Art based practices of improvisation in shaping organizing for creativity and creative organization

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Introduction

Creativity is important for organizational success especially in fast and discontinuously changing economy. Increasingly, the organizational emphasis is on to achieve flexible, agile, adaptive and situational combination of knowledge and expertise for particular needs. Thereby, creativity is not only related with producing novel outcomes, but more and more in capturing opportunities, creative use of resources and in ways of organizing work, innovation and business. Indeed, creative organization is an organization that is able to organize and shift its constellation according to situation. In fact, various temporary constellations, such as temporary teams, (Bakker et al., 2010), virtual teams (Lipnac & Stamps, 2000), emerging communities (Wenger and Snyder, 2000), use of crowds (Kittur et al., 2013; Brabham 2008a), and various short-term innovation competitions (Füeller, Hutter and Faullant, 2011) and camps have arisen to complement the conventional forms of organizing. Common for these forms are that they enable the utilization of knowledge, expertise and creativity of the multiple actors in contextual,

situational and fast-based manner. These forms rely more on capabilities (e.g. Volberda, 1996), interconnectedness, horizontal collaboration (Barley 1996; Kelloway et al, 2006) and increasingly on interpersonal relationships (Bechky, 2006, Prins, 2009) than on hierarchy, routines, rules and roles. Moreover, the distributed and collective task division and allocation, self-selection, high-level of intrinsic motivation of the participants, and rich real-time information and knowledge sharing (Puranam et al. 2014; Kellogg et al., 2006). Indeed, these forms organizing rely more and more on creativity (creative organizing) throughout the organizational dimensions (human resources and roles, work processes, performance criteria), which require to interplay between humanist and structural dimensions of organizing (Graetz and Smith, 2006; 2009).

This paper studies improvisation and improvisational theatre in fostering the creative organization (organizing for creativity). On the one hand improvisation plays in mediating role in dealing between dualities, i.e. in organizing between competing elements such intended and emergent actions appreciating the equal importance and interplay between these dualities (Graetz and Smith, 2009; Weick, 1998). On the other hand, improvisational theatre represents the micro-level behaviours, through which dealing between dualities can be achieved. Hence, improvisational theatre could provide a fruitful perspective on increasing understanding and on enhancing organizing for creativity. In literature, the collective improvisation is seen as group's or community's "social ability" to react, respond quickly and knowledgeable manner to an emerging situations (e.g. Nonanaka and Toyoma, 2007; Erden et al. 2008). In addition, collective improvisation represents the highest quality level of group tacit knowledge (Erden, von Krogh and Nonaka, 2008). Furthermore, the dynamic and emergent collective processes (such as co-creation) are understructured open systems (Prins, 2006), and thereby grounded by improvisation. Due their emergent nature, they lack the conventional and stable processes and structures. Instead, the practices, procedures and roles are experienced, negotiated and enacted by the participants in the spot (Prins, 2006; John-Steiner, 2000). The creativity is more and more multi-partner collaboration (co-design, co-creation), where the processes/practices of collaboration cannot be given, instead the practices of collaboration are built by the participants on the spot. Despite the remarkable challenges the organizations need to face, there is less understanding on how the companies could build such capabilities and thereby learn to shift between the various forms of organizing in a situational manner. In fact, the (role of) creativity in organizing is still understudied and poorly understood. This paper responds on this need by studying the topical issue of creative organization, and more specifically, organizing for creativity though improvisational theatre based approach. First, the increased demand to be alert for unexpected requires creativity to integrate and use the available resources, and create novel one's. Second, work is increasingly a multi-party achievement to identify and solve the emerging multidiscipline and complex problems (Gray, 1989; Huxham & Vangen, 2005; Prins, 2006; Harvey, 2014). It requires co-creation and integration of knowledge, creativity, and efforts of multiple actors in a contextual manner for shared goals, even in an ad hoc manner.

