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Leadership toward creativity in virtual work in a start-up context

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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 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, and the measures they see to meet those challenges. The data have been gathered on a Finnish partnership start-up company through interviews capturing peoples' personal perspectives and experiences. This study uses 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 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 Creativity, Leadership, Coaching, Virtual work, Start-up, Assertiveness

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 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 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 (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 (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 (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: 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 (The 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 (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 were 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:

- the key persons' backgrounds and roles in the start-up;
- their views, motivations and ambitions on the start-up business, and how they saw;
- interaction and communication both in the core team and with customers and other stakeholders;
- leadership and creativity;
- the role of virtual work and utilizing ICT in leadership and networking; and
- 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 were analyzed during data collection, to avoid unfocused and repetitious data collection, and after all the data were collected. Field notes, comments and questions were written during the data collection stage and analyzed later. The data in the interview transcripts were 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 were 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 I:

(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 I) and those linked to the construed understandings to meet the challenges (Table II). Firstly, Table I illustrates the ten learning themes and the most relevant examples of codes of learning challenges related to each of the learning challenges.

The focal learning challenges to learn to operate in a new start-up context (Learning Theme 1 in Table I) 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.

3.2.1 Extract

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

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	Unlearning the courses of action learned before in bigger organizations
	Tapping partners' previous experience, ideas, expertise and contacts
	Realistic attitude toward challenges
	Critical reflection
2. Team dynamics	Power relations
	Decision making in the core team
	Managing the conflicts of competition
	Organizing for growth
3. Commitment of the owners of the company	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	Common targets
	Global operational concept
	Network as an overarching power
	Cost-effectiveness and speed
	Established partners in right positions
5. Orchestration of the network	Building the network
	Managing the network
	Managing the development of the network
	Contract management
6. Communication	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	Credibility of a small company
8. Customer collaboration and development of business	Supporting customers to find solutions themselves
	Know-how in networking, lobbying and the field of operation
9. The managing of projects	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	Project implementation, including follow-up
	Managing project documentation

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

Examples of the construed understandings of meeting learning challenges	Main measures in leadership toward creativity
LC 1: Collaboration in a partnership team	
Encouraging to share expectations, views, experience and know-how and use the strengths of key players	Encouraging collective creation
Regular discussions	
Courage to talk about facts	
Mutual respect, trust and listening	
Emotional intelligence	
Dispersed leadership	
Critical reflection	Critical reflection
Common rules of doing business	Assertiveness
LC 2: Orchestration and leadership	
Clear common targets for all	Assertiveness
Resource allocation	
Contract management	
Network management system	
Building a supplier network of high quality	
Collaborative leadership with mutual trust, flexibility and cultural sensitivity	Constructive and flexible interaction
Emotional intelligence	
Consistent leadership profiles toward different players	
Orchestrating the creative development of the network	
Sharing structured information regularly face-to-face and through ICT	Multiliteracy skills
Lobbying as a means of utilizing distances between people	
LC 3: Collaboration with customers	
Providing solutions	
Effortless collaboration for customers	Creating shared value with customers
Superior logistics	
Strategic agility	
Good business relationships	
Good communication skills face-to-face and through ICT	
Proactivity toward customers' customers	
Consistent course of action to gain credibility	Consistent course of action
LC 4: Project management	
Reliable project managers and project management system	Good management skills and systems
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	

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

interviewees thought thatthere 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 and 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.

3.2.2 Extract

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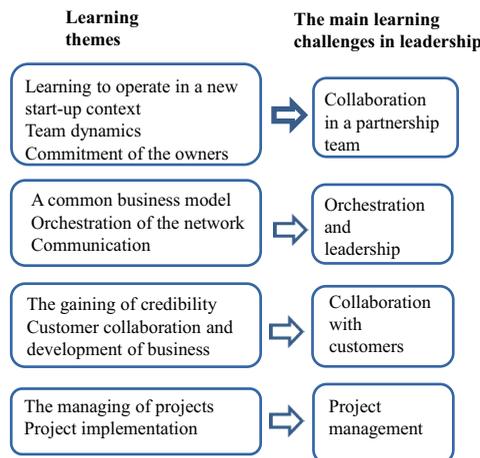
Figure 1.
The main learning challenges in leadership toward creativity in the case start-up derived from learning themes

Successful start-up business requires simultaneously learning to connect orchestration and leadership, collaborating in a partnership team and collaborating with customers and project management.

Secondly, the data analysis revealed main measures in leadership to meet the main learning challenges (Table II). 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 II 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 highlight encouraging collective creation, critical reflection, assertiveness, flexible interaction, multiliteracy skills, creating shared value with customers, consistency and good management skills and systems.

Even though the case start-up used ICT in leadership and collaboration relatively little, the data reveal 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 (LC1 in Table II) (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) (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.

3.2.3 Extract

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 highlight 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 (LC2); 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 (LC2, LC3). 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.

3.2.4 Extract

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; and consistent leadership profiles toward different players – is essential in meeting learning challenges (LC2, LC3).

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.

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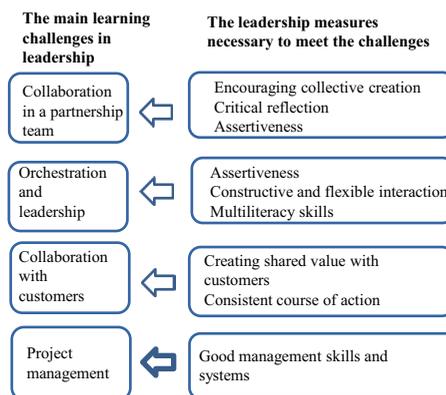
Figure 2.
The main learning challenges in leadership toward creativity in virtual work, and the leadership measures necessary to meet the challenges in the case start-up

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; Uhl-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

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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.

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