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Defining leadership that fosters creativity in virtual work

– Descriptive interpretative concept analysis

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Tiivistelmä

Virtuaalityön johtajilla on iso haaste valjastaa organisaatioiden sisällä ja organisaatio-, maantieteellisten ja teknologisten rajojen ulkopuolella toimivien ihmisten yhteinen luovuus arvon tuottamiseen arvoketjuissa. Tämän artikkelin tarkoituksena on kuvailevan tulkitsevan käsiteanalyysin ja induktiivisen epistemologisen lähestymistavan avulla määritellä johtaminen, joka edistää luovuutta virtuaalityössä. Analyysin tuloksena on kartta virtuaalisuuden, luovuuden, transformaalisen johtamisen, tunneälyjohtamisen ja kompleksisen johtamisen käsitteiden keskinäisistä yhteyk-

sistä. Tulosten perusteella luovaa virtuaalista yhteistyötä edistävässä johtamisessa virtuaalisuus, luovuus ja ihmisten väliset tilat ja suhteet on ymmärrettävä laajasti. Analyysi antaa viitteitä myös teoreettisesta pluralismista eli usean teoreettisen viitekehyksen käytön hyödyllisyydestä virtuaalityön johtamisen teorian kehittämisessä sekä tarjoaa ajatuksia uusien käsitteiden luomiseen ja organisaatioiden kestävän kehityksen johtamisen kehittämiseen.

Avainsanat: *luovuus, virtuaalisuus, virtuaalityö, johtaminen, transformaalinen johtaminen, tunneälyjohtaminen, kompleksinen johtaminen, teoreettinen pluralismi*

Abstract

Tapping common creativity of people inside and outside organizational, geographical and technological boundaries is a big challenge for leaders in virtual work to add value in value chains. The object of this article is – through the descriptive interpretative concept analysis and inductive epistemological approach – to define leadership that fosters creativity in virtual work. The outcome is a map of mutual connections of the concepts of virtuality, creativity and transformational, emotional and complexity leadership. The findings suggest that effective leadership in virtual work requires broad understanding of virtuality and creativity and spaces and relations between people. The analysis indicates benefits from integral theoretical pluralism, i.e. from utilizing several theoretical approaches in developing leadership theory for virtuality at work, and offers thoughts for creating new concepts and developing leadership towards sustainability in organizations.

Keywords: *creativity, virtuality, virtual work, leadership, transformational leadership, emotional leadership, complexity leadership, theoretical pluralism*

Introduction

Creativity is a strategic challenge in the global business environment where people communicate through virtual tools connecting social, organizational and personal realities. Fast developing information and communication technologies (ICT) challenge leaders to inspire virtual workforce for open interaction and foster creativity in virtual work. Key issues in these endeavours are 1) how to articulate broad business challenges to virtual workforce as inspiring personal tasks and directions and paths for professional growth, and 2) how to highlight the know-how and the creativity of the people and to create equal opportunities for influencing and providing value for all? To exemplify, for tapping both enthusiasm and experience of different people in virtual work leaders need to learn to respect remote expertise, listen to people, learn from mistakes, operate consistently and use virtual tools skillfully. Success enhances both personal and communal professional growth, productivity and competitiveness.

This article challenges the notion that the same conceptual framework leaders use for leading face-to-face followers can be used for virtual workforce as well. Virtual work creates special demands for leaders related to digital humanities (Svensson, 2012) to understand human consciousness and spaces between people (Ricœur, 1991), to support collab-

orative and processual work practices, create ongoing, cross-sectional dialogue process, and respect and emphasize initiative, individual creativity and passion for work (e.g. Hamel & Breen, 2007; Juuti, 2010b). Moreover, present-day leadership in virtual work is challenged by complexity and uncertainty, continuous emergence dynamic through relationships between people and informal communities, ethics, and managing leaders' own human capital (Lane & Down, 2010; Snowden, 2002; Sutinen, 2012, 27-28; Uhl-Bien, Marion & McKelvey, 2007). Simultaneously, virtual work is present 24 hours a day, 7 days a week, which can lead to problems in managing work-life balance. Research in management and leadership in virtual work has found technology, trust, relationship building, diversity and communication to contribute to virtual work effectiveness (e.g. Quisenberry, 2011, 78; Panteli & Tucker, 2009). On the other hand, ICT can enable easy mutual communication and utilization of communal creativity (e.g. Alasoini, 2010, 52). However, not enough is understood of the potential effects of advanced information technologies on the leadership dynamic in or outside organizations, as well as how leadership appropriates these technologies faithfully or unfaithfully (Avolio, Sosik, Kahai & Baker, 2014).

According to my ontological commitment to leadership, traditional managerial view of leadership is moving towards heterarchy (e.g. Spelthann & Haunschild, 2011, 102), in which an organization is regarded as a multi-layered entity with overlaps, rivalry and loose, hidden inconsistent parts maintaining creative organizing. In addition, leadership is regarded as an enabler of interaction, meaning of work, inspiration and creativity in heterarchy. Virtual collaborative work contexts question the traditional leadership thinking, which has its roots in objectivist ontology and positivist epistemology, according to which outside reality operates apart from people's conceptions and beliefs about it (e.g. Houglum, 2012, 26).

Conceptual analysis and consideration in the meta level are necessary before discovering possible principles in leadership processes that foster creativity in virtual work and the outputs of such leadership. I argue that leadership that fosters creativity in virtual work needs to be defined for future research and business development purposes. This article deals with the following questions:

(1) How are the concepts virtual work, creativity and leadership connected to each other in research literature?
(2) How does one define leadership that fosters creativity in virtual work?