The paper introduces an improvisational theatre and the practices driven from it to foster creative organization (organizing for creativity), and illustrate it through a two cases. Improvisation in organizing is presented as a metaphor to describe the emerging and unfolding actions of an organization (Mayer, Peter, Front and Weick, 1998; Weick, 1998; Zack, 2000; Kanter, 2002; Barret, 1998), change (Orlikowski, 1996) and strategy making (Kaplan and Orlikowski). Moreover, improvisation is attached 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). However, the link between improvisation and creativity is yet understudied. Indeed, the call for dynamics of creative organization could be understood through the concepts of organizing and improvisation, which base the emergent and creative forms of multi-stakeholder co-creation and collaboration for novel outcomes. Yet, the new forms of organizing are grounded by the capacities of the involved (individuals, groups, communities, organizations) to work in various collaborative constellations (from face-to-face to virtual), to utilize collective creativity, to capture opportunities in an ad-hoc manner and swiftly change the mode organizing. Consequently, the study explores how improvisation and the practices of improvisational theatre could enhance organizing for creativity.

The paper contributes on the literature of the arts-based initiatives and interventions (Meisiek, 2004; Meisiek & Barry, 2007; Velthuis, 2005; Toma and Marrientos, 2008; Schein 2001; Taylor and Carboni, 2008) by identifying the practices driven from improvisational theatre and illustrating them in fostering creative organization through two cases. Although, the literature deals with arts-based initiatives and interventions, few of them identify arts-based practices or study initiatives from practice perspective.

Theoretical background

Creativity and creative organization

Creativity is typically defined as production novel and useful outcomes (Amabile, 1996; Woodman, Sawyer and Griffin, 1993). In addition, it can be defined as a process (Draizin et al., 1999) and creative behaviors (Montag et al., 2012; Caniels, et al., 2014)) and creative ways to use resources (Sonenshein, 2014). The following three perspectives on creativity motivate and frame our study. First, in line with recently published studies we make difference between the creative behaviors and the outcomes of these behaviors (e.g. Lombardo and Kvålshaugen, 2014; Montag et al., 2012; Caniëls, et. al., 2014; Axtell, et al., 2006; Ford and Gioia, 2002), and focus on the creative process and behaviors that can lead to novel outcomes. Second, we adopt a view of Hjort (2004, 813), who presents that creativity is not only to produce highly creative ideas, instead it is "introduction of the unthought into action as free movement, as play". More specifically, it is "invention of new practices, changing our styles of living, the cultural acts of disclosing new world, driven by and producing an energy that changes our history" (Hjort, 2004, 813), which characteristics are typical for creative organizations. In creative organization creativity is an essential part of organizational life, and therefore it is able to new organization (Hjort, 2003) or to continuous reorganization for emerging needs. Third, increasingly creativity is a multi-partner achievement (Hargadon and Bechky, 2006; Drazin et al., 1999; Harvey, 2014), and the creative outcomes result of collective creativity (Drazin et al., 1999; Catmull, 2008) or of creative syntheses that integrates the perspectives of the interconnected participating members in a novel manner towards a shred goal (Prins, 2009; Harvey, 2014). The dialogic interplay between the different ways of understanding and interpreting a problem or situation (John-Steiner, 2002; Bartune, 1984; Smith & Lewis, 2011; Harvey, 2014) is built in co-evolving relationship of experimentation and synthesis (Harvey, 2014). Hence, new knowledge is a joint product of human interactions (Scarbrough; 1999; Hargadon and Bechky, 2006; John-Steiner, 2000).

In the complex and fast developing developing economy the expertise and knowledge are dispersed. The complex and original solutions require not only integration of knowledge of diverse participants, but increasingly the use of tacit knowledge and creation of new knowledge. Consequently, each solution requires contextual and tailored undertakings and different form of organizing. Each creative outcome demand different processes (Anderson & Thusman, 1990; Madjar et al, 2011; Harvey et al, 2014). It is also found that the different factors influence on different phases of creative (Caniëls, et. al., 2014) or innovation process (Axtell, et al., 2006). Moreover, an individual creativity and collective creativity are different forms of creativity (Hargadon & Bechky, 2006; Nisula, 2013; Harvey, 2014).

