuze and Guattari, (1988)</td>
<td>Creativity, Knowledge</td>
<td>Ability to make connections (between heterogeneous materials…)</td>
<td>Rhizome</td>
<td>Philosophy, post-structural</td>
<td>Collective, Social</td>
<td>C</td>
<td>Rhizome model of creativity</td>
</tr>
<tr>
<td>Harrington, (1990)</td>
<td>Social creativity</td>
<td>Results of ecosystem, which are distributed over times, places, actors, and processes.</td>
<td>Process</td>
<td>Psychology</td>
<td>Social creativity (collective creativity)</td>
<td>C</td>
<td>Model of creative ecosystem (collective)</td>
</tr>
</tbody>
</table>

C = Conceptual; E = Empirical
Finally, in the theory of collective creativity by O'Donnell, Meyer, Spender and Voelpel (2006) collective creativity is seen as resulting of communicative action in situated practice. It bases on the organizational collective knowledge or, more specifically, on tacit background knowledge and on Habermas (1987) communicative action (O'Donnell et al., 2006). Viewing organizations as dynamic knowledge systems, O'Donnell et al., (2006) emphasize practice or the dynamics of day-to-day actions within organizational life. Hence, the meaning arises from “worker creativity and exploratory organizational practice” (Spender, 2006; O'Donnell et al., 2006, p.1). More specifically, they focus on the social space of the dynamic processes and practices of collective creativity. Under uncertain conditions, this kind of knowing can become a more important source of activity than rational knowledge (Spender, 2006; Venzin, von Krogh and Roos, 1998).

Styhre and Sundgren (2005, p.4), define organizational creativity in the context of pharmaceutical research and development (R&D) as: “a variety of activities in which new ideas and new ways of solving problems emerge through a collaborative effort by promoting dialogues that involve multiple domains of scientific knowledge to produce value for the organization’s mission and market”. They suggest for scholars to utilize multiparadigmatic approaches to understand and study organizational creativity and to advance its understanding from pure functionalist paradigms toward the distributed, socially shaped, collective, and emerging nature of creativity. This perspective is fundamental in terms of the development of organizational creativity.

The studies in the first stream (models 1–4 in Table 3) are based on the individual-creativity view, and they explain organizational creativity as an aggregate of individual and group creativity under the influence of the contextual factors at various levels (group and organizational). This notion was recognized also by Drazin and his colleagues (1999) and Styhre and Sundgren (2005). In these models, the outcome perspective of creativity dominates (i.e., creativity is defined as production of novel and useful outcomes). Also, Montag, Maertz, and Baer (2012) recognized this notion. The contextual factors effecting and enabling individual and group creativity are widely studied and agreed upon. They show, that individual, group, and contextual factors effect in congruence on creativity in organizations. Contextual factors, such as organizational motivation to innovation (Amabile, 1997), organizational culture and climate (Kallio and Blomberg, 2009; Andriopoulos, 2001;
Anderson and West, 1998; Amabile, 1997; Ekvall, 1996; Woodman et al., 1993; West, 1990), supervisor support (Tierney et al., 2002; Amabile 1997), leadership (Kallio and Blomberg, 2009; Wang and Casimir, 2007; Andriopoulos, 2001; Scott and Bruce, 1994), rewarding system and encouragement (Sundgren et al., 2005; Amabile, 1997), organizational structure (Kallio and Blomberg, 2009; Wang and Casimir, 2007; Andriopoulos, 2001), resources (Andriopoulos, 2001), and freedom and challenging work (Amabile, 1997) are identified as affecting creativity in organizations. Group contextual factors that affect individual and group creativity are such as group cohesion (Woodman et al., 1993), diversity (Kallio and Blomberg, 2009), structure (Kallio and Blomberg, 2009), clear objectives, participation, task orientation, and support for innovation (Anderson and West, 1998; West, 1990), creativity-relevant processes (Amabile and Pillemer, 2012), and mutual support (John-Steiner, 2000). The individual-level factors, such as cognitive skills, motivation, task expertise (Kallio and Blomberg, 2009; Andriopoulos, 2001; Amabile, 1996), intrapersonal and interpersonal abilities (Csikzentmihalyi, 1994), self-efficacy (Tierney and Farmer, 2002; Bandura, 1997; Ford, 1996), psychological empowerment (Spreitzer, 1995), and emotions (Ford, 1996) are identified as affecting on creativity. Indeed, the contextual factors effecting creativity in organizations are widely mapped and studied. The key assumption is that paying attention to and modifying these contextual factors leads to an increase in the creative outcomes of an organization (Driver, 2008; Drazin et al., 1999), which therefore leads to reasoning that the organization is seen more as a context than as an entity to demonstrate creativity (creative entity).

The second stream of the models (models 5–10 in Table 3) represents more social and collective views on creativity. They share the view that creativity results and emerges in interactions between people involved, and they focus more on that interaction rather than the skills and attributes of each individual. Thus, creativity is either ongoing (Drazin et al., 1999; Sawyer and DeZutter, 2009) or momentary (Hargadon and Bechky, 2006) social and communicative activity (O’Donnell et al., 2006), and a process to reframe and shape the common interest in consideration as well as the contributions of each participant in that process. The interaction itself is the core that triggers possibilities of creative insights to emergence, as well as the process in which individuals engage (Drazin et al., 1999; Harrington, 1990) and direct their attention and energy (Hargadon and Bechky, 2006) to
advance the collective meaning creation (Drazin et al., 1999) or problem solving (Hargadon and Bechky, 2006). Drazin et al., (1999) explain organizational-level creativity as a collective process, and more specifically, as an emerging of the engagement of different communities or groups into action, to shape the multiple interests between these communities or groups. More specifically, it consists of the creative engagement of different communities in the action concerned. The view recognizes organizational creativity as a collective creativity consisting of complex interdependencies that determine how individuals, communities, and organizational systems create meanings to affect creativity in the organization (Dratzin et al., 1999). Harrington (1990) views creativity as resulting from an ecosystem i.e. collective. These models of collective creativity represent creativity by a system, but mainly as a group-level phenomenon. The theory of O’Donnell et al. (2006) is based on collective organizational knowledge and on understanding organizations as dynamic knowledge systems. It differs in theoretical means from the other collective models, as it is based on a knowledge-based view and knowledge management.

To sum up, most conceptualizations of organizational creativity deal with creativity in organizations (either by an individual or a group or both of them) rather than creativity by an organization. Hence, organization is seen more as a context than as a creative entity. The multilevel models (e.g., Drazin et al., 1999; Woodman et al., 1993) recognize the multiple levels and complex interaction between the various components of organizational creativity (person, process, outcome, context, and situation). However, these models do not provide a theory for organizational creativity by an organization as a whole. The model of Drazin et al., (1999) takes initiatives toward a model of organizational creativity as a collective creativity, while the model of O’Donnell et al., (2006) is based on collective (organizational) knowledge. In addition, in the first group the creativity is seen as a similar kind phenomenon throughout the levels of analysis (Gilson, 2009), a view that is questioned by Drazin et al., (1999). This may result from their definition creativity as an outcome (defined as novel and useful outcomes), which equals throughout the levels of analysis. The notion is consistent with the notion that the instrumentalist and functionalist views of creativity are dominating within organizational creativity studies (Kallio and Blomberg, 2009; Styhre and Sundgren, 2005; Taylor and Callahan, 2005; Drazin et al., 1999).
Further, individual-cognition-based views of creativity do not cover the full strength of creativity, which thereby limits the strength of the models of first stream. For example, they ignore the embodied and emergent nature of creativity, which is closely related to practice and perhaps even inseparable from practice. In explaining collective creativity, especially, they are considered only partially useful (Sawyer and DeZutter, 2009). Moreover, the relationship between individual creativity and collective creativity remains somewhat unclear (Bissola and Imperatori, 2009, 2011).

Finally, as the review shows, a wide set of factors effecting individual and group creativity are identified and agreed upon, but we still know very little about the creative process itself or about organizational creativity as creativity by an organization. What organizational creativity is by an organization? What are the underlying processes of creativity at different levels of analysis? What kinds of processes do creative processes include and require? What happens in a collective creative process? How can we model collective creative process and organizational creativity? Based on the remaining questions it is fair to say that the overall understanding of organizational creativity remains inadequate and unreasonable to explain the ability of an organization to demonstrate novelty in its knowledgeable actions. In fact, it is time to build on what is known to move forward and to try to understand what organizational creativity is and how it can be developed.

2.2. MULTISTAKEHOLDER INNOVATION MODELS

To understand the process of creation a review the current literature of participatory innovation is necessary. In these processes, creativity and innovation converge in action, although they are often discussed only in terms of innovation. Multistakeholder innovations are collaborative and collective processes of development and creation of novel products, services, practices, or renewal. Whereas innovation is the desired outcome and source of competitive advantage (e.g., Eisenhardt and Martin, 2000; Teece et al., 1997; Grant, 1996; Tushman and O’Reilly, 1996) of an organization, the role of creativity in innovation literature is not so clear. For example, some scholars consider that innovation can also occur without creativity (e.g., Woodman, 2009). Elsewhere, innovation and creativity are used as interchangeable, parallel, and overlapping constructs within organizational literature. Even
though, the interest within organization studies has been more on innovation than on creativity, creativity is recognized as an essential part and precondition of innovation (Styhre and Sundgren, 2005; Amabile, 1997; Woodman et al., 1993). In the narrowest meaning, creativity is defined as idea generation (Amabile, 1996; West and Richter, 2009), whereas the implementation of ideas is seen as innovation (West and Richter, 2009). Creativity as intangible and abstract phenomenon (ideas) is considered more as feeding, more as practice-oriented innovations (implementation and outcomes). Nevertheless, in the process of creation, it is very difficult, if not impossible, to explain the differences between the actions of creativity and innovation – and the definitions of organizational creativity and innovation do not make it easier, as they tend to include similar kinds of issues (production of novel and useful outcomes). The studies of individual innovative behavior confirmed, that idea generation, development, and implementation strongly correlate with each other, and are difficult to separate (DeJong and DenHartog, 2008; 2010; Janssen, 2000, 2002).

Increasingly the wide participation of various stakeholders in activities of innovation characterizes innovation in organizations and the current innovation research. These practice-oriented innovation streams aim to involve large numbers of individuals with diverse knowledge, experiences, and competencies, representing a wide variety of perspectives, into activities to produce innovations. Continuous innovation (Bessant et al., 2001), high involvement of innovation (Hallgren, 2009; Bessant, 2003), and continuous improvement (Boer et al., 2005; Bessant and Francis, 1999), participatory innovation (Buur and Matthews, 2008), employee-driven innovation (Høyrup, 2012; Kesting and Ulhøi, 2010), and user-driven innovation (von Hippel, 1988) represent such innovation research streams. The participatory innovation and the user-driven innovation represent the more case-specific and occasional innovation, whereas in continuous innovation (Bessant et al., 2001) high involvement of innovation (Bessant, 2003), continuous improvement (Bessant and Francis, 1999), and employee-driven (Høyrup, 2010; Kesting and Ulhøi, 2010) innovation, the focus is more on the general orientation of an organization toward innovation, organizational development, and change. The following section discusses the key models of multistakeholder innovation in terms of organizational creativity.
User-driven innovation aims to integrate users’ or customers’ views and contributions into the innovation activity of an organization, especially at the frontend of innovation (Buur and Matthews, 2008; Wheelwright and Clark, 1992; von Hippel, 1988). Thus, the focus is mainly on product (product, service, and process) innovations. Buur and Matthews (2008) present a model of participatory innovation process drawing from lead-user innovation (von Hippel 1988), participatory design (Buur and Bagger, 1999; Ehn and Khng, 1987), and design anthropology (e.g., Anderson, 1994; Blombers et al., 1993). Participatory innovation builds on the users’ practices and needs, which are considered as a basis and starting point for the co-creation of innovation (i.e., products and services in consideration) (Buur and Matthews, 2008). An underlying assumption in participatory innovation is that novelty results from ongoing interaction between the different stakeholders involved (Buur and Matthews, 2008). In such co-experiencing, the unexpected turning points are common and varied. The key process of participatory innovation is captured in the high quality of interaction between the participators. It consists of qualified communication and conversation, equal power relations, mutual learning, and sensitivity to situational actions (Gottlieb, Larsen and Sørensen, 2013). Thus, participatory innovation as an approach refers to collective creativity (Hargadon and Becky, 2006; Sawyer and DeZutter, 2009; Drazin et al., 1999).

The model of strategic continuous improvement (Bessant and Francis, 1999; Bessant and Caffyn, 1997) presents, in turn, an evolutionary approach of incremental innovation (continuous improvement) of an organization, through which an organization can develop and mature toward becoming a learning organization. In such an organization, continuous improvement and innovation is the way of life of every employee. The continuous improvement capability of an organization is built by consciously embedding organization-specific behavioral routines into the organization (Bessant and Francis, 1999). These behaviors build a culture and ways of doing things in this organization. Simultaneously they describe the extent innovation, learning, and renewal are desired and supported in this organization (Bessant and Francis, 1999). Some scholars (Bessant and Francis, 1999) suggest mechanisms, techniques, and tools for building continuous improvement within the organization, such as problem-finding and problem-solving training, idea collection, management systems, and reward and recognition systems. The model provides a step-by-step path model toward becoming a learning organization. The later introduced and an advanced
model of high involvement of innovation is based on the continuous improvement model, and it presents an approach through which organizations can build competitive advantage through continuous change (Bessant, 2003). The model provides an evolutionary approach to innovation, through which an organization can develop and mature toward becoming a high-level innovative organization. In such an organization, all organizational members are seen as sources of innovations, and all organizational members are expected to be involved into activities of continuous improvement. Innovation capability is defined as successful exploitation of novel ideas (Francis and Bessant, 2005), which refers implementation of novel ideas, and thereby to demonstration of novelty.

The employee-driven innovation model (EDI), based on the idea of high involvement of innovation (Bessant, 2003), promote active and systematic involvement of employees in innovation activities within the organization (The Danish Confederation of Trade Union, 2007). Its underlying assumption is that every organizational member can initiate innovations, and that innovation can emerge from any part or any employee group of an organization (Kesting and Ulhoi, 2010; Hoyrup, 2010; Bessant, 2003). The EDI model belongs to the group of practice-based innovations (Kallio, 2012; Ellström, 2010; Hoyrup, 2010). For example, Kallio (2012) differentiates between EDI and continuous improvement, arguing that EDI arises from work practice, and is opportunity-oriented and designed by employees, whereas continuous improvement is more management driven and problem-oriented (Kallio, 2012). In terms of EDI, the question is about the degree of both explicit versus implicit work processes (Kallio, 2012; Ellström, 2010). In terms of creativity, the implicit work processes give a site for personal interpretations and variations to make experiments and to figure out how work could be carried out, whereas explicit work processes are enhanced in adaptive learning (Ellström, 2010). The Danish Confederation of Trade Unions (2007) lists a set of tools (observation exercises, experimental workshops) and practices (self-sustaining teams, suggestion boxes, lean tables, interdisciplinary project groups) to activate employee contributions in innovation activities.

The models of continuous improvement (Bessant and Francis, 1999; Bessant and Caffyn, 1997) and the high involvement of innovation (Bessant, 2003) represent the overall models and approaches for organizational development to increase innovations and to evolve toward
learning organization. EDI (Kesting and Ulhoi, 2010; Hoyrup, 2010) is a similar kind of approach, used to activate employees to widely contribute to the innovation activities with various tools and practices. The development approaches differ slightly by how they stimulate employee innovation. Albeit having similarities, the tools and practices of EDI are more stimulating by their nature, whereas high involvement includes more organization-level practices to be established into organization. In this respect, Kallio (2012) sees EDI as bottom-up innovation, whereas continuous improvement is seen as a more top-down-driven approach. In contrast, participative innovation models provide novel approaches to foster team and cross-border innovation and co-creation by facilitating interaction, connectivity, and perspective and meaning creation. Thereby, they can be categorized into the stream of a collective and distributed creativity, as they also understand creativity and novelty emerging in social interaction between the participators involved. More specifically, these approaches provide valuable and practice-based experiences and understanding about collective and distributed creativity, and they are applicable to real work-life. These innovation models and especially the multistakeholder models also show that innovation (and co-creation) can happen without shared collective knowledge (instead the participants share common interest). In fact, this perspective refers to distributed creativity or seeing creativity as a “rhizome” (Deleuze and Guattari, 1988). Onward, this notion leads to observation that this particular characteristic differentiates these views from the views of collective creativity based on collective tacit “background” knowledge.

Thus, by demonstrating the process of creation and advancing understanding of multistakeholder co-creation, continuous innovation, and the innovation process itself, these innovation models have contributed less on creativity or on the literature and theories of organizational creativity. In fact, the research streams of creativity and innovation seem not to meet each other within organization studies, whereas elsewhere they are used as interchangeable constructs.

### 2.3. Individual and Collective Creativity

Creativity in organizations is demonstrated in the actions and interactions of organizational actors, being either individuals, groups, collectives, units, or an entire organization. That is,
novelty (creativity) is essentially embedded in and becomes demonstrated in what one does and how one does what one does, and it cannot be separated from that practice (i.e., doing). This view is supported by practice-based views (Orlikowski, 2002; Blackler, 1995) and is discussed in detail in terms of knowing (chapter 4.2.). It is also the key that make the difference between the actors either demonstrating novelty or not.

Worthy of discussion is the role of individual creativity in collective (group and organizational) creativity, a relationship that is rather unexplored within organization studies. In psychology, creativity is studied as an individual-cognition-based phenomenon, and most of the current models of organizational creativity have adopted that perspective. The literature of individual creativity, (Amabile, 1998, 1988, 1996; Ford, 1996), views creativity more as something one possess (e.g., skills, motivation, expertise), a view which leaves the embodied and emergent nature of creativity in minor. In contrast, the literature of individual innovative behavior (Yuan and Woodman, 2010; DeJong and DenHartog, 2010; Janssen, 2000, 2002; Oldham and Cummings, 1996; Scott and Bruce, 1994) and individual improvisation (Magni et al., 2009) focus on individual behavior in terms of opportunity exploration, idea generation, idea development, idea promotion and implementation. Thus, the focus of the behavior stream of research is on the actions, contributions, actualization of potentiality (Whitehead, 1933), and thereby on demonstrated creativity. The main limitation within organization studies is that creativity, as an individual-cognitive phenomenon, is often limited only to the idea generation phase (e.g., West and Richter, 2009; Amabile, 1996, 1998). Moreover, it is seen as a production of novel ideas (deBono, 1992; Sullivan and Ford, 2010, Taylor and Callahan, 2005) or outcomes (Amabile, 1996), whereas the further development and implementation of ideas is seen as innovation (West and Richer, 2009; Amabile, 1997). In contrast, the construct of individual innovative behavior combines these constructs (idea generation and implementation) into one construct, as they correlate strongly and can happen simultaneously or in complex and multiple orders (DeJong and DenHartog, 2008, 2010; Janssen, 2002). Nevertheless, the current models of organizational creativity are based on the individual-creativity view, and do not explain organizational creativity as a collective creativity.

In contrast, the models that examine creativity as a collective phenomenon, such as collaborative creativity (John-Steiner, 2000), collective creativity (Hargadon and Bechky,
2006; O’Donnell et al., 2006), and distributed creativity (Sawyer and DeZutter, 2009), do not reasonably explain the role of individual creativity in the collective. Sawyer and DeZutter (2009) argue that in collective creativity, the interaction becomes a more important source of creativity than the individual intrinsic characteristics. One shortcoming of these notions is that the current understanding of individual creativity is too narrow (mainly as seen the cognition-based “property” of an individual), which thereby influences on our understanding of organizational creativity. Another explanation suggests that the collective creative situation and the interaction itself can trigger and invite individuals to contribute and stretch their capabilities (John-Steiner, 2000; Sawyer and DeZutter, 2009; Harrington, 1990; Hargadon and Becky, 2006), regardless of how creative they are and how creative they consider themselves. Thus, interaction at its best, provides a fruitful forum for participants to make insights and discoveries, and thereby to learn about themselves and learn from the others and interaction. This leads to the third observation, which suggests that collective creativity is basically a collective activity and interaction, between ordinary people in a day-to-day work-context, rather than an issue of particular highly creative individuals (Hargadon and Bechky, 2006).

In terms of collective creativity, creativity, rather than being “property” of an individual(s), is the way in which individuals contribute to the collective creation by using their (creative) potential. In this sense, the focus is on how individuals explore opportunities, take initiatives, see differently, draw distinctions, introduce new ideas, promote ideas of others, and convert knowledge and insights into action, according to the situation to benefit the performance of the individual(s), the group, or the entire organization (Yuan and Woodman, 2010; Tsoukas and Vladimirou, 2001; Oldham and Cummings, 1996). It is also about how an individual engages (Drazin et al., 1999), direct his/her attention and energy (Hargadon and Bechky, 2006), and participates (Kesting and Ulhøi, 2010; Buur and Matthews, 2008) in the activity concerned. This is enabled by an individual’s ability to convert both their intrapersonal (emotions, motivation, passion, imagination) and interpersonal abilities (sensitivity to others/social abilities) into action while responding to the situation as it arises (Csikszentmihalyi, 1996). Whereas emotional openness to experiencing and to expressing emotions relates to individual creativity (Ford, 1996; Simonton, 1977), expressing and demonstrating creativity in one’s action requires psychological safety and conditions (Andersson and West, 1998) (i.e. appreciation, support, and space for experiencing and
creation). Moreover, one’s belief (self-efficacy) in one’s ability to take novel undertakings and demonstrate creativity predicts individual’s behavior and contributions (Figure 2) and thereby creative performance (Driver, 2008; Tierney and Farmer, 2002; Bandura, 1997; Ford, 1996). Self-efficacy, here, means “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments”, which has an influence on the individual’s intensity and course of action (engagement, efforts, and time put forth), as well as on tolerance to barriers and failures in the action pursued (Bandura, 1997, p.3). A low level of creativity self-efficacy indicates the likelihood of an individual to behave according to the rules and to avoid complex situations, which prevents the exploration and demonstration of creativity, whereas a high level of creative belief is seen to indicate demonstrated creativity.

**Figure 2: The model of individual creative behavior and its relationship to outcomes or performance (modified from Bandura, 1997, p.22)**

Consistent with the individual-creativity belief (self-efficacy) is the view that the social experiences shape consciousness (O’Donnell et al., 2006; Blackler 1995; Vygotsky 1978). Thus, people constantly reconstruct themselves, their experiences, memories, and expectations in terms
for the future, according to the situations encountered (John-Steiner, 2000; Bruner, 1986). This notion suggests that the quality of interaction influences the willingness of an individual to contribute to a situation and to stretch their capabilities, for example, to step out of the familiar habits and thought patterns. Consistently, through their experiences, for example in momentary interactions, individuals learn about their work life, like what kind of behaviors and aspects are important and valued (Hargadon and Bechky, 2006; Salanick and Pfeffer, 1978). Thereby, the individual creativity is influenced by the social context, a notion that was already presented by Csikzentmihalyi (1990) and Harrington (1990). In addition, individuals’ sense of autonomy influences on her or his intrinsic motivation (Amablie, 1995). These notions are important in terms of interaction and connectivity.

