

E-Leadership for Virtual Teams

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Abstract

Today more and more corporates increasingly conduct business using globally distributed teams, also called virtual teams, because of the availability and ubiquity of information and communication technology. E-leadership refers to leading through computer-mediated communication. The purpose of this paper is to discuss how e-leadership behaviours affect team performance in the context of virtuosity, in particular, interpersonal trust and corporate commitment of the virtual team members. Virtual or e-leadership is multidimensional with characteristics differentiating it in important ways from traditional leadership. Virtual leadership can be viewed as a combination of skills and knowledge structures, which include cognitive abilities, cognitions and meta-cognitions that contribute to performance. To manage virtual teams effectively, virtual leaders need to understand the business environments they are dealing with. Challenges of mastering the technology, adjusting to cue-deprived communication environments, synergizing dispersed teams and still achieving high productivity are new for today's leaders. Virtual leaders can be trained to successfully influence team members while relying on computer-mediated communication, building trust, shortening the subjective distance, sharing information, processing gains and losses, dealing with feelings of isolation, encouraging participation and enhancing coordination and cohesion.

Keywords: Virtual Leadership, Virtual Team, Virtual Environment, Corporate Strategy, Corporate Performance

Background

Information technology has drastically changed the way society communicates. An increasing number of workplace activities involve computers and computer-mediated communication among individuals and across corporate boundaries (Townsend, DeMaire & Hendrickson, 1998). E-Leadership is an approach of leading within virtual environments where a significant amount of work, including communication, is supported by information and communication technology. There are two core components of e-leadership: communication and technology (Barnwell, Nedrick, Rudolph, Sesay & Wallen, 2014). A growing number of corporate choose to conduct business virtually today to take advantage of the benefits it brings. The virtual team describes the remote work arrangement made possible by computer-mediated communication; other phrases about virtual include telecommuting, telework, distributed works, distributed teams, virtual office, virtual work, virtual workplace, virtual corporate and virtual community (Chang, Chuang & Chao, 2011).

E-Leadership in virtual corporate environments is the focus of this paper. Because of the increase in the globalization of business, there are more and more project teams dispersed in different geographic locations (Barnwell et al., 2014). According to a survey conducted by the Society for Human Resource Management in 2012, 66% of multinational and 46% of all corporate were using virtual teams in their workplace (Lepsinger & DeRosa, 2015). Multiple virtual environments exist, for instance, for education, e-commerce, entertainment, social media, business, sports, the military and many other fields. Although still in its infancy, e-leadership has been a well-accepted concept since Avolio, Kahai and Dodge created this term in 2001. Leadership in online and virtual environments is called e-leadership (Avolio et al., 2001; Savolainen, 2013; Phelps, 2014).

For corporate, becoming global and doing business in virtual environments are corporate strategies, not simply a matter of corporate structure (Venkatraman & Henderson, 1998). Virtual teams are geographically and culturally dispersed in order to facilitate around-the-clock work and to allow the most qualified individuals to be assigned to a project team (Wakefield, Leidner & Garrison, 2008). Such phenomena are altering global business and corporate boundaries and they are removing limitations set by the workplace and working hours (Savolainen, 2013). The

benefits of conducting businesses within virtual environments also include environmental friendliness, more flexible work arrangements, fewer travel costs and lower costs of running office premises (Pyoria, 2011). While there are benefits of conducting work through virtual teams, there are also problems associated with it.

From a management perspective, problems of virtual teams include slower processing than anticipated during the team forming stage, lagging labour legislation, lacking occupational health and social interaction, stress and fatigue and data security (Pyoria, 2011). From a leadership perspective, problems of virtual teams include low levels of cohesiveness, difficulty in establishing trust, conflicts, casual attributions and a lack of mutual knowledge of context and access to dispersed knowledge (MacDuffie, 2007).

Problem Statement

Due to the idiosyncrasies of conducting businesses virtually, virtual leaders need to understand the roles of technologies and to take into consideration what the dispersion of their globally distributed teams implies when it comes to their choice of virtual leadership behaviours. Understanding effective e-leadership styles potentially provide virtual leaders with theoretical insights and practical tools to lead globally distributed teams effectively.

Furthermore, the characteristics of team virtuosity may affect how teams perform (Kennedy, Vozdolska & McComb, 2010). So far, there has been scant research dedicated to finding out the roles of the degree of virtuosity in moderating the relationship between leadership behaviours and team performances. Therefore, to answer the calls for further research on the degree of virtuosity (Maynard, Mathieu, Rapp & Gilson, 2012; Zander, Mockaitis & Butler, 2012; Politis, 2014), this paper will explore the moderating effects of the degree of virtuosity on the relationships between e-leadership behaviours and levels of virtual team members' interpersonal trust and corporate commitment.

Statement of Purpose

The purpose of this paper is to examine how leaders of globally distributed teams affect team members' level of interpersonal trust and corporate commitment through e-leadership

behaviours. This paper also endeavours to test the moderating effects of the degree of virtuosity on the relationships between-leadership interpersonal trust and corporate commitment of virtual team members.

The Significance of the Study

Due to the near ubiquity of information and communication technologies, it has become inevitable for corporate to do business with some degree of virtuosity. Research and studies have been conducted to understand the cognitive and affective changes during the transition from the traditional face-to-face business environments to computer-mediated virtual business environments. This paper will add to the current understanding of the changes in modern leadership during such transition as presented in existent studies.

Since corporate are becoming increasingly global and virtual, research on how to lead effectively within virtual business environments is timely and relevant. Such research can potentially provide academic and practitioners with theoretical insights and practical tools for e-leadership. For instance, different training models for e-leaders and virtual team members can be devised from the research results. Potential training models include, but are not limited to, subjects such as communication with electronic media, clarification of goals and roles, balancing virtual work dynamics, development of an intra-team process, conflict management for virtual team and suggestions on how to avoid drawbacks of computer-mediated communication such as information overload.

E-Leadership Overview

E-leadership is defined as ways of leadership in which individuals or groups are geographically dispersed and interactions are mediated by technology (Avolio, Walumbwa & Weber, 2009). This is a relatively new research field where concepts become outdated and emerge relatively quickly. For instance, earlier researchers in the late 1990s and early 2000s tried to comprehend what e-leadership encompassed from different perspectives, but rapid technological changes quickly have made some concepts, such as anonymity within virtual environments, outdated (George & Sleeth, 2000).

E-leadership is also called virtual leadership. Virtual or e-leadership is multidimensional with characteristics differentiating it in important ways from traditional leadership in off-line settings of e-leadership; according to Samarthino, Faira and Silva (2015), the emergent paradigm of e-leadership is composed of a body of knowledge organized in three categories: e-leadership, virtual teams and technology – with technology being the common denominator as a platform to establish relationships. Virtual leadership can be viewed as a combination of skills and knowledge structures, which include cognitive abilities, cognitions and meta-cognitions that contribute to performance (Serban et al., 2015). Zander et al., (2012) stated that there were three themes for globally distributed team leadership: leaders as boundary spanners, as bridge makers and as blenders.

Figure 1:

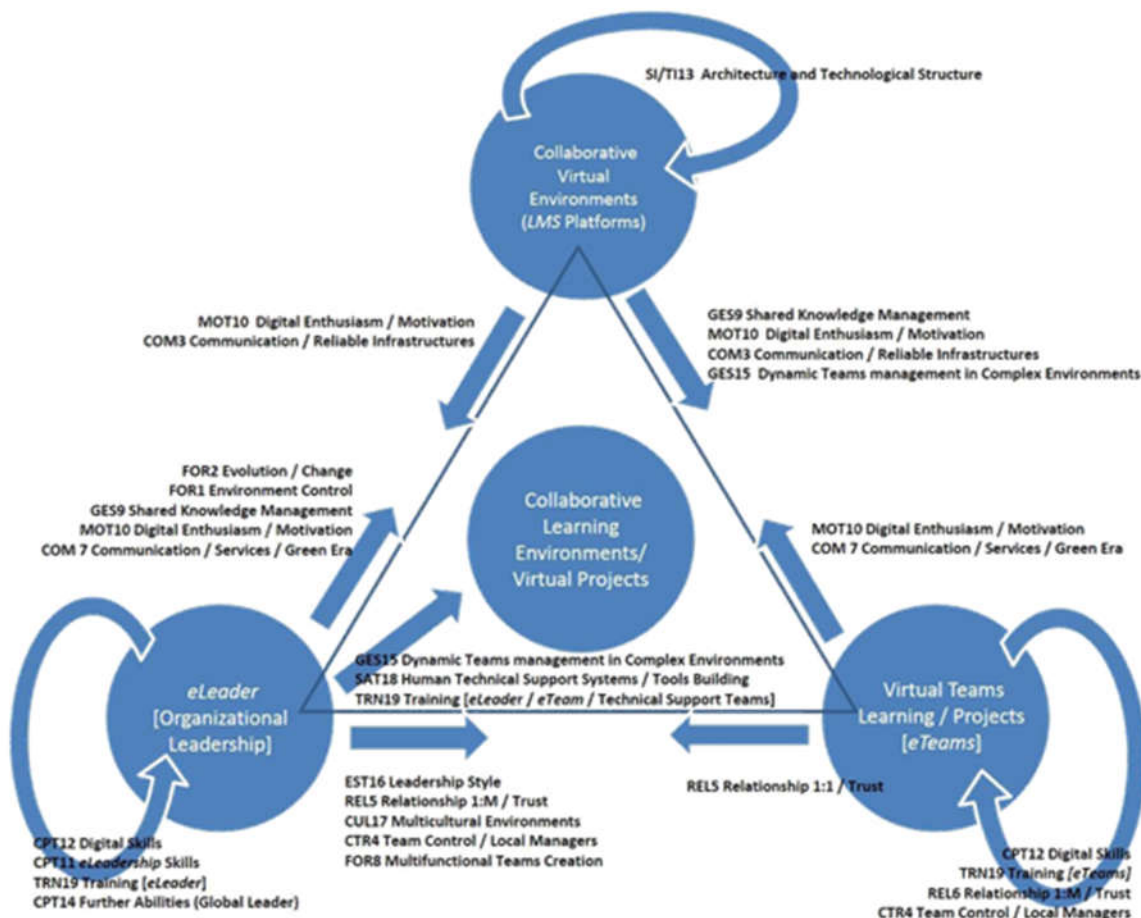


Figure 1: Model for Specific Skills and Characteristics in E-Leadership adopted from Samarthinto et al., 2014

Information and communication technology has enriched electronic communication and facilitated the wider availabilities of resources and talents (Ocker, Huang, Trauth & Purano, 2007). Technology has become part of the social transformation in business corporate and in turn, part of the leadership realm (Avolio et al., 2001). According to Zigurs (2003), virtual business environments have afforded society a unique opportunity to redefine leadership. Virtual workplaces have transformed the traditional business mindset, and it is clear that they are here to stay (Lepsinger & DeRosa, 2015).

There are many benefits of running virtual business environments for the corporate:

- It is environmentally friendly
- There are more flexible work arrangements and lower costs of running office premises
- It lessens traffic congestion in metropolitan areas
- Improves local air quality and reduces greenhouse gas emission and pressure on the environment
- It is a way of raising the corporate's brand image
- There is better job control and well-being at the individual level and overall efficiency at the corporate level (Kitou & Horvath, 2003; Pyoria, 2013).

However, there are also problems associated with working within virtual environments. According to MacDuffie (2007), barriers exist to achieving cohesion and trust within virtual environments and there are usually conflicts, causal attribution and difficulties in maintaining mutual knowledge and accessing dispersed knowledge within virtual environments. There are also potential conflicts resulting from team cultural diversity, large volumes of electronic communication and a lack of immediacy of feedback in asynchronous media (Kakkanhalli, Tan & Wei, 2006). In addition, there could exist processes slower than normally anticipated, labour legislation issues, lack of occupational health and social interaction, as well as stress and fatigue, over time and data security issues (Pyoria, 2011).

According to Salanova et al., (2013), there are two types of technostress experiences – techno strain and techno addiction – that cause fatigue and other physical and mental issues of virtual team members. Information and communication technology has enabled wider availability of

resources and talents, but that does not lead to the social, physical, mental and emotional availability of knowledge workers (Ocker et al., (2007). Ultimately, information and communication technology is not a problem solver but rather a support mechanism (Nilan & Mundkur, 2007).

Closely related to technostress, ergonomic considerations and cybersecurity require attention and awareness as well. Over the past two decades, more and more information and communication technology users have awareness of physical comfort and mental health issues associated with working in virtual environments. Proper ergonomic protection, appropriate tools and necessary training need to be provided to virtual team members to achieve work and life balance by the management and leadership. Since cybersecurity is at the heart of any business's sustainability, it should be on the top of the agenda of e-leadership (Pyoria, 2011).

E-Leadership Challenges

All the existing definitions confirm Barnwell et al., (2014) statement about e-leadership having two core components: communication and technology. Leading virtually implies that the virtual leader cannot intuitively see it or hold it yet would still assume or perceive a functioning team (D'Eredita & Nilan, 2007). Researchers found that communication media did have important effects on team interaction styles and cohesion (Hambley, O'Neill & Kline, 2007). To manoeuvre within virtual environments freely, as one would do within the traditional face-to-face environments, virtual leaders need to master the skills for both communication and technology. Leaders of virtual teams face a unique set of challenges, such as successfully influencing team members while relying on computer-mediated communication, building trust, sharing information, processing gains and losses, dealing with feelings of isolation, encouraging participation and enhancing coordination and cohesion (Alistoun & Upfold, 2012).

To manage virtual teams effectively, virtual leaders need to understand the business environments they are dealing with. Challenges of mastering the technology, adjusting to cue-deprived communication environments, synergizing dispersed teams and still achieving high productivity are new for today's leaders. According to Furst, Reeve, Rosen and Blackburn (2004), these challenges include logistical problems such as communicating and coordinating

work across time and space; interpersonal concerns, such as establishing effective relationships with team members and technology issues, such as identifying learning and using technology most appropriate for certain tasks.

Virtual Teams

Virtual teams, also known as globally distributed works, conduct business in different locations around the world. They are real teams with a collection of individuals who are interdependent in their tasks, share responsibility for outcomes, see themselves and viewed by others as an intact social unit embedded in one or more social systems and collectively manage their relationships across boundaries (MacDuffie, 2007). They work while separated by geographic distance. Advanced visualization and interaction techniques are often used by virtual teams to enhance team communication and collaboration (Bassanino, Fernando & Wu, 2014).

Based on the above definition, researchers have concluded that there are six attributes of virtual teams (Berry, 2011):

1. The members of the team may be geographically dispersed (Johnson, Chanidprapa, Yoon, Berrett & LaFleur, 2003);
2. The members of the team predominately rely on computer-mediated communication rather than face-to-face communication to accomplish their tasks (Maznevski & Chudoba, 2000);
3. Members of the team function interdependently, using with a shared sense of purpose that is either given to them or constructed by the team itself (Alderfer, 1987);
4. The team usually, but not always, has a definable and limited membership and there is awareness by team members of this shared membership; even if membership changes somewhat, the team remains intact (Alderfer, 1987);
5. The members of the team collectively manage their relationships across (and perhaps between) corporate boundaries (Hackman, 1