Before entering into the concept analysis in detail, the methodological choices will be discussed.

Methodology

Takala's and Lämsä's (2001) descriptive interpretative concept analysis offers a method to enhance and to understand a concept by focusing on interpreting definitions that are given in different sources and relating the concepts to each other (Nuopponen 2010). Takala and Lämsä (2001, 385-386) have divided the interpretative concept analysis into four different types: 1) a heuristical interpretative concept analy-

sis, where the chosen theoretical perspective directs interpretation broadly, 2) a theory-following interpretative concept analysis starting from the theoretical perspective, 3) a descriptive interpretative concept analysis aiming at enhancing understanding of the concept, and 4) a critical interpretative concept analysis, which aims for revealing how the meanings of the concept are defined by ideology and power relations. This concept analysis is a descriptive interpretative concept analysis with the important presumption to understand description of the concepts without any critical objectives connected in the interpretation. In general, interpretative analysis goes deeper into the concepts than a descriptive analysis, because it both describes the concepts and their use and also tries to find out the reasoning behind the conceptual structures of the field (Nuopponen 2010). Takala's and Lämsä's (2001) descriptive interpretative concept analysis aims is to find the entirety of the meanings and possible changed meanings and to describe and to interpret that entirety, and to form holistic idea of the concepts.

In an interpretative concept analysis concepts, the definitions and the meanings included in the concepts and in the definitions are studied and interpreted following the principles of the hermeneutic cycle (Takala & Lämsä 2001, 386). The data in the interpretative concept analysis is literal source material which is coherent and reliable relative to the research problem. The essential criteria in the choice are the research objective and the way the research topic is outlined. The subjects of interpretation are the definitions of the concept by other writers and theorists. It is especially the contextuality that defines the meaning (Takala & Lämsa 2001, 382-387; Wilson 1969, 58). This requires to understand the phenomenon from the history, current practices and from the immediate concepts by comparing them with each other. Clarifying the connection between the concept and institutional practices is especially important in exploring new concepts and the development of their meanings. Contextuality and thematics by a certain theoretical approach set the interpretative concept analysis apart from the traditional concept analysis (e.g. Näsi 1980). The significance of the theoretical approach is approximate but not strictly binding (Takala & Lämsä, 2001, 381). Source criticism is significant in the interpretative concept analysis focusing on the theoretical perspective, the quality of the references used, and the references by which the concepts are chosen as subjects of interpretation (Takala & Lämsä, 2001).

In general, interpretative analysis goes deeper into the concepts than a descriptive analysis.

The data of this study consists of definitions of the concepts of virtuality, creativity and leadership, and their related concepts in the central research texts (journal articles, books etc.) from the recent years. The data was searched using database searches and the so-called snowball method, which in qualitative research advances according to references until saturation. Database searches were conducted from Finnish and internation-

al education, business economics and information sciences databases using e.g. EBSCO, Elektra, SAGE Journals Online, Emerald, ScienceDirect and PsycINFO. In total, 101 papers were studied. This material was analyzed and synthetized using descriptive interpretative concept analysis as a research method (Takala & Lämsä 2001). The texts have been critically chosen, the quality of the references have been used - especially of those references on the strength of which the combined concepts are chosen as subjects of interpretation. The understanding has proceeded according to the principles of a hermeneutic circle.

Such emerging themes as complexity, emotionality and transformational leadership gelled during the data collection. Complexity featured in 15 %, emotionality in 26 % and transformational leadership in 11 % of all the 101 papers studied. Complexity derives from the ontological commitment to leadership of this study, heterarchy, which has roots in complex adaptive system (CAS) theory (e.g. Holland 2006). Heterarchies are viewed as complex adaptive systems interweaving a multiplicity of organizing principles and involving relations of interdependence. Virtual work is characterized by complex adaptive systems including evolutionary interaction, interdependent agents with a common outlook and capable of creative problem solving (Uhl-Bien et al. 2007). Secondly, emotions are included in virtual work interactions with different time zones, places and organizations and meanings of virtuality. Feelings and the expressions of emotions shape virtual relations and the meanings of virtual work (Sieben 2007, 565), and group emotions influence outcomes of virtual teams (Barsade & Gibson, 2012), which calls for the importance to study emotions in virtual work. Taking account of emotionality can create a better premise for leaders to interact with people and inspire them in virtual work. As for transformational leadership (e.g. Burns 1978, 20), it derives from the need in this study to base on such a leadership approach that supports followers' creativity and provides conditions for improving organizational and individual performance.

In shaping a reflective mental structure for leadership that fosters creativity in virtual work contexts, I begin by analyzing the key and related concepts, suggesting a holistic idea of their connections to each other. Finally, I propose a definition for effective leadership in virtual work contexts and discuss the results in general.

Interpretation of the key and related concepts and their connections to each other

Virtuality and leadership

The concept of virtuality is interpreted related to work contexts, which have changed from traditional face-to-face contexts along the development of ICT. Virtuality is multidimensional: it can refer to people working isolated and dispersed through ICT as well as whole networks of companies with customers, users and suppliers working together. Silence and breaks of communication have been regarded important in understanding virtual interactions (Panteli & Fineman, 2005, 351).

Management and organizational literature mostly regard virtuality as an exten-

Virtuality is mainly understood as a team characteristic.

sion of traditional physical and structural working model utilizing ICT. However, virtuality can be a new and emerging entity (Panteli & Chiasson, 2008, 5). Virtuality and virtual work settings include interactions between people of different nationalities working at different geographic locations, often in different time zones. Communication in these settings is mainly computer-mediated, but face-to face interactions occur as well. Virtual work includes dynamic structural arrangements (Zimmermann, Wit & Gill, 2008; Gibson & Gibbs, 2006, 455). Virtual contexts are also unbonded and non-linear with free movement, enabling flexibility, fluidity and creativity and opportunities to lead to improvements in the innovation process (Panteli & Chiasson, 2008, 6; Gibson & Gibbs, 2006, 487).