The collective creativity views understand creativity as emerging in social interaction. The creative ideas emerge from joint thinking and conversations (John-Steiner, 2000; Buur and Matthews, 2008; Sawyer and DeZutter, 2009; Drazin et al., 1999; O’Donnell, et al., 2006; Hargadon and Bechky, 2006), and are developed further through shared struggles to achieve new insights collectively. Thus, new thinking relies and thrives in interaction and communication (John-Steiner, 2000), which is consistent with O’Donnell et al.’s (2006) idea that through communicative action, and in very rare and problematic situations, the collective “background knowledge” can emerge. Further, Sawyer and DeZutter (2009) suggest that collaborative creativity emerges from the improvised dialogues of the group. In addition, participatory innovation is also such a socially constructed event where new meanings are constructed through conversations and interactions (Buur and Matthews, 2008; Steyaert, Bouwen and Van Looym, 1996). Collective-creativity perspectives emphasize the distributed rhizome nature of creativity or more specifically, connectivity, where the contribution or event can trigger and open new possibilities and turning points and thus, work as rich material for the redevelopment of a situation.

Here the term collective means a number of persons acting as a whole group by sharing interest or goals of action (Parjanen, 2012; van Osh and Avital, 2009). Similarly, in the context of collective intelligence, Malone, Laubacher and Dellarocas, (2009) defined a collective as “a group of individuals doing things collectively that seem intelligent.” However, the degree of collectivity can vary. Pure collective creativity happens in shared leadership, in mutual responsibility, and under collectively defined and shaped goal. In such collective, each
individual can contribute equally and each contribution is collectively shaped. This kind of pure collective exists, for example, in improvisational theater performance (discussed in chapter 3.2) or, for example, in emerging communities. Within the organizational context, such collectives are rare, as the leadership and responsibilities are relatively fixed within the groups. Some emerging informal communities of practice (Wenger and Snyder, 2000) have characteristics of a pure collective, for example, self-selection to participate in the collective. Further, the degree of collectivity may vary over time, and even the seemingly managed groups can temporally act like a collective. Figure 3 shows the degrees of collectivity in a continuum.

![Figure 3: Degrees of collectivity](image)

Consequently, a few organizational creativity studies have looked at organizational creativity as a collective phenomenon (Drazin et al., 1999; Sawyer and DeZutter, 2009; Hargadon and Bechky, 2006). There is, however, a lack of studies on organizational creativity viewing it as creativity by an organization as a whole. The multistakeholder innovation models reviewed provide approaches to develop and stimulate contributions and participation of organizational members in activities of innovation in their work community and in the organization. They also essentially include creativity, although it is less recognized and reported in these approaches. Accordingly, these studies rarely have contributed to the organizational creativity literature or to building the theory of organizational creativity. Thereby, we can as if it is
possible to understand organizational creativity as the characteristics of an organization and as the intraorganizational capacity of an organization to demonstrate creativity? What does organizational creativity mean as an organizational level construct?

3. IMPROVISATION AND IMPROVISATIONAL THEATER

Improvisation and improvisational theater provide novel perspectives, both to understand and develop organizational creativity. Drawing mainly from artistic fields, such as music and theater, improvisation literature and practice could also help to broaden organizational creativity both conceptually and in practice. The following section discusses and looks at in detail the constructs improvisation and improvisational theater in terms of organizational creativity and its development.

3.1. IMPROVISATION

The starting point for the current organizational studies in the field of improvisation has been on jazz music (e.g., Zack, 2000; Hatch 1998; Weick, 1998; Barrett, 1998; Peplowski, 1998;) and on theater (Vera and Crossan, 2004, 2005; Kanter, 2002; Crossan, 1998; Crossan and Sorrenti, 1997; Crossan et al., 1996; Weick, 1993). Improvisation is defined in multiple ways within organization studies: “thinking and doing unfold simultaneously” (Weick, 1996), “intuition guiding action in a spontaneous way” (Crossan and Sorrenti, 1997), “the spontaneous and creative process of attempting to achieve an objective in a new way” (Vera and Crossan, 2004), “intuition guiding action upon something in a spontaneous but historically contextualized way” (Hatch, 1998), or as a “conception of action as it unfolds drawing on available social, cognitive, affective and material resources” (Cunha et al., 1999).

Within theater, the definitions of improvisation emphasize improvisation as a process of constructing a performance without a script, a “living” process, and as using as a material for the performance whatever is at hand (Koppett, 2001; Johnstone, 1979; Spolin, 1977). Along these lines, Cuhna et al. (1999) define improvisation, including three notions: (1) lack of preplanning, (2) simultaneity of thinking and doing, and (3) making do with whatever material is at hand, which also relates to the construct bricolage (Levi-Strauss, 1966; Weick, 1993). In such an unplanned (spontaneous) activity, planning and executing (thinking and
doing or composing and playing) converge in a moment (Moorman and Miner, 1998; Weick, 1993; 1998); therefore, these notions describe improvisation in general, notwithstanding the domain or field in which it happens. Hence, the constant dynamism characterizes improvisation. Improvisation is recognized (Table 4) as an individual (Magni et al., 2009), group (Vera and Crossan, 2005; Crossan, 1998) and an organizational phenomenon (e.g., Ford, 2008; Cunha and Cunha, 2003; Kanter, 2002; Moorman and Miner, 1998a; Crossan, 1998; Orlikowski 1996; Weick, 1993). Moreover, improvisation is attached (Table 4) in organizational learning (e.g., Miner, et al., 2001; Barret, 1998), management (Leybourne and Saddler-Smith, 2006; Cunha, Kamoce and Cunha, 2003; Orlikowski and Hofman, 1997; Crossan et al., 1996), change (Cunha and Cunha, 2003; Crossan, 1998; Orlikowski, 1996), complexity (Ford, 2008; Montuori, 2003; Eisenhardt and Tabrizi, 1995), and innovation (Vera and Crossan, 2005; Moorman and Miner, 1998a).

Improvisation is a parallel and overlapping construct with creativity (Fisher and Amabile, 2009; Leone, 2010; Leyborne and Saddler-Smith, 2006; Baker, Miner and Eelsey, 2003; Miner, Bassoff and Moorman, 2001; Moorman and Miner, 1998; Barret, 1998) and innovation (Baker et al., 2003; Moorman and Miner, 1998). In fact, improvisation is an appropriate approach to broaden the understanding of the construct organizational creativity for number of reasons. First, the individual-cognition-based and somewhat limited conceptualization of creativity to generate novel and useful ideas (e.g., Amabile, 1996; deBono, 1992), can be broadened to a wider understanding of creativity, as simultaneously subjective and as intersubjective, emotional, embodied, and intuition-driven activity. Second, improvisation also breaks the outcome perspective into creativity, as in improvisation the process, and outcomes are inseparable in action. Third, improvisation is about activity and interaction, and it thereby is a fruitful approach to understand the collective and distributed nature of creativity. Improvisation, as a highly responsive real-time activity, essentially embeds an aim to deviate from familiar practices, habits, and fields of knowledge, and it therefore always aims toward novelty. Through improvisation, creativity can be seen as essential part of activity instead of seeing it as “something one possess or has.” Indeed, improvisation is about activity, and, simultaneously, it is a way to deviate from the current knowledge and familiar practices and understanding. In other words, it is both a novel activity and a way to novelty.
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<td>Individual</td>
<td>E</td>
<td>Positive effect of intuition, experiences, and improvisation</td>
<td></td>
</tr>
<tr>
<td>Cunha and Cunha (2003)</td>
<td>Organizational improvisation</td>
<td>”The conception of action as it unfolds by an organization’s members drawing on available resources.”</td>
<td>Process</td>
<td>Change</td>
<td>Organization</td>
<td>E</td>
<td>Builds connection between improvisation and organizational change</td>
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<tr>
<td>Baker, Miner and Eesley (2003)</td>
<td>Improvisation</td>
<td>Organizational improvisation</td>
<td>Organizational improvisation</td>
<td>Strategy</td>
<td>Start-up firms</td>
<td>Organization</td>
<td>E</td>
<td>Occurrence of improvisation, improvisational competences, network strategy, and bricolage</td>
</tr>
<tr>
<td>Moorman and Miner (1998b)</td>
<td>Organizational improvisation</td>
<td>The degree to which the composition and execution of an action converge in time</td>
<td>Organizational (collective) cognition</td>
<td>Organizational memory</td>
<td>Organization</td>
<td>C</td>
<td>Organizational procedural memory (skill knowledge) and declarative memory (fact knowledge) moderate improvisation’s influence on organizational outcomes</td>
<td></td>
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<tr>
<td>Vera and Crossan (2005)</td>
<td>Improvisation</td>
<td>Process</td>
<td>Team innovative performance</td>
<td>Process</td>
<td>Team</td>
<td>Collective/Team</td>
<td>E</td>
<td>Improvisation has positive effect on team innovation when combined with team and contextual moderating factors. Improvisational skills develop by training</td>
</tr>
<tr>
<td>Crossan (1998)</td>
<td>Improvisation</td>
<td>Improvisation is an orientation and a technique to enhance the strategic renewal of an organization</td>
<td>Strategy and technique</td>
<td>Improvisational theater-based training</td>
<td>Organization</td>
<td>C</td>
<td>Suggest areas of improvisation in organizations</td>
<td></td>
</tr>
<tr>
<td>Cunha, Kamoc and Cunha (2003)</td>
<td>Organizational improvisation</td>
<td>The conception of action as it unfolds by an organization’s members drawing on available resources.</td>
<td>Process</td>
<td>Leadership</td>
<td>Group</td>
<td>E</td>
<td>Improvisational leadership (i.e., leaders ability to involve in social construction, to combine behavior, synthesize planning and exeuting, and to instill the sense of task in subordinates)</td>
<td></td>
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<tr>
<td>Crossan, Lane, White and Klas (1996)</td>
<td>Organizational improvisation</td>
<td>Individual improvisation is skill and practice at group-level</td>
<td>Strategy</td>
<td>Management</td>
<td>Organization</td>
<td>C</td>
<td>Improving organization, where improvisation is seen as managerial technique to cope “with the new reality of rapidly changing business environments”</td>
<td></td>
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<tr>
<td>Source</td>
<td>Method/Model</td>
<td>Conceptualization</td>
<td>Practice/Change Management</td>
<td>Collectivity</td>
<td>Observations/Implications</td>
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<tr>
<td>Miner, Bassoff and Moorman (2001)</td>
<td>Organizational improvisation</td>
<td>Improvisation is the deliberate and substantive fusion of the design and execution of a novel production</td>
<td>Improvisational learning</td>
<td>Organization</td>
<td>Provide a view for fusion of unplanned change and order through organizational improvisation and learning</td>
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<tr>
<td>Weick (1998)</td>
<td>Organizational improvisation</td>
<td>Jazz improvisation as a metaphor</td>
<td>Organizational theory</td>
<td>Organization</td>
<td>To understand organization is to understand organizing</td>
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<tr>
<td>Eisenhard and Tabrizi (1995)</td>
<td>Experiential model of rapid adaptive processes</td>
<td>Experiential model relies on improvisation, real-time experience and flexibility</td>
<td>Imprvisation experiential strategy</td>
<td>Adaptive processes</td>
<td>Using experiential strategy with powerful project leader, and frequent project milestones accelerates product development</td>
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<tr>
<td>Cunha and Cunha (2003)</td>
<td>Organizational improvisation</td>
<td>“Conception of action as it unfolds drawing on available social, cognitive, affective, and material resources (Cunha et al., 1999)</td>
<td>Change</td>
<td>Organization</td>
<td>Builds synthesis between the two modes of organizational change by suggesting change as improvisational endeavor (i.e., as unfolding action)</td>
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<tr>
<td>Orlikowski and Hofman (1997)</td>
<td>Improvisation</td>
<td>Improvisational change model recognizes “change as ongoing process made up of opportunities and challenges that are not predictable at the start”</td>
<td>Practice</td>
<td>Collective</td>
<td>Model that captures three types of change (anticipated, emergent, and opportunity based) over time</td>
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<tr>
<td>Orlikowski (1996)</td>
<td>Improvisation as organizational transformation and in situated change</td>
<td>“Organizational transformation is grounded in the ongoing practice of organizational actors, and emerges out of their fluctuating accommodation to and experiments with the everyday contingencies, breakdowns, exceptions, opportunities, and unintended consequences that they encounter.”</td>
<td>Practice</td>
<td>Individual, collective</td>
<td>Model of improvisational change over time</td>
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<td></td>
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<td></td>
<td>Organizational transformation</td>
<td></td>
<td>Improvisation is not necessarily spontaneous – it can be slow</td>
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3.2. IMPROVISATIONAL THEATER

Improvisational theater provides concrete methods to understand improvisation and creativity as an emerging, socially shaped, and collective activity. Improvisational theatre captures all the notions of improvisation in general, into a collective improvisation carried out by a collective in an ensemble. As improvisational theater is collective creation-in-action, it can shed light on understanding organizational creativity and its development (discussed in publications 3, 4, and 5).

In improvisational theater, the group of improvisers performs without a script or a director, in shared leadership and responsibility, under mutual support and care. It is congruent with general improvisation, where planning and acting happens simultaneously in the moment (Vera and Crossan, 2005; Moorman and Miner, 1998; Weick, 1993; Johnstone, 1979; Spolin, 1979). In such an unplanned and open-ended collective play and playfulness, the events enacted build the world (Weick, 1993). The actors draw from all possible sources (internal or external) and stimuli for their contribution to the performance, such as knowledge, imagination, intuition, voices, experiences, materials, tools, and resources available at the moment (Koppett, 2002; Johnstone, 1979; Spolin, 1977). This could be also described as “free play of the resources” (Styhre and Sundgren, 2009, p.51) or bricolage (Levi-Strauss, 1966; Weick, 1998). Originally, bricolage was seen more as a play with existing resources (Levi-Strauss, 1996), whereas in improvisation, it is possible to utilize whatever stimuli (even invented-in-action ones) for contribution.

The core of the improvisational theater is the group ensemble (Johnstone, 1979). An ensemble describes the collective flow or collective state of immediate social interaction of the unplanned performance, in which world the actors play. This is consistent with the definition of a collective (Parjanen, 2009; Malone et al., 2009). In such collective play, the material for the play emerges from the group’s intense play (Johnstone, 1979) and, thereby, the process and outcome are inseparable. This notion can be equated with distributed creativity (Sawyer and deZutter, 2009), collective creativity (Hargadon and Bechky, 2005; Drazin et al., 1999), and to some extent with participatory innovation (Buur and Matthews, 2008; Schein, 2000), which all emphasize the emergence and social interaction nature of creativity.
Improvisational theater represents the most collective form of group interaction, play, and creation. To act in an ensemble cast without a script differs from the habitual ways of performing. At the same time, it resembles normal unplanned interaction between people, which tends to be always somewhat improvisational. Through continuous training, the improvisers learn to be prepared for the collective unplanned performance. Two main goals characterize improvisational theater: First, it aims to increase the potentiality of an individual to contribute to situations (i.e., free imagination) (Johnstone, 1979). Thereby, individuals become more open to use their intrinsic power (imagination, intuition, emotions, passion, bodily knowledge) as a source of their contribution and engagement, for the flow of the performance. In improvisation, the contribution to and engagement in activity are more important than the attributes that one has. More specifically, in improvisation, the contributions are not categorized into creative or less creativity – instead, even “mistakes” are accepted. Second, improvisational theater breaks the conventional power relations by introducing novel and unconventional behaviors into the process of improvisation. Third, training improvisation focuses on group acting collectively in an ensemble, through which the actors learn about interaction, and to interplay as engaged, responsible, active, and creative actors in the flow of unplanned performance. This is the core basis of a collective performance. In fact, in improvisation, the improvisers interact in intense co-orientation between the actors, events, and environment, in a continuously changing “world,” by simultaneously building and shaping that world. Such collective creation is an exciting and complex composition of what people can do together, and it simultaneously triggers and invites actors to extend their limits.

3.3. INDIVIDUAL AND COLLECTIVE IMPROVISATION

At the individual level, improvisation is attached to an improviser, who performs in an unplanned manner, drawing distinctions and ideas from whatever material or stimuli (e.g., emotions, intuition, imagination, voices, actions of other persons or audience) available by converting knowledge and insights into action according to the situation to benefit the performance underway. Improvisers are able to convert both their intrapersonal (emotions, motivation, passion, imagination) and interpersonal abilities (sensitivity to others/social abilities) into action to respond to the situation as it arises. In fact, improviser refer to
complex persons (Csikszentmihalyi, 1996), to personal mastery (Montuori, 2003) or to an intuition-driven overall sense of a situation (relationship between the self, the others, and events), which enables the person to perform with and between opposites (exploration–exploitation, composing–playing, planning–acting, or order–disorder). Thereby, an individual improvisation refers to individual creative and innovative behavior (Fisher and Amabile, 2009; Montuori, 2003; Moorman and Miner, 1998; Eisenhardt and Tabrizi, 1995) and more specifically on an individual performing one’s work in professional, creative, and original ways, as discussed in chapter 2.3. In such activity, improvisation, creativity, and work tasks converge in a moment. Schön (1983) describes it as follows: “When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way” (Schön, 1983, p.49). Further, Brown and Duguid (1991) present that such activities as working, learning, innovating are inseparable in improvisation. Leybourne and Saddler-Smith (2006) define improvisation as a combination of intuition, creativity, and bricolage. Thus, improvisation, as a subjective and intuition-driven activity, can be defined as a dynamic innovative behavior of an individual i.e. as behavior that aims, promotes and demonstrates novelty.

Collective improvisation refers to improvisation carried out by a number of improvising individuals (e.g., a group of actors in improvisational theater) collectively, or to improvisation carried out by a complex set of various kinds of interacting entities (individuals, groups, communities, units) or by an entire organization (organizational improvisation) under shared and ongoing collectively shaped efforts. It can occur, for example, in the form of a collective and improvised academic journal paper, as Hansen, Barry, Boje, and Hatch (2007) have shown. The collective improvisation is discussed in detail in the following in terms of organizational creativity.

As an organization level construct, improvisation has been increasingly recognized as an interesting approach (both metaphoric and practical) for organizations to face unexpected, in rapidly changing conditions (e.g., Weick and Sutcliffe 2006; Woodman, 2009; Crossan et al., 1996), and in situations where the current practices do not match. It is seen valuable in exploring opportunities out of the conventional fields, in creating radically new ideas (Fisher and Amabile, 2009; Moorman and Miner, 1998; Cunha, Cunha and Chia, 2007), in innovations (Barrett, 1998; Weick, 1993), continuous change (Brown and Eisenhardt, 2002),
renewal (Crossan et al., 1996; Crossan, 1998) and also in start-up of firms (Baker, et. al., 2003). Improvisation is used as a metaphor to describe the emerging and unfolding actions of an organization (e.g., Weick, 1993, 1998; Kanter, 2002; Barret, 1998). The notion that “improvisation may be close to pure ’creativity’– or perhaps more accurately to creative organization, the way in which we respond to and give shape to our world” (Frost and Yarrow, 1880, p.2; ref. Vera and Crossan, 2005) describes the intertwined nature of improvisation, creativity, and activity in organizations and as an organization-level phenomenon. Indeed, the creative organization is able to respond to and shape the world and itself constantly. Thereby, organizations are not only stable contexts, but also the results of joint activities of organizational members i.e., socially shaped entities to respond to a socially shaped world. Moreover, organizational structure (Hatch, 1999), strategy (Perry, 1999), and organizing (Weick, 1998) can be seen as a process of improvisation (i.e., as an ongoing activity of continuous negotiation, experiencing, and redesign) (Weick, 1993). There is not one right way to organize, instead “the well-designed organization is not a stable solution to achieve, but a developmental process to keep active” (Starbuck and Nyström, 1981, p.14 ref. Weick, 1993, p.348).

In the literature, improvisation refers closely to change (Ford, 2008; Cunha and Cunha, 2003; Brown and Eisenhardt, 2002; Orlikowski and Hofman, 1997; Orlikowski, 1996, 1997, 2002; Weick, 1993, 1998). One stream of studies views it as a kind of strategic orientation (or metaphor) model of an organization (e.g., Ford, 2008; Vera and Crossan, 2004; Kanter, 2002; Crossan, 1998; Crossan et al., 1996; Weick, 1993; 1998). Whereas, the another stream (the practice-oriented stream) of studies, views it as a continuous, emergent, socially shaped, and enacted change process over time in practice (Orlikowski, 1996, 2002; Orlikowski and Hofman, 1997). Advancing from metaphors, Crossan et al. (1996) and Crossan (1998) defines organizational improvisation as an orientation and a technique to achieve strategic renewal of an organization, a view that comprises both identified modes of change. Further, improvisation can be seen as a kind of event-driven advancement, an example of which is found a report by Hutchins (1991) concerning the navigation actions by the ship crew without navigation system. The crew collectively generated alternative practices in action to get the ship to harbor. Composing is similar kind of slow improvisation.
The continuous change as a normal condition of organizational life (Tsoukas and Chia, 2002; Orlikowski, 2002; Schein, 2000) characterizes the creative organization. Related to this, the construct of organizational renewal capability (Kianto, 2008; Pöyhönen, 2004) will be discussed in detail in the following (chapter 4.3.). In terms of change and in contrast to planned change, improvisation represents more practice-based, emergent and enacted change-in-action. The change as improvisation is a practice driven, socially shaped, and collectively enacted strategy (i.e., advancing as it unfolds), but it can also be fundamentally strategic change, as the metaphoric views into improvisation suggest (Weick, 1998, 1993). Thereby, improvisation as an overall organizational-level orientation and practice characterizes the creative organization (i.e., organization’s readiness and capacity to take novel and rapid undertakings even in unexpected and emergent situations). More specifically, in the creative organization, these two modes of change should converge and feed each other to achieve timely, appropriate responses, for example, to outperform the competitors in flexibility or in speed.

There are few theoretical suggestions to link creativity and improvisation, and, therefore, few authors (Barret, 1998) have given contributions to the organizational creativity theories. One exception is the model of Fisher and Amabile (2009) (discussed in chapter 2.1.), who introduce the construct of improvisational creativity, which is action of high novelty (deviation from current actions and knowledge) to produce appropriate, useful, and novel outcomes. On such action, the problem definition, idea generation, and idea execution happen simultaneously (converge). This is consistent with the definition of improvisation (i.e., in improvisation, planning and execution converges in a moment) (Moorman and Miner, 1998); thus, the definition of improvisational creativity does not differ conceptually from the construct of improvisation. Nevertheless, Fisher and Amabile (2009) connect improvisational creativity to the model of compositional creativity, and present it as a kind of rapid mode of creativity to feed compositional creativity (i.e., production of novel and useful outcomes in an organization).

