



UNIVERSITY
OF TAMPERE

This document has been downloaded from
TamPub – The Institutional Repository of University of Tampere

Post-print

The permanent address of the publication is
<http://urn.fi/URN:NBN:fi:uta-201507272163>

Author(s):	Humala, Iris
Title:	Leadership toward creativity in virtual work in a start-up context
Year:	2015
Journal Title:	Journal of Workplace Learning
Vol and number:	27 : 6
Pages:	426-441
ISSN:	1366-5626
Discipline:	Educational sciences
School /Other Unit:	School of Education
Item Type:	Journal Article
Language:	en
DOI:	http://dx.doi.org/http://dx.doi.org/10.1108/JWL-08-2014-0059
URN:	URN:NBN:fi:uta-201507272163

All material supplied via TamPub is protected by copyright and other intellectual property rights, and duplication or sale of all part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorized user.

Article Title: Leadership toward creativity in virtual work in a start-up context

Author Details:

Iris Annukka Humala

School of Education, University of Tampere, Tampere, Finland

Abstract:

Purpose – This paper aims to better understand how to lead toward creativity in virtual work in a start-up context.

Design/methodology/approach – The study investigates:

(a) the participants' experiences about the learning challenges in leadership toward creativity in virtual work in a start-up company and the meanings attributed to their experiences

(b) the measures they see to meet those challenges.

The data has been gathered on a Finnish partnership start-up company through interviews capturing peoples' personal perspectives and experiences. This study employs a qualitative research study approach to better understand leadership toward creativity in virtual work in a start-up.

Findings – The results underline the importance of co-creative and assertive coaching leadership in a start-up to foster creativity and create new shared value. Key persons' multiliteracy skills and lobbying are means to manage social and physical distances in virtual work.

Practical implications – The study suggests collaborative coaching leadership and assertiveness for start-ups to minimize mistakes in virtual work. Practitioners must unlearn old courses of action to learn to operate in a start-up environment and utilize information and communication technology (ICT) in a smart way.

Originality/value – The paper gives empirical evidence in a start-up context about combining leadership and creativity within the virtual work research.

Keywords – leadership, creativity, virtual work, start-up, co-creation, coaching, assertiveness, qualitative research

Paper type - Research paper

1. Introduction

Business is increasingly global, dispersed and virtual; information society and its manifestations, such as social media, present many challenges. The winners in business can foresee developments, react creatively and collaborate effectively in global networks. “Virtual work” refers to people working in different geographical locations using information and communication technology (ICT) to manage business processes, and “virtuality” to a context for companies to work together with customers, users and interest groups in networks. In the future, virtuality and mobility will become natural prerequisites for work conditions and productivity. This requires better understanding of creativity in the interaction between technology and human creative processes. It requires finding ways how to use ICT in organizational learning, leadership and collaboration effectively, and how to foster creativity to contribute to healthier and happier coworkers, offer a broader ability to see things in new ways, and to understand the potential effects of these technologies to the leadership dynamics (Avolio *et al.*, 2014; Nemiro, 2004).

The context of this study is a partnership start-up company. A partnership start-up company is a corporate alliance: a joint value creation arrangement between two or more sponsors (Osborn and Marion, 2009). Start-ups are vital for the economic development in knowledge-based societies, because they create new jobs and economic growth. However, start-ups are different from large businesses: they are fragile, and their policy needs and priorities are unique (Dearie and Geduldig, 2013). This makes leadership that fosters creativity to support successful collaboration in virtual work fundamental in start-ups.

The paper's purpose is to better understand leadership toward creativity in virtual work in a start-up context. It investigates (a) the key persons' experiences in a case start-up about the learning challenges in leadership and collaboration toward creativity in virtual work and the meanings attributed to their experiences, and (b) the measures they see to meet those challenges. This study is based on the ontological commitment of leadership that is moving toward heterarchy (Spelthann and Haunschild, 2011), in which an organization is seen as a multi-layered entity with overlapping and loose parts. Leadership in heterarchy is regarded as an enabler of interaction, meaningful work, inspiration and creativity. This case study is interpretive, aiming at understanding phenomena through assessing the meanings participants assign to them (Gray, 2014).

The paper contributes to scientific discussions on leadership in virtual work in a start-up by providing empirical evidence to link creativity and leadership within the research on virtual work. It

also integrates educational and business knowledge and research.

First, this paper examines prior research relating to the research questions, then outlines the research context and methodology. At the end, it presents findings and discussion and conclusions.

2. Theoretical framework

The theoretical framework is based on previous research on leadership in virtual work, creativity, collective creativity, and creative-conductive leadership approaches.

2.1 Leadership in virtual work

Leadership is defined here as a social interaction process that actively orchestrates collaborative work; it influences and inspires people to find new possibilities, achieve their potential and reach their goals (Beairsto and Ruohotie, 2003; Searle and Hanrahan, 2011). Virtuality can be regarded as a nonlinear organizational form with free movement enabling flexibility and creativity (Panteli and Chiasson, 2008). Virtual interactions include silence, breaks of communication (Panteli and Fineman, 2005) and “virtual distance,” which describes the sense of separation among people (Rosen, 2009). Previous research has mainly focused on leadership in virtual teams and emphasized understanding modern technology and using it in organizational learning and leadership. Examples of research topics are distances between people, virtual co-presence, empowerment, participation and supportiveness to bridge the gaps between people (Avolio *et al.*, 2014; Jenster and Steiler, 2011; Zimmermann *et al.*, 2008). Moreover, leadership within early stage firms remains an under-researched area (Patton and Higgs, 2013).