Technological and social change revises how we understand virtuality, its roles in organizations and its future perspectives. Also cultural, geographical and technological characteristics have an influence on virtuality. Virtuality can be understood as a part of a social and conceptual network not only dictated by ICT but also requiring both micro and macro-level analysis within and beyond organizations (Panteli & Chiasson, 2008, 6-7). In micro-level, young digital natives and older people understand virtuality differently. Virtuality within organizations takes place within an organizational context at both intra- and inter-organizational spaces, while virtuality beyond organizations covers wider virtual spaces, communities and networks (Panteli & Chiasson, 2008, 8-10; Panteli, 2009, 2).

Virtuality is mainly understood as a team characteristic, and its definition is based on discontinuities. Discontinuities reflect problems of interaction, because more effort is needed in order to accomplish a task using virtual tools (Chudoba & Watson-Manheim, 2008). However, virtuality can be regarded as a novel organizational form with operations organized virtually, along with virtual teams, at the level of the whole organization or in dispersed networks (e.g. Noori & Lee, 2009, 40). According to Parjanen (2012, 73-74), virtuality as a novel organizational form changes practices, tools and processes, such as innovation activities in organizations.

The previous conception of virtuality as a team characteristic has been questioned in hybrid teams, where face-to-face interaction is mixed with technology-mediated interaction and in inter-team working in which people work at the same time with multiple tasks in multiple teams using technology-mediated communications (Dixon & Panteli, 2010). As technology-mediated interaction rather complements face-to-face interaction than substitutes it, Dixon and Panteli (2010) have defined virtuality based on continuities instead of discontinuities. They suggest that virtual continuities emerge within the team using both face-to-face and technology-mediated communication to mitigate the perceived effects of boundaries between the two means of communication. The con-

cept of virtuality in teams "includes virtual continuities and their mitigating effects on discontinuities that pre-exist in teams as well as those that can develop as a result of a team's task, membership and temporal boundaries" (Dixon & Panteli, 2010, p. 1194). The new definition can be a basis for future research concerning the dynamics in teams mixing face-to-face and technology-mediated interaction and in multi-teaming contexts.

Collaboration in virtual teams has been studied since the 1990's. Virtual teams include a group of geographically dispersed individuals working together during on a specific joint project or common task communicating mainly electronically (e.g. Jarvenpaa & Leidner, 1999). Research has indicated the importance of trust for enabling people to work together in virtual work contexts and the lack of face-to-face interaction causing decrease in productivity in truly virtual teams (e.g. Panteli & Chiasson, 2008,7; Parjanen, 2012, 74). According to Parjanen (2012, 74), virtual co-creation in virtual networks supports the participation of previously unavailable expertise into the creation of innovations. Virtual social networks, in general, represent virtual places where people can interact socially and also use them for innovative solutions (e.g. Panteli, 2009) .

Leadership can be regarded as a social interaction process (e.g. Lord & Smith, 1999, 195; Beairsto & Ruohotie 2003, 138). Most leadership scholars define leadership as a active process of influencing, motivating and inspiring people for finding new possibilities and achieving their potential and for reaching the goals (e. g. Viitala, 2002, 31; Searle and Hanrahan, 2011). Leadership also serves a balancing function to continuous change, strategic goals, renewal and the emotional and motivational processes of people. According to Beairsto (2003, 37), management and leadership are needed simultaneously, because management gives directions and leadership invites dialogue and focuses on people by paying attention to relationships and aiming to invite people's creative commitment. Recently, the importance of dialogue and dialogic leadership has been highlighted (e.g. Juuti 2010a).

Leadership can be regarded as a social interaction process.

Previous research on leadership in virtual work mainly focuses on leadership in virtual teams. Team leaders in virtual work contexts are challenged to adjust their leadership styles to meet the needs of virtual teams. ASTD (American Society for Training & Development) Forum's Virtual Leadership Survey in 2012 survey indicated that the most different critical skills in leading a virtual environment include the ability to use process facilitation skills for meeting, monitor team progress over time, balance work and life based on 24/7 accessibility, and establish and maintain trust in a diverse environment with multiple cultures (Bergiel, Bergiel & Balsmeier, 2008, 105; Dennis, 2013).

To sum up, exploring virtuality has expanded from virtual individual remote

work contexts to virtual teams, organizations and networks also in contexts mixing face-to-face together with computer-mediated interactions. Virtuality can be regarded also as a novel organizational form and virtual co-creation important for innovations. Leadership as a social process in a virtual environment requires process facilitation skills, monitoring team progress, balancing work and life and establishing and maintaining trust between different actors.

Creativity and leadership

This article focuses on creativity and collective creativity in organizational contexts and contribution of leadership to creativity at work. In previous research creativity has been connected to (1) to the process of generating something novel and useful (e.g. Amabile, 1988, 126), and (2) both individuals and groups. It is commonly understood that creativity needs time to arise (e.g. Uusikylä, 2012).