One body of literature defines organizational improvisation as improvisation that happens within the organization (Fisher and Amabile, 2009; Moorman and Miner, 1998a, 1998b). Moorman and Miner (1998a) understand it as consisting of improvisation by groups, departments, or by an organization, a view that is consistent with the views and models of
organizational creativity (Drazin et al., 1999; Woodman et al., 1993). Therefore, this body of literature sees organizational improvisation as a kind of extended group improvisation (Vera and Crossan, 2005; Moorman and Miner, 1998), and improvisation is a similar kind of phenomenon notwithstanding the level of analysis. Another body of literature attaches organizational improvisation to a culture (Vera and Crossan, 2005; Crossan, 1998), where experimental culture, tolerance of mistakes and ambiguity, real-time information flows (Moorman and Miner, 1998; Eisenhardt, 1989), including communication between actors i.e., verbal and nonverbal cues (Bastien and Hostager, 1992) are seen to nurture and enable improvisation (Vera and Crossan, 2005; Crossan, 1998). In contrast, collective improvisation is used when improvisation happens as an improvisation of a collective system (Sawyer and DeZutter, 2009; Koppett, 2001; Moorman and Miner, 1998; Dogherty, 1992; Hutchins, 1991; Johnstone, 1979; Spolin, 1977), a system that can either be an interacting group, community, organization, or more complex combination of them. The improvising system shares efforts or interest to contribute to building the common effort. In such interaction, the effort or world is continuously shaped i.e., the new social order of efforts are continuously built by the actors, who mutually develop their adaptive interactions and knowledge as it unfolds (Moorman and Miner, 1998; Dogherty, 1992).

There were two motivations to adopt improvisation and improvisational theater as an approach to study organizational creativity. First, within organization studies improvisation has been already studied in the context of organizational learning (Miner et al, 2002), management (Leybourne and Saddler-Smith, 2006; Weick, 1993), change (Weick, 1993; Cunha and Cunha, 2003); complexity (Ford, 2008; Montuori, 2003; Eisenhard and Tabrizi, 1995) and innovation (Vera and Crossan, 2005; Moorman and Miner, 1998). All of these refers to dynamism and change. Second, improvisation and improvisational theater were not yet used in studies of organizational creativity, although, it could be powerful in both understanding and developing organizational creativity. More specifically, improvisation and improvisational theater contribute to organizational creativity theory and practice in a number of ways. First, improvisation, as an activity of novelty, provides ways to deviate from familiar knowledge and practices. Second, improvisation is both creativity and a way to creativity. Third, improvisation as a change, characterizes creative or playful organization, which is in a constant state of change. Fourth, improvisation enables to broaden the creativity view from individual-cognition-based creativity toward a more holistic understanding of creativity. Fifth,
improvisation helps us to understand creativity as an emerging, nonlinear, distributed, communicative, and interactive phenomenon, on which interaction the contribution of an individual is more important that what he or she possess or has. Sixth, improvisational theater models and builds collective creativity and it thereby provides value for both building the theory and the practice of collective creativity. More specifically, improvisational theater provides both a concrete model and a method of collective and distributed creativity. Thereby, it is also possible to understand the mechanisms and dynamics of organizational creativity as well as the developmental needs of organizational creativity.

4. ORGANIZATIONAL RENEWAL AND ORGANIZATIONAL RENEWAL CAPABILITY

The literature of organizational renewal, the knowledge-based view of an organization, and the theory of organizational renewal capability provides the third perspective on organizational creativity and its development.

4.1. ORGANIZATIONAL RENEWAL

Both organizational creativity and organizational renewal refer to change, and they share several characteristics. For example, Woodman (2009) understands organizational creativity as a special kind of organizational change. Further, creativity is seen as a subset of organizational change and innovation (Woodman, 2009; Styhre and Sundgren, 2005; Kilbourne and Woodman, 1999), a view that is based on the interactionist model (Woodman et al., 1993) of organizational creativity (see chapter 2.1.). Nevertheless, in high-renewal organizations, change (renewal) is a normal condition of organizational life (Pöyhönen, 2004; Tsoukas and Chia, 2002; Orlikowski, 2002; 1996; Tsoukas and Vladimirou, 2001; Weick, 1998). The view that organizations are developing systems, and that organizational reality is enacted in action and interaction between organization members (Spender, 2006; Orlikowski, 2002; 1996; Tsoukas and Vladimirou, 2001) embeds continuous renewal. Likewise, innovation is increasingly a part of the day-to-day work of all organization members (e.g., Kesting and Ulhøi, 2010; Bessant, 2003). Thereby, organizational renewal, organizational creativity (demonstrated novelty), and innovation are coevolving, emerging, and enacted in
the day-to-day work by the organizational members, while they shape and create joint work activities together (Orlikowski, 1996, 2002). This leads to the observation that the relationships between organizational creativity, organizational renewal, and innovation are very complex, and perhaps even temporally inseparable. Certainly, the conceptualization of the construct affects interpretation as well (see chapter 2 and 4.2.). Creativity (demonstrated novelty) and innovation always aim to change, whereas change also triggers both creativity and innovation. Based on the narrow view of creativity, Woodman (2009) explains creativity as nested with the broader construct of innovation, which thereafter is nested with the broader construct of change. According to him, not all change includes innovation and creativity, nor does all innovation include creativity. Instead, it is more appropriate to see organizations as continuously developing systems, where organizational creativity, innovation, and renewal are essential parts of the dynamism of the system. In such a system, continuous learning and innovation are the mechanisms through which organizations renew (Kianto, 2008; Bessant, 2003). Hence, one possibility is to see organizational creativity as a mechanism through which organizations renew, which is in line with the view that organizational renewal could be seen as driven by innovation and creativity (Pöyhönen, 2004; Weick, 1998).

Three main motivations lead us to explore organizational creativity in terms of organizational knowledge. The first motivation comes from the observation that, in the organizational context, creativity is difficult to understand isolated from knowledge and knowing (knowledgeable activity). By knowing or knowledgeable activity is meant here knowledge demonstrated in action (e.g., Orlikowski, 2002; Blackler, 1995). Novelty, as well as knowing are demonstrated in and through the actions and interactions of organizational actors (individuals, groups, communities, units, or an entire organization). Hence, what one (individual, group, unit, or organization) does essentially implements knowing (including novelty) turned into practice and performance. In the following section, the relationship between creativity, knowledge, and knowing, both as individual and collective phenomena are discussed in detail (chapter 4.2). The second motivation comes from the current theories and models of organizational creativity, which mostly explain the phenomenon of creativity in an organization, but do not reasonably explain creativity by an organization. Instead, they view organization more as a context than as an entity that is able to demonstrate creativity. Hence, to understand organizational creativity as an organizational-level collective creativity needs novel perspectives and clarification. The knowledge-based view of an organization
(Pöyhönen, 2004; Spender, 1996; Grant, 1996; Kogut and Zander, 1992) understands organization as a developing (dynamic) knowledge system, which provides possibilities to understand organizational creativity as an organizational-level construct and creativity by an organization. Further, according to the knowledge-based view, the intellectual resources of an organization in the form of collective knowledge are the key characteristics of an organization explaining its performance (Spender, 1996; Styhre and Sundgren, 2005; Grant, 1996; Lam, 2000; Kianto, 2008). Likewise, the intellectual resources of an organization are sources of organizational creativity as well. In the following, organizational creativity is discussed in terms of organizational knowledge (chapter 4.3.). The third motivation comes from the lack of approaches to assess organizational creativity as a dynamic phenomenon. The current understanding provides a number of contextual factors effecting creativity in an organization (see chapter 2.1.). However, there is lack of approaches understanding the dynamics between these contextual factors and characteristics of an organization in terms of organizational creativity. In fact, the dynamics means the organizational practices, mechanisms, and characteristics of an organization that stimulate and enable organizational creative potential to become demonstrated novelty in knowledgeable actions of an organization. For this purpose organizational renewal capability theory, relying on organizational knowledge and a knowledge-based view of the organization (Kianto, 2008; Pöyhönen, 2004), can provide novel understanding and an approach to assess organizational characteristics and enablers for organizational creativity. This leads to the observation that both organizational renewal capability (Kianto, 2008) and organizational creativity might have similar roots, that is, organizational collective knowledge. The notion of Woodman (2009) can be seen to refer to this, suggesting that beyond organizational change (renewal) and organizational creativity may be a similar kind of processes.

### 4.2. CREATIVITY, KNOWLEDGE, AND KNOWING

Organizational creativity cannot be separated from knowledge and knowing i.e., knowledgeable actions that constitute the basis of the dynamic knowledge system or the organization. Two major perspectives, cognitivist and constructionist perspectives, represent somewhat different views on the nature of knowledge. The first one understands knowledge as an act of representation (cognition and representation of the brain), while the
constructionist view understands knowledge as an act of creation (von Krogh, 1998). This dualism can also be seen in the models of organizational creativity, where one stream of studies represents the individual-cognition view into organizational creativity, and the another stream of studies represents the more collective-creativity view (see chapter 2.1). The constructs of knowing or knowledgeable activity connects knowledge with action (Blackler, 1995; Pöyhönen, 2004; Orlikowski, 2002) and on what one does, instead of focusing on what one has or possess. In the following, the relationship between creativity, knowledge, and knowing will be discussed in terms of organizational creativity.

Although novelty always lies beyond what already exists and what is known, it is always contextual and it is judged in relation to what exists, what is known and what is desired. Styhre and Sundgren (2005) suggest that knowledge represents a particular field on which creativity contributes. It either builds on what exists or builds novel connections, or in the most radical cases, destroys existing understanding, but in any case, it has contextual roots. That is, ideas or insights are always about something, instead of being generic ones. In addition, much of creativity becomes available and is discovered in action, and in terms of this kind of embodied knowledge, the field (knowledge on which creativity contributes) and creativity are inseparable. Such embodied knowledge (Blackler, 1995; Polanyi, 1966), called also aesthetic knowing, is constituted in and through practice (Orlikowski, 2002), as it is a rooted form of tacit sensory knowledge (Baumgarten, 1936, ref. Hansen et al., 2007, p.114). In fact, Polanyi (1966) highlights the bodily roots of all thoughts and knowing, “including man’s highest creative powers,” as our bodily processes are part of our perceptions. Also Sveiby (1994) supports this view. Onward, Leonard and Sensiper (1998) understand knowledge acquisition as occurring also implicitly through nonconscious processes, which would mean that not all knowledge has to be put into explicit form (Leonard and Sensiper, 1998) to be deployed, and much of knowing can be deployed implicitly in and through action. This leads to observation that cognition and bodily roots of knowing are not distinct phenomena, but essentially intertwined, a view that is important for understanding creativity as a more vivid phenomenon than simply a pure individual-cognitive phenomenon.

In knowledge management, both individual and collective knowledge are seen to comprise tacit and explicit dimensions of knowledge (Spender, 1996), and those dimensions complement each other (Pöyhönen, 2004; Orlikowski, 2002; Sveiby, 1994; Polanyi, 1966).
They play in generative relationship between each other (Cook and Brown, 1999) or represent complementary modes of knowing (Pöyhönen, 2004; Orlikowski, 2002). Tacit knowledge is attached to Polanyi’s (1966, p.4) “we can know more than we can tell,” which refers to knowing that is not possible to articulate, and, in which embodied knowledge is also included. That means that the different modes of knowing are intertwined in knowledgeable action. In terms of organizational creativity, it is, therefore, appropriate to study how the creative potential of organization members can become demonstrated in action and how it can increase knowing. Thus, creativity (novelty) is then an essential part of knowing or knowledgeable action.

In individual context knowing is subjective (including emotions, imagination, intuition, insights, experiences, passion, bodily knowledge), context specific, and situational, which makes it original. This idea is consistent with Polanyi (1966), who suggests that all knowing is subjective, “participation through indwelling” (Polanyi and Prosch, 1975, 44). Further, Tsoukas and Vladimirou (2001) define individual knowledge as “individual capability to draw distinctions, within a domain of action, based on an appreciation of context or theory, or both.” This also refers to the characteristics of a complex person (Csikszentmihalyi, 1996), personal mastery (Montuori, 2003), and on being knowledgeable in a special way (Schön, 1983, p.49), and, thereby, on dynamic innovative behavior (discussed in chapter 2.3). Further, Lave (1988, p.180) defines individual knowing as “an individual engaging the self, the body, and the physical and social worlds.” In other words, knowing can be described as an overall sense and orientation of an individual with environment, others, events, possibilities, knowledge, and goals. All these definitions above (Montuori, 2003; Tsoukas and Vladimirou, 2001;; Csikszentmihalyi, 1990; Lave, 1988; Polanyi, 1966) basically refer to knowing in action, in which knowing novelty becomes essentially embedded through the individual drawing distinctions as a fully engaged knowledgeable actor. Thus, thinking (creative or less creative) is not separate from action, but an essential part of knowledgeable action. Seeing knowing in this way, means that novelty (creativity) emerges and is shaped in action, and in interaction between organizational members. Therefore, thinking is inseparable from what people do, which means that knowing or knowledgeability is demonstrated in what one (individual, group, or organization) does (Langley, 2010; Kianto, 2008; Blackler, 1995; Schön, 1983). In terms of creativity, what is demonstrated (done) is often more than what
consciously was expected to be known, as much of knowing and creativity emerges and develops in action and through action in process of creation.

As a collective phenomenon, knowing is continuously enacted in day-to-day actions and interactions of organization members (Orlikowski, 2002), which means that instead of being static, knowing is dynamic (Nicolini, Gherardi and Yanow, 2003; Sveiby, 1994). The dynamisms means, that knowing is continuously developing joint activity, social accomplishment, and social shaping of events by the actors engaging in practice (Orlikowski, 2002; Spender, 1996; Gergen, 1991; Lave, 1988). Spender (1996a) refers to this by understanding knowing as a practice to achieve appropriate knowlegablebility (Spender, 1996a); thereby, knowing arises from “worker creativity and exploratory organizational practice” (Spender, 2006, ref. O’Donnell et al., 2006, p.1), which requires participation and engagement in interaction and meaning creation, which also is a condition to become knowledgeable in a particular field. Knowing is, hence, collective and enacted in a particular context by the people involved (e.g., Miettinen, Samra-Fredericks and Yanow, 2009; O’Donnell et al., 2006; Tsoukas, 2005; Orlikowski, 2002; Wittgenstein, 2001/1953; Gherardi, 2000; Blackler, 1995) and an essential part of organizational action (Cook and Brown, 1999; Schön, 1983). In other words, knowing is something that people do together (Gergen, 1991 ref. O’Donnell et al., 2006), and creativity is an essential part of that knowledgeable activity. In fact, “knowledgeable activity” refers to a practice-based perspective on organizational knowing, where knowing is in our action (Schön, 1983; Polanyi, 1966; Blackler, 1995; Orlikowski, 2002). Schön (1983; 49) describes it as follows: “When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way. . . . Our knowing is ordinarily tacit, implicit in our pattern of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is in our action”. (Schön, 1983, p.49, ref. Orlikowski, 2002). In terms of organizational creativity, the view that the social experiences affect and shape the consciousness of individuals (Vygotsky, 1978; Blackler, 1995; O’Donnell et al. 2006) and influence their engagement and possibility to demonstrate novelty in such a collective endeavor is worth of notion.

Accordingly, an orientation into knowledge is one of the key factors for knowledge processes, for collective knowledge creation and for organizational creativity. It is difficult to understand
organizations or reality with a single way of knowing; instead, it essential to consider distinct and even competing epistemologies (Venzin, Krogh and Roos, 1998; Spender, 1996b). In addition, different times and circumstances may call for different epistemologies. For example, Spender (2006) presents than under uncertainty, meaning arises “from worker creativity and exploratory organizational practice” (O’Donnell et al., 2006, p.1). In terms of organizational creativity, the views understanding knowledge as a practice of knowing (i.e., as a practice of orientation knowledgeably, and being purposefully in the world), are more appropriate than views seeking truth and reason (Venzin et al., 1998). Figure 4 shows an orientation into knowledge in one continuum. In the controlled end of the spectrum, knowledge is purely explicit and grounded with the assumption that there is only one possible or right solution (truth) to be found. In contrast, in the pluralistic end of the spectrum, there are plenty of possible views or possible worlds or solutions, which need to be explored, negotiated, and shaped in terms of each case between the people involved. In pluralistic world, knowledge develops through collective creation of new understanding, which refers to contextual and local knowledge. Hence, a pluralistic world is a forum of conflicting and paradoxical knowledge views, as in a complex world “the number of well-defined ‘best’ solutions to well-defined problems decreases” (Venzin, et al., 1998, p.34), which fruitfully describes conditions of organizational creativity. Thereby, the pluralistic view better describes the field of organizational creativity, and provides opportunities for novelty to become demonstrated.

Figure 4: Continuum of pluralistic and controlled worlds
The pluralistic view is represented also in the theories and models of organizational creativity. The perspective that, in a developing (dynamic) knowledge system knowledge is dispersed throughout the organization is provided by Tsoukas (1996), who understands organizations as distributed knowledge systems. According to this view, knowledge is dispersed throughout the organization. In such a distributed knowledge system, knowing emerges in interactions between individuals in a manner, that any actor can dominate the system and its knowledge creation (Tsoukas, 1996). This view is consistent with the distributed (collective) creativity perspective (Sawyer and DeZutter, 2009) and the rhizome view of creativity (Deleuze and Guattari, 1988), both of which understand creativity as dispersed, distributed, and emerging in interaction. Accordingly, distributed nature of creativity becomes demonstrated in improvisational theater, which can be seen as an improvisation by a system as a whole (i.e., collective improvisation and collective process of creation). A distributed knowledge system is a kind of site of collective creation that is the result of connectivity, interaction, and improvisation, on which activities the knowledge of organizational members as well as the knowledge emerging in interaction could be composed together to create new knowledge and novelty. Likewise, a knowledge-based view understands organizations as active and developing (dynamic) knowledge systems (Pöyhönen, 2004; Spender, 1996a), in which change is normal condition of organizational life (Tsoukas and Chia, 2002; Tsoukas, 1996).

4.3. ORGANIZATIONAL CREATIVITY AND ORGANIZATIONAL KNOWLEDGE

The relationship between organizational knowledge and organizational creativity is discussed next. The construct organizational creativity is understood here as a collective phenomenon, by using as an analogy the conceptualization of organizational learning by Cook and Yanow (1993). Hence, organizational creativity can be seen as a three different kinds of phenomena. First, it can be seen as creativity carried out by particular creative individuals within an organization, which refers to creativity possessed by some key individuals (i.e., individual cognition-based view of creativity). Second, it can be seen as group creativity aggregating of individual creativity. This view understands creativity resulting from a similar kind of capacity of a group or an organization than what the individual creativity represent. More detail, groups and organizations are seen acting like individuals, as cognitive entities.
Creativity and creative outcomes can be increased by supporting and fostering the individual, group, and contextual factors. Third, it can be seen as demonstrated novelty carried out by an organization as a whole, a view that is based on collective (organizational) knowledge, and one that understands creativity carried out by the organization as a whole. The current theories of organizational creativity fall under the first two views of creativity in organizations. However, there is not yet clear understanding of organizational creativity by an organization. This observation leads us to ask whether it is possible for an organization as whole to demonstrate novelty. Can organizations act by demonstrating novelty in its knowledgeable actions as a whole?

The view that creativity arises from and emerges in day-to-day actions of organizational members refers to the dynamics of collective life (Spender, 2006; O’Donnell et al., 2006; Gherardi, 2000) and to the background knowledge of an organizational life-world, as O’Donnell and his colleagues (2006) call it. Tsoukas and Vladimirou (2001, p.973) define organizational knowledge as “the capability members of an organization have developed to draw distinctions in the process of carrying out their work, in particular concrete context, by enacting sets of generalizations whose application depends on historically evolved collective understandings”. This definition refers to a similar kind of organizational life-world as that of O’Donnell et al. (2006). Both the practice-based view (e.g., Gherardi, 2000) and the knowledge-based view (Spender, 2006; O’Donnell et al., 2006) share this view. In other words, collective knowledge lies beyond the emergence of organizational creativity, by providing the intellectual resources (Spender 1996b) or knowledge base (Lam, 2000) and by representing the conditions of its possibility (O’Donnell et al., 2006). The collective creativity view of O’Donnell and his colleagues (2006) present, that collective tacit knowing can become available only in very special situations, for example in problematic cases. Hutchins (1991) reported a similar kind of collective emergence, concerning the crew of ship navigating with a broken navigation system (see chapter 3.3.). The literature and examples show, that organizational knowledge (i.e., collective knowledge base) can have a relationship with collective creativity and creativity by a knowledge system. In fact, it raises the question of whether it could be possible to stimulate the collective knowledge base and the emergence of collective creativity.
The definition of creativity influences on how we define organizational creativity. If creativity is defined as generation of ideas, organizations cannot do that, as organizations cannot possess cognition similar to that of individuals. If organizational creativity is understood as capacity to demonstrate novelty on one’s actions (what an organization does, and how it does it) the organization can be seen as a creative entity demonstrating novelty through its knowledgeable actions. Nevertheless, a few studies (O’Donnell et al., 2006) understand organizational (collective) creativity in that manner, albeit organizational learning is already attached on organizational (collective) knowledge (e.g., Cook and Yanow, 1993). The literature provides various approaches to understand organizational and collective knowledge and knowing. Nicolini, Ghearadi, and Yanow (2003), in terms of a practice-based view of the organization, present four alternative ways to understand collective knowing. It can be understood either as a culture and an aesthetic knowing (Cook and Yanow, 1993); as a community or community of practice (Wenger and Snyder, 2000; Wenger, 1998); as a characteristics of cultural and historical activity system (Blackler, Crump, and McDonald, 2003); or as a heterogeneous action net (Gherardi and Nicolini, 2003). In contrast, this study provides one more perspective. This study explores the possibility to understand organizational creativity based on organizational (collective) knowledge drawing from a knowledge-based view of the organization (e.g., Spender, 1996) and relying on the theory of organizational renewal capability (Kianto, 2008). Hence, the assumption is that the organizational renewal capability theory based on collective knowledge could provide an approach to understand organizational characteristics of organizational creativity as a collective creativity. What organizational renewal capability brings to understanding organizational creativity is the view that it captures the utilization, development, and creation of collective knowledge (i.e., dynamics of organizational knowing, which is essential also for organizational creativity).

4.4. ORGANIZATIONAL CREATIVITY AND ORGANIZATIONAL RENEWAL CAPABILITY

Organizational creativity and organizational renewal capability can be seen to share the basis on which they rely (i.e., the intellectual resources of an organization in a form of collective knowledge). Nevertheless, the relationship between these constructs is not yet clear, but it is very interesting. As there is lack of studies understanding organizational creativity as an
organizational-level construct (i.e., demonstrated novelty by an organization (knowledge system) as a whole), the organizational renewal capability theory (Kianto, 2008) based on organizational (collective) knowledge could shed light on building the view of organizational creativity by an organization as a whole. This study assumes them to be rooted in organizational knowledge and similar kinds of practices and processes. On the one hand, organizational knowledge can help in building understanding of organizational creativity as an organizational-level phenomenon or as demonstrated novelty (creativity) by a knowledge system. In fact, organizational creativity should be seen as embedded in a developing (dynamic) knowledge system. This organizational knowledge base can also be seen as a field on which organizational creativity contributes. On the other hand, organizational renewal capability provides an approach to assess organizational characteristics of an organization in terms of organizational knowledge. The following section discusses these both in detail in terms of organizational creativity.