2.2 Creativity and collective creativity

Start-ups in particular need to combine leadership with creativity to succeed. Creativity, the act of generating something novel and useful, has been connected to individuals, groups and to the process originating from personal predisposition and a hospitable social context (Amabile, 1988; Woodman *et al.*, 1993). A creative person has a courage to create independently something new in his or her own way connected to some special field (e.g., Uusikylä, 2012). A state of concentration or complete absorption with the activity at hand and the situation is called “flow”, a creative peak experience contributing happiness, mental health and significance to one’s life (Csikszentmihalyi,

1990). Collective creativity can occur in a social context, where people with different perspectives and experiences question the common challenge and create novel and useful ideas and solutions together. It consists of three components: individual, knowledge domains and a field of informed experts (Csikszentmihalyi, 1999). Additionally, echoing Woodman et al. (1993), organizational creativity means the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system. A creative environment is open and safe, allowing mistakes and different opinions; it has respect for everyone and constructively evaluates the products rather than criticizing them (Uusikylä, 2012).

Problem solving, creative cognition and their interaction are vital in understanding creativity in online social interaction (Wheeler *et al.*, 2002). Broad dialogue in work communities and virtual co-creation can support the birth of innovations through enabling previously unavailable expertise, interpretation of information and the construction of a common socio-cultural ground (e.g., Parjanen, 2012). Dialogue can enable efficient collaboration with (for instance) customers and user communities. Leaders aiming for creative virtual contexts need to hire the right people to the right positions, realize how to combine single persons' creativity with the groups' distributed creativity, and should support continuity and trust between people to energize all possible potential for novel solutions (Amabile *et al.*, 1996; Sawyer and DeZutter, 2009; Panteli and Chiasson, 2008). Leading collaboration requires facilitation and cultivation (Rosen, 2009). As the perceived work environment influences on the level of creativity in an organization (Amabile *et al.*, 1996), many organizations presently face this issue also in social media environments (Cortini and Scaratti, 2011).

2.3 Creative-conductive leadership orientations

Studies on leadership in virtual work contexts have so far not been based on any specific theoretical framework. However, transformational, emotional and complexity leadership as creative-conductive leadership orientations can be regarded as appropriate theoretical approaches to study leadership toward creativity in virtual work (Ruggieri *et al.*, 2013; Uhl-Bien *et al.*, 2007).

A clear vision and mission, inspirational motivation, intellectual stimulation and individualized consideration characterize transformational leadership (Avolio and Bass, 1988; Avolio *et al.*, 1991; Warrick, 2011). Researchers also argue that the relationship between transformational leadership and creativity is not fully understood (Wang and Zhu, 2011). The study by Castro *et al.* (2012) indicates that followers' creativity is associated with transformational leadership and leaders'

emotional intelligence (e.g., Coleman *et al.*, 2004). Also other combinations of leadership styles in virtual work have been suggested, for example both transformational and transactional leadership (Zayani, 2008) and visionary leadership style (Whitford and Moss, 2009).

The virtual working process resembles a self-organizing system where the order is not linear. Virtual interaction includes typical characteristics of complex adaptive systems (CAS): open, evolutionary networks of interaction, and interdependent agents having a common outlook and capable of creative problem solving (Uhl-Bien *et al.*, 2007). This makes leadership through the orientation of complexity (Uhl-Bien *et al.*, 2007; Lichtenstein *et al.*, 2006) as one possible theoretical orientation for leadership in virtual work. Complexity leadership challenges the traditional leadership theories. As an integrative theoretical framework it explains interactive dynamics and regards leadership as a function of interaction, a complex interactive dynamic through which adaptive outcomes emerge. Leadership is seen as 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). Abilities required from leaders include thinking and predicting through complex problems, engaging groups in dynamic adaptive change, encouraging innovations and managing emotions (Plowman *et al.*, 2007).

Besides diverse business skills, leadership and collaboration in virtual work require multiliteracy expertise, i.e., competences to manage the mass of knowledge and prioritize the essential information, and a positive mindset to explore and participate in online networks (Guth and Helm, 2010). The term “multiliteracy” refers to the increase in the number of communication channels and in the salience of cultural and linguistic diversity (New London Group, 1996). Previous research underlines the importance of the cultural and contextual factors, critical dialogue, reflection, dynamic approach, and the support from peers to learn multiliteracies (Guth and Helm, 2010; Smith, 2011).

To summarize, the points in the literature most informed this study include the notion of virtuality enabling creativity, lack of leadership research in start-ups, motivational aspects in transformational leadership and the interpretation of leadership as a function of interaction in complexity leadership.

3. Research context and methodology

This study was conducted as a qualitative research (e.g., Charmaz, 2006; Miller and Glassner, 2011) aiming to understand better how the key persons in a start-up experience the learning challenges of

leadership toward creativity in virtual work and the measures to meet them. Understanding requires an interpretivist approach, where the researcher gets close to the people and the process under study (Hatch and Cunliffe, 2006; Newton Suter, 2012). To understand the role of collaboration between key persons and the changing context in the start-up, the complexity leadership approach was used to interpret the data by paying attention to interaction and collaboration between the key players (Lane and Down, 2010).

Data gathering and analysis were empowered by the researcher's experience in management praxis and theory, carrying out conversational explorations and interest in linking educational and business knowledge. The interviews can be characterized as mutual discussions, although the researcher's main aim was to listen and understand. Additionally, the researcher wrote a report to the case start-up about the initial study findings immediately after the interviews. The report afforded an opportunity to give feedback for the interviewees and reflexive elaboration of the analysis for the researcher.