Taken together, creativity is about to comprising complex interdependencies, through which individuals, groups/communities, and organizational systems can build meanings, creative synthesis (Harvey, 2014), and introduce unthought into action (Hjort, 2004) i.e. demonstrate organizational creation. Indeed, creativity is dynamic interplay between the various and emerging forms of creativity (individual, group and organizational), creative use of resources (knowledge, human resources, objects etc.) and forms of organizing (temporary and emerging teams, crowds, participation, communities).

Improvisation and improvisational theatre

In literature improvisation is defined as a chosen and spontaneous activity that involve the creation of something while it is being performed (Miner et al. 1996, 3–4, Weick 1998) or as an action on which "composition and execution converge in time" (Moorman and Miner, 1998a; 698), "the spontaneous and creative process of attempting to achieve an objective in a new way" (Vera and Crossan, 2004), "conception of action as it unfolds drawing on available social, cognitive, affective and material resources" (Cunha et al., 1999). In general, improvisation constitutes of the following notions: (1) lack of preplanning, (2) simultaneity of thinking and doing, and (3) making do with whatever material is at hand (Cuhna et al. 1999; Johnstone, 1979; Spolin, 1977; Koppett, 2002), or "bricolage" (Levi-Strauss, 1966; Weick, 1993) or free play of resources (Styhre and Sundgren, 2008). Additionally, the improvisational theatre includes one more notion, namely (4) group ensemble (Johnstone, 1979; Spolin, 1977; Koppett, 2002).

In contrast, an improvisational theater is a collective form of improvisation, on which the group of improvisers performs without a script and director, under shared leadership, responsibility, mutual support and care. In improvised performance none of the actors can lead the course of performance nor can anyone know the outcome (Mirvis, 1998). In such an open-ended collective and dynamic play, the material for the play emerges from the group's intense play (Johnstone, 1979) and the events enacted build the world (Weick, 1993). Hence, the process and the outcome (performance) are inseparable. To act in an ensemble cast without a script and director differs from the habitual ways of performing, and therefore, the improvisation requires different orientation and capabilities from individuals than the scripted performance. Hence, improvisers consciously train improvisation. The training basically concerns exercising the preparedness for improvisation (Mirvis, 1998) and through practicing with paradoxes (rehearsed spontaneity, anxious confidence, collective individuality, planned serendipity) one can become prepared for the flow of unplanned events i.e. improvisation (Mirvis, 1998). In previous organization studies improvisational theatre training is associated with the development of individual

skills (Johnstone, 1997), building organisational culture (Crossan, 1998), fostering teamwork and team innovation (Vera & Crossan, 2005).

Linking creativity and improvisation

In literature improvisation and creativity are seen as parallel constructs (Miner, Bassoff & Moorman, 2001), and it is difficult to draw exact line between creativity and improvisation, because much of creativity is improvisation, and vice a versa. Fisher and Amabile (2009) link improvisation and creativity though construct improvisational creativity, where problem identification, idea generation and idea implementation happen simultaneously. Moreover, *"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, 2; Vera and Crossan, 2005). Deviating from familiar practices and knowledge (Moorman & Miner, 1998) improvisation radically triggers the creation of new. Especially, this is the case in collective improvisation, on which …*"the interaction among group members often becomes a more substantial source of creativity than the inner mental processes of one participating individual"* (Sawyer and DeZutter, 2009, 83). The improvisational performance is the result of a developing dynamic system that is built on constant co-orientation between the actors, the events and the environment.