First, organizational knowledge, as discussed (in chapter 4.2.), concerns the “patterns and modes of knowledge combinations between individuals, groups, units of an organization and it is therefore tacit by its nature” (Pöyhönen, 2004, p.41). Likewise, the culture perspective of organizational knowledge views it as consisting of values, beliefs, feelings, artifacts, patterns of collective actions, and intersubjective meanings maintained, developed, and created by the group of people (Cook and Yanow, 1993). Organizational knowledge consists of intellectual resources of an organization and shared practices to employ, develop, create, and renew organizational knowledge in a situational and sustained manner (Pöyhönen, 2004; Tsoukas and Vladimirow, 2001; Leonard and Sensiper, 1998). Essential for an organization to act is to combine, (Kogut and Zander, 1992); integrate (Grant, 1996), create knowledge (Nonaka and Takeuchi, 1998), and recreate knowledge, which thereby both builds and renews organizational knowledge (Pöyhönen, 2004). Moreover, the dynamics of utilization, creation, development, and re-creation of knowledge are of interest in terms of organizational creativity.

The twofold nature of organizational knowledge means, that it is both site for human activities on which to build on, and, simultaneously it is subject to negotiations and change (Pöyhönen, 2004; Tsoukas and Chia, 2002; Nicolini et al., 2003). Thereby, organizational knowledge constitutes of intersubjective meanings, and it is therefore practice-based and socially shaped (negotiated and renegotiated) in interaction between the organizational
members, and through which it is also continuously created, developed, and recreated. This unique (organization-specific) and collective knowledge determines how an organization acts (Kianto, 2008; Spender, 1996a; Cook and Yanow, 1993), and what kinds of undertakings (how novel), and at what speed, the organization can take. In contrast to individual knowledge, it is difficult to transfer and imitate, characteristics that make it a source of competitive advantage for organizations (Kianto, 2004; Spender, 1996a). Cook and Yanow (1993) present organizational learning by an organization basing on organizational (collective) knowledge, which is seen as a culture. Similarly, organizational knowledge is a basis for organizational renewal capability and organizational capabilities in general (Pöyhöhnen, 2004). Thus, it can be concluded, that organizational knowledge could stand as a basis of organizational creativity as well.

Second, organizational renewal capability is discussed in terms of its possibilities to provide an approach to assess organizational characteristics to maintain and build organizational knowledge, and in terms of what it provides for organizational creativity. Organizational renewal capability built on organizational (collective) knowledge is defined as a characteristic of an organization to manage and develop its knowledge and knowledge flows (Pöyhöhnen, 2004). Likewise, creativity (or ability to demonstrate novelty) can be seen as a characteristics of a social system (Csikszentmihalyi, 1990), either enabling or disabling demonstrated novelty. In this respect, the organizational renewal capability and the method for its assessment (see chapter 5.4) could serve also in diagnosing the characteristics of an organization to demonstrate novelty. Thus, it provides an approach and assessment method to find out the key characteristics of an organization in terms of organizational renewal and creativity. The method captures widely the perceptions and experiences of the organizational members or the current state of the organizational climate, and attitudes toward learning, interaction and connectivity, support for creativity and innovation, leadership, visions and strategic competence, and knowledge-management practices in their work community and organization (Kianto, 2008). In addition to knowledge assets, it captures the organizational-level processes, practices, and mechanisms through which continuous renewal and innovation are fostered. Thus, this study assumes both organizational renewal capability and organizational creativity based on the organizational collective knowledge, which is tacit by its nature. Further, organizational creativity could also be seen as a mechanism of organizational renewal, parallel with the mechanisms of innovation and learning provided by Kianto (2008), which refers to view that
organizational renewal should be seen more as creativity and innovation than intention and control (Pöyhönen, 2004; Pöyhönen, 2004).

This section concludes the above discussion concerning the characteristics shared by organizational creativity and organizational renewal. There were two main motivations to adopt construct organizational renewal capability to building understanding and conceptualizing organizational creativity. First, in recent studies, organizational creativity has not yet seen as an organizational level (collective) phenomenon. Second, the construct organizational renewal capability provides a theory and method to capture organizational characteristics in terms of dynamism, which is also key characteristic of creativity and thereby also organizational creativity.

The characteristics discussed were change and innovation, knowledge and knowing, and organizational (collective) knowledge and organizational renewal capability. First, creativity is seen as essential part of knowledgeable action of an entity, be it an individual, a group, a unit or an entire organization. Second, organizational (collective) knowledge stands as a basis for organizational renewal and organizational creativity, as well as for organizational learning. More specifically, it represents intellectual resources in a form of collective knowledge, which enables the understanding of organizational collective capacities by an organization as a whole. Hence, being characteristics for each organization, it determines also what novelty or change an organization is able to demonstrate through its knowledgeable actions. Third, organizational renewal capability provides an approach and method to capture the organizational characteristics enabling continuous learning and innovation, which also characterizes organizational creativity. In line with Woodman (2009), this study assumes that similar kinds of processes and practices lie beyond both organizational creativity and organizational renewal. Fourth, an orientation toward change as an ongoing day-to-day practice (Crossan et al., 1996; Crossan, 1998; Orlikowski, 1996, 1998, 2002; Cunha and Cunha, 2003) is characteristics of both for organizational creativity and organizational renewal. Fifth, one key mechanism of organizational renewal is innovation (Kianto, 2008), on which creativity is essentially embedded. Thus, it could be appropriate to understand organizational creativity as a mechanism through which organizations can renew themselves.

The Figure 5 presents the key perspectives of this study toward organizational creativity. These perspectives share some characteristics and are seen here as overlapping phenomena. This is in

Figure 5. The key perspectives of organizational creativity used in this study

4.5. SYNTHESIS OF THE LITERATURE

This chapter summarizes the reviewed literature at the various levels of analysis, which are shown in Table 5. The current theories and models of organizational creativity stand as a basis and starting point of the study, on which the literature of participatory innovation, improvisation, and organizational renewal capability build, to extend understanding of the conceptualization of organizational creativity. In the Table 5, the column synthesis shows results of the cumulative theory building based on the reviewed literature. At the individual level, the individual dynamic innovative behavior is formed as a composition of the reviewed
literatures. At the group level the collective creativity (i.e., demonstrated novelty by a group as whole) is built as a synthesis, which thus complements the current views of collective creativity. Finally, at the organizational level, the synthesis represents an organizational-level creativity (demonstrated novelty by a knowledge system), a perspective that was missing from the current theories of organizational creativity.

*Table 5: Synthesis of the literature at various levels of analysis*

<table>
<thead>
<tr>
<th>Individual</th>
<th>Organizational creativity</th>
<th>Innovation models</th>
<th>Improvisation and improvisational theater</th>
<th>Organizational renewal capability</th>
<th>Synthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Creative individual</td>
<td></td>
<td>Improviser Individual potentially creative</td>
<td>Knowledgeable individual</td>
<td>Individual’s dynamic innovative behavior, defined as demonstrated novelty in one’s knowledgeable actions</td>
</tr>
<tr>
<td></td>
<td>Individual creativity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>Team creativity (outcomes)</td>
<td>Participative innovation models</td>
<td>Improvisational theater Collective improvisation</td>
<td>Knowledgeability Continuous change</td>
<td>Collective creativity (i.e., creativity by a group as a whole) defined as demonstrated novelty by a group as a whole</td>
</tr>
<tr>
<td></td>
<td>collective creativity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td>Creativity in organization</td>
<td>Approach of high involvement of innovation</td>
<td>Organizational improvisation</td>
<td>Organizational renewal capability</td>
<td>Organizational (collective) creativity defined as creativity by an organization, as a dynamic knowledge system, that is, demonstrated novelty in knowledgeable actions of an organization</td>
</tr>
<tr>
<td></td>
<td>Contextual factors</td>
<td></td>
<td></td>
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</tbody>
</table>

Table 5 presents the contributions of the reviewed literature in terms of both theoretical understanding of organizational creativity and development of organizational creativity.
Table 6: The theoretical approaches (perspectives into organizational creativity) of the thesis

<table>
<thead>
<tr>
<th>Definition</th>
<th>Organizational Creativity</th>
<th>Improvisation</th>
<th>Organizational Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability of an entity (individual, group, organization) to produce novel and useful outcomes</td>
<td>Ability of an entity (individual, group, organization) to deal with unexpected situations, plan and execute simultaneously, step out of familiarities and use whatever resource as material</td>
<td>Capability of an organization to continuously renew itself and its intangibles through continuous learning and innovation</td>
<td></td>
</tr>
<tr>
<td>An overall co-orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity in organization</td>
<td></td>
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</tbody>
</table>

Main implication for organizational creativity theory

| Multilevel theory (individual, group, organization) | Emerging, enacted, socially shaped, contextual, situational, but also strategic approach | Knowledge-based view-organization as a knowledge system |
| Factors effecting organizational creativity at different levels (individual, group, organization) | Holistic view into creativity | Collective knowledge |
| Collective creativity | Novel activity and a way to creativity | Knowing and continuous change |
| Creativity in organization | Collective and distributed creativity | |

Main implication for the development of organizational creativity

| Development should include all the levels, from individual to collective (group and organizational levels) | Approach and technique to build individual and collective creativity simultaneously by building interaction as well as space for creativity to occur | Organizational level survey set (ORCI) to diagnose the organizational-level practices, processes, and mechanisms of renewal– the same processes are seen to predict renewal and creativity |

Key authors

| Amabile, 1996 | Vera and Crossan, 2005 |
| Woodman et al., 1993 | Crossan, 1998 |
| Drazin et al., 1999 | Orlikowski, 1996 |
| | Orlikowski and Hofman, 1997 |
| | Moorman and Miner, 1998 |
| | Fisher and Amabile, 2009 |
| Pöyhönen, 2004 | Kianto, 2008 |

The current theories and models of organizational creativity stand as a starting point for this study. They provide the theoretical basis of individual creativity (Amabile, 1996, 1988; Czikszentmihalyi, 1996; Harrington, 1990), such as the multilevel theory of organizational creativity (Drazin et al., 1999; Woodman et al., 1993) and collective creativity perspectives (Sawyer and DeZutter, 2009; Hargadon and Bechky, 2006; O’Donnell et al., 2006; Drazin et al., 1999) to the view of creativity in organizations. In addition, these studies provide a wide set of both level-of-analysis-specific factors and contextual factors effecting creativity in organizations.
Organizational renewal and organizational renewal capability contribute toward organizational creativity by providing a knowledge-based view on organizational creativity. This is also in line with O’Donnell and his colleagues (2006), whose view of collective creativity builds on the knowledge-based view of an organization, and on collective knowledge. In this study creativity is seen as an essential part of knowledgeable actions of organizational entities (individual, group, organization). Organizational renewal capability theory (Pöyhönen, 2004) provides a coherent and knowledge-based view to understand organizational creativity as creativity by an organization (knowledge system). More detailed, it provides a theory and method to capture organizational characteristics in terms of dynamism, which is key characteristic of organizational creativity.

The multilevel and multitheory conceptualization of organizational creativity guides the development of organizational creativity. As an art-based approach, improvisation and improvisational theater provide a way to increase creativity, and a method to build both individual and collective creativity simultaneously. Improvisation enables the building of a space for creativity collectively. It places greater emphasis on interaction, knowledge flows, building on others, and the contributions of people involved, than on the attributes of single individuals. Hence, it builds mental and social space and atmosphere for creativity. By making visible the processes of collective and distributed creativity, it provides an approach to develop organizational creativity as creativity by a system. Implications of the organizational-renewal literature provide a novel approach for the development of organizational creativity as a collective and organizational-level creativity. Organizational renewal capability provides an assessment method to capture organizational-level practices, processes, and mechanisms, enabling both organizational renewal and organizational creativity. These implications, both in terms of the theory of organizational creativity and the development of organizational creativity, guide the following development of organizational creativity.

5. DEVELOPMENT OF ORGANIZATIONAL CREATIVITY

This chapter describes the development approaches and methods of organizational creativity used in this study. The approaches such as creativity techniques, improvisational-theater-based approach, sketching with pictures, serious play, assessment of organizational renewal
capability, and the long-term development process of organizational renewal capability – are the approaches discussed and used in this study. The motivation to adopt these approaches in the study results from the multitheory and multilevel conceptualization of organizational creativity. Thereby, development of organizational creativity was planned to face the chosen conceptualization of organizational creativity. Each publication describes and discusses in detail the creativity methods used.

5.2. CREATIVITY TECHNIQUES

Various creativity techniques can be used to foster both individual and group creativity in organizations. The most common creativity techniques are the lateral-thinking method (DeBono, 1992), the TRIZ-method (Altshuller, 1999), Simplex (Basadur et al., 2000), and brainstorming (Osborne, 1953). All these methods view creativity as individual-cognition-based creativity, and they aim to stimulate creativity by shifting between divergent and convergent thinking (lateral thinking), or by spontaneous idea generation (brainstorming) or systematic thinking algorithms (TRIZ). These methods are structured, and each of them follows a particular systematic process. The brainstorming (Osborne, 1953) process, in turn, has two phases, spontaneous idea generation (without judgment), and combining and improving the ideas. This process is similar to the lateral-thinking method’s divergent–convergent thinking method. Common for these methods is that they are taken in use in particular problem-solving situations, or in situations that need novel ideas (brainstorming), and they therefore are separate from the day-to-day work of organizational members. Nevertheless, they all include useful techniques and ideas, which can be adopted into day-to-day work, if individuals absorb them and use them in their work. Further, one limitation of the TRIZ–method is that it does not support implementation of ideas (Litvin, 2012). This is a common problem for all the methods focusing only on idea generation. Further development and evaluation of ideas, decision making concerning their implementation, as well as the implementation of ideas is somewhere else, and often distinct from those who participated on idea sessions.

In this study, lateral-thinking method (DeBono, 1992) was used as a comparative method with the improvisational-theater method to understand better the facilitation methods of creativity in terms of their underlying assumptions, goals, processes, cover, and value. There were three
main motivations to contrast the lateral-thinking method with improvisational-theatre-based method. First, the lateral-thinking method is widely used and is traditional creativity facilitation method in organizations. Second, it represents the individual cognition and thinking based view on creativity, which defines individual creativity differently from the improvisational theatre based method. Third, by contrasting individual creativity oriented method with method capturing both individual and collective creativity can bring novel understanding concerning the utilization of the creativity facilitation methods and development of organizational creativity. Further, it is important to understand how the various creativity facilitation techniques and methods work, as well as how and on what kind of situations they are appropriate and useful. Hence, the comparison between two distinct methods, based on different underlying assumptions, opens up the meaning of the facilitation method, which is not at all self-evident. Publication 5 discusses the differences and characteristics between these two methods.

5.2. PARTICIPATORY METHODS

In addition to previously discussed creativity techniques, there are several novel and more participatory techniques and methods to foster team creativity and innovation, such as sketching with pictures (e.g., Oikarinen and Kallio, 2012; Phillips, 1995), and various game playing variations, like serious games (Rieber, 2001; Schrage, 1999). The focus of these methods is more on creativity and innovation by a team as a whole, instead of on manipulating thinking skills of single individuals. Common for these methods is that they also emphasize wide participation and involvement of all participants in the process of creation, whether it is product or service development with customers, or development of novel practices and behaviors into the work community or organization (renewal).

In the method sketching with pictures, the aim is to make visible (visualize) complex issues and chains of events through pictures. Visual sketching stimulates idea generation, discussion of various viewpoints, and play with different options (Oikarinen, Pääsilä and Kallio, 2011). Thereby, it is possible to build a coherent big picture of the whole complex and interrelated problem or system. The visualization process helps to transform it into a conceptual anchor on which discussion can be attached. It enables to direct the discussion toward the concrete, instead of abstract. The process of sketching is a facilitator–driven process, but the content of
the workshops arises in each particular case, from the interaction, contributions, perspectives, and insights of the participants in the process of sketching. In turn, the method serious play can be seen as means for understanding motivation and learning in a holistic way (Rieber, 2001), or a way to model, simulate, and innovate in companies (Schrage, 1999). In general, there is always a problem or need in real life that can be solved with the help of playfulness.

The role of the participatory methods in this study can be captured in terms of playfulness and in fostering team creativity and innovativeness. In this respect, they represent albeit an opposite view on creativity and innovation from the individual-cognition-based creativity techniques presented above. First, they emphasize wide involvement and participation of people involved. Second, they are based on the view of common co-creation, which means that the problem (issue or developmental target) in consideration is explored collectively, by emphasizing different perspectives, building on others’ contributions, and shaping the goal together. This view clearly differs from the thinking-based creativity techniques emphasizing mainly idea generation.

Playfulness in turn, is essentially embedded in creativity. It fosters innovativeness by enhancing the motivation of the participants to get involved in the development activities (McGonigal, 2011; Koppet, 2001) and by feeding imagination, and, thereby, resulting in innovative and unique solutions (Mainemelis and Ronson, 2006; Callois 2001; Johnstone, 1979). In contrast to creativity techniques, the participatory innovation methods build commitment and facilitate the involvement of employees in innovation (Dogdson et al., 2005). Mainemelis and Ronson (2006) understand play as “a cradle of creativity in organizations.” Thereby, as an engagement-with-work task, it facilitates cognitive, affective, and motivational processes of creativity, and, as a diversion-from-work task, it fosters encouraging social-relational dynamics. Publication 4 discusses playfulness in terms of fostering team creativity and innovativeness.

5.3 IMPROVISATIONAL-THEATER-BASED METHOD

The development of organizational creativity is based here on improvisational theater training, through which the actors, in a theater context, learn to create an unplanned performance in shared leadership and responsibility by building on the contributions of others and mutually supporting each other. Training group improvisation is built on a few rules,
which build an alternative social framework within which the actors can trust each other, express themselves, and act freely. Improvisational theater exercises build: creativity and spontaneity, trust, the ability to accept offers, listening, (nonverbal) communication, and story-telling, through which the actors learn to be prepared for improvisational performance (Koppett, 2001). Improvisational theater emphasizes and builds both the individual and the collective simultaneously and sees them as intertwined. More specifically, its focus is on the interaction that aims to advance performance. Hence, the exercises aim to foster interaction by communication, listening and hearing, and contributing to situations, which also embed spontaneity, intuition, imagination, creativity, and other emerging events. Improvisational theater training is therefore an appropriate method to build organizational creativity. In addition, exercising improvisational theater (i.e., interaction and performance without plans, in shared responsibility and leadership) fosters important qualities that can benefit organizational creativity and organizations. (See publications 3, 4, and 5.)

Improvisational theater training is studied in organizations in modeling improvising organization (Crossan et al., 1996) and in fostering team innovation (Vera and Crossan, 2005). Although the method used in this study are basically based on similar kinds of improvisation techniques reported in previous studies, the techniques used were different in terms of the scrutiny of this study i.e., on understanding and building organizational creativity. In this study, the action-research approach was appropriate, as it served both the developmental and scientific aims in co-evolving relationship. Publications 3, 4, and 5 discuss the topics in detail.

5.4. ASSESSMENT OF ORGANIZATIONAL RENEWAL CAPABILITY

The least studied element of organizational creativity is organizational-level creativity (i.e., creativity by an organization). In this study, organizational-level creativity is assessed and developed by using the construct organizational renewal capability (Table 7). It diagnoses the characteristics, assets, and capabilities of an organization to demonstrate creativity, renewal, and innovation in its knowledgeable actions. Organizational renewal capability is “a collective characteristics of an organization as a whole” (Pöyhönen, 2004, p.118) that views an organization as a knowledge system, formed by interrelated activities of its constituents, and composing a more or less coherent whole. The key focus in organizational renewal
capability is on the knowledge flows, knowledge-creation dynamics, knowledge processes, and creation of intangibles and knowledge assets i.e., on generation and utilization of knowledge. This characteristic has been the key missing element in the current models of organizational creativity. Indeed, as creativity and innovation are about people, the key interest is on social processes, i.e., communication and social interaction of the organizational members, through which creativity and renewal are enacted.

The development process of organizational renewal capability constitutes of a \textit{structured diagnosis phase} and of a following multiphase and collaborative process for development. The generic assessment is based on the model and questionnaire set called “Organizational Renewal Capability Inventory (ORCI)” (Kianto, 2008). The survey elicits the respondents’ perceptions about the current state of their work environment in terms of factors both enabling and disabling renewal. The key advantage of the survey instrument is that it was directed to the whole personnel, throughout the organization, and it thereby collects a representative sample of respondents from all departments and groups of employees. The respondents answer the items based on their subjective experiences and perceptions by choosing from a scale (7-point Likert), the option that best describes their perceptions. Collecting perceptions broadly from all the levels and sectors of the organization produces the most reliable picture of the current state of the organization’s renewal capability. This is crucial for the following case-sensitive development phase, as within organization, the departments, units, and work communities have particularities to be taken into consideration. They are collections of people in interaction in a particular context, and the interaction creates space for learning, knowledge creation, and innovation and initiates renewal (Orlikowski, 2002). Publication 6 deals with the assessment and development process in detail, through a long-term (two-and-a-half-year) action-research process.
Table 7: Building organizational creativity

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Creativity</th>
<th>Improvisational Theater</th>
<th>Renewal Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>Individual intrapersonal (psychological) self-efficacy</td>
<td>Improviser open to imagine, sense, experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emotions, imagination, passion, motivation as a source of creativity, embodied</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sensitivity to others, social creativity</td>
<td>Sensitivity to others: listening and hearing</td>
<td></td>
</tr>
<tr>
<td>Collective</td>
<td>Group</td>
<td>Collective improvisation, group acting in an ensemble, engagement, shared responsibility, mutual support</td>
<td>Collective knowledge and knowing (knowledgeable activity)</td>
</tr>
<tr>
<td></td>
<td>Collective/distributed creativity, creativity emerging in interaction, participation, engagement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational</td>
<td>Organizational creativity, creativity by an organization as a whole</td>
<td>Organizational ensemble improvisation, strategy, organizing, structure and change as improvisation</td>
<td>Organization as a knowledge system - organizational renewal capability, creativity by an organization</td>
</tr>
</tbody>
</table>

6. EMPIRICAL STUDY

6.1. RESEARCH DESIGN AND METHODS

The focus of this chapter is on the chosen research design, methods, data collection, and analysis. The study constitutes of the introduction chapter, which forms the conceptual part of the study, and six separate publications, each focusing on the core subject under scrutiny. The research design of the study (Table 8) responds to the multitheory and the multilevel conceptualization of organizational creativity built in the conceptual part of the study. This equals the multiparadigm approach of the study (see Chapter 1.4). The main motivation for the choices made for the research design of this study was the assumption that in highly creative organizations, organizational creativity is understood and fostered as a multilevel phenomenon, i.e. both individual and collective creativity, where the collective creativity comprises both group level creativity and organizational level creativity i.e. creativity by an organization. Hence, the research design of the study was planned to represent all three levels of analysis and in the following they are described more detail in terms of each publication.
6.1.1. Methodological approaches

To address the research questions of the study multiple research methodologies are used. The chosen conceptualization and complexity of the construct organizational creativity was the reason for choosing to use multiple research methods. Styhre and Sundgren (2005) represent a similar kind of multiparadigm perspective (Chapter 1.4) in their study concerning the management of creativity in organizations. An advantage of the multiparadigm research approach is that it makes easier to integrate both positivist and action research into research design (Styhre and Sundgren, 2005), which is often seen as difficult and thereby avoided (Eriksson and Kovalainen, 2008).