3.1 Data gathering

Finding case organizations started from discussions with a few company networks in the Finnish tourism sector. Due to the evident insignificance of virtual work in the tourism sector, the recruitment of the case(s) continued further. The chosen start-up, with promising business potential and networking capabilities, was found on the recommendation of the Federation of Finnish Technology Industries. The study was executed as a single in-depth case study. Through interviewing only a few people the aim was to hear their full stories and maximize the utility of information from one single representative case for obtaining information about start-ups, where leadership and collaboration can be especially problematic for the business to succeed (Flyvbjerg, 2007).

The case start-up, which operates a global sustainable engineering business, was founded in early 2013. It is owned by five networked partners working in different areas in Finland. The start-up's vision is to coordinate a global supply network and become a globally preferred partner. Through cooperation with local partners and the global network, it offers advanced technology solutions for manufacturing, technology and assembly based on customer needs. Its strategy includes providing added value by minimum process time, reducing working capital for supply chains and executing projects quickly. During the data gathering the start-up had already moved from the idea stage to finding customers and initiating trading. The key persons also strove to secure financing and to

specify the basic structure of the business.

The data was gathered through face-to-face interviews of the six male key persons in the start-up—five partners and one legal strategic advisor—during September through November 2013. All the interviewees were experienced in different fields of national and global technology business as managing directors, crew chiefs and counselors. Most of them already knew each other. The semi-structured interviews lasted 1 to 2.5 hours each. A semi-structured format of interviews gave the interviewees good opportunities to discuss the issues relevant to them. Open-ended questions guided conversations about (a) the key persons' backgrounds and roles in the start-up, (b) their views, motivations and ambitions on the start-up business, and how they saw (c) interaction and communication both in the core team and (d) with customers and other stakeholders, (d) leadership and creativity, (e) the role of virtual work and utilizing ICT in leadership and networking and (f) the significance of emotional intelligence in leadership and collaboration. Interviews gave the interviewees a chance to voice issues about the leadership and collaboration not previously openly acknowledged (Rapley, 2010). Telephone conversations with the CEO, listening to one seminar presentation by the company, studying its presentation materials and reading stories about it in the media offered additional data to the analysis.

3.2 Data analysis

Each interview was recorded and transcribed, which resulted in 144 pages of transcript. The data was analyzed during data collection, to avoid unfocused and repetitious data collection, and after all the data was collected. Field notes, comments and questions were written during the data collection stage and analyzed later. The data in the interview transcripts was read through several times and coded and analyzed by one researcher. ATLAS.ti, version 7.1.4, the qualitative data analysis and research software developed by ATLAS.ti Scientific Software Development GmbH, was used to carry out the stages of open coding and code families. The coding unit was a theme of relevance to the research questions.

The data was first coded by identifying single words or phrases from the raw data to help to reach the aim of the research; also, two or more codes were attached to one single phrase. After the open coding stage the codes were categorized to 31 code families by reordering and connecting such codes that fit together. The code families included in this stage both learning challenges in leadership and the construed understandings based on the key persons' previous expertise about

meeting the learning challenges in leadership. The construed understandings are “presumptions about what will be, based upon what have been” (Isabella, 1990) indicated by the interviewees. During the process, the initial code families were modified by eliminating old ones and adding new ones to correspond with the evidence. Next the code families were clustered by using ATLAS.ti and manually into ten learning themes in leadership, presented in Table 1: (1) learning to operate in a new start-up context, (2) team dynamics, (3) commitment of the owners of the company, (4) a common business model, (5) orchestration of the network, (6) communication, (7) the gaining of credibility, (8) customer collaboration and development of business, (9) the managing of projects and (10) project implementation. Each learning theme included two groups of codes: those linked to the learning challenges in leadership (Table 1) and those linked to the construed understandings to meet the challenges (Table 2). Firstly, Table 1 illustrates the ten learning themes and the most relevant examples of codes of learning challenges related to each of the learning challenges.

Table 1. Ten learning themes in leadership and examples of codes of learning challenges related to them.

Ten learning themes in leadership in the case start-up	Examples of codes of learning challenges
1. Learning to operate in a new start-up context	<ul style="list-style-type: none"> Unlearning the courses of action learned before in bigger organizations Tapping partners' previous experience, ideas, expertise and contacts Realistic attitude towards challenges Critical reflection
2. Team dynamics	<ul style="list-style-type: none"> Power relations Decision making in the core team Managing the conflicts of competition Organizing for growth
3. Commitment of the owners of the company	<ul style="list-style-type: none"> Creating a feeling of genuine collaboration toward a common goal Realizing unbalanced economical risk among partners Overcoming the first tight spot Changes in partnerships and replacements
4. A common business model	<ul style="list-style-type: none"> Common targets Global operational concept Network as an overarching power Cost-effectiveness and speed Established partners in right positions
5. Orchestration of the network	<ul style="list-style-type: none"> Building the network Managing the network Managing the development of the network Contract management
6. Communication	<ul style="list-style-type: none"> Face-to-face meetings too seldom Online communication problems Getting information about the economic situation Communication with customers Communication with other interest groups
7. The gaining of credibility	<ul style="list-style-type: none"> Credibility of a small company
8. Customer collaboration and development of business	<ul style="list-style-type: none"> Supporting customers to find solutions themselves Know-how in networking, lobbying and the field of operation
9. The managing of projects	<ul style="list-style-type: none"> Effective communication face-to-face and online Managing change Creating enthusiasm and commitment Built-in encouraging elements for project management Need of assertive project managers
10. Project implementation	<ul style="list-style-type: none"> Project implementation including follow-up Managing project documentation

The focal learning challenges to learn to operate in a new start-up context (learning theme 1 in Table 1) are for all key persons in a start-up to operate originally, without existing structures; to unlearn or relearn the courses of action that work in big organizations; and to utilize peoples' previous experience, ideas, expertise and contacts. It is also important to strive for good team dynamics and commitment, which presumes mutual trust among key persons (learning themes 2 and 3). One key person described the need for unlearning in extract 1.