The collective creativity and improvisation are likely when (a) activity is unpredictable (not scripted) and it has an open-ended outcome, (b) each individual can equally contribute on 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). Similarly, Gray (1989, 5) and Prins (2006) distinguishes the characteristics of emerging multiparty collaboration or collective constituting of the following conditions: 1) the stakeholders/participants of the domain are interdependent, 2) solutions emerge by dealing constructively with differences, 3) joint ownership of decision is involved, 4) stakeholders/participants feel collective responsibility for the future direction of the domain, 5) collaboration is an emergent process. In fact, *collective creativity is dynamic form of organizing*, where the goal, processes and interaction are (re)defined in interaction between participating members. It therefore acts as a model (both theoretical and practical) for dynamic and joint creativity i.e. creative organization. Indeed, creativity as a joint activity is basically open-ended achievement that needs a shift from conventional forms of organizing towards more emergent forms that are grounded by intrinsic interest of participating individuals, self-determined roles, interpersonal relationships, interdependence, self-organizing and shared or emerging leadership (e.g. Prins, 2006). In fact, these elements of dynamism outperform (at least temporally) the stable forms of organizing, and enable organization to take advantage of emerging opportunities in a situational manner.

In this study we explore the possibilities of improvisational theatre in fostering creativity and in achievements of an organization to gain towards creative organization. We assume, that improvisation is highly associated with adhocracy and dynamism that characterize the environment of an organizations. To face such environment requires new capabilities and increasingly creativity from all types of organizations, on which the approaches driven from improvisational theatre provide perspectives and practical tools for building such capabilities. First, the work processes are increasingly complex and grounded by flexibility, multi-partner participation, and improvisation (Kellogg et al., 2006), that demand original (unique), open-ended solutions rather than fixed and

predetermined ones. Second, the organizational resources are scarce, and thereby division of labor and roles is becoming increasingly dynamic and blurred and it is often conducted in temporary work teams. It thereby demands and enables the creative use knowledge and human resources. In the following we identify a set of actions of improvisation, through which notions the activity of an individual, team or organization can be recognized as improvisation.

Collective improvisation-in-action

Improvisation is a way of doing things and acting in an unplanned manner - on the spot as "improvisation-in-action" (Vera and Crossan, 2005). Hence, collective improvisation constitutes of the interrelated improvised actions of the interplaying individuals. To understand improvisation it is essential to identify the key actions that constitute improvisation, that also differentiate it from planned actions and behaviours.

The key notions of improvisation, such as 1) lack of preplanning and simultaneity of thinking and doing (composing and playing), 2) making do with whatever material is at hand (Cuhna et al. 1999; Johnstone, 1979; Spolin, 1977; Koppett, 2002), or "bricolage" (Levi-Strauss, 1966; Weick, 1993) or free play of resources (Styhre and Sundgren, 2009) and 3) group ensemble (Johnstone, 1979; Spolin, 1977; Koppett, 2002) constitute of behavioral sets of actions, that are interconnected to one another, albeit in in complex and emerging manner. The following table displays the key characteristics and actions of improvisation and the corresponding characteristics in improvisational theatre. In addition, the table displays the enablers and possible returns of these actions for organizational behavior.

Table 1: The elements and actions of collective improvisation

	Characteristic of improvisation	In improvisational theatre	Enabled by	Enables
1.	LACK OF PREPLANNING – playing spontaneously (on the spot)	Without script – playing on the spot	Rely on abilities of an improviser to act in a "world" that is changing (is built by the participating members).	Rapid and agile response, give-up plans when they are no more relevant, experimentation (making experiments)
	Thinking and doing simultaneously	Responding or contributing on the events intuitively Experiencing	Rely on abilities of an improviser to follow the course of the performance and to contribute on it	Emergence of a unique performance and course of story, that arises from people playing together. Emergence of tacit knowledge.
2.	FREE PLAY OF "RESOURCES" - *bricolage*	The use of imagination, intuition, voices, smells, objects, as a source for their activity and contribution	Rely on insights and creativity of an improviser to use "whatever at hand" in a creative manner	Creative use of resources (knowledge, objects, materials)
3.	COLLECTIVE IMPROVISATION - GROUP ENSEMBLE	Group playing like an "organism"	Interconnectedness, interdependence and interplay of improvisers	Unique performance and creative synthesis of interplaying individuals
	Shared leadership	Taking the lead and giving the lead according to situation	Rely on shared and collective responsibility of improvisers Mutual trust	Participation and engagement of actors on the course of performance Collective "ownership"
	Mutual support and care	Help asking and help giving – mutual support	Rely on alertness and goodwill of improvises Mutual trust	Free atmosphere Space for creativity (contributions)