The introduction part is a theoretical literature review, building the theoretical basis of the study. Its primary goal is to address the first research subquestion of the study: *What is organizational creativity?* The introductory part reviews and synthesizes the literature of organizational renewal, improvisation, and organizational creativity to form an updated understanding of organizational creativity, and to base the following development of it. In this respect, the study aims to form a more coherent understanding of organizational creativity and advance understanding from creativity in organizations toward creativity by an organization.

The first and second publications are quantitative cross-level studies examining the effect of the contextual and individual-level factors and mechanisms on individual improvisation. The quantitative methods are used in order to study the causal relationship between organizational level constructs and individual level creativity (individual improvisation). These two studies represent the positivistic research paradigm (Gummesson, 2000) and fall under radical structuralist paradigm (Burrell and Morgan, 1979). They base on the same survey data set, collected from large public organization, albeit use partially the same and partially different constructs. The construct individual improvisation is common for both of these studies. The first publication examines the causal relationship between the supervisor support and the individual improvisation, and the role of the individual level mediators (empowerment and self-efficacy) in that relationship. The second publication examines the causal relationship of knowledge management practices and individual improvisation. Both studies used the structural equation modeling (SEM) and the partial least square (PLS) equation to model the causalities of the constructs concerned. Section 6.2.1. will describe and discuss the modeling
and its conditions in detail. These two publications are cross-level studies that contribute to the theory of organizational creativity by providing understanding of the effect of organizational-level practices on individual innovative behavior. They address two subquestions: 

What is organizational creativity? 
How is organizational creativity developed?

The third publication is an action-research case study addressing the third subquestion of the thesis: How might an improvisational-theater-based approach foster organizational creativity? The action research is an appropriate approach for this study due to the practice-based nature of the improvisational-theater-based trainings. The responsible author of this publication is both in the role of scientist and facilitator in the chain of improvisational-theater workshops. In addition to the data collected in action-research workshops, the study includes qualitative interview data and quantitative survey data to investigate the long-term impact of the workshops for the organization. The context organization of this action-research case study is the same large public organization as in publications 1 and 2. This individual study looks at the development of organizational creativity from the radical humanist perspective (Burrell and Morgan, 1979), which justifies the choice to adopt the action research approach. This study is an empirical investigation of the applicability of the improvisational-theater-based approach for stimulating both individual and collective creativity and, thereby organizational creativity. This publication contributes both on the individual- and collective-level views of organizational creativity.

The fourth publication is a multicase study addressing the second subquestion of the study: How is organizational creativity developed? The qualitative action-oriented multi-case study is the methodological approach of this empirical study. The study investigates how playfulness could foster team creativity and innovativeness through three separate cases: improvisational-theater-based approach, sketching with pictures, and serious play. The motivation to adopt three distinct methods is to look at the development of organizational creativity as a group level phenomenon and to figure out the role of playfulness in organizational creativity. The author of the thesis is responsible of the execution of the improvisational–theater-based case. The publications 3 and 4 share the case, albeit this particular study explores it from the point of view of playfulness. The contribution of the study is twofold: first, it connects playfulness with team creativity and innovativeness, and,
second, it fosters team creativity and innovativeness with three methods. This publication contributes to the collective, and, more specifically, to the group-level view on organizational creativity.

The fifth publication is a qualitative case study to compare two creativity methods for fostering participatory innovation. The study contrasts two methods, the Lateral thinking method and the improvisational-theatre-based method for fostering participatory innovation. Two creativity workshops form the basis of the data for the study. The first workshop was carried out with the lateral thinking method and the second one with improvisational-theater-based method. The publication addresses the third subquestion of this thesis: *How is organizational creativity developed?* The responsible author of this publication acted both the facilitator and the researcher in the workshops. The motivation for the comparison arises for the need to figure out the both the similarities and differences between the two creativity methods, from which the lateral-thinking method represents more individual cognition based creativity view and improvisational-theater-based method represents more collective creativity view. The comparison covers the methods in terms of their perspective to creativity, goals, process, and the experiences of the participants involved. The goal of the study is to deepen understanding of the facilitation of organizational creativity. Thus, this publication contributes both on the levels of individual and collective creativity and thereby to the understanding of organizational creativity.
<table>
<thead>
<tr>
<th>Publication</th>
<th>Role</th>
<th>Method and analysis</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Introduction</td>
<td>Conceptual study</td>
<td>Literature review and conceptual study</td>
<td>Current theoretical and empirical studies</td>
</tr>
<tr>
<td>1. The relationship between supervisor support and individual improvisation.</td>
<td>Measuring the effect of supervisor support on individual improvisation, and the mediating effect of empowerment and self-efficacy on that relationship</td>
<td>Quantitative PLS-path analysis</td>
<td>Sample of 593 respondents. Data collected from large city organization with ORCI survey in 2011.</td>
</tr>
<tr>
<td>3. Stimulating organizational creativity with Improvisational Theatre Based Approach.</td>
<td>Exploring the utilization of improvisational theatre in stimulating organizational creativity</td>
<td>Action research case study</td>
<td>Sample of 18 participants in two groups. Multi-method data collection. Main data collected in three action research workshops. Interviews, feedback surveys, diaries, informal discussions, field notes, Post-project survey, Post project interviews</td>
</tr>
<tr>
<td>4. Fostering team creativity and innovativeness with playfulness: a multi-case study.</td>
<td>Exploring improvisational theatre as a playful take to foster team innovativeness.</td>
<td>Action research case study</td>
<td>18 participants in two groups. Interviews, feedback surveys, diaries, informal discussion, field notes.</td>
</tr>
<tr>
<td>5. Fostering participatory innovation with two creativity methods</td>
<td>Exploring the utilization and cover of two creativity methods in fostering participatory innovation. Comparative study.</td>
<td>Case study</td>
<td>WSI 8 participants WSI1 7 participants Workshop experiences and interviews</td>
</tr>
<tr>
<td>6. Assessing and developing organizational renewal capability in the public sector.</td>
<td>To describe the long term process for assessing and developing organizational renewal capability</td>
<td>Long term engaged scholarship (action research)</td>
<td>Multi-method data collection over 2.5 years. ORCI – survey I (N=824), ORCI-survey II (N=593), interviews (N=26), workshop material, workshop experiences, action research workshops</td>
</tr>
</tbody>
</table>
The sixth publication is a long-term action-research study focusing on the development of organizational renewal capability in one public organization. Studying the same organization as the publications 1, 2, 3 and 4, this particular study looks at the development of an organization from the organizational level perspective covering the whole development process. The motivation for the sixth publication is to study the organizational or collective level creativity of an organization. More specifically, this particular study describes the assessment and development process for organizational renewal capability, and thereby also for organizational creativity as organizational (collective) construct. The study addresses the research question how is organizational creativity developed? Action research is appropriate in a long-term organizational development process, which includes various activities, events, and aims to gain the participation of a wide variety and a large number of organizational members in activities of renewal. The study adopts a multimethod research take, utilizing both qualitative and quantitative data in congruence. Further, the sixth publication covers the whole two-and-a-half-year development process. The publication contributes to the whole study by providing understanding of the overall development of organizational (collective) creativity by building a multilevel picture of the assessment and development of organizational creativity.

The thesis incorporates conceptual (introduction), quantitative (two publications), qualitative (one publication), and action research (three publications) approaches. The motivation to adopt and utilize these multiple approaches arises from the interest in studying the phenomenon of organizational creativity from both conceptual and developmental perspectives by utilizing multiple theoretical views. Likewise, the conceptualization of organizational creativity guides the development of it. In this respect, the study aims to shed light on the conceptualization of organizational creativity as a multilevel construct and to understand it by drawing from multiple theories. The research question, the multilevel conceptualization, and the complexity of the subject under study led to the decision to incorporate multiple paradigm and method approaches in the empirical research design. Each of these approaches looks at the phenomenon under scrutiny from a different perspective. The adopted methodological pluralism enables a deeper, broader, and more diverse view on the organizational creativity than a single paradigm perspective (Styhre and Sundgren, 2005; Payne, 1996). Whereas the qualitative methods enabled studying organizational creativity as a
subjective and a humanistic phenomenon, the quantitative methods were adopted to test the various hypotheses related to the research questions. Action research was an appropriate approach in the long term development process, as well as in action-oriented development cases. Along the development process, it utilizes both qualitative and quantitative data in an evolving manner by building on the previous events and learning.

6.2. DATA COLLECTION AND ANALYSIS

The data collection (Table 9 and Figure 6) of this study consists of three main data collection methods: quantitative, qualitative, and an action-research approach, to address the research questions of the study. The motivation for this choice result of the multiparadigm research approach of this study, which aim to face the complexity of organizational creativity. The following section describes the data collection methods in detail.

6.2.1. Quantitative data and analysis

The quantitative data sets were gathered through two large surveys and several workshop feedback surveys. The two large data sets were collected with the organizational renewal capability inventory (ORCI) (Kianto, 2008) survey set from a large municipal (city) organization in 2010 and 2011. The purpose of these data sets was to diagnose the current state of organizational renewal capability in the municipality. These two surveys included on the long-term (two-and-a-half-year) university-driven development project, in which the municipality was involved. In addition to the demographic items, the original ORCI survey set includes 167 items, which were modified to face the public sector conditions. In addition, the survey set was complemented with the item sets of trust and work wellbeing. The questionnaire was directed to all organization members, and it investigated respondents’ perceptions and experiences about the current characteristics and practices that foster and hinder innovation and renewal in their work environment. The response format for all the items was a seven-point Likert scale ranging from “I highly agree” to “I highly disagree.” In addition, a neutral alternative, “I neither agree nor disagree,” was embedded to reduce uniformed response. The response rate in 2010 was 13.2 %, and, in 2011, it was 9.5 % from the total personnel of the municipality (N=6241).
The first dataset was collected at the beginning of the development process in 2010, as the basis of the forthcoming development process. It was conducted as a web-based survey with a personal e-mail links. An e-mail link was sent to 3240 employees of the municipality. The questionnaire was also available on the intranet page of the municipality, because some groups of employees lacked e-mail addresses. The total sample size was 824 respondents. The respondent pool comprised all sectors and groups of employees.

The second dataset was collected at the end of the development process in 2011, to diagnose the state of organizational renewal capability in the municipality. In this survey, the survey set was complemented with the item sets of individual improvisation (Vera and Crossan, 2005; Magni et al., 2009; Zhao et al., 2005) and self-efficacy (Magni et al., 2009; Zhao et al., 2005). The survey was conducted as a web-based survey, and published on the intranet page of the municipality, and from which the organizational members informed their subordinates. The sample size was 593 respondents. The respondent pool comprised all sectors and groups of employees.

The workshop feedback data sets were collected after each development workshops to capture the perceptions of the respondents in terms of each workshop. The sample sizes were WI (N=18), WII (N=4), WIII (N=14), WSI (N=12), WSII (N=7). Finally, the post-project survey was conducted in June 2012, to capture the perceptions and experiences of the participating members of the course, content, and collaborative realization of the development process as well as the long-term effect of the whole development project. This survey was sent to 41 participants, who participated in most of the developmental workshops. The sample size was 11 respondents.

The statistical survey data analysis was conducted by SPSS, through which analysis the characteristics of an organization in the six elements of organizational renewal capability and their sub-elements were calculated. The ORCI -analysis (Organizational Renewal Capability Inventory) were conducted on the organizational level, on each sector level, and in five groups of employees. The results of the analysis were presented both in numeric and graphic form and they were reported for the organization.

The quantitative studies (publications 1 and 2), based on the survey data collected in 2011, were analyzed with the PLS analysis. The hypotheses of these studies were drawn from the
literature and theories, and they were tested by forming the SEM-PLS path models. To confirm the validity of the measurement models, the following steps were conducted (Bontis and Serenko, 2011; Hair et al., 2011). Construct reliability was captured by Cronbach’s alpha values, which should exceed the value 0.70. Convergent validity was tested with the average variance extracted (AVE) value, which should exceed the recommended value (0.5). Composite reliability values exceeded the recommended value (0.70) (Hair et al. 2011; Nunnally and Bernstein, 1994). All item loadings should capture over 50% of the variance of their constructs. Discriminant validity of the model was tested by comparing the Fornell and Larcker criterion with cross loadings (Fornell and Larcker, 1981). In fact, the square root of the AVE value was compared with the correlations between the latent constructs. All square roots values of the AVEs should be higher than any correlation between the constructs to establish the reasonable discriminant validity (Hair et al., 2011). PLS analysis uses the bootstrapping procedure to calculate the path significances. The $R^2$ -value describes the strength of the explanation level of the model, the judgment of which depends on the context. For example, in marketing research, the $R^2 = 0.25$ is weak; 0.50 is moderate; and 0.75 is considered as substantial (Hair et al., 2011).

The workshop feedback surveys and the post-project feedback survey were analyzed by calculating the average values and standard deviation values from the responses.

6.2.2. Qualitative data and analysis

Interview data was gathered in 2010 parallel with the ORCI survey to complement the survey data, to build a coherent picture about the current state of the municipality in terms of organizational renewal capability, and to base the development process. Altogether 22 interviews were carried out. The interviews lasted between 38 and 65 minutes, and they were tape recorded and transcribed. The respondents represented various groups of employees in two sectors (administration, technical and environmental services) and in one innovation unit of the municipality. The data was collected with in-depth theme interviews. The themes of interviews dealt with such issues as the current state of innovation in the municipality, the most critical needs for improvement, orientation and attitudes toward learning, learning from experience, ability to face the unexpected, obstacles to innovation, development suggestions
for innovativeness, as well as the role of strategy in day-to-day work of the respondents. Interview data was collected also in post-project interviews, in June 2012, after the end of the project (end of 2011). In this phase, four in-depth interviews were carried out. One of the respondents represented the HR management. The interviews lasted between 35 and 50 minutes, and they were tape recorded.

Qualitative data was also collected via the ORCI survey with three open and voluntary questions in both large survey rounds in 2010 and 2011. In general, the open questions are used to capture the novel points of views from respondents (Fisher, 2007). In this study, the open questions dealt with the issues both facilitating and inhibiting continuous learning and innovation in the work and work environment of the respondents in the municipality. One of the open questions offered a field for open comments, thoughts, or feedback.

Qualitative data was collected also via the open questions in the workshop feedback surveys from the workshop participants. The questions asked experiences of the participants, suggestions to improve the workshops, and offered an option to give very open word (comments, feedback, ideas, etc.). The material produced in groups during the workshops was taken as research material. In addition, the informal discussions with participating members and with the HR management were used as a research data. This is in line with Dawson (1994), who highlights that the data collection (including formal and tacit data collection) is an essential part of the case study process. There were multiple purposes of gathering such qualitative data: to complement and deepen the survey data, to increase understanding of the case, and to document the collaborative and participatory development process.

The action-research creativity workshops (WSI and WSII) were video-recorded and tape-recorded to document the course of the workshops, where the researcher acted both as a facilitator and as a researcher. The purpose of the videos was also to document the reflective sessions carried out after each exercise during the workshop. The creativity workshop (WSIII) was tape recorded. The course of the action research is discussed more detail in the next chapter (Chapter 6.4.).

The diaries written by the respondents along the creativity workshops were used as a research data. The diaries constituted of an observation section, where the respondent had an opportunity to choose one phenomenon introduced in the workshop and to observe that in her
or his day-to-day work-life or free-time. These narratives were taken as a research material. The diaries also included some open questions and a field for open comments and feedback.

The interview data was analyzed through data-driven analysis, and, first, independently from the survey results. This was especially important at the beginning of the development project to get as deep an understanding as possible from the current state of innovativeness, attitudes toward continuous learning, and the general state of the organization after its merger.

The open-question data collected within the two large surveys and the workshop feedback surveys were analyzed through content analysis, by openly marking the emerging issues in a first round, and then reducing the groups (i.e., combining the emerging issues under larger groups).

The video data was analyzed by watching the participants engagement in the workshops, their interaction with the other participants, their contribution, and if there were any exceptions to be recognized along the sessions. The reflective discussions carried out after each exercise were carefully listened and written down for the analysis. The data collected with the diaries were analyzed with the content analysis.

These multiple data types, collected along the long-term development process represent different perspectives and even different paradigms to the phenomenon under interest. The multiple data sources lead to data triangulation, which is appropriate method both to construct a coherent view of the subject of a study and to improve the validity or trustworthiness of the study by achieving the convergence among the themes of the phenomenon (Eriksson and Kovalainen, 2008). Data triangulation was carried out at the beginning of the study (2010), as both the survey data and the interview data were collected somewhat simultaneously. In addition, data triangulation was used in analyzing the creativity workshop data. In analysis, converging, complementary, and contradictory data (Flick, 2009) were considered, especially, because the contradictory data may signal something essential in terms of development.
### Table 9: Data collection and analysis

<table>
<thead>
<tr>
<th>Data</th>
<th>Respondents</th>
<th>Description of data</th>
<th>Purpose of data</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survey data</strong></td>
<td></td>
<td></td>
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<tr>
<td>ORCI–survey</td>
<td>824</td>
<td>Quantitative data</td>
<td>To diagnose strengths and weaknesses in the areas of organizational renewal</td>
<td>Statistical analysis (SPSS)</td>
</tr>
<tr>
<td>Jan-Feb 2010</td>
<td></td>
<td></td>
<td>capability, to measure variables</td>
<td>PLS analysis</td>
</tr>
<tr>
<td>ORCI–survey</td>
<td>593</td>
<td>Quantitative data</td>
<td>To diagnose strengths and weaknesses in the areas of organizational renewal</td>
<td>Statistical analysis (SPSS)</td>
</tr>
<tr>
<td>Oct 2011</td>
<td></td>
<td></td>
<td>capability, to measure variables</td>
<td>PLS analysis</td>
</tr>
<tr>
<td>Qualitative data from</td>
<td></td>
<td></td>
<td>The key issues enabling and hindering innovation and</td>
<td>Open coding and grouping</td>
</tr>
<tr>
<td>three open questions</td>
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<td>learning in organization</td>
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<tr>
<td>Qualitative data from</td>
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<td></td>
<td>The key issues enabling and hindering innovation and</td>
<td>Open coding and grouping</td>
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<td>three open questions</td>
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<td>learning in organization</td>
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</tr>
<tr>
<td><strong>Data</strong></td>
<td>Respondents</td>
<td>Description of data</td>
<td>Purpose of data</td>
<td>Analysis</td>
</tr>
<tr>
<td>Feedback surveys</td>
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<td>Quantitative data</td>
<td>To collect feedback evaluation</td>
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<td>Qualitative data (open</td>
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<td></td>
<td>To collect experiences and the perceptions of the participants</td>
<td>Open questions with</td>
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<td>questions)</td>
<td></td>
<td></td>
<td></td>
<td>content analysis</td>
</tr>
<tr>
<td>Post-project survey</td>
<td>11</td>
<td>Quantitative data</td>
<td>To collect feedback evaluation</td>
<td>Statistical analysis,</td>
</tr>
<tr>
<td>June 2012</td>
<td>participants</td>
<td></td>
<td></td>
<td>Open questions with</td>
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<tr>
<td>taking part in most of the</td>
<td>14</td>
<td>Qualitative data</td>
<td>To collect experiences and the perceptions of the participants</td>
<td>content analysis</td>
</tr>
<tr>
<td>workshops</td>
<td>open questions</td>
<td></td>
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</tr>
<tr>
<td>Interviews 2010</td>
<td>22</td>
<td>Duration (38-65 min)</td>
<td>Describe current situation, complement, extend, and</td>
<td>First data-driven analysis,</td>
</tr>
<tr>
<td>respondents</td>
<td>respondents</td>
<td>Tape recorded,</td>
<td>deepen survey data</td>
<td>comparison to survey findings,</td>
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<tr>
<td>all groups of employees</td>
<td></td>
<td>transcribed</td>
<td></td>
<td>grouping findings</td>
</tr>
<tr>
<td>Meetings and group</td>
<td>Memos, field notes</td>
<td>Document process and changes in understanding</td>
<td>Data-driven analysis</td>
<td></td>
</tr>
<tr>
<td>discussions</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Result workshops</td>
<td>Memos, field notes</td>
<td>Complementary data</td>
<td></td>
<td>Data-driven analysis</td>
</tr>
<tr>
<td>Workshop data, open</td>
<td>54</td>
<td>Memos, material</td>
<td>Collect experiences and the perceptions of the participants</td>
<td>Data-driven analysis</td>
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<tr>
<td>workshops</td>
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<td>produced in workshops</td>
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<tr>
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<td>Material and</td>
<td>Document development of understanding, both researcher and</td>
<td>Data-driven analysis,</td>
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<td></td>
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<tr>
<td>Workshop data, pilot group</td>
<td>WSI: 18</td>
<td>Field notes</td>
<td>Complementary data to build a holisitc picture</td>
<td>Data-driven analysis</td>
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<tr>
<td>workshops</td>
<td>participants</td>
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<td></td>
<td>WSII: 11</td>
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<tr>
<td></td>
<td>videos</td>
<td></td>
<td>Document the workshop, capture the engagement of the participants,</td>
<td>Content analysis</td>
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<tr>
<td></td>
<td>WSI: 5h.38 min</td>
<td></td>
<td></td>
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<td></td>
<td>WSII: 5h.48 min</td>
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<tr>
<td>Data Collection Method</td>
<td>Type</td>
<td>Duration</td>
<td>Analysis Method</td>
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<tr>
<td>Informal discussions</td>
<td>Contact person (HR manager) in organization, workshop participants</td>
<td>Field notes, memos</td>
<td>Complementary data (to build a holistic picture)</td>
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</tr>
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<td>Diaries</td>
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<td>Following learning</td>
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<td>Post-project interviews</td>
<td>4</td>
<td>Qualitative Duration (35-45min) Tape recorded</td>
<td>Experiences and perceptions of the respondents from the development project and long-term effect of the project</td>
<td>Content analysis</td>
</tr>
<tr>
<td>Creativity Workshops</td>
<td>8 (WSI) 7 (WSII)</td>
<td>Interviews</td>
<td>Experiences and perceptions of the respondents from the two different creativity methods</td>
<td>Content analysis</td>
</tr>
</tbody>
</table>

Figure 6. Timeline of data collection in terms of each publication
6.4. ACTION RESEARCH

In this study, action research is the main qualitative research approach in the development cases and in the long-term development process of this study. As a “family of practices of living inquiry” (Reason and Bradbury, 2008, p.1 ref. Coughlan and Brannick, 2010) an action-research study can include various data sources (Coughlan and Coghlan, 2002; Gummmesson, 2000). A wide spectrum of action-research approaches are identified, most of which are rooted in the action research of Lewin (1948/1999). Coghlan and Brannick (2010) listed twelve action-oriented research approaches, including participatory action research (Lykes and Mallona, 2008), action learning (Revans, 1993), action science (Argyris, 1993), clinical inquiry/research (Schein, 1992), and collaborative management research (Shani et al., 2008). In contrast, Van de Ven (2007) captures under the construct of engaged scholarship action-research types, such as action/intervention research, collaborative research, and design/evaluation research. These studies share an interest in contributing both on practice and theory building; however, they slightly differ in goals and in the nature of relationship between the researchers and the people involved. Action research evolves with practice, as it needs to adopt emergent issues and unexpected turning points in practice, and, therefore, it temporally can be more practice driven than theory driven (Eriksson and Kovalainen, 2007). In fact, the various types of action research are often mixed in practice. Accordingly, to contribute to science is to describe the course of each particular action research in terms of goals, events, relationships of actors, and outcomes as well as the motivation and decisions of the researcher.