Extract 1:

“I am attuned to certain courses of action, so I notice I have sometimes difficulties to settle in. The old ways to operate do not necessarily work in this environment. The leadership in a big company is in a certain way different from that in a small company.”

The challenge to learn new courses highlighted the need for the core team to reflect together the measures in changing business environments and to handle different expectations about the preferred measures (learning theme 1). Some of the interviewees thought that there was not a joint vision. The analysis supported the importance of having a joint vision clearly in mind, and of making changes to the vision and to the common business model (learning themes 3, 4). This has been highlighted both in transformational leadership (Avolio and Bass, 1988) and in complexity leadership (Hazy, 2009). Moreover, the data underlined learning to communicate effectively face-to-face and online and to manage distances between people (learning theme 6) (Cortini and Scaratti, 2011; Panteli and Fineman, 2005). Another key person told about the problems with information sharing in extract 2.

Extract 2:

“The operative players may send you an e-mail at 10 in the evening and say that they have already thought to act in a certain way, and ask if it is okay to read the papers attached for the next day before 4 p.m. If I answer ‘no, it isn’t,’ it will arouse a ballyhoo that there is no time to change anything. I have had several times such a feeling that why they asked me at all.”

Start-ups are typically involved in a networked business, which highlights the importance of skillful orchestration of networks and managing projects (learning themes 5, 9, 10) (Lichtenstein *et al.*, 2006; Rosen, 2009). Good orchestration and project management improve the start-ups' credibility among interest groups and help to develop relationships with customers (learning themes 7, 8). The data revealed the importance of foreseeing the network's development needs ahead of time, managing contracts well, creating built-in encouragement elements for project management and

hiring assertive project managers.

The third round of data analysis refined the learning themes further to four main learning challenges in leadership. From the analysis, the most important learning challenges for a partnership start-up are: (1) collaboration in a partnership team, (2) orchestration and leadership, (3) collaboration with customers and (4) project management (Figure 1). Successful start-up business requires simultaneously learning to connect orchestration and leadership, collaborating in a partnership team and collaborating with customers and project management.

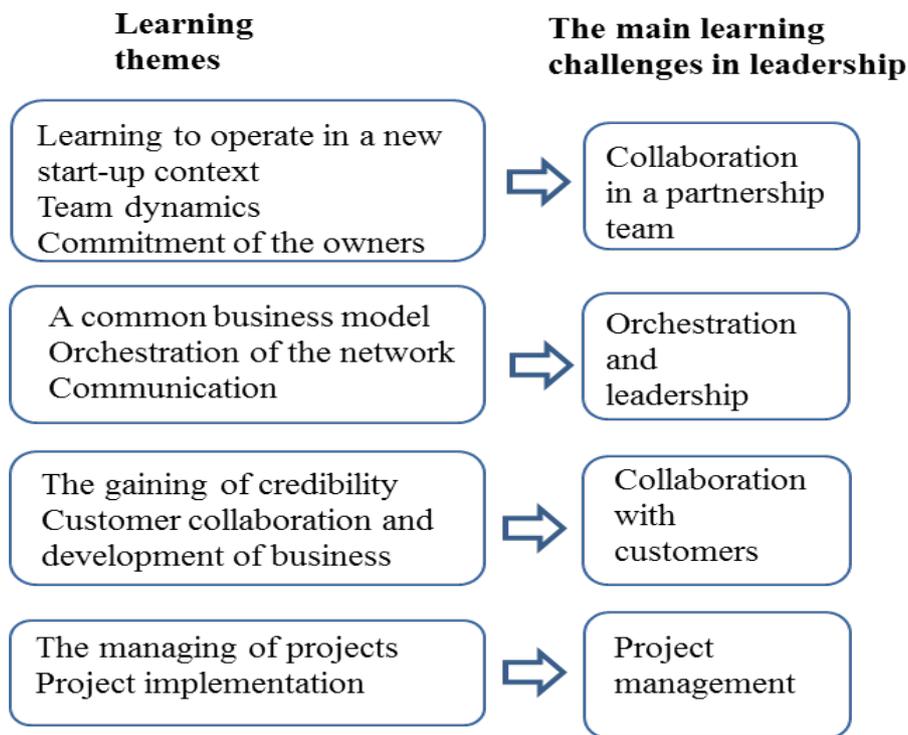


Figure 1. The main learning challenges in leadership toward creativity in the case start-up derived from learning themes.

Secondly, the data analysis revealed main measures in leadership to meet the main learning challenges (Table 2). The main measures were derived from the interviewees' construed understanding of how to meet the learning challenges in leadership. The construed understandings were initially coded during the open coding stage, then clustered together with the learning challenges under the ten learning themes and further under the main learning challenges. Table 2 gives examples of the most relevant construed understandings of meeting each of the four main learning challenges, and the main measures in leadership to meet the main challenges compacted from those understandings. The data highlights encouraging collective creation, critical reflection, assertiveness, flexible interaction, multiliteracy skills, creating shared value with customers, consistency and good management skills and systems.