One of the most popular theories on creativity, the componential theory, was developed by Amabile (1983) with three components influencing creativity: (1) domain-relevant skills and expertise, (2) creativity-related thinking relating to cognitive and personality processes conductive to novel thinking and (3) task motivation − specifically, the intrinsic motivation to engage in the interesting, enjoyable and personally challenging activity. Creativity can arise when all the components are present. Amabile (1988) has extended her theory to cover teams and organizations. In recent years, she has emphasized the power of progress as the top motivator of performance (Amabile & Kramer, 2010). According to Amabile's & Kramer's (2010) analysis, employees with positive emotions and high motivation have more frequently associated making progress than any other workday event. However, Amabile's theory focuses only on inside organizations without including outside forces, such as consumer preferences and economic fluctuations (Amabile, 2013).

Creativity touches all disciplines in the society. Broadly, creativity can be defined as an attitude towards life, a problem-solving ability or artistic activity (Välikangas & Välikangas, 2004). European Commission's publication The Impact of Culture on Creativity (2009) summarizes the scientific definitions of creativity in the psychological and the contextualists' approach and the multi-disciplinary perspectives: creativity is "a cognitive process which is triggered by motivation and interest in the new and which has no intrinsic link to the ability to score highly in intelligence tests for example; not genetic; usually the result of long periods of hard work and the acquisition of knowledge; a spontaneity requires a fertile ground; usually related to a specific field of activity; requires an audience assessment and is subject to cultural constraints (the social process) or subject to industrial constraints (in many of the creative industries)" (p. 169).

Creativity can be understood a process originating from personal pre-disposition and a hospitable social context and producing novel and useful outputs. It is a multidisciplinary concept meaning different things to different people and expressed in different ways. Especially in virtual work contexts, it is vital to understand creativity between people in organizations and be able to combine single

persons' creativity with the groups' collective creativity to energize all possible potential for innovations (e.g. DeZutter & Sawyer, 2010, 240).

Collective creativity (co-creativity) occurs in a social context, in which many people collaborate with each other and engage in verbal and nonverbal interaction. In collective creativity many people with different perspectives and experiences focus on a dialogue of a common concern, question the common challenge and create novel and useful ideas and solutions together. Interaction of individual creative skills, team dynamics and organizational solutions create collective outputs (Bissola & Imperatori, 2011; DeZutter & Sawyer, 2010, 229; Parjanen 2012, 55-61; Hargadon & Bechky, 2006). Employee's exchanges especially with their work group, and to a lesser extent with their supervisor, influence on the creative performance (Muñoz-Doyague & Nieto, 2012). In addition, creative collaboration helps in handling with tensions. The study among teacher students showed that the most important obstacles to collective creativity are emotionally unsure and negative climate and unequal power relations including tensions (Eteläpelto, 2009).

Mihaly Csikszentmihalyi (e.g. 1999; 2003) uses his theory of flow and a system model of creativity to explain the creative process and to improve understanding of what leads to creative moments. The flow experiences are connected to the significance of emotional motives for performance and bringing happiness and enjoyment from pleasure, testing the boundaries and experienced the unexpected. Often they occur in situations when a person voluntarily stresses herself to extreme limits (Korpelainen, 2005, 55). Csikszentmihalyi explains collective creativity consisting of three components: individual, knowledge domains and a field of informed experts. For creativity to occur, a set of rules and practices must be transmitted from the domain to the individual, the individual then produces a novel variation in the content of the domain, and the field then selects the variation for inclusion in the domain (Csikszentmihalyi, 1999).

For creativity to occur, a set of rules and practises must be transmitted from the domain to the individual.

Organizational creativity means the creation of a valuable, useful and new product, service, idea, procedure or process by people working in a complex social system (Woodman, Sawyer & Griffin, 1993). Creative outcomes originate from the complex combination of individual, group and organizational characteristics and behaviors, and an organization can implement some of them in the future. Organizational creativity is a function of group creativity and contextual influences (Schepers & van den Berg, 2007; Parjanen, 2012, 43). Important components for organizational creativity are a relaxing environment, where freedom, security and control are deeply experienced, supporting organization's structural and leadership solutions, resources and skills and organization culture (e.g. Andriopoulos, 2001;

Kallio & Kallio, 2011; Martens, 2011). These components are related to each other. These findings are consistent with the 13-factor growth-oriented atmosphere model by Nokelainen & Ruohotie (2009, 47).

Leaders and managers can enhance their followers' intrinsic motivation and creativity, for example, by paying attention to work environments, encouraging collaboration, mapping the phases of creative work and providing paths through bureaucracy and ways for passion at work (Amabile, Conti, Coon, Lazenby & Herron, 1996; Amabile & Khaire, 2008). Ways to support creativity in work communities include also interesting and challenging work, freedom, permission to fail, enough time, constructive debates and conflicts originating from contradictions from views, rewards, affect and small wins (Amabile, Barsade, Mueller & Staw, 2005; Korpelainen, 2005, 52-54; Uusikylä, 2012, 188-189; Amabile & Kramer, 2010). Leaders can also use virtual environments to foster collaboration and creativity in their own domains for example by creating their own social media environments for interaction and conversation (Peppler & Solomou, 2011).

Transformational leaders, in general, have been characterized by idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (e.g. Burns 1978, 20; Bass & Avolio 1993, 112; Agin & Gibson 2010). Warrick (2011) has emphasized the need to integrate transformational leadership and organization development concepts to strengthen both concepts, and defined transformational leaders operationally as leaders who are skilled at leading, championing change, and transforming organizations.

Transformational leadership has been linked to employee creativity for instance through individual creative identity (e.g. Hu, Gu & Chen 2013; Wang & Zhu, 2011) and to providing the context for more effective organizational and individual performance (Bass & Avolio, 1993). Wang and Zhu (2011) have also found that group creative identity mediated the relationship between group-level transformational leadership and individual creative identity. However, according to Eisenbeiß and Boerner (2013), empirical evidence still includes both positive, negative and non-significant direct relationships between transformational leadership and followers' creativity. The findings of Eisenbeiß and Boerner (2013) empirically identified that transformational leadership is negatively associated with follower creativity via follower dependency. However, the overall relationship between transformational leadership and followers' creativity remained positive in their study.