The research question guides the choices of the research design and methods (Van de Ven, 2007). In this study, the two research questions concern development of organizational creativity. The questions of how organizational creativity can be developed and how might an improvisational-theater-based approach foster organizational creativity call for an action-oriented research. Shani and Pashmore (1985), in consistent with other sources (e.g. Eriksson and Kovalainen, 2007), give three reasons for an action research, which justify the decision to take action research as one of the research approaches in this study.
First, action research aims to bring change in organizations (e.g., Eriksson and Kovalainen, 2007; Shani and Pashmore, 1985). This is a fundamental goal in the long-term organizational development of this study, where the focus was on building organizational renewal and creativity with the organizational members in practice. While producing practical knowing (Coghlan and Brannick, 2010), action research refers to knowing in action. Second, action research aims to build self-competencies among organizational members (Shani and Pashmore, 1985). The ultimate aim in building organizational creativity is to activate, participate, and empower the individuals and their communities to nurture creativity in their work communities together. The development process provides a kind of forum to become connected, to learn about the collective creation, to explore different points of views, and to build understanding together. It aims to increase both understanding about the organizational creativity and to foster organizational capabilities by stimulating and empowering organizational members to consciously build and shape their organization (e.g., Eriksson and Kovalainen, 2008; Lykes and Mallona, 2008; Shani and Bashmore, 1985). This is also consistent with the view that organizations consist of multiple meanings (Coghlan and Brannick, 2010; Campbell, 2000) and are socially co-constructed (Orlikowski, 2002, 1996; Tsoukas and Chia, 2001). Further, neither organizations nor work communities are homogenous, which is also a reason for taking an action-research approach in this study. Third, action research aims to extend scientific knowledge (e.g., Coughlan and Coghlan, 2011; Van de Ven, 2007; Lewin, 1948). The two research questions of this study concern the development of organizational creativity and are practice-oriented in nature. Through that practice, the contribution of the study to advance scientific knowledge about organizational creativity and the development of organizational creativity was achieved. In action research, both practice and theory are in evolving relationship. In action research, scientific knowledge can be introduced into practice to profit organizations, whereas practice-based knowledge and the knowledge generated with the organizational members contributes to the theory building, and thereby to scientific understanding. The following section discusses more detail the process, the goals and the context, the relationships, engagement, and outcomes (Coghlan and Brannick, 2010; Shani and Pashmore, 1985) of the action research, and the choices made in the study.
Each action research process includes two parallel action-research cycles (Coghlan and Brannick, 2010). The first cycle is comprised of the events of action research (Figure 7) in terms of the goals (constructing, planning, taking action, and evaluating). The second cycle concerns the reflection of the first cycle, in terms to advance scientific knowledge (Coghlan and Brannick, 2010) and to produce actionable knowledge by reflecting on the content, process, and premise or on underlying assumptions and perspectives (Coghlan and Brannick, 2010; Argyris, 2003). The action-research cycles can be conducted either systematically (systematic action research) or in a more situation sensitive and creative manner (Coghlan and Brannick, 2010; Heron, 1996). As Eriksson and Kovalainen (2008) note, in development-oriented action-research studies, the practice temporally drives over the plans, as an action research adopts unexpected and contingent events along the unfolding process. To understand organizational creativity and its development, the practice-based knowing produced in action with the organization members stands as a fundamental basis and driver of development. In fact, in action research, the actions, practices, and goals are shaped continuously in collaboration with the organization members. A detailed description and discussion of the action-research process and events carried out within this study are presented in publications 3, 4, and 6.

![Figure 7: Action research process cycle](image)

The relationship between the researcher and the organizational members represents the interpersonal perspective of an action research. It is the fundamental basis in qualified action research and, especially, in a case of organizational development. The relationship is built on mutual trust, openness, appreciation, concern for others, common language, and on the
possibility to influence the course of action and events (Coghlan and Brannick, 2010). In fact, it is about the interaction between the researcher and the participating organization members along the action research course. The research goals and the research questions guide both the role of researcher and the role and desired degree of involvement of organization members into the action-research process (Van de Ven, 2007), which also can vary as it is defined, renegotiated, and agreed upon along the course of each action research event. In action research, the role of the researcher varies throughout the action research, from scientist to facilitator (including roles of trainer, adviser, collaboration builder, reflector, expert, improviser, and encourager) in a situational manner. The engagement can be grounded either “with” of “for” participators, and accordingly the relationship is either “co-creation” or more grounded by “exchange” or “advising” (Van de Ven, 2007). The long-term action research often includes elements of mixed nature of studies, which is consistent with the action research description as a living inquiry (Reason and Bradbury, 2008). In this study the relationship was grounded by a collaborative relationship between researchers and the organization members to focus on chosen common interest (organizational renewal), and to generate new understanding and knowledge with the organizational members rather than for them. In the long-term development process of this study (publication 6), both the survey results and the interview analysis were carried out by the researcher for an organization, which represent the diagnostic nature of the action research. However, the results were fed back into organization, and they were discussed and interpreted with the organization members. Among other things, we asked how do the results look to you and what they tell you? Are there any surprises (positive or negative) in the results? Is there something that does not meet your perceptions, experiences, and understanding? The primary aim was to participate and empower organizational members to build understanding of their organization together and to engage them on forthcoming development process, on which the diagnosis stand as a basis. Hence, the results were interpreted and elaborated with the organization members. This is important, as the organizational members know their organization and the specialties of it, whereas the researchers are outsiders. This kind of collaboration was nurtured along the action research process. This is important as an action research evolves through the negotiated and agreed goals along its course.

There were five main motivations to the engagement (why and to what extent) of the organizational members in this particular study. (1) Co-create knowledge through experience
and practice of the applicability and possibilities of improvisational-theater based approach in stimulating creativity (practice-based knowledge into research) (e.g., Cochglan and Coghlan, 2011; Cochglan and Brannick, 2010). 2) Increase understanding of the organizational members about the organizational renewal, organizational creativity and renewal capability i.e., to introduce scientific knowledge into practice (e.g., Van de Ven, 2007). (3) Empower the participants to collaborate and to build their self-competencies (e.g., Eriksson and Kovalainen, 2008) together. (4) Obtain organizational members to involve in interpreting and shaping their organization, and to identify the further development activities (e.g., Eriksson and Kovalainen, 2007). (5) Work to achieve the collectively defined and shared developmental goals (in action research it is defined as solving the clients problem) (Eriksson and Kovalainen, 2008).

Essential for the relationship and engagement is the reflexivity along the action research, as it facilitates change (e.g., Cochglan and Brannick, 2010). It constitutes of the continuous and conscious exploration between the relationship of the researcher and the organizational members involved. In this study, the reflection was conducted after each workshop in the form of reflective discussions and in feedback surveys. The feedback surveys included structured items, open questions, and free space to express comments, opinions, and insights. In addition, in a chain of pilot group workshops (creativity workshops), the reflection was included into action research cycles. It was used both at the beginning and at the end of each workshop, to share the experiences generated after each workshop and to guide the forthcoming actions.

The outcomes of an action-research approach follow the goals i.e. to achieve change or sustainability in human system, to develop of self-help competencies and learning, and to advance scientific knowledge. Due of the nature of the action research, the unintended outcomes are common and equally valuable; especially, in the research focusing on organizational development, which was the case in this study, the outcomes of the action research are not just solutions to the particular problems (Coghlan and Brannik, 2010). Instead, the outcomes concern more learning, individual advance of the participants, stimulating and activating the organization members to view and build their organization in collaboration with each other, on introducing new knowledge by simultaneously building it
6.5. ASSESSMENT OF THE RESEARCH

The study comprises both the quantitative part (publications 1 and 2) and the qualitative part (publications 3–6). The assessment of the study is presented here as a twofold process. First, the quantitative studies are assessed by the classic criteria of good-quality research: reliability, validity, and generalizability. The reliability of the research concerns the possibility for the study to be repeated (the measurement and procedures) by another researcher. The measurements of the knowledge-management practices in the publications (1-2) based on the ORCI survey set, developed by Kianto (2008). The survey set is valid and reliable (Kianto, 2008). In addition, two constructs of individual improvisation and self-efficacy were adopted from the measurement sets of other researchers (Magni et al. 2009; Zhao et al., 2005), which refer to content validity. The Cronbach’s alpha value was used to test the reliability of the scales. Validity was assessed by the content and discriminant validity (Hair et al., 2006), which was established in both studies.

Second, the qualitative part of the study, which is mainly action-oriented research, is assessed with alternative criteria. For studies that represent ontology emphasizing multiple realities and subjectivist epistemology, the alternative method of Lincoln and Guba (1985) could be more appropriate (Eriksson and Kovalainen, 2008). In that method reliability and validity are substituted with a construct trustworthiness constituting of credibility, transferability, dependability, and confirmability (Eriksson and Kovalinen, 2008), which are discussed in the following section.

In qualitative research, and especially in action research, the generalizability of the study cannot be determined in the same way as in a quantitative study. In this particular study, the primary goal was on development of organizational creativity, and thereby the research explores various approaches and possibilities to face the research question. As a result, the study produces development processes and illustrates them in empirical cases. In fact, the development approaches and methods developed in this study are generalizable ones, as they can be used in other cases, albeit slightly differently and in a case-sensitive manner.
The principle to conduct good-quality study fulfilling the criteria of it guides the research. The multiple data sources provided a possibility to use data triangulation, which enables the formation of a coherent view of the phenomenon in consideration and ensures validity of the study. In an action research approach, the key principle is reflection within each action research cycle, which thereby builds trustworthiness of the study. Dependability concerns the offered information by the researcher, which shows that the research process has been logical, traceable, and documented. In this study, the majority of the qualitative studies are action-oriented or action-research approaches. The process (events) of action research, the data collection and analysis along the process of the study overall are both documented and described in detail in publications 3 and 6. Transferability refers to the degree of similarity between the current research (or parts of it) and other research. The long-term development process (publication 6) is based on the widely used and reported ORCI method, and its transferability is established. The following development process is unique, organization-specific, and created and shaped in collaboration with organizational members. Therefore, it does not have direct similarities in terms of its content with other research, although the process loosely obeys the structure of an action research. In action the research case studies (publication 4 and 5), the similarities with other facilitation-oriented research can be found, which are described in each publication. Concerning the credibility of the study several aspects need to be evaluated. The familiarity of the researcher with the topic can be considered as good. To confirm the facilitation skills the researcher took several courses on improvisational theater. The sufficiency of the data to merit the arguments of the study is reported in data collection and in publications, which show the observations between the empirical findings and the following claims. Finally, to ensure credibility of the research need to evaluate, whether any other researcher can achieve similar kinds of interpretations to agree with the claims of the study. That question is difficult to evaluate, as in qualitative research, the researcher is a kind of instrument or guilt maker (Denzin and Lincoln, 2003) with his or her knowledge, history, interests, and worldviews. Therefore, it is not obvious that other researchers would reach exactly similar conclusions. In addition, an action-research is dependent on the people involved, including the researcher, who acts both as facilitator and researcher, which includes her or his personality. Thereby, the action-research process probably would have been slightly different depending on the facilitator. Conformability concerns the linking between the data and the findings (interpretations) conducted.
Researchers need to show these links in a way that the others can understand them. The links between data and findings are described as clearly as possible in each publication.

7. PUBLICATIONS AND RESULTS

The chapter summarizes the results of the publications of the study. The summary of each individual publication is first outlined, and, thereafter, the results of the whole study are presented by drawing from the results of the publications and from the conceptual (introduction) part of the thesis. Table 10 shows the results of the publications.

7.1. PUBLICATIONS

The research questions of the study guided the objectives of each individual publication. Most of the publications refer to two subquestions. Publications 3, 4, and 5 contribute both on questions of how might an improvisational-theater-based approach foster organizational creativity and how is organizational creativity developed. Accordingly, the publications 1 and 2 contribute on two subquestions: How is organizational creativity developed? and What is organizational creativity? Theoretically, the study is based on literature of organizational creativity, improvisation, and organizational renewal. Individual improvisation and organizational renewal capability are applied in the cross-level publications 1 and 2. Improvisation, improvisational theater, and creativity are applied in publications 3, 4, and 5. Finally, the organizational renewal capability is applied in publication 6 in terms of organizational creativity. The introductory part represents the conceptual part of the study and lays the groundwork for the whole study in reviewing the literature of organizational creativity, improvisation, and organizational renewal. The six publications represent the empirical part of the study by providing evidence through quantitative studies (publications 1 and 2), action research (publications 3 and 6), and multimethod action-oriented case studies (publications 4 and 5).
<table>
<thead>
<tr>
<th>Publication title</th>
<th>Perspective on organizational creativity</th>
<th>Perspective on development of organizational creativity</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The relationship between supervisor support and individual improvisation</td>
<td>Examines factors and mechanisms effecting individual improvisation (which is seen as a form of individual innovative behavior)</td>
<td>Shows the relationship between organizational-level practices and individual-level improvisation</td>
<td>Supervisor support effects individual improvisation through mechanisms of empowerment and self-efficacy</td>
</tr>
<tr>
<td>2. The effect of organizational knowledge-management practices on individual improvisation</td>
<td>Examines the relationship between individual improvisation (form of individual innovative behavior) and organizational knowledge-management practices</td>
<td>Shows the relationship between organizational-level knowledge-management practices and individual-level improvisation</td>
<td>Organizational-level knowledge-management practices, knowledge sharing, knowledge creation, and utilization of documented knowledge had a significant and positive influence on individual improvisation</td>
</tr>
<tr>
<td>3. Stimulating organizational creativity with improvisational-theater-based approach</td>
<td>Explores through comparison of two distinct method to stimulate participatory innovation</td>
<td>Focuses on building organizational creativity (i.e., collective creativity)</td>
<td>Improvisational theater training is both a promising method to stimulate organizational creativity and model collective creativity</td>
</tr>
<tr>
<td>4. Fostering team creativity and innovativeness with playfulness: a multicase study</td>
<td>Explores three distinct facilitation approaches in terms of playfulness and its relation to team creativity and innovativeness</td>
<td>Focuses on building team innovativeness through playfulness and connects that to creativity</td>
<td>Three distinct methods all foster playfulness, albeit their contribution into team creativity and innovation is slightly different Improvisational-theater-based approach focuses on creativity in general and in building space for creativity</td>
</tr>
<tr>
<td>5. Fostering participatory innovation with two creativity methods</td>
<td>Explores through comparison, two different methods to stimulate participatory innovations</td>
<td>Focuses on exploring the possibilities to build organizational creativity instead of fostering creativity in particular problem-solving cases</td>
<td>Two different methods to foster creativity differ in their perspective on creativity, in their goals, processes, and in outcome orientation Improvisational theater focuses on fostering capacity to create in general, whereas lateral thinking on creativity in particular situations</td>
</tr>
<tr>
<td>6. Assessing and developing organizational renewal capability in the public sector</td>
<td>Studies through a long-term development process, the development of organizational renewal capability</td>
<td>Describes the long-term multimethod development process, based on organizational (collective) knowledge</td>
<td>Presents a long-term development process to build organizational renewal capability and creativity</td>
</tr>
</tbody>
</table>
Publication 1: The relationship between supervisor support and individual improvisation

Background and objective

The first publication addresses the subquestion of the study, *how is organizational creativity developed?* The publication examines the relationship between organizational-level factors and individual-level factors, and is thereby a cross-level study. Individual improvisation is an ability of an individual to act in complex and unexpected situations in a creative, contextual, and professional manner. It is not yet known what organizational factors enable individual improvisation to occur in an organization. Literature shows various leadership styles and supervisor support affecting individual creative and innovative behavior (e.g., Yuan and Woodman, 2010; Amabile, 2009; Tierney, 2009; Scott and Bruce, 1994). In contrast, at the individual-level constructs, such as psychological empowerment (e.g., Kianto, 2008; Spreitzer, 1995; Velthouse, 1990) and self-efficacy (Tierney and Farmer, 2002; Bandura, 1997) predict individual creative and innovative behavior. In this study, factors such as perceived supervisor support, psychological empowerment, and self-efficacy are studied in relation to individual improvisation. Although, improvisation is recognized as valuable, there are few studies examining the factors that affect and enable individual improvisation (Magni, Proserpio, Hoegl, and Provera, 2009). There is also a lack of studies examining the simultaneous effect of individual level and contextual level factors on individual improvisation. Further, recent studies show contradictory results concerning the mediation effect of psychological empowerment on the relationship between supportive leadership and individual innovative performance (Denti and Hemlin, 2012). Theoretically, the study draws from the interactionist theory of organizational creativity (Woodman et al., 1993), which understands individual attributes, contextual factors, and their interplay as affecting individual creativity. It also draws from literature of democratic leadership or supportive supervising (e.g., Beausaert, Segers, and Gijselaers, 2011; Kianto, 2008; Beausaert et al., 2001), and theory of self-efficacy (Bandura, 1997) and psychological empowerment (Speitzer, 1995; Kianto, 2008). The objective of the study is to examine the effect of the organizational-level factors and individual-level mechanism on individual improvisation. *Individual improvisation* is defined here as *dynamic innovative behavior of an individual*. The role of the publication in this study is to represent the individual-level perspective on organizational creativity.
Drawing from the literature of creativity, individual innovative behavior, and improvisation, the study provides novel understanding concerning individual improvisation i.e. dynamic individual behavior and its enablers in organizations.

Results and contribution

The results of the study show both psychological empowerment and self-efficacy as mechanisms through which supervisor support affects individual improvisation i.e. dynamic individual innovative behavior in organizations. The results contribute to the scope of the whole study by providing understanding of the role of supervisor support in fostering creativity and innovative behavior of their subordinates. More specifically, it shows the mechanisms through which supportive supervising affects individual improvisation. That is, the organizational-level practice of supervising operates through individual-level mechanisms of psychological empowerment and self-efficacy. In a broader sense, it contributes toward the building of organizational creativity by identifying the mechanisms through which supervisor support affects individual improvisation (innovative behavior), and thereby organizational creativity.

Publication 2: The effect of organizational knowledge-management practices on individual improvisation.

Background and objective

The second publication addresses the subquestion of the thesis, how is organizational creativity developed? Individual improvisation, defined as dynamic innovative behavior, is the ability of an individual to act in complex and unexpected situations, in a creative, contextual, and professional manner. Few quantitative studies examine individual improvisation. Only one study has examined the factors affecting individual improvisation. Magni et al. (2009) found factors of team behavioral integration and cohesion positively affecting individual improvisation. In addition, a number of contextual factors affecting individual innovative behavior have been identified, but not exactly on individual improvisation. It is unclear if the organizational knowledge-management practices
(knowledge sharing, knowledge creation, utilization of experimental knowledge, and utilization of documented knowledge) affect individual improvisation. To fill this gap, this publication examines the effect of knowledge-management practices on individual improvisation. The bases of the study is on the theory of organizational renewal capability (Kianto, 2008), which suggest that measurement of organizational knowledge-management practices reveals the current state and utilization of these practices in organization. The study draws also from the interactionist theories of social psychology (Ross and Nisbett, 1991) and organizational creativity (Woodman et al., 1993), understanding both individual attributes and contextual factors as well as their interplay affecting individual creativity. The objective of the publication is to examine the factors (practices) affecting the individual-level innovative behavior (improvisation) in organizations. The role of the publication in this thesis is to represent the perspective of individual creativity within organizational creativity. As a cross-level study, it examines the relationship between individual creativity and the organizational-level knowledge-management practices aiming to provide novel understanding of individual improvisation or dynamic individual behavior and its antecedents in organizations.

**Results and contribution**

The results of this single study show the organizational-level knowledge-management practices of knowledge sharing, knowledge creation, and utilization of documented knowledge affecting individual improvisation (individual innovative behavior) significantly. The effects of demographic variables of age, gender, status, tenure, education, and sector were non-significant. Publication 2 contributes to the scope of the whole study in a twofold manner. **First**, as a cross-level study, it builds a link between the organizational knowledge-management practices and individual-level creative behavior (individual improvisation). **Second**, it contributes to the development of organizational creativity by providing evidence of the effect of knowledge-management practices on individual improvisation. Hence, in a broader sense, fostering knowledge-management practices builds organizational creativity.
Publication 3: Stimulating organizational creativity with an improvisational-theater-based approach

Background and objective

The third publication addresses the subquestions of the thesis, *How might an improvisational-theater-based approach foster organizational creativity?* – as well as the subquestion *How is organizational creativity developed?* The study represents the explorative and practice-based research approach, in the form of an action-research study on organizational creativity. The objective of this individual study is to explore how improvisational theater training stimulates both individual and collective creativity, and thereby organizational creativity. Another objective is to study how an improvisational-theater-based approach could help in understanding and building collective creativity and a theory of organizational creativity. The study draws from organizational creativity literature by understanding organizational creativity as a multilevel phenomenon (Drazin et al., 1999; Woodman et al., 1993) resulting of complex combination of individual and collective creativity. Its main basis is improvisation, and it draws from improvisational theater, improvisational-theater training, and organizational literature of improvisation (e.g., Sawyer and DeZutter, 2010; Vera and Crossan, 2004). The role of the publication in the scope of the thesis is a practice-based perspective into collective creativity and the development of organizational creativity.