Table 2. Main measures for leaders to meet the learning challenges (LC) in the case start-up derived from the interviewees' construed understandings.

Examples of the construed understandings of meeting learning challenges	Main measures in leadership toward creativity
<i>LC 1: Collaboration in a partnership team</i>	
<ul style="list-style-type: none"> Encouraging to share expectations, views, experience and know-how and use the strengths of key players Regular discussions Courage to talk about facts Mutual respect, trust and listening Emotional intelligence Dispersed leadership 	Encouraging collective creation
<ul style="list-style-type: none"> Critical reflection Common rules of doing business 	<ul style="list-style-type: none"> Critical reflection Assertiveness
<i>LC 2: Orchestration and leadership</i>	
<ul style="list-style-type: none"> Clear common targets for all Resource allocation Contract management Network management system Building a supplier network of high quality Collaborative leadership with mutual trust, flexibility and cultural sensitivity Emotional intelligence Consistent leadership profiles toward different players Orchestrating the creative development of the network 	<ul style="list-style-type: none"> Assertiveness Constructive and flexible interaction
<ul style="list-style-type: none"> Sharing structured information regularly face-to-face and through ICT Lobbying as a means of utilizing distances between people 	Multiliteracy skills
<i>LC 3: Collaboration with customers</i>	
<ul style="list-style-type: none"> Providing solutions Effortless collaboration for customers Superior logistics Strategic agility Good business relationships Good communication skills face-to-face and through ICT Proactivity towards customers' customers 	Creating shared value with customers
<ul style="list-style-type: none"> Consistent course of action to gain credibility 	Consistent course of action
<i>LC 4: Project management</i>	
<ul style="list-style-type: none"> Reliable project managers and project management system Linking customers to project follow-up Emotional intelligence Innate leadership to different customers and markets Utilizing cloud-based services for document management and information sharing 	Good management skills and systems

Even though the case start-up used ICT in leadership and collaboration relatively little, the data reveals that regular discussions between the key persons, and sharing structured business analysis by ICT before decisions were made, were a means for leaders to foster creativity in virtual work (LC 1 in Table 2) (Wheeler *et al.*, 2002). This course enables critical reflection and rich guidance to the operative company management and can generate collective creativity.

According to the data, lobbying is one means of managing social and physical distances in virtual work (LC2) (cf. Avolio *et al.*, 2014). Leaders and managers aim to influence other decision-makers before an online or face-to-face meeting. One key person experienced in virtual global business elaborates on this matter in extract 3.

Extract 3:

“Even if I am not the organizer of a videoconference, I telephone in advance such people who will participate the videoconference and collect information. It is influencing, it is lobbying. I can ask them not to talk about a certain issue because we can solve it just the two of us. It is a political game for the most part. After the meeting you may tell someone that the issue here is like so but I didn't want to say that in the meeting when all the others were listening.”

The data highlights the importance of leadership being in the midst of the groups, listening to people and respecting them as experts who can build co-creative interaction (LC 2); this was also underlined in transformational and in complexity leadership (Castro *et al.*, 2012; Plowman *et al.*, 2007). Such leadership incorporates critical reflection; the sharing of expertise, experiences and interpretations; and linking customers and customers' customers to the business development (LC 2, LC 3). Such reflections can help key persons to commit themselves to the joint vision and rules and to stay partners in the start-up. It influences positively on the company's economic results, as one interviewee indicates in extract 4.

Extract 4:

“If the leader has given the employees the opportunity to succeed in their jobs and the employees know themselves the management is pleased with their work, probably something has happened in the leadership. If the leader succeeds in this matter, such companies get the best economic results. Absolutely.”

According to the data, assertiveness—containing clear, common targets and rules; consistent course of action; consistent leadership profiles toward different players—is essential in meeting learning

challenges (LC 2, LC 3).

4. Findings and discussion

To sum up, the results underline the importance of a co-creative and assertive leadership and collaboration to foster creativity in a start-up context. Such leadership and collaboration resembles coaching, which Hawkins (2012) defines as a form of leadership and management development combining different fields of expertise, know-how and skills to reach win-win targets. Coaching supports the learning of people and whole organizations, strategic and commercial development and the way of doing business with interest groups. Figure 2 combines the most important learning challenges derived from the learning themes and the measures in leadership to meet them.