Drive the performance forward	Contribute on the emerging events	Common interest (improvising)	Chain of contributions that build a common story or performance (creative and novel outcome)
	Do not kill the contributions of the others	Shared responsibility	
		Individual confidence (self- efficacy)	
		Mutual trust	
Building one on another…	"agree, accept and add"	Rely on ability of improvisers to listen and hear the contributions of the others, and to accept ideas of others and build on them	Unique and inspiring course of performance
			Emergence of tacit knowledge and hidden abilities
		Rely on ability of an improviser to let go (give up one's own story)	
Free imagination	Trust on one's intuition (do not criticize/kill/judge your own thoughts)	Imagination, Individual confidence (self-efficacy)	Openness Creative wanderings of thoughts

Methodology

The paper adopts a qualitative research approach to explore how the art based initiatives and especially imporivsation are related in enhancing creative organization. Practice is defined as habitual action "the habitual doing or carrying out of something" (Oxford English on-line dictionary). In practice theory concept practice is understood as a sets of behavioural actions that characterize the social practices of work life (e.g. Schatziki 1996, Reckwitz, 2002), and more specifically, the social life constitutes of multidimensional complicated and interlinked practices (Schatziki, 1996). Consequently, collective improvisation can be seen to constitute of sets of behavioural actions that are charateristic for improvisation. First, the case Spinach describes the use of improvisational theatre initiatives in the creative company. Second, the case SENSEable City illustrates the highly dynamic, open, and thus, improvisational conditions that on the one hand provides opportunities for individuals to contribute, but on the other hand challenge their previous expectations and behaviours of collaboration.

Data collection

The qualitative data was collected through multiple ways. In the case of Spinach the data was collected via in-depth interviews. Altogether x interviews were conducted in 20xx - 2015. In the case of SENSEable City Lab, the data was produced through a combination of archival research, ethnographic methods and a set of semi-structured interviews. The SENSEable City Lab's website constitutes the main instrument that the lab uses to archive and showcase their work. This website was used as a main archival source to collect numerical data related to projects and team members related to each project. This data provided some background information, which was complemented through ethnographic observations conducted by one the authors in 2011 in Cambridge MA (USA). The daily activities of SENSEable City Lab have been followed for a period of 4 months (from February to May 2011), interacting with the labs' members, both at workplace and during face-to-face conversations. The findings reported here draw upon data collected through direct and participant observation, unstructured conversations, email exchanges with labs' members. Archival and ethnographic data have been complemented with 10 semi-structured interviews with some of the labs' members, project leaders and directors, conducted in 2011 and with

some follow-up conversations in 2014. Field source data mainly consisted of photographs, sketches and to a lesser extent of a collection of artifacts. This source data was edited and organized in a single profile document, photographs were positioned in sequence with relative caption (data, caption). Notes from direct observation were placed in a loose thematic narrative structure. Photographs were organized accordingly to coincide with this narrative. All this resulted in a concise textual and visual documentation of all source data. This source data was then elaborated to write the draft of the final report.

Case Spinach

Spinach is a research marketing company located in London. Creativity is essentially embedded into company; the company consciously utilizes various kinds of art based initiatives and the use art forms is fully integrated in the organisational context and workplace. The ultimate objective is to make them a characteristic of Spinach's *modus operandi,* and to make sure they are absorbed into the organisation's business model, management philosophy as well as on the day-to-day working life. In this case we focus on the one form of art based initiatives, namely on the utilization in improvisational theatre based initiatives in Spinach.

Findings

Two main goals in using art based initiatives can be identified in Spinach. First, they are used in identifying and solving specific business problems, such as creating presentation of a marketing research to important clients or in designing a creative approach to start a marketing investigation. Second, they are utilized in building a specific atmosphere and culture in the organization to emphasize the aesthetic experiences, and to shape aesthetic properties of tangible and intangible organisational assets. Such a culture affect the day-to-day business activities, creating an ideal space and atmosphere where employees can find emotive and energetic refreshment able to simply help them to feel better, or to inspire them to find creative solutions or different approaches to the tasks they are dealing with.

Creativity and strategic objectives of the company

Creativity through the art based initiatives (including improvisation theatre based initiatives) is considered a key dimension of the value creation capacity of the organisation. The arts-based strategic management actions implemented by Spinach fundamentally respond to the artful organisational development strategic approach. The alignment of arts-based management actions with strategic objectives and business performance targets is assured by strategic meetings between Spinach's top management and the Creativity Director, in which the strategic intents of ABIs are outlined on the basis of a discussion of the management and business challenges to be faced. The *experiential days* held 'off-site' are regular activities in the company and they are planned in advance with Spinach's top management and the Creativity Director. The purpose of these days is to bring the team together and work on particular issues and/or needs that it is felt the company needs, both on an individual and an organisational level. These days involve working with arts-based practices and processes to highlight, explore and experience new and different ways of dealing with organisational needs and issues, and it also guarantees that creativity and business become consciously interwoven. Indeed, the aim is to create and maintain organisation climate in which people are continually engaged to reflect on what they do, recognising the importance of their actions for the creation of sustainable value. In this regard Tom Conway, Spinach's CEO, states that art based initiatives "*make people wonder 'why do we dedicate time and resources to experiential activities, rather than simply chase after business which is what basically pays our salaries?' Questions like this one move people to see*

their job and their organisation differently and most importantly to develop a better awareness of themselves, of the organisation and of the world around them".

Enhancing and developing company's creative capability

The key characteristics of creative company is the continuous renewal, and activities to address all the organisational value drivers. For Spinach creativity and the meaning of the arts in the organisation is to create a continuous creative tension that permits the development of what they label as the 'right side of the brain', that is the emotive and energetic dimensions of the organisation, in order to foster adaptability, imagination, creativity and intuition. Hence, the art based activities are adopted focusing on people, on infrastructure, and on continuous renovation and evolution of the organisation.

The art based activities

All the possible working mechanisms of art based initiatives from making artworks to improvisational theatre exercises are basically leveraged. Hence, both artistic products and processes are adopted to participate employees on company's creative achievements and continuous renewal. First, employees have possibility to attend artworks and to involve in 'making aesthetic artefacts' in order to explore their deep understanding of the business challenges and problems to be faced, or simply just to express their feeling about themselves in the organisation. This catalyses aesthetic experiences and generally has an impact on people's emotions and energy. Second, employees can be involved in 'artful creation'. In this case employees are engaged in an art making process aimed at awakening their passion and commitment for what they do. Finally, art based initiatives are also used in order to make possible the 'absorption of the artistry' in order to improve business processes. This means that the art making process is analysed as a role model with the aim of extracting insights to be incorporated in daily work activities such as for example how to manage time and space when performing a creative investigation or when it is necessary to find inspiration and exercise imagination. The key principle in assuring that employees are continuously exposed to new art expressions and can be stimulated by new emotional and energetic experiences is that art based activities change over the time and involve different artists.

Case SENSEable City Lab

SENSEable City Lab is a research initiative at the Massachusetts Institute of Technology and whose headquarters are located in Cambridge MA. SENSEable City Lab generates hybrid work, situated at the borders of architectural practice, urban informatics and interaction design. MIT SENSEable City Lab's projects span from architectural interventions, such as *The Cloud*, a responsive building for the city of London, to innovative product design, such as *The Copenhagen Wheel*, an interactive system that transforms ordinary bicycles into hybrid sensors/actuators that provide feedback on pollution, traffic congestion and road conditions in real-time[1].