Results and contribution

The results of this study indicate that an improvisational-theater-based approach is a promising approach to stimulate both individual and collective creativity simultaneously, and thereby organizational creativity. What new the improvisational-theater-based training brings into the understanding of creativity is, that it understands both individual and collective creativity as closely interrelated phenomena. Its focus is on training individuals to trust their ideas, to express them spontaneously, to contribute and engage in interaction with others, instead of focusing on the skills of a single individual. The exercises conduct this all simultaneously in interaction. In fact, the focus in improvisational theater training is on interaction, contribution, knowledge flows, and group playing in ensemble. The contribution of this individual publication in the scope of the whole thesis is to explore how an
improvisational-theater-based approach can be used in stimulating organizational creativity, as well as how organizational creativity can be built in organizations. Theoretically, the publication contributes on the theory of organizational creativity by modeling the collective or distributed creativity, by extending the interactionist view of organizational creativity toward a more interaction and connectivity-based collective model of creativity.

Publication 4: Fostering team creativity and innovativeness with playfulness: a multi-case study

Background and objective

The fourth publication addresses the subquestions of the study How might an improvisational-theater-based approach foster organizational creativity? – as well as the subquestion How is organizational creativity developed? Increasingly innovations are the results of collaborative and collective efforts among diverse stakeholders, which demands the involvement and participation of a wide amount of various actors in the process of innovation (e.g., Buur and Matthews, 2008; Bessant and Caffyn, 1997). On the one hand, perspective into innovation rely too heavily on efficiency and rational approaches (Yuan and Woodman, 2010), leaving little room for emergence, primary sources of innovation (passion, creativity, intuition, inspiration), and social interaction. On the other hand, humor and playfulness are shown to affect organizational creativity (Lang and Lee, 2003). It can stimulate creativity by questioning the habitual beliefs (Barry and Meisiek, 2010), promote idea transfer toward outcomes (Dogson, Gann and Salter, 2005), create tension between individuals and collective performance (Bogers and Spoerdt, 2012), promote social grouping and wellbeing of the group (Roos, 2006; Huizinga, 1949), joy (Ekvall, 1996), motivation, and inspiration (Anderson, 1994). Indeed, to release creative potential of teams, the novel approaches that foster team creativity and innovativeness with playfulness are needed. To address this gap, this study explores the development of team creativity and innovativeness with playfulness through three distinct cases with three different methods: improvisational theater, sketching with pictures, and “serious play”.

The study draws from the literature of playfulness, creativity, and innovation. In addition, the empirical cases draw from the literature and practice of improvisational theater (Koppett,
2002; Johnstone, 1979; Spolin, 1977), visual sketching (e.g., Heron and Reason, 2001; Phillips, 1995), and serious play (e.g., Rieber, 2001; Schrage, 1999). The objective of the study is to explore the role of playfulness in fostering team creativity and innovativeness through a multicase study. The study explores the methods of improvisational theater, sketching by pictures, and serious play in terms of playfulness and to fostering team creativity and innovativeness within organization (cases A and B) and among various stakeholders (case C) involved in innovation. The role of the publication in the thesis is an explorative one. Through action research, it provides empirical evidence to build understanding of the development of team creativity and innovativeness, and thereby organizational creativity. The case A in this publication shares the case with publication 3, but provides a perspective of playfulness on the utilization of improvisational theater in building and understanding organizational creativity.

Results and contribution

The results show that the three methods explored in this study emphasize and view playfulness slightly differently (fun, metaphor, and throw oneself in), and accordingly they contribute toward fostering team creativity and innovativeness. The study identified a number of ways how playfulness fosters team creativity and innovativeness, which can be crystallized into three main outcomes. First, playfulness helps in building openness, social connectivity, and space for creativity to emerge, which can release the creative potential of the group into the process of creation. Second, it emphasizes various possible worlds, builds on that, and thereby enables participants to discover novel solutions to common efforts. Third, it helps in common perspective taking, makes creative and productive co-creation possible, and thereby fosters both engagement and team innovativeness. The contribution of the publication in the scope of the whole study is to shed light on the development of group-level creativity and innovativeness, and it thereby contributes to the development of organizational creativity.
Publication 5: Fostering participatory innovation with two creativity methods

Background and objective

The fifth publication addresses the subquestions of the study, How might an improvisational-theater-based approach foster organizational creativity? How is organizational creativity developed? The study draws from literature of participatory innovation (e.g., Buur and Matthews, 2008), creativity methods (DeBono, 1992), and improvisational theater (e.g., Koppet 2001; Johnstone, 1996). There are various methods to facilitate creativity in organizations, but they seem to differ in terms of their underlying assumptions on conceptualization of creativity, goals, and processes. Nevertheless, to foster participatory innovation some particular characteristics have to be faced. That is, to stimulate the full participation and engagement of all the members involved in the process of collaborative and collective creation. Through a comparative study of two distinct creativity methods, this study aims both to clarify the underlying assumptions beyond these creativity methods and the cover of the methods in fostering participatory innovation. The objective of the study is to understand better the development of organizational creativity, the methods used for that purpose, and the possibilities of each method in development of creativity. In the latter, the scrutiny is on the definition of creativity, goals of the development session, process, interaction, and outcomes. The role of the publication in the scope of the whole thesis is an exploratory one providing empirical evidence of the development of group-level creativity and thereby organizational creativity.

Results and contribution

The results of the study show that the two methods under scrutiny differ in their approach to creativity and, thereby, also in fostering participatory innovation. Their differences in definition of creativity, in goals and approach influence on their emphasis in fostering interaction and thereby on their possibilities to foster participatory innovation. The lateral-thinking method (deBono, 1992) represents an individual-cognition (divergent–convergent
thinking) based view of creativity, and it shares the creativity view, goal (problem solving), and the outcome orientation with the creativity models categorized into the first stream of models (e.g., Amabile, 1998; 1996; Woodman et al., 1993). With a structured process it is based on individual creativity, but utilizes also group working. However, it less facilitates interaction between the participants.

In contrast, improvisational theater training is based on a more holistic view on creativity, and it represents the distributed and collective views on creativity. It shares the creativity view and its approach with the second stream of the creativity models (Sawyer and deZutter, 2010; Hargadon and Bechky, 2006). In a broader sense, the difference lies on whether to facilitate creativity in particular problem-solving cases or to facilitate creativity as an emerging phenomenon and as a general capacity of a group to co-create. The contribution of this individual publication in the scope of the whole study is crystallized next. First, it sheds light on and contributes on the utilization of an improvisational-theater-based approach in facilitation of creativity. The results are in line with the publications 3 and 4. Second, it sheds light on and contributes on the development of participatory innovation, and thereby on collective creativity. Third, it contributes to the discussion and question about the essence of organizational creativity, by showing the underlying assumptions beyond conceptualization of creativity and the consequences of it.

Publication 6: Assessing and developing organizational renewal capability in the public sector

Background and objective

The sixth publication addresses the subquestions of the thesis How is organizational creativity developed? and What is organizational creativity? The focus of the publication is on the assessment and development of organizational renewal capability in a public organization context, and it refers to organizational-level development of organizational creativity. Imperative of continuous change is increasingly important also for public organization, although there are few approaches as to how to initiate and achieve that. Based on the theory of the organizational renewal capability (Kianto, 2008) and the method of organizational renewal capability inventory (ORCI) the study diagnoses the organizational characteristics
enabling and disabling continuous renewal and innovation (Kianto, 2008). Originally developed for a private organization context, it is here examined in development of public sector organization by asking about what organizational renewal capability means in the public sector, what the key mechanisms enabling continuous change in public sector are, and how renewal capability can be initiated. Based on the assessment of organizational renewal capability, the study describes the following long-term development process of renewal capability, to initiate and foster organizational capabilities for continuous change. The objective of the study is to present an assessment and development process to facilitate organizational renewal capability as an organizational (collective) construct. The role of the study in the scope of the whole thesis is to provide an approach to develop organizational creativity as an organizational-level phenomenon (i.e., as creativity by an organization). Further, it represents the development of capabilities of an organization to demonstrate creativity through its knowledgeable actions as a whole.

Results and contribution

The results show that the diagnosis method based on organizational renewal capability also serves public organizations well. By diagnosing the organizational key characteristics of continuous renewal, it bases the following case-specific development of organizational renewal capability. As a generic assessment method it gives as a result the characteristics of each organization (or sector or work-unit) in terms of organizational renewal capability. These results can be, thereafter, interpreted as organization-specific ones. Thereby, the following development process can be tailored to respond to the needs and goals of each particular case. This publication describes one long-term development process of organizational renewal capability, which includes three creativity workshops (discussed in publication 3). The contribution of this publication in the scope of the whole thesis is to provide understanding of the development of organizational creativity as an organizational-level phenomenon. Emphasizing a knowledge-based view of an organization, it faces the less studied element of organizational creativity theories i.e. creativity by an organization as a whole. Organizational renewal is the result of multiple organization-specific capacities and processes to foster continuous learning and innovation within the organization (Kianto, 2008), which characterize each organization and its performance (e.g., Kianto, 2008; Spender, 1996). Woodman (2009) suggests that there may be similar capacities and processes beyond both
renewal (change) and organizational creativity, and therefore organizational renewal capability and organization creativity can profit each other. In fact, the study suggests that organizational renewal capability is useful in both understanding and developing organizational-level creativity. This view is supported by Pöyhönen (2004), who views organizational renewal (change) as creativity and innovation and as enabling the connection of organizational renewal capability with organizational creativity.

7.2. A SUMMARY OF THE PUBLICATIONS

The six publications of the thesis (Table 11) concern the development and stimulation of organizational creativity as a multilevel construct from a multitheory perspective by contributing on the focus of the study on building organizational creativity. The Figure 8 summarizes the concepts of the study in each publication in relation to the level of analysis. In addition, Figure 9 shows the empirical results of this study. The following section discusses the results of each individual publication in terms of the whole thesis.

Publications 1 and 2 as a cross-level studies build relationship between individual improvisation (individual innovative behavior) and organizational-level practices. Publication 1 proposes the factors of empowerment and self-efficacy as a mechanism through which the supervisor support affects individual improvisation (individual innovative behavior). Consistently, publication 2, as a cross-level study, proposes the relationships between organizational knowledge-management practices and individual improvisation. These studies contribute to the theory building and development of organizational creativity by building a link between individual-level behavior and organizational level knowledge and practices (Figure 9), by showing the effects of organizational-level knowledge-management and supervisor practices on individual-level improvisation.
Figure 8: Key concepts of publications in relation to the level of analysis
<table>
<thead>
<tr>
<th>Publication title</th>
<th>Objective</th>
<th>Main theory/literature</th>
<th>Method and data</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The relationship between supervisor support and individual improvisation</td>
<td>To examine the effect of supervisor support on individual improvisation and the mediating effect of empowerment and self-efficacy on that relationship</td>
<td>Knowledge management Organizational renewal capability Individual innovative behavior Individual improvisation Interactionist view</td>
<td>Quantitative Data gathered from public (city) organization (N=593)</td>
<td>Contributes on understanding organizational creativity as a multilevel construct; shed light on the cross-level relationship between organizational-level supervisor support and individual-level improvisation, and showing mechanisms affecting that relationship</td>
</tr>
<tr>
<td>2. The effect of organizational knowledge management practices on individual improvisation</td>
<td>To examine the effect of organizational knowledge management practices on individual improvisation</td>
<td>Organization renewal capability Knowledge management Individual innovative behavior Interactionist view</td>
<td>Quantitative Data gathered from public (city) organization (N=593)</td>
<td>Contributes on understanding organizational creativity as a multilevel construct; shed light on the cross-level relationship between organizational knowledge-management practices and individual-level improvisation (dynamic innovative behavior)</td>
</tr>
<tr>
<td>3. Stimulating organizational creativity with improvisational-theater-based approach</td>
<td>To explore applicability of improvisational-theater-based training in stimulating organizational creativity</td>
<td>Organizational creativity Creativity Improvisational theater</td>
<td>Action research case study Based on chain (three) of Improvisational-theater-based developmental workshops</td>
<td>Contributes both to the development of organizational creativity and on theory building by modeling collective creativity</td>
</tr>
<tr>
<td>4. Fostering team creativity and innovativeness with playfulness: a multi-case study</td>
<td>To study how playfulness could purposefully enhance team creativity and innovativeness.</td>
<td>Creativity Playfulness</td>
<td>Multicase study Based on chain (three) of improvisational-theater-based developmental workshops</td>
<td>Contributes on the development of organizational creativity and shed light on playfulness, team creativity, and innovativeness</td>
</tr>
<tr>
<td>5. Fostering participatory innovation with two creativity methods</td>
<td>To explore through comparison how two creativity methods foster participatory innovation.</td>
<td>Creativity Participatory innovation</td>
<td>Case study Based on two creativity development workshops Data gathered in interviews from participants</td>
<td>Contributes on understanding of creativity and shed light on the conceptualization of creativity and on development of organizational creativity</td>
</tr>
<tr>
<td>6. Assessing and developing organizational renewal capability in the public sector</td>
<td>To study what organizational renewal capability means in public sector, and how it could be assessed, and developed?</td>
<td>Knowledge management Organizational renewal</td>
<td>Action research Data collected along the two-and-a-half year development project Public (city) organization</td>
<td>Contributes on building of organizational creativity, that is creativity by an organization as a whole from the perspective on knowledge management</td>
</tr>
</tbody>
</table>
Publications 3, 4, and 5 all represent the methods to foster organizational creativity. Drawing from improvisational theater, publication 3 focuses through an empirical case both on stimulation of organizational creativity and advancing understanding of the development of organizational creativity. Further, it both builds and models collective creativity, on which process the interaction between people involved appears to become an essential source of creativity. This perspective extends understanding of organizational creativity from an individual-creativity driven perspective toward a collective one. Publication 4 continues the empirical development take of organizational creativity by proposing the construct of playfulness for both fostering and understanding organizational creativity. Focusing on team creativity and innovativeness with three cases and three methods, the study advances understanding of the development of organizational creativity as a collective and participatory endeavor. Consistently, publication 5 continues the empirical development of organizational creativity. Drawing both from improvisational theater and from one creativity technique, the publication clarifies through comparison, the scope, and the possibility of the different facilitation methods to foster participatory innovation, i.e. involvement of various stakeholders on the process of co-creation. It proposes to differentiate between fostering of an overall capacity to demonstrate creativity (novelty) in actions of an organization and in fostering creativity in particular problem-solving cases. Building organizational creativity by stimulating creativity among all organizational members in their day-to-day work represents development of an overall capacity of an organization to create. Nevertheless, highly creative organization emphasizes and nurtures both of these forms of organizational creativity.

The focus of publication 6 is on the organizational-level perspective of organizational creativity. Based on the organizational (collective) knowledge, it proposes an organizational-level perspective into the theory of organizational creativity. That is, creativity by an organization instead of creativity in organization. It proposes a long-term development process to build organizational renewal capability and organizational creativity. It proposes that through the assessment of organizational renewal capability the characteristics of organization both describes the capacity of an organization to renew and demonstrate creativity on its knowledgeable actions.

The overall contribution of the thesis is twofold. First, drawing from the conceptual part of the study, it enhances understanding of organizational creativity by extending theoretically the
conceptualization of organizational creativity from an individual-creativity-based model toward a more collective creativity perspective. In addition to creativity in organization, the study aims to understand organizational creativity as a collective phenomenon, that is, demonstrated novelty by an organization. The study presents organizational creativity consisting of three perspectives, composing the current view of organizational creativity, knowledge-based view of an organization and organizational renewal capability, and improvisation. The basis of this view is to understand organization as a dynamic knowledge system, in which system creativity is essentially embedded. Second, the thesis contributes on the development of organizational creativity both as an individual and collective phenomenon. The overall focus in the development approaches is to foster interaction, connectivity, knowledge sharing and creation, and collective creativity through practices, mechanisms, and behaviors. Further, the development approaches and methods used in this study (Figure 9) aim to stimulate creativity and renewal by providing opportunities and spaces for organizational members to collaboratively and collectively make insights, and study their organization in a new light. To conclude, this study extends understanding of organizational creativity by composing three distinct theoretical perspectives into the view of organizational creativity. Based on this composition and the results of the empirical part of the study, it also presents approaches and practices to build organizational creativity.
Figure 9. Conceptual links of the constructs, measurements, and creativity training methods of the study
8. DISCUSSION AND CONCLUSIONS

The main objective of the study was to study how organizational creativity can be built in organizations. Hence, the focus of the study was twofold concerning what organizational creativity is and how it could be developed. In terms of its objectives, the study provides two main contributions. First, the study contributes to the conceptualization of organizational creativity by proposing an approach to understand organizational creativity as the demonstrated novelty by an organization as a knowledge system; that is, to view the organization as a dynamic knowledge system on which creativity is essentially embedded. Second, the thesis contributes to the literature of the development of organizational creativity by presenting a multitheory and multilevel approach to develop organizational creativity in organizations. More specifically, the study understands development of organizational creativity more as fostering practices, mechanisms, and methods that stimulate interaction, creative behavior, dynamics between people involved, collective knowledge creation, and knowledge flows, through which creative potential of an organization can be released.

8.1. ANSWERING THE RESEARCH QUESTIONS

The overall objective of the study was to answer to the main research question of the thesis: How can organizational creativity be built within an organization? For that purpose, three research subquestions were stated.

The first research subquestion was What is organizational creativity? The literature review and the current understanding of organizational creativity motivated this subquestion, and it was grounded by a review of the literature among the fields of improvisation, and organizational renewal capability. The study draws also from literature of participatory innovation. The subquestion is a theoretical one, and it faces organizational creativity from the conceptual perspective. Examination of the subquestion based on the current theories and models of organizational creativity, addressed by the weaknesses of them, and resulted in an enhanced understanding and conceptualization of organizational creativity. In fact, organizational creativity was looked from the multitheory perspective. The study defines organizational creativity as an ability of an organization (knowledge system) to demonstrate novelty on its knowledgeable actions. Organizational creativity was seen here as a multilevel
construct, constituting both individual and collective (group and organizational) creativity, which are different by their nature. At individual-level, creativity is a complex ability of an individual to engage and demonstrate novelty on her or his knowledgeable actions. In such action, creativity is essentially embedded in knowing and in what an individual does, meaning, that neither cognition nor creativity are separate from doing (Lave, 1988; Orlikowski, 2002). Moreover, the view of creativity of this study extends understanding of creativity from individual-cognition-based view toward a broader view, including the embodied and social nature of creativity. Group-level creativity is understood here as a collective creativity, which emphasizes the distributed, emergent, socially shaped, situational, and ongoing nature of creativity and collective creation. Hence, in addition to a cognition-based view of creativity, this study sees creativity more vivid construct, as embodied, spontaneous, distributed, and collective and organizational phenomenon and thereby demonstrated in and attached to the knowledgeable actions of an entity. Likewise, collective creativity is demonstrated by what a group (or community or unit) does, that is, on its knowledgeable actions. Complementing the current views of organizational creativity, this study understands organizational (collective) creativity (creativity by a system) based on organizational knowledge i.e. on intellectual resources of an organization in a form of collective knowledge. Organizational creativity is defined here as an overall ability of an organization to demonstrate novelty in its knowledgeable actions (on what it does and how it does what it does). Collective knowledge is tacit and not necessarily easy to employ, and, therefore, organizations need to build organizational creativity consciously. The ability to demonstrate novelty in its knowledgeable actions is an advantage for an organization, through which it can both discover novel possibilities (to find what to do) and novel ways to do what it does (how). Organizational creativity enables an organization to use its resources in a creative and situational manner. First, the organization can combine its knowing and human resources in an appropriate manner, and build on that knowing to create new understanding. Thereby, an organization can become a forerunner compared to its competitors. Second, an organization can integrate its knowing in a situational manner, i.e. change its rhythm and organizing principles according to situations, and therefore achieve competitive advantage. Thus, consciously building organizational creativity can benefit the overall organizational goals
The second subquestion was *How is organizational creativity developed?* Relying on the conceptualization of organizational creativity in the first subquestion and based on the findings of the publications related with this subquestion the study presents several approaches and methods to foster and stimulate organizational creativity. Two main elements guide the development of organizational creativity. *First*, the multilevel perspective of organizational creativity guides its development. Hence, for development it is appropriate to face both the individual and collective levels, and more detail, to cross over individual, group, and organization levels. *Second*, for development the focus on building space for creativity to occur is more important than to focus on skills of single individual, as creativity cannot be taught (Kelly and Kelly, 2012), but enabled and encouraged by creating circumstances for it to flourish. At the individual level, stimulation of creativity can focus on releasing the creative potential of an individual by making visible the individual barriers of creativity and by stimulating expression of ideas, contributions, engagement, and interaction to the situations arisen. The group-level stimulation of creativity is fostering collective creativity and wide participation of organization members into activities of creativity, and more specifically, on activities of collective creation. The development approaches, such as an improvisational-theater-based approach, are appropriate for stimulating creativity as they face both individual and collective levels simultaneously. This is reasoned by the view that the collectives constitute of active, engaged and interplaying individuals. The development of organizational-level creativity is a more complex, multifaceted, and long-term phenomenon. This study is based on the organizational renewal capability (Kianto, 2008), which faces the current state of an organization in terms of its characteristics enabling and hindering renewal, innovation and creativity. It enables organizational members to face the key specialties and weaknesses of each organization in terms of organizational renewal and creativity, for example in a form of long-term collaborative development process. The key principle in such development process is to empower the organizational members to participate, to view their work and work community in new light, and to build their organization. It means to build and stimulate mechanisms, practices, and processes that foster connectivity, interaction, co-creation, and utilization of knowledge and knowledge flows, and thereby build organizational creativity. When organizational creativity is seen as demonstrated in one’s knowledgeable actions, it is essentially seen as embedded in these processes, practices, and mechanisms as well.
The third subquestion was *How might an improvisational-theater-based approach foster organizational creativity?* In terms of the findings of the publications, it is argued that an improvisational-theater-based approach can be used to foster organizational creativity. *First,* it stimulates both individual and collective creativity simultaneously. Improvisational-theater-based training can help in releasing creative potential of individuals and groups by facilitating spontaneity and expression of ideas and insights spontaneously, mutual support, building on others ideas and contributions, playfulness, communication, and interaction. As a collective process, it fosters engagement, shared and emerging leadership, and shared responsibilities of participants that can drive the common performance forward. *Second,* it models and makes visible the collective creative process, that is, creativity by a collective. In exercising, the participants can experience in practice what a collective creativity process is, which is often different from processes that they are familiar with, and thereby they learn about collective creativity. To sum up, improvisational theater as an art-based method understands every individual as a creative potential, and aims to release that potential by paying attention to the individual barriers of creativity. The key in improvisation is the contribution of individuals in an ongoing flow of performance, and it aims to train individuals for complex, real-time, and unplanned interaction. This leads to understanding the key characteristics of collective and distributed creativity. *Third,* improvisational theater builds space collectively for creativity to occur, and models collective creative process, through which organizational members can learn and experience collective creative endeavors.
Figure 10. Answering the research questions

What is organizational creativity?

Organizational creativity is demonstrated novelty in knowledgeable actions of an entity (individual, group, organization). It is a multilevel construct and is different at different levels of analysis. At the individual and group level it is creativity in organizations, and, at the organizational level, it is creativity by an organization.

How is organizational creativity developed?