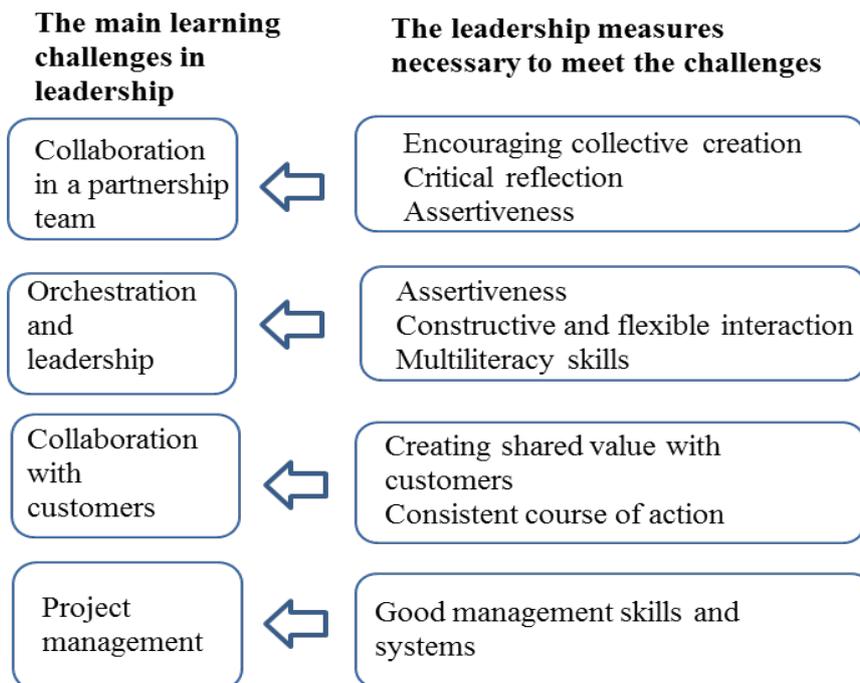


Figure 2. The main learning challenges in leadership toward creativity in virtual work, and the leadership measures necessary to meet the challenges in the case start-up.

The results suggest that one way to improve collaboration from the early stage of a start-up between partners, customers and suppliers is to encourage multiliteracy skills, as well as the creative utilization of virtuality and ICT. Virtuality and ICT offer fora to critical reflection and testing.

The findings suggest the importance of a co-creative and assertive coaching leadership style and working culture utilizing critical reflection. This is important for start-ups that are coping with complex challenges and for all partners to learn to operate in a new start-up context; this will help create new shared value. Mutual coaching requires each participant to act as both the coach and the coachee. Building and communicating reciprocity and respect of others enables everyone to experience inclusiveness (Alasoini, 2012) and creativity, even in virtual work. Additionally, the study highlights that co-creative and assertive leadership creates opportunities to improve business forecasting and decision-making and can bring about superior credibility among customers.

The study enhances understanding about the role of sharing experiences and coaching in the contexts of start-ups, supporting the views of Hawkins (2012) about building a listening and learning coaching culture. Co-creative and assertive coaching leadership can be extended to cover many directions, such as constructing a joint vision together with the core partnership team, customers and other players and jointly committing to that vision. The results support Merriam's (2004) argument that the key to transformative learning is critical reflection on experience. However, contrary to her view on independent thinking as the goal of transformative learning, this study emphasizes joint understanding and commitment as goals in a start-up. The findings confirm Smith's (2011) argument that a broader understanding of critical reflection helps participants to be constructive in their criticism. The finding of assertiveness supports Zayani's (2008) suggestion about the combination of transformational leadership with some elements of transactional leadership as an effective style of leadership in virtual work. In general, the findings support the theoretical approaches of both transformational leadership (Avolio and Bass, 1988) and complexity leadership (Hazy, 2009; Uh-Bien *et al.*, 2007), stressing specifically the significance of a joint vision, leadership as a function of interaction, and listening to people and respecting them.

The findings supports the views of Guth and Helm (2010) and Wheeler *et al.* (2002) and highlight the importance of key persons' multiliteracy skills in a start-up to make good decisions and orchestrate the creative development of the supply network. Sharing structured information regularly and lobbying are noteworthy measures to exploit distances between different players. This output contributes to the so far scanty research on how the distance affects the appropriation of ICT and on the impact ICT has on the appropriation of virtual leadership tools and processes (Avolio *et al.*, 2014).

For start-up practitioners, the findings suggest the importance of both collaborative and coaching leadership and working culture and assertiveness to minimize mistakes in virtual work. Companies

can utilize virtuality by sharing structured information of the business situation regularly with the start-up partners, organizing sessions for common reflection regularly, and informally as needed by using (for instance) managerial social media or other social media tools (Cortini and Scaratti, 2011). In this study, unlearning old courses of action needs special consideration among experienced practitioners in start-ups. Additionally, the findings underline the importance of a joint vision and strategy in a start-up to develop collaboration and business and to raise the start-up's credibility among customers. Integrating customers and suppliers to the follow-up meetings in projects is one way to gather information from different players at the same time and commit them all toward a joint target.

Regarding limitations, this study consisted of a single start-up case, where the key persons were all men and piggybacked onto virtuality and ICT comparatively little, partly because the start-up was in an early development phase. Although being able to interview only men in this study is a limitation, another study in the future with only women would offer a good comparison. However, the start-up was exceptional because its key persons had broad previous experience in business. On account of the key persons' several layers of prior knowledge the case can be regarded as representative for this study and can pave the way for future researchers to conduct empirical research on this topic in other companies and in other fields of industry. Future studies can focus on studying how to utilize virtuality in orchestration of networks, how events and leadership behaviors influence creativity in virtual work, and on outcomes of co-creative and assertive coaching leadership.

5. Conclusions

This study gives empirical evidence in a start-up context about combining leadership and creativity, which have so far remained separate within the virtual work research. The results suggest the importance of co-creative and assertive coaching leadership for start-ups in virtual work. Leadership that fosters creative and inspiring utilization of virtuality and ICT from the early stage of a company and utilizes multiliteracy skills and critical reflection can promote such success stories where both people and businesses can flourish in the digital economy. Moreover, by integrating business and pedagogical knowledge it is possible to gain a broader understanding of leadership and collaboration in virtual work.