Kolari (2010) regards important for leaders to have skills to perceive emotions of people and to enable significant experiences and meanings for people in their work. She defines transformational emotional leadership meaning social and emotional influence process based on understanding a person's semantic, social and metacognitive processes and the ways leaders can positively influence on those processes (Kolari 2010, 199-200).

Creative leaders promote organizational creativity by displaying their own creative behavior, using their intuition and by promoting a creative climate in the

organization and balancing the needs and expectations of followers (e.g. Mathisen, Einarsen & Mykletun, 2012). Castro, Gomes & de Sousa (2012) found that followers's creativity is associated with the leaders' emotional intelligence (EI). The most important emotional intelligence dimensions are self-encouragement and understanding one's own emotions. Emotional leaders are critical to inspire individuals and groups and to utilize their knowhow and skills effectively. Their empirical data consisted of 66 leader-employee dyads and collected by two questionnaires – one for leaders and one for employees. According to them, future studies shall carefully take the gender of the respondents into consideration and use both subjective and objective measures for creativity.

To conclude, as virtual work contexts connect people from dispersed locations, understanding collaborative creativity and combining it with individual creativity are most essential for organizations to gain positive outcomes. Virtual environments offer platforms for mutual interaction and conversations for collective creativity to develop and lead to novel and useful ideas and innovations. Followers's creativity is also associated with transformational leadership and leaders' emotional intelligence.

Transformational leadership in virtual work

Previous research demonstrates different views about the utility of transformational leadership in virtual work. In their study Ruggieri, Boca and Garro (2013) conclude that transformational leaders promote individual potential and inspire people towards longer-term goals and personal growth and are able to influence the emotional climate of the online work group. According to them, transformational leadership is in online teamwork more satisfying and cognitive and metacognitive style oriented than transactional leadership that is more participative style oriented. Empirical evidence for transformational leadership gives Schultz' (2010) dissertation study, where he explored and identified effective leadership practices in the context of the virtual worker in a generationally diverse setting through a mixed method approach. He found that the virtual workers preferred aspects of transformational leadership in their leaders, and they regarded the medium of work more important than the generational differences when it comes to leadership preferences. Kahai, Huang and Jestice (2012) concluded after their study that the effect of transformational leadership is likely to be more effective on promoting teamwork in virtual teams when leadership occurs "in a medium that hides individuating cues".

Previous researchers have also suggested combinations of leadership styles to be applied in virtual work. Zayani's (2008) dissertation study showed that transformational leadership is positively related to the success of global virtual teams but he suggested a combination of transformational leadership, with some elements of transactional leadership, as an effective style of leadership in global virtual teams. His survey included one hundred participants working in global virtual teams in the business processing industry. Whitford and Moss (2009) question the benefits of transformational leadership style in such virtual work where followers have to work for meeting obligations rather

than aspirations and instead suggest a visionary leadership style.

In conclusion, even though transformational leadership has been a popular approach in leadership research during the last decade, researchers do not agree on the superiority of transformational leadership in virtual work. Also the combinations of different leadership approaches have been highlighted to be applied in virtual work.

Emotional intelligence in leading virtual work contexts

Emotional intelligence (EI) refers, on the most general level, to the abilities of self-assertion, management of emotions and social awareness, and management of relationships to recognize and regulate emotions in ourselves and in others (Coleman, 2001; Virtanen, 2013, 55). Emotional intelligence has also been defined as the emotional, affective and social skills dimension of general intelligence (Frye, Bennett & Caldwell 2006, 49; Quisenberry 2011, 9). Mayer and Salovey (1997, p. 10) define emotional intelligence as ”the ability to regulate emotions to promote emotional and intellectual growth”. Bar-On (2013) uses the concept emotional-social intelligence which he defines as ”an array of interrelated emotional and social competencies, skills and behaviors that determine how well we understand and express ourselves, understand others and relate with them, and cope with daily demands, challenges and pressures” (The Bar-On EI Model section, para 1).

Emotional intelligence has been studied and used as a theoretical framework in a few studies on virtual teams. Quisenberry (2011) gathered the data for his study through survey from 31 self-managed virtual team members in the USA. The results indicated leaders should use a hybrid management approach using transformational principles and incorporating rewards and incentives based on group performance metrics. Leaders should also establish foundations and objectives at the beginning of the project, avoid micromanagement and use empowerment and autonomy to motivate employees. Virtual team members are motivated, when team leaders construct clear and concise goals, objectives and processes in the beginning of the project and then step back and allow the group to execute the strategy autonomously using their own skills and decision-making capabilities (Quisenberry 2011, 169-170). According to Vasilatos (2010), conscientiousness and emotionality have positive affects in hybrid teams, whereas extraversion, openness to experience, emotionality and honesty-humility effect positively on team outcomes in virtual environments. Vasilatos (2010) also points out that different personality traits are needed for face-to-face, hybrid and virtual teams.

Quantitative doctoral dissertation studies about virtual teams using emotional intelligence as a research framework have been conducted by e.g. Hart (2009), Lewis (2010) and Rajagopalan (2009). Hart (2009, 79) found that cognitive based trust, largely influenced by a person’s behavior, has the strongest relationship to perceived virtual team effectiveness rather than institutional or personality based trust. According to Hart (2009), perceived effectiveness in virtual teams can be increased by increasing the effectiveness of mutual communi-

cation and following through commitments as promised. Lewis (2010) found that social intelligence is associated with the development of trust in leader-member relationships in virtual project teams indicating strong links between interpersonal relationship skills and developing positive trust relations and interactions in virtual environments. Rajagopalan (2009, 136) suggested future studies of the emotional intelligence paradigm with the servant leadership style and evaluations of the relevance of this style in the global organizations having virtual team project structures.