The lab follows flexible engagement processes: hundreds of people have collaborated with SENSEable City Lab's projects over time, some of them for longer periods while others only for a limited period of time (even for merely a few weeks); some of the members live in Cambridge and have a specific (or exclusive) engagement with the lab, some others collaborate on a part-time basis, maintaining their affiliations with other MIT departments, other

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[1] For a more detailed description of the projects: http://senseable.mit.edu/ accessed 25 November 2013.

research centers or come from the industry or government bodies. In the past 10 years, more than 400 people collaborated with SENSEable City Lab on more than 90 projects and representing more than 60 different disciplines beside architecture, computer science and urban studies (e.g., theology, game programming, Russian studies, medieval studies, sport, music, space science, Asian arts, etc.).

Findings

Dealing with dualities - SENSEable City Lab as a networked entity

In the winter and spring of 2011, about 20 people were working with the lab in Cambridge on a daily basis, but dozens more were collaborating from other locations or countries, since the lab had ongoing projects in Europe, Singapore, Brazil, the Middle East, Japan and several cities in the US. This wide geographic reach is a key component of SENSEable City Lab. To follow these projects and to explore new opportunities the lab senior members travel quite frequently. The lab is then articulated as a vast network of connections, headquartered in Cambridge and spread across other key (temporary) geographic locations around the world.

The atmosphere you can breathe at the headquarters in Cambridge slightly reminds of the playful, sometimes disrespectful attitude you can find in the most important creative firms as already described in literature (Kelley and Littman 2005; Brown 2009). Casual dressing, post-it notes hung all over the lab, a kind of chaotic and spontaneous organization of the space are common characteristics for creative organizations. What seems particularly distinctive for SENSEable City Lab is the combination of these qualities with the scientific environment (and the rigor) demanded by an institution housed within MIT. Transdisciplinarity also plays a role in shaping this strange blend of the underlying iconoclastic attitude and the demanding pressure to achieving scientific results. Graphic designers work along with computer scientists, mechanical engineers, architects and researchers coming from dozens other disciplines and this continuous amalgamation of different disciplines and points of view favor a culture that encourages openness and rule-breaking behavior. An attitude to shift paradigms and accept risk and exploration is required when you get in touch with the radical diversity on a daily basis.

An organizing of SENSEable City Lab

SENSEable City Lab is not structured as a bureaucratic pyramid with a traditional vertical reporting system. Small teams are the key elements of a more flexible organizational order. Each team is in charge of one or more projects. Some of the projects have a pre-set outcome and a clearly specified deadline. Others start as ideas that get shaped along the way and therefore are initially oriented towards less defined outcomes. Projects' lifetimes span from few weeks (e.g. the preparation for a TED talk) to several months or years (e.g. *The Copenhagen Wheel*, *Live Singapore!*). The number of members per team varies from few people for smaller projects (e.g. *The wireless city*, *Spacebook*, *GEOblog*) to several dozens (e.g. the *Digital Water Pavilion*, *TrashTrack*).

Teams are usually managed by a team leader. This is not a rule that applies to all the projects, though bigger projects tend to have a project leader. Team leaders are generally not professionals specifically trained in project management techniques, but members of the lab who have knowledge and competencies for the task. Since some projects have a longer lifespan, there are cases where different project leaders have been in charge during different phases of the project. Teams are usually started and initially shaped by lab's senior members, but the distribution of roles is flexible: throughout the period of the ethnographic observation, several new projects were introduced

to the lab's members at the Tuesday lunch meetings and people were invited to nominate themselves if they thought that they could contribute to them. Team members can contribute to multiple projects simultaneously.

Although there are some management roles that are transversal to the entire group, teams are usually the key units for managing all these projects. A vertical organizational chart would probably be too rigid to respond to complex problems that need to be addressed with different, specific strategies and competences. Teams can be easily configured or reshuffled to quickly respond to opportunity-based changes (Malone, Laubacher, and Morton 2003). Within this kind of radically decentralized organization, power originates at lower structures and each team moves within their own sphere of independence. A network of authority and control based on knowledge of the task replaces the traditional hierarchical structure. Within the team, tasks and responsibilities are distributed depending on the available personal expertise and the operational context. Mutual adjustment and redefinition of tasks are common within and across team; "The issue is not who or what position will take care of the problem, but what energy, skill, influence, and wisdom are available to contribute to the solution" (Wheatley 2006, 124). Hence, the organizing in SENSEable Lab is grounded by free play of resources.

Within this organizational domain the role of the lab's directors is crucial. The scale is one of the biggest challenges for a two-layered horizontal organizational structure. In SENSEable City Lab the number and the dimension of projects continue to increase over time and this multiplies the amount of messages and feedbacks requested to the directors from the teams and the team leaders. Some senior members of the lab at times act as a kind of liaison between the two directors and some teams showing a potential additional vertical articulation of the lab (a third vertical layer). The organizational structure therefore literally emerges from the interweaving of processes carried out by these distributed teams. A complex – and at times paradoxical - horizontal and vertical integration is constantly reshaped as a relational configuration drawn together by the internal connectedness and emergent behaviors.

Order is not imposed from the top down but appears as teams work together responding to internal and external changes. Again, the relatively low formalization seems to be a necessary element to allow the organizational system to perform in a flexible way. The team leaders and the team members are granted independence and autonomy and therefore the coordination mechanisms have to be loose enough to allow them to operate within their discretionary margins.

Membership within the lab and among the teams is extremely fluid. Short and part-time engagements with flexible roles over time are rather common. The lab's current members reflect a combination of academic and professional competences. Some people collaborate at a distance, while others from the lab in Cambridge. Some lab's members are directly funded by MIT, some other ones from external sponsors (e.g., private companies such as GE or Audi) or institutions (e.g., visiting researchers from other universities), whilst some others decide to contribute to projects without getting a compensation. In this latter case, team members generally get rewarded being credited as team members and getting a formal affiliation with MIT.

Discussion and conclusions

This study explored in a light of two cases the enhancing the creative organization through art based practices of improvisation and improvisational theater. Creativity is understood here not only related with the outcomes of the organization (novel products or services), but more and more related with the behaviors, processes, use of resources, in organizing for creativity., and in ways and capabilities to achieve novel outcomes. The cases provide insights on the highly dynamic context and form of organizing the open forum for various emerging novelty-aiming achievements and projects. In addition the cases provide insights on creative company that integrates creativity through various art based initiatives and practices on its strategic management and goals.

In addition to aiming to creative outcomes, the key characteristics of creative organization is the continuous renewal and conscious reflection of its own operation and strategies throughout the organization. In case Spinach creativity was essentially embed into company's strategy and it was consciously reshaped by involving the whole personnel into questioning and development activities through the various art based practices and initiatives. Especially, improvisational theatre based practices were used in enhancing creative processes. Hence, both the continuous change and development are nurtured by the implementation of the art based practices into organizational day-to-day life. In addition these initiatives are used in achieving and solving business problems as well. This perspective is fundamental in developing and maintaining the creative capabilities of the company.

The c fact, various temporary constellations, such as temporary teams, (Bakker et al., 2010), virtual teams (Lipnac & Stamps, 2000), emerging communities (Wenger and Snyder, 2000), use of crowds (Kittur et al., 2013; Brabham 2008a), and various short-term innovation competitions (Füeller, Hutter and Faullant, 2011) and camps have arisen to complement the conventional forms of organizing. Common for these forms are that they enable the utilization of knowledge, expertise and creativity of the multiple actors in contextual, situational and fast-based manner. These forms rely more on capabilities (e.g. Volberda, 1996), interconnectedness, horizontal collaboration (Barley 1996; Kelloway et al, 2006) and increasingly on interpersonal relationships (Bechky, 2006, Prins, 2009) than on hierarchy, routines, rules and roles. Moreover, the distributed and collective task division and allocation, self-selection, high-level of intrinsic motivation of the participants, and rich real-time information and knowledge sharing (Puranam et al. 2014; Kellogg et al., 2006). Improvisation and improvisationalt

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