References

- Amabile, T. M. (1988), "A model of creativity and innovation in organizations", in Staw, B. M. and Cummings, L. L. (Eds.), *Research in Organizational Behavior, Vol. 10*, JAI Press, Greenwich, pp. 123-167.
- Amabile, T. M., Conti, R., Coon, R., Lazenby, J. and Herron, M. (1996). "Assessing the Work Environment for Creativity", *Academy of Management Journal*, Vol. 39 No. 5, pp. 1154-1184.
- Alasoini, T. (2012), "A New Model for Workplace Development in Finland: Rethinking Employee Participation and the Quality of Working Life in the Context of Broad-Based Innovation Policy", *International Journal of Action Research*, Vol. 8 No. 3, pp. 245–265.
- Avolio, B. J. and Bass, B. M. (1988), "Transformational Leadership, Charisma and Beyond", in Hunt, J. G., Baliga, B. R., Dachler, H. P. and Schriesheim, C. A. (Eds.), *Emerging Leadership Vistas*, Lexington, Boston, pp. 29-49.
- Avolio, B. J., Waldman, D. A. and Yammarino, F. J. (1991), "The Four I's of Transformational Leadership", *Journal of European Industrial Training*, Vol.15 No. 4, pp. 9-16.
- Avolio, B. J., Sosik, J. J., Kahai, S. S. and Baker, B. (2014), "E-leadership: Re-examining transformations in leadership source and transmissions", *The Leadership Quarterly*, Vol. 25 No. 1, pp. 105-131.
- Beairsto, B. and Ruohotie, P. (2003), "Empowering Professional as Lifelong Learners", in Beairsto, B., Klein, M. and Ruohotie, P. (Eds.), *Professional Learning and Leadership*, Research Centre for Vocational Education and Training, Hämeenlinna, pp. 115-145.
- Castro, F., Gomes, J. and de Sousa, F. C. (2012), "Do Intelligent Leaders Make a Difference? The Effect of a Leader's Emotional Intelligence on Followers' Creativity", *Creativity and Innovation Management*, Vol. 21 No. 2, pp. 171-181.
- Charmaz, K. (2006), *Constructing Grounded Theory. A Practical Guide Through Qualitative Analysis*, SAGE Publications, London, Thousand Oaks, New Delhi and Singapore.
- Coleman, D., Boyatzis, R. and McKee, A. (2004), *Primal leadership: Learning to lead with emotional intelligence*, Harvard Business Review Press, Boston.
- Cortini, M. and Scaratti, G. (2011), "Creativity at Work and Weblogs: Opportunities and Obstacles", in D'Atri, A., Ferrara, M., George, J. F. and Spagnoletti, P. (Eds.), *Information Technology and Innovation Trends in Organizations*, Springer-Verlag, Berlin and Heidelberg.
- Csikszentmihalyi, M. (1990), *Flow: The Psychology of Optimal Experience*, Harper and Row, New York.
- Csikszentmihalyi, M. (1999), "A Systems Perspective on Creativity", edited extract from R. Sternberg, R. (Ed.), *Handbook of Creativity*, Cambridge University Press, Cambridge, pp. 313-335, available at: http://www.sagepub.com/upm-data/11443_01_Henry_Ch01.pdf (accessed 2 May 2013).
- Dearie, J. and Geduldig, C. (2013), *Where the Jobs Are. Entrepreneurship and the Soul of the American Economy*, John Wiley & Sons, Hoboken.

Flyvbjerg, B. (2007). "Five misunderstandings about case-study research", in Seale, C., Gobo, G., Gubrium, J. F and Silverman, D. (Eds.), *Qualitative Research Practice*, Sage Publications, London, Thousand Oaks, New Delhi and Singapore, pp. 390-404.

Gray, D. E. (2014), *Doing Research in the Real World*, SAGE Publications, London, Thousand Oaks, New Delhi, Singapore.

Guth S. and Helm F. (2010), "Introduction", in Guth, S. and Helm, F. (Eds.), *Telecollaboration 2.0: languages, literacies and intercultural learning in the 21st century. Telecollaboration in Education, Volume 1*, Peter Lange AG, Bern, pp. 13-35.

Hatch, M. J. and Cunliffe, A.L. (2006), *Organization Theory: Modern, Symbolic, and Post-modern Perspectives*, Oxford University Press, Oxford.

Hawkins, P. (2012), *Creating a Coaching Culture. Developing a Coaching Strategy for Your Organization*, Open University Press, Maidenhead.

Hazy, J. K. (2009), "Innovation Reordering: Five principles for leading continuous renewal", in Schlomer, S. and Tomaschek, N. (Eds.), *Leading in Complexity: New Ways of Management*, Verlag für Systemische Forschung, Seiten, p. 300.

Isabella, L. A. (1990), "Evolving Interpretations as a Change Unfolds: How Managers Construe Key Organizational Events", *The Academy of Management Journal*, Vol. 33 No. 1, pp. 7-41.

Jenster, N. P. and Steiler, D. (2011), "'Turning up the volume' in inter-personal leadership: motivating and building cohesive global virtual teams during times of economic crisis", in Obley, W. H., Li, M. and Wang, Y. (Eds.), *Advances in Global Leadership (Advanced in Global Leadership 6)*, Emerald Group Publishing Limited, pp. 267-297.

Lane, D. A. and Down, M. (2010), "The art of managing for the future: leadership of turbulence", *Management Decision*, Vol. 48 No. 4, pp. 512-527.

Lichtenstein, B. B., Uhl-Bin, M., Marion, R., Seers, A. and Orton, J. D. (2006), "Complexity leadership theory: An interactive perspective on leading complex adaptive systems", *Emergence: Complexity and Organization*, Vol. 8 No. 4, pp. 2-12.

Merriam, S. B (2004), "The Role of Cognitive Development in Mezirow's Transformational Learning Theory", *Adult Education Quarterly*, Vol. 55 No. 1, pp. 60-68.