Development should face individual, group, and organizational levels, and face both individual and collective creativity simultaneously. To stimulate and build organizational (collective) creativity the enabling mechanisms, practices, and processes for connectivity, interaction, co-creation, and meaning creation should be in focus.

How might and improvisational-theater-based approach foster organizational creativity?

The improvisational-theater-based approach fosters organizational creativity by stimulating both individual and collective creativity simultaneously. It also models collective creative process.
8.2. CONTRIBUTION OF THE RESEARCH

This chapter discusses the theoretical and managerial contributions of the study. The theoretical contributions refer into three streams of literature used in the study: organizational creativity and development of organizational creativity, improvisation, and organizational renewal and renewal capability.

8.2.1. Research implications related to organizational creativity

The study contributes to the increasingly important research of organizational creativity by providing an extended multitheory perspective of organizational creativity. By building on that theoretical view, the study also provides empirical evidence concerning the development of organizational creativity as a multilevel construct.

First, the study contributes to the conceptualization of creativity by broadening the individual cognition based creativity view (Sullivan and Ford, 2010; Amabile, 1996; DeBono, 1992) toward a more multifaceted and holistic view of creativity. The broadened view emphasizes cognition, social and embodied roots of creativity, and it understands them as converging in the knowledgeable action of an individual. Much of creativity is rooted in tacit and embodied knowing, and, thus, it can only be available and become demonstrated in action. Hence, it is often difficult to preplan all such emergence. Indeed, creativity emerges both in action and in interaction with other people, which means that it is inseparable from action. At the individual level, the dynamic innovative behavior of an individual seen as composition of improvisation, creativity, and professionalism of an individual represents the demonstrated novelty in individual’s knowledgeable actions. Individual creativity defined in this way deviates from seeing creativity only as generation of ideas toward more to utilization of one’s potentiality in action, engagement, contribution, and dynamics of social creativity. In addition to generation of novel ideas, creativity is about practice, and essential part of knowledgeable actions (what one does). It is seeing differently, seeing possibilities and connections, building on others, making connections between seemingly distinct issues, intuition and insights, play with possible worlds, experiencing and making experiments in practice, characteristics of which are less emphasized in the creativity views emphasizing idea generation.
Second, the study extends understanding of organizational creativity by presenting it as an essential part of knowledgeable actions or knowing of an entity (be it an individual, group, community, unit, or an entire organization). In organizations, creativity cannot be separate from knowing. In fact, knowing in organization is dynamic and developing process, which is essentially embed on creativity. The study builds on the knowledge-based view of an organization (e.g., Spender, 1996) and on the work of Pöyhönen (2004), Tsoukas and Chia (2001), Tsoukas (1996), Spender (1996), and Polanyi (1966). Moreover, it understands organizational creativity as demonstrated novelty by an entity (individual, group, community, or entire organization) in its knowledgeable activity. The key contribution of this study to the organizational creativity literature is that creativity is seen here as demonstrated in what one (individual, community, organization) does, that is, in knowledgeable activity of an entity. In fact, creativity is the key differentiating between actors in the same field of business with similar resources. Individual creativity was already discussed above. At the group level, creativity is seen demonstrated in knowledgeable actions of a group or collective as a whole. Hence, the perspective of this study differs from the current models of organizational creativity in two different ways. a) the definition of creativity as demonstrated novelty in knowledgeable actions includes both the process of creation and the outcomes, both of which essentially demonstrate knowledgeability of an entity. b) the perspective of this study views creativity as different kind of phenomenon at different levels of analysis. In fact, individual creativity is not seen as an aggregate for group and organizational creativity. Instead, they are seen as collective creativity, in which the focus is on the utilization of the potentiality of a collective as whole rather than on single individual attributes. At the organizational level, creativity is seen as being based on organizational collective knowledge that is the basis of organizational-level capacities (Pöyhönen, 2004), such as organizational renewal capability and organizational creativity. This view enables us to understand organizational creativity as a demonstrated novelty by an organization as a whole, which will be discussed in the following section in detail.

The third contribution of the study concerns organizational-level creativity, meaning the creativity by an organization as whole. Thereby, the study extends the current conceptualization of organizational creativity. The current theories of organizational creativity (e.g., Woodman, 2009; Hargadon and Bechky, 2006; Drazin et al., 1999; Amabile, 1998; 1996; Woodman et al., 1993) represent the creativity-in-organizations view either as
individual or group or collective creativity. Most of them also base their view of organizational creativity as an individual-cognition-based creativity view (e.g., Amabile, 1996; deBono, 1992), explaining organizational creativity as an aggregate of individual and group creativity or seeing organizational creativity as an interactionist phenomenon between contextual factors and level of analysis attributes (Woodman et al., 1993). Thus, the question is about the conceptualization of organizational creativity that determines the rest of its meanings. If creativity is defined as a cognitive capacity to generate novel and useful ideas, the organizations cannot be creative entities. When creativity is seen as demonstrated novelty on one’s knowledgeable actions, organizations can be seen as creative entities. More specifically, in the knowledge-based view of an organization, organizations are seen as a dynamic knowledge systems and as a different kinds of actors in terms of their characteristics and abilities to build, use, create, and recreate their knowing (intellectual resources in a form of collective knowledge) and turn that into performance (e.g., Pöyhönen, 2004; Spender, 1996). This view enables us to understand organization as creative knowledge system, which demonstrates novelty on its knowledgeable actions (on what it does). In this study the organizational (collective) knowledge is based on the theory of organizational renewal capability (Kianto, 2008; Pöyhönen, 2004), which provides an approach to understand organizational knowledge as a basis of organizational level creativity. Woodman (2009) also presents that beyond both organizational renewal and organizational creativity may be similar kinds of underlying processes, albeit it is not yet clear what these processes are.

Fourth, the definition of creativity of this thesis differs from the current definitions of creativity, which state it as intentional production of “novel and useful ideas or outcomes.” The terms novel and useful refer to evaluated end products of a creative (or less creative) process. In contrast, distributed or rhizome (Deleuze and Guattari, 1988) view of creativity better describes the organizational creativity and distributed knowledge in organizations. The process of creativity is complex effort of multiple actors with different aims and perspectives. In such process of creation it is not possible to produce only novel and useful ideas, but plenty of ideas and various contributions of participating individuals. Even the seemingly silliest contributions or chances can be useful for the process, if they trigger the other participants or drive the process of creation towards novel discoveries. In addition, embodied knowing can only become available and integrated into process of creation through demonstrated actions. Further, evaluation of novelty and usefulness is highly dependent on evaluators and on which
phase of the process the evaluation takes place. In contrast, if creativity is understood as demonstrated in knowledgeable actions of the organizational actors (notwithstanding they are individuals, collectives, communities, networks, units etc.), it on the one hand indicates that demonstrated novelty cannot be reduced into generation of novel and useful ideas, or outcomes, but it can profit work and organizations in multiple ways. On the other hand, it indicates that the evaluation is essential part of knowledgeable actions of an entity.

Fifth, the study contributes on the discussion between the constructs creativity and innovation, which line was recognized somewhat fuzzy. The constructs of creativity and innovation are overlapping, and they are used as interchangeable constructs (Styhre and Sundgren, 2005). However, elsewhere, they are seen as separate constructs by conceptualizing creativity as idea generation, while the implementation of ideas is conceptualized as innovation (Woodman, 2009; West and Richter, 2009; Amabile, 1996). Thus, creativity is mainly seen valuable in the front end of innovation. Further, the definitions on innovation (e.g., Crossan and Apaydin, 2010) and organizational creativity (e.g. Woodman, 2009; Amabile, 1996) seem to be somewhat similar, both stating their goal to production of novel and useful outcomes. The relatively narrow view of creativity includes also the domain model by Woodman (2009), where creativity is seen as nestled within a broader construct of innovation, which in turn is nestled within a broader construct organizational change. Instead, creativity on its broader meaning is broader construct than innovation. Indeed, the relationship between creativity and innovation needs clarification. In a recent study, Montag, Maertz, and Baer (2012) suggest to separate creative performance behaviors from the creative outcomes they lead, to clarify the conceptual confusion within creativity studies. Similar kinds of conceptualizations could be appropriate to clarify the current confusion between creativity and innovation, albeit in many cases the process and outcome are inseparable.

One contribution of this study to literature of organizational creativity is the notion that the studies of multistakeholder innovation and to the some extent also high involvement of innovation report innovation processes, which highly share characteristics of collective creativity. They are carried out by multiple actors with diverse perspectives. They emphasize co-creation with participants, social shaping, and common meaning creation, as well as influence of emergent events on the process co-creation. However, this literature seldom refers to creativity or contributes on building organizational creativity theories or models.
These two streams of literatures advance separately, although they could have synergy advantages. How should we understand the relationship between creativity and innovation? Is there any place for organizational creativity and do we need construct organizational creativity if everything is called as innovation?

8.2.2. Research implications related to the development of organizational creativity

The implications of the study on development of organizational creativity base on the extended conceptualization of creativity, which thereby guides the development of it. Drawing from literature of improvisation, organizational renewal capability and practice of improvisational theater the study provides novel approaches to build organizational creativity.

In contrast to current creativity techniques, which focus on individual cognition (divergent–convergent thinking) based facilitation of creativity, this study provides a somewhat different and holistic view to build organizational creativity. Through an improvisational-theater-based approach, the development of creativity is directed in this study to concern more about interaction, contributions, engagement of people involved, ensemble, collective creation and building space for creativity collectively, instead than only fostering creative thinking of single individual. The perspective of this thesis emphasizes also embodied nature of creativity, which is not recognized reasonably in the current creativity models and techniques to facilitate creativity. Hence, the importance of creative thinking is not denied, instead the study bases the development of organizational creativity on a more vivid conceptualization of creativity, accepting both problem driven and curiosity based drivers of creativity. In other words, they should not exclude each other.

Referring to the collective creativity (Hargadon and Bechky, 2006; O’Donnell et al., 2006; Drazin et al., 1999), on which creativity is seen as distributed and emerging in interaction between people involved, the study provides a practical approach basing on improvisational theater both, to model and facilitate collective creativity. The key advantage of the improvisational-theater-based development is that it stimulates both individual and collective creativity simultaneously.
The study at hand both highlights collectively created space for creativity and provides a method of improvisational training to foster building such space. Thereby, the study contributes to the discussion of making space for creativity (Driver, 2008; Hjort, 2005). Here, ‘a space of creativity’ means a collective space of interaction, playfulness, ongoing dialogue, experiencing, and meaning creation. Hence, this study does not pay attention to physical spaces, instead the focus is on mental and social spaces. The motivation to understand creative space in this particular manner results from the facilitation methods used in this study, namely, their focus on the collective or social dimension of creativity. This refers also on the basic nature of collective creativity and in a broader sense on the organizational background knowledge (O’Donnell et al., 2006) beyond it. Such knowledge cannot be controlled, instead it emerges and needs encouragement and enabling “organizational-lifeworld space” (O’Donnell et al., 2006, 17) for creativity to occur.

The key contribution of this study on development of organizational creativity as an organizational-level construct is the development approach based on the assessment organizational renewal capability (Kianto, 2008a) and the following development process. The assessment of organizational renewal capability captures the organizational characteristics and practices both enabling and hindering organizational renewal and creativity. It thereby extends theory and practice in terms of development of organizational creativity by adding an organizational-level approach on the development repertoire. The approach includes some contextual factors identified in current models of organizational creativity, and presents a broader perspective to assess organizational characteristics for organizational renewal, but also for organizational creativity. Through assessment and development of organizational renewal capability, it is possible to build the capacity of an organization to demonstrate novelty on is knowledgeable actions.

8.2.3. Research implications related to improvisation and improvisational theater

The study contributes on the literature of improvisation by advancing and providing novel understanding and empirical findings of organizational creativity, on which improvisation included. More specifically, improvisation is seen in this study as creativity and an approach to stimulate organizational creativity both in individual and collective levels simultaneously.
The study complements the current views, which understand improvisation and creativity as overlapping constructs (e.g., Fisher and Amabile, 2009; Leyborne, 2006; Barret, 1998; Moorman and Miner, 1998a), by showing empirical evidence about their relationships.

First, the study provides empirical findings of the effect of knowledge-management practices and organizational practices of supervisor support (Kianto, 2008) on individual improvisation (individual dynamic innovative behavior). Thereby, the study shows that organizational knowledge-management practices (knowledge sharing, knowledge creation and utilization of documented knowledge, supervisor support) affect individual innovative behavior. Thereby, the study connects improvisation with knowledge-management theories and it complements the studies that show the effect of knowledge-management practices on organizational creativity (Lee and Choi, 2003).

Second, the study contributes to the literature of improvisation and improvisational theater by providing empirical evidence their possibilities to foster group creativity and innovativeness, participatory innovation and collective creativity with improvisational-theater-based training and playfulness. These findings of the study complement and confirm the previous results of Vera and Crossan (2005) and Crossan (1998) and show improvisational theater as a useful approach for building both individual and collective creativity simultaneously and thereby organizational creativity.

Third, the key contribution of the study on improvisation is, that improvisation is not only seen useful in particular emerging and unexpected situations, as the current studies (e.g., Fisher and Amabile, 2009) suggest. Instead, it essentially is creativity, ongoing change (e.g. Orlikowski, 2002), renewal and knowledgeable activity of an organizational entity (individual, group, community, organization). Further, studying improvisational theater process helps in modeling and building a theory of collective and distributed creativity and organizational creativity in terms of understanding distributed creativity by a system. There are few approaches (Sawyer and deZutter, 2009) to model collective creativity, and this study complements those studies. Finally, improvisation as a dynamic and creative behavior provides a way to creativity (to deviate from familiarities and conventional practices).
8.2.4. Research implications related to organizational renewal and organizational renewal capability

By building multitheory view of organizational creativity, the study contributes on the theory of organizational renewal and organizational renewal capability in multiple ways and the following section discusses it in detail.

First, the study provides empirical evidence of the effect of organizational knowledge-management practices (Kianto, 2008) on individual-level improvisation. It thereby complements the current findings (e.g., Lee and Choi; 2003), showing the effect of knowledge-management practices on organizational creativity.

Second, the study discusses the nature of knowledge and knowing in terms of creativity and organizational creativity. The key contribution of the study presents, that creativity rooted in tacit and aesthetic knowing is demonstrated novelty in one’s (individual, group/unit/community, organization) knowledgeable actions, that is, in what one does. In organizations, creativity is essentially embedded in knowing or in knowledgeable activity, and this definition understands creativity as an essential part of knowing, rather than seeing it as separate from it. Thereby, the study connects creativity (demonstrated novelty) both on day-to-day work practice (Nicolini et al., 2003; Tsoukas and Chia, 2002; Orlikowski, 2002, 1996; Tsoukas, 1996) and knowing (Pöyhönen, 2004; Tsoukas and Vladimirov, 2001; Spender, 1996), as well as on knowledge management (Pöyhönen, 2004; Spender, 1996).

Third, the study builds connection between organizational creativity and organizational renewal, by identifying several factors shared by organizational creativity and organizational renewal, such as change, innovation, knowledge, and organizational (collective) knowledge. The study supports the view that beyond both organizational renewal capability and organizational creativity lie similar kind of processes (Woodman, 2009). These processes enable organization to build, create and recreate its knowledge base and demonstrate novelty on its knowledgeable actions. Thereby, organizational creativity is a way through which organizations can renew themselves. Another contribution to connect these constructs relies on the suggestion to view organizational renewal as creativity and innovation (Pöyhönen, 2004), on which this study also contributes.
Fourth, the key implication of this study on the theory of organizational renewal capability is the proposal to understand organizational-level creativity (creativity by an organization i.e. knowledge system) through organizational (collective) knowledge, provided by the theory and method of organizational renewal capability (Kianto, 2008). The most current organizational creativity theories lack the view of creativity by a system. Only one study of collective creativity (O’Donnell et al., 2006) refers to organizational knowledge, and this study follows that view. The perspective to use organizational renewal capability into assessing organizational creativity is a novel one, which needs further studies.

8.2.5. Managerial implications of the study

For management, the study provides several implications, both in terms of understanding organizational creativity and in building and stimulating organizational creativity. Organizational creativity enables and organization to integrate and renew its’ knowing and use its resources in a creative and situational manner. More specifically, an organization aiming to demonstrate novelty on its knowledgeable actions and performance needs to consciously build and nurture creativity throughout organization. In terms of management of organizational creativity it is appropriate to consider, weather the organization members are not creative enough or whether they are not familiar with to use their creative potential in their work context or, whether the problem is on collective level, meaning the underlying assumptions, organizational practices, and mechanisms preventing demonstrated novelty. Each of these requires that different kinds of approaches to be faced. To build organizational creativity, means not only to use particular creativity techniques, which serve well the needs of some temporal problem-solving cases among a relatively limited number of participants, but to pay attention to the characteristics of an organization, that enable demonstrated novelty to occur at all levels of an organization. It means to build and nurture practices and mechanisms that foster connectivity, interaction, perspective making, meaning creation, experimentation, emergent communities, and forums for co-creation.

The contribution of this study for the management is that creativity is a more vivid phenomenon than individual-cognition-based phenomenon is. First, every organizational member can be potentially creative (e.g., Johnstone, 1979) and knowledgeable (e.g., Blackler, 1995), a view that enables to release and use the creative potential of the organizational
members for their day-to-day work. By building possibilities and opportunities for organizational members to look at their work in a new light and to make suggestions to develop it initiates demonstrated novelty. In addition, the possibilities for experimentation, joint activities and collective meaning creation provide opportunities for embodied creativity to become available and demonstrated, for example, by making various experiments and prototypes or advancing from these experiences toward goal.

Second, in organizations demonstrated novelty (creativity) is always social (Harrington, 1990), collective, and emerging in interaction (Nicolini et al., 2003; Tsoukas and Chia, 2002; Orlikowski, 2002, 1996; Tsoukas, 1996), an endeavor which can hardly occur under controlling management. Instead the more liberal forms of management can stimulate organizational creativity, such as motivating supervising (Beausaert, Segers, and Gijseelaers, 2011; Beausaert et al., 2001), supportive leadership (Amabile, Schatzel, Moneta, and Kramer, 2004), empowering leadership (Zhang and Bartol, 2010), and transformational leadership (Bartram and Casimir, 2007). This leads to following implications. a) the leadership style and leadership system of an organization that empower, encourage, and recognize demonstrated novelty and emerging initiations and involve the further development of these initiations can foster organizational creativity. b) the work community and working-culture providing possibilities for connectivity and interaction by building forums for organizational members to contribute on builds organizational creativity. c) the organizational members including managers need training and facilitation in terms of collective and participatory creativity and working, as these forms of working essentially differ from conventional forms of working. Collective creativity constitutes of dispersed and distributed knowledge and includes collective meaning creation, continuous goal-shaping and experimentation among diverse actors. For that purpose, for example, the improvisational-theater-based training and approach provides novel and fruitful perspectives and methods.

Third, to build organizational creativity means to nurture various constellations of both formal and emerging initiations. For example, in emerging communities of practice (Wenger and Snyder, 2000), the common interest is the key driver of activity that triggers participants to stretch their abilities, to contribute to a process of collective creation and to engage in it. Albeit being effective and productive (Wenger and Snyder, 2000), community of practice cannot be established – it just emerges around common interest. Hence, management
supporting various emerging forms of connectivity in organization builds organizational creativity.

*Fourth*, the assessment of organizational renewal capability in terms of organizational creativity provides a fruitful approach for managers to capture the characteristics of an organization in terms of organizational (collective) knowledge to base both organizational renewal and organizational creativity. It enables to face the underlying processes, mechanisms and assumptions beyond organizational creativity. It means to identify the knowledge assets and the practices and mechanisms that both enhance and hinder renewal and creativity within an organization. The result of assessment, thereby, is the basis of the following and more tailored developmental activities, which are conducted along the long-term development process.

### 8.3. LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

This section discusses the limitations of the thesis. The first limitation is that it is mainly based on data collected from one large public organization during 2009–2012. It consists of data collected during a long-term development process and some post-project surveys conducted after the end of the project. Hence, it represents the perspective of only one organization in terms of the development of organizational creativity. However, this study explores and examines the case from a multiparadigm perspective, which enables the building of a more coherent view in terms of understanding and developing organizational creativity. In addition, the study can be considered as a pilot study of a long-term development process. The key limitation, however, is that it was conducted in only one organization, with a relatively small number (pilot groups) of organizational members. In the future, a similar development approaches need to be conducted in several organizations of different types.

An additional limitation concerns the analysis of the data, which was carried out by only one researcher, the author of the study. In general, video recording analysis are recommended to be conducted by at least two researchers independently. In this case, there were no additional researchers with reasonable expertise in the field of improvisation available in the university. This limitation weakens the trustworthiness of the findings. However, data triangulation was
used in the analysis of the video data and the other material collected from the workshops, which supports the trustworthiness of the research.

A limitation can also be considered the theoretical proposal to base organizational-level creativity (creativity by an organization) on the theory of organizational renewal capability, as there are not yet empirical evidence concerning the relationship between these constructs and the power of organizational renewal capability to base organizational creativity. Nevertheless, there are some quantitative studies that show empirical evidence concerning the effect of knowledge-management practices on organizational creativity (Lee and Choi, 2003) and show the interconnection between knowledge processes and innovation (Andreeva and Kianto, 2011). In the future, more studies will be needed to examine these relationships, especially in terms of organizational creativity.

The study, which focused both on extending the conceptualization of organizational creativity and the development of it, presents several suggestions for future studies. First, in this study, creativity was seen as a broader construct than the individual-cognition-based construct. In this respect, some features of improvisation could be attached to construct creativity, as it represents the more interaction-oriented nature of creativity, compared to the views focusing on individual skills and attributes. Thereby, the operationalization and measurement of creativity as a broader construct could advance building a coherent view of organizational creativity. In addition, the embodied nature of creativity need further study, to address questions such as, what really happens in the creative process, and how does it happen? Second, collective creativity as a phenomenon is less studied and needs far more studies. There are only a few studies concerning collective creativity, although these forms of creation are increasingly popular; for example, in internet-based platforms to compose music collectively with other contributors. In addition, organizational creativity often resembles dispersed and distributed creativity, especially in global companies, where people are located in different sites, but work together. Third, referring to collective creativity, the role of individual creativity in the collective needs more studies. What are the characteristics and drivers of such collective creativity? What are the underlying processes and mechanisms in collective creativity? Fourth, this study assumes organizational renewal and organizational creativity at least to some extent resulting of similar kinds of underlying processes, a point that leads to interesting discussion on if the constructs of organizational renewal and
organizational creativity are parallel, overlapping, or related in some other way. Moreover, it also leads us to ask, to what extent organizational renewal capability describes the practices, processes, and mechanisms that enable and foster organizational creativity to occur. In future studies, at least these questions need to be faced and measured further. Finally, the relationship between creativity and innovation need clarification in terms of collective creativity and participatory innovation, because so far the innovation study streams and organizational creativity study streams have not been intermingled, the combination of these points of view should be enacted in future studies.
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