Emotional leadership has developed based on emotional intelligence (EI) (Nokelainen & Ruohotie, 2006; Simström, 2009; Tirri & Nokelainen, 2011; Bar-On, 2004; Bar-On, 2006; Mayer & Salovey, 1997; Coleman, 1998). Emotional leadership deals with leadership as a social process influencing people's personal emotions (Nokelainen & Ruohotie 2006). In work-related contexts, emotional leadership is defined as an ability based on emotional intelligence to recognize, understand and use emotional information relative to oneself and others in a way that leads to effective and high-quality performance at work (Coleman, Boyatzis, McKee 2004, 6; Boyatzis & Sala 2004, 149; Simström 2009, 83).

To summarize, leaders need emotional intelligence to recognize, understand and use emotional information about themselves and others to lead people to effective and high-quality performance at work. Through emotional intelligence and emotional leadership it is possible to inspire people, which is especially important in situations where people work in dispersed locations and at least partly via computer-mediated tools. Virtual team leaders can motivate team members by clear goals, objectives and processes and allowing the group to execute the strategy autonomously. In addition, effective mutual interaction and communication and following through commitments as promised enhance perceived effectiveness in virtual teams. Good interpersonal relationship skills enable positive trust relations and interactions to develop in virtual work environments.

Dynamic environment and complexity as challenges to leaders in virtual work

Leaders need an ability to navigate through complexity and to use that ability. Previous research has highlighted, for example, the need to emphasize complexity in multiple levels and ways in organizations and networks to release organizational creativity (Spelthann & Haunschild, 2011, 106) and to understand the ways temporal complexity influences people and organizations (Dekkers, 2009, 244; Plowman et al., 2007, 354).

Recent research on leadership for sustainability has highlighted complexity as a challenge in decision-making and the demand of emotion management in contributing the human capacity to lead through it (Metcalf & Benn 2013). According to Metcalf and Benn (2013), for successful leadership towards sustainability in organizations leaders have to be able to read and predict through complexity, think through complex problems, interpret the link between the organization's wider complex adaptive systems environment and the internal organization, engage groups in dynam-

ic adaptive organizational change and manage emotion appropriately. However, they regard the concept of emotional intelligence (EI) questionable but agree that emotions may help us to navigate in complex information.

Leadership is a process.

On the other hand, complexity has been adopted in organizational research also as a lens through which to investigate personal experiences and to explore them in a novel way (Kennedy 2006). Kennedy (2006, 98) explored the experiences of leaders and managers by considering the connections of actors in an interactive system and by focusing on the emergence of phenomena from the interconnections of the components. The key objective in her study was integrating learning and knowledge management within a perspective focusing on the whole experience and the interdependence of its parts.

Virtual interaction includes typical characteristics of complex adaptive systems (CAS): open, evolutionary networks of interacting, interdependent agents having a common goal or outlook and capable of creative problem solving (Uhl-Bien et al. 2007). Focusing on spaces between people and creating the conditions for the emergence of something new and uncertain requires commitment from everyone in the value chain indicating that complexity leadership is not an easy and quick process to implement (Goldstein, Hazy & Lichtenstein 2010, 194). In virtual work contexts the process may be even more challenging. Leaders in virtual work contexts may need to develop other people around them to assist themselves and to move to leadership positions on demand (e.g. Dotlich, Cairo & Rhinesmith 2008, 50).

Leadership through the orientation of complexity (e.g. Stacey, 1992; Stacey, 2000; Uhl-Bien et al., 2007) is an alternative conceptual framework for leadership providing an integrative theoretical framework for explaining interactive dynamics. It regards leadership as a complex interactive dynamic through which adaptive outcomes emerge. It is based on relationships, complex interactions and influences in spaces between individuals, which makes it suitable for examining leadership in virtual work contexts.

Complex Systems Leadership (CSL) understands leadership as an event emerging through dynamic interactions of people and complex interplay of many interacting forces (Lichtenstein, Uhl-Bin, Marion, Seers & Orton 2006, 3). Leadership is a process, which shapes the future by influencing the means of interaction and by clarifying a purpose for each member of the organization (Hazy 2009). Complexity leadership considers leadership in complex adaptive systems (CAS) where relationships among people are not hierarchic but regarded as interactions among heterogeneous agents and across agent networks. A CAS is comprised of persons and groups of persons sharing common interests, knowledge and goals due to the history of interaction and sharing worldviews (Lichtenstein et al. 2006). Leadership in this view is not only the act of a person or persons and not limited to a formal managerial

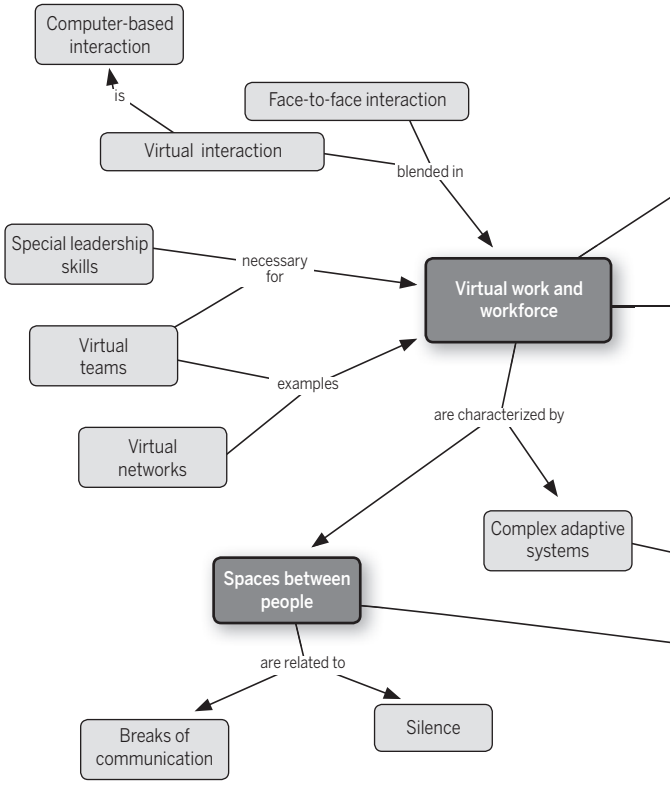
role – instead, it only exists in, and is a function of interaction (Uhl-Bien et al. 2007).

Complexity Leadership Theory (CLT) identifies three types of leadership – adaptive, enabling, and administrative (Uhl-Bien et al. 2007). CAS, when functioning appropriately, provide an adaptive capability for the organization, and bureaucracy requiring administrative leadership provides an orienting and coordinating structure. Adaptive leadership is important in focusing creativity and innovativeness. It is defined as emergent change behaviors under conditions of interaction, interdependence, asymmetrical information, complex network dynamics and tension (e.g. Lichtenstein et al. 2006). Novel information can emerge in ordinary conversations at the margins of the organization between people who are interwoven with feelings and emotions through the tension generated by agent interaction and valuing disagreements over interpretations as source of novelty, fresh ideas and new perspectives (Stacey 2000, 363-367, 414; Houglum 2012). Enabling leadership fosters enabling conditions that catalyze adaptive leadership and manages the entanglement between administrative and adaptive structures and behaviors enhancing the overall flexibility and effectiveness of the organization (Uhl-Bien et al. 2007). The end result can be emergent creativity, learning, and adaptability at all levels of the organization and at multiple scales of importance (Uhl-Bien et al. 2007).

Complexity leadership challenges the traditional leadership theories providing an integrative theoretical framework for explaining interactive dynamics. Complexity can also be used in management research also as a lens through which to consider organizational issues. Complexity as a challenge in decision-making and the demand of emotion management have been highlighted especially in leadership for sustainability. Tackling complexity, diversity and uncertainty in virtual work contexts requires commitment from everyone in the value chain and changing leadership positions among the participants in the common virtual work on demand.

Results

The concept analysis resulted a concept map (Figure 1) with the connections between the concepts. Concept mapping is a means to connect different kinds of thoughts of a subject and displaying relations among



them (Reiska, Rohtla & Rannikmäe 2008, 18).

The analysis highlighted the multidimensional and multilevel conceptualization of virtuality at work. In present organizations virtuality mainly means work, in which virtual interaction is connected with face-to-face interaction. According to this analysis, the essential node for effective leadership for virtuality is collective creativity contributing to novel ideas and contributing to innovations.

The analysis revealed that especially transformational, emotional and complexity leadership approaches fostered collaborative creativity to arise in virtual work contexts. Therefore, these theoretical approaches are suitable to be combined to study leadership that fosters creativity in virtual work. They all have philosophical foundations on subjectivist and processual ontology regarding reality as a social construction and leadership as a continuous social flow (Crevani, Lindgren, Packendorff, 2010), and interpretivist epistemology (Houglum, 2012, 30; Hatch & Cunliffe, 2006, 12-

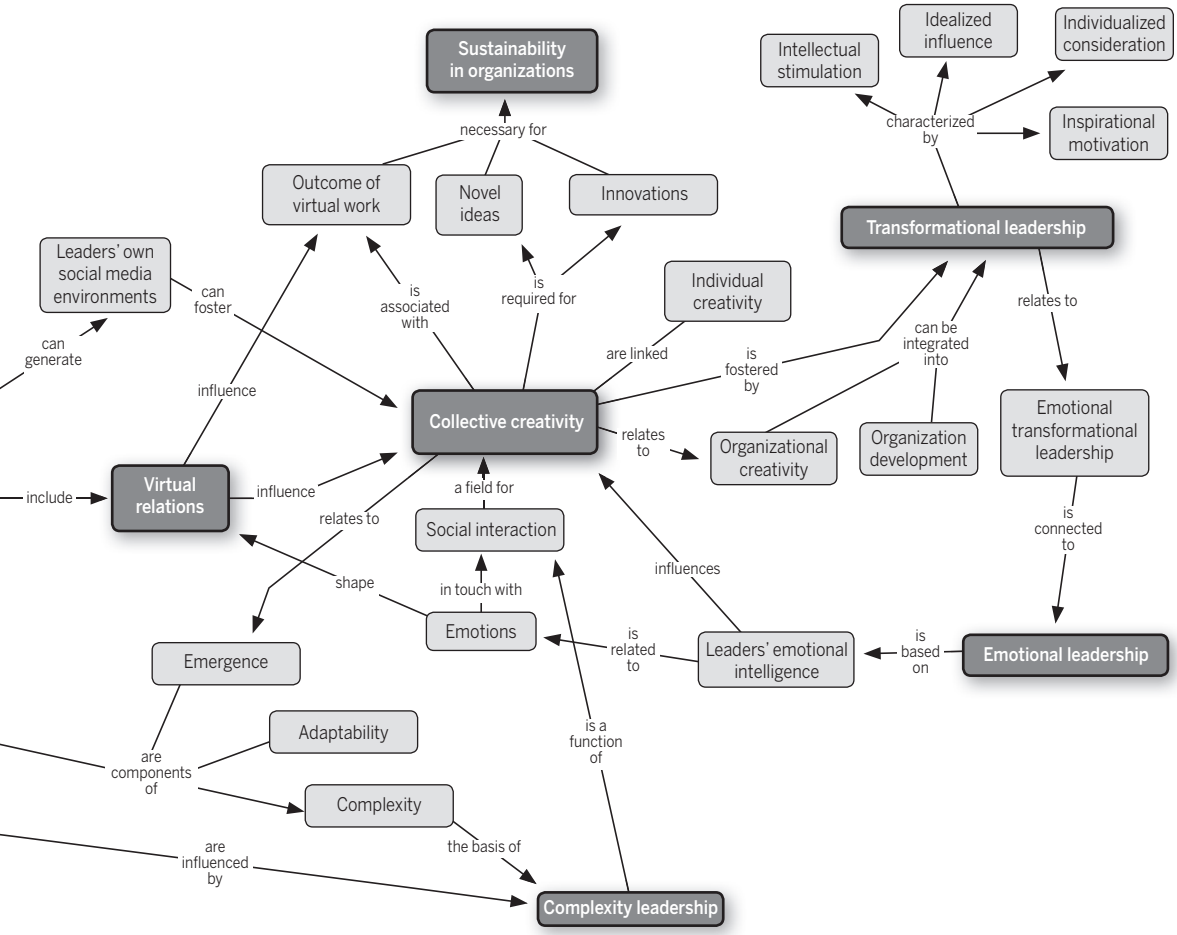


Figure 1. Connections between the analyzed concepts presented in the concept map.

15). Symbolic-interpretivists understand that the reality exists when a phenomenon is experienced and given meaning and knowledge is created through collective cognition, and they analyze multiple understandings of the phenomena and include in their studies intuition and emotion (Houglum, 2012, 30; Hatch & Cunliffe, 2006, 13).

Transformational leadership, emotional leadership and complexity leadership are interlinked with each other, and especially transformational leadership presents elements of both emotional and complexity leadership. Combining these three leadership theories offers the potential to better link the areas of leadership and creativity within the virtual work research.

The analysis also foregrounds the importance of virtual spaces and relations between people which are typical in virtual work contexts. Understanding thoroughly the spaces and relations between people and exploiting them can bring valuable solutions for co-creative processes and supportive leadership practices and lead to profitable innovations and solutions towards sustainable organizations.

According to the analysis, effective leadership that fosters creativity in virtual work includes

- understanding that virtuality at work is complex, multidimensional and multilevel and people work in organizations and networks using both virtual and face-to-face interaction
- utilizing a combination of leadership approaches supporting inspiring interaction and collective creativity at work
- understanding the significance of virtual spaces and relations between different people in virtual work and the ways how to exploit them in interaction.

Discussion

This article addressed to defining leadership that fosters creativity in virtual work for future research and business development purposes. Leaders in virtual work contexts need to understand virtuality and creativity comprehensively to support collaborative work and bring joy to work for generating new innovations to tackle the overarching problems. The definition was shaped through descriptive interpretative concept analysis and inductive epistemological approach aiming at enhancing understanding of the entirety of the concept. The analysis focused on finding out how the concepts of virtuality, creativity and leadership were connected to each other resulting in a holistic map of their mutual connections. The article contributes to linking the research areas of leadership and creativity to virtual work research and to applying complexity leadership approach to study virtuality at work.

The analysis revealed the importance for leaders in virtual work contexts to focus on collective creativity with virtual spaces between interactive people to enhance innovative outcomes in organizations. Virtuality as an embedded way of interaction in contemporary organizations and working life shall be exploited more for common good. Virtual spaces between people can represent a type of nonlinearity in complex virtual systems mentioned by Goldstein (2008, 44-45). Increasing the number of nodes and

spaces between people makes the virtual system more complex demanding leadership that understands collective creativity comprehensively and supports continuity between actors. The analysis also indicated that this kind of dialogic and relational leadership may be effective in leading towards sustainability in organizations.

Transformational, emotional and complexity leadership approaches proved to be appropriate to study leadership processes fostering creativity in virtual work contexts. These three leadership approaches enhance understanding about leadership that fosters creativity in virtual work. Previously, studies on leadership in virtual work contexts have so far not been based on any specific theoretical framework. This analysis supported previous research findings about applying combinations of different leadership approaches in virtual work and indicated that the future development of leadership theory for fostering creativity in virtual work can benefit from integral theoretical pluralism.

Despite the analysis is based on a broad amount of scientific texts, the results mentioned above should not taken without reserve. The research texts were chosen to this analysis on the basis of including definitions of the key concepts and at the same time keeping the focus of the analysis in mind. The analysis brought out other related types of leadership, like servant leadership and visionary leadership style, which were not analyzed further in this study. On the other hand, virtual work contexts include issues such as power relations that may influence on leadership that fosters creativity but which were not analyzed in this case, because their significance didn't come up clearly from the texts chosen to this concept analysis.

The evidence of this analysis consisted of definitions of the key and related concepts, my interpretations of the concepts and the construction of the concept map (Figure 1) showing the connections and correlations between the concepts. However, future empirical studies are necessary to verify and compliment the connections and correlations. Also, the notion of spaces and relations between people and the ways how to exploit them need empirical evidence. Nonetheless, this concept analysis offers opportunities for the research community to create new related concepts and develop leadership towards sustainability in organizations based on intuition, imagination and interactive reflective consideration.

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