Miller, J. and Glassner, B. (2011), "The "Inside" and the "Outside": Finding Realities in Interviews", in Silverman, D. (Ed.), *Qualitative Research*, 3rd Edition, Sage Publications, London, Thousand Oaks, New Delhi and Singapore, pp.131-148.

Nemiro, J. E. (2004), *Creativity in Virtual Teams. Key Components for Success*, John Wiley & Sons, Inc., San Francisco.

Newton Suter, W. (2012), *Introduction to Educational Research, A Critical Thinking Approach, Second Edition*, Sage Publications Inc., Thousand Oaks.

Osborn, R. N. and Marion, R. (2009), "Contextual leadership, transformational leadership and the performance of international innovation seeking alliances", *The Leadership Quarterly*, Vol. 20 No.

2, pp. 191–206.

Panteli, N. and Chiasson, M. (2008), *Exploring Virtuality within and beyond Organizations. Social, Global and Local Dimensions*, Palgrave Macmillan, Hampshire and New York.

Panteli, N. and Fineman, S. (2005), “The sound of silence: the case of virtual team organizing”, *Behavior & Information Technology*, Vol. 24 No. 5, pp. 347-352.

Parjanen, S. (2012), *Creating possibilities for collective creativity. Brokerage Functions in Practice-Based Innovation*, Acta Universitatis Lappeenrantaensis 474, Lappeenranta University of Technology, Lappeenranta.

Patton, D. and Higgs, M. (2013), “The role of shared leadership in the strategic decision making processes of new technology based firms”, *International Journal of Innovation Management*, Vol. 14 No.4, pp. 1-24.

Plowman, D. A., Solansky, S., Beck, T. E., Baker, L., Kulkarni, M. and Villareal Travis, D. (2007), “The role of leadership in emergent, self-organization”, *The Leadership Quarterly*, Vol. 18 No. 4, pp. 341–356.

Rapley, T. (2010). “Interviews”, in Seale, C., Gobo, G., Gubrium, J. F and Silverman, D. (Eds.), *Qualitative Research Practice*, Sage Publications, London, Thousand Oaks, New Delhi and Singapore, pp. 15-33.

Rosen, E. (2009), *The Culture of Collaboration. Maximizing Time, Talent and Tools To Create Value in the Global Economy*, Red Ape Publishing, San Francisco.

Ruggieri, S., Boca, S. and Garro, M. (2013), “Leadership styles in synchronous and asynchronous virtual learning environments”, *The Turkish Online Journal of Educational Technology*, Vol. 12 No. 4, pp. 96-101.

Sawyer, R. K. and DeZutter, S. (2009), “Distributed Creativity: How Collective Creations Emerge From Collaboration”, *Psychology of Aesthetics, Creativity, and the Arts*, Vol. 3 No. 2, pp. 81-92.

Searle, G. D. and Hanrahan, S. J. (2011), “Leading to inspire others: charismatic influence or hard work?”, *Leadership & Organization Development Journal*, Vol. 32 No. 7, pp. 736-754.

Smith, E. (2011), ”Teaching critical reflection”, *Teaching in Higher Education*, Vol. 16 No. 2, pp. 211-223.

Spelthann, V. and Haunschild, A. (2011), “Organizational Creativity in Heterarchies: The Case of VFX Production”, *Creativity and Innovation Management*, Vol. 20 No. 2, pp. 100-107.

The New London Group. (1996), “A Pedagogy of Multiliteracies: Designing Social Futures”, *Harvard Educational Review*, Vol. 66 No. 1, pp. 60–92.

Uhl-Bien, M., Marion, R. and McKelvey, B. (2007), “Complexity Leadership Theory: Shifting leadership from the industrial age to the knowledge era”, *The Leadership Quarterly*, Vol. 18 No. 4, pp. 298-318.

Uusikylä, K. (2012), *Luovuus kuuluu kaikille*, PS-kustannus, Jyväskylä.

Wang, P. and Zhu, W. (2011), "Mediating Role of Creative Identity in the Influence of Transformational Leadership on Creativity: Is There a Multilevel Effect?", *Journal of Leadership & Organizational Studies*, Vol. 18 No. 1, pp. 25-39.

Warrick, D. D. (2011), "The Urgent Need for Skilled Transformational Leaders: Integrating Transformational Leadership and Organization Development", *Journal of Leadership, Accountability and Ethics*, Vol. 8 No. 5, pp. 11-26.

Wheeler, S., Waite, S. J. and Bromfield, C. (2002), "Promoting creative thinking through the use of ICT", *Journal of Computer Assisted Learning*, Vol. 18 No. 3, pp. 367-378.

Whitford, T. and Moss, S. A. (2009), "Transformational Leadership in Distributed Work Groups: The Moderating Role of Follower Regulatory Focus and Goal Orientation", *Communication Research*, Vol. 36 No. 6, pp. 810-837.

Woodman, R. W., Sawyer, J. E. and Griffin, R. W. (1993), "Toward a Theory of Organizational Creativity", *Academy of Management Review*, Vol. 18 No. 2, pp. 293-321.

Zayani, F. A. (2008), *The impact of transformational leadership on the success of global virtual teams: An investigation based on the Multifactor Leadership Questionnaire*, Doctoral Dissertation, Capella University, Minneapolis.

Zimmermann P., Wit, A. and Gill, R. (2008), "The Relative Importance of Leadership Behaviours in Virtual and face-to-face Communication Settings", *Leadership*, Vol. 4 No. 3, pp. 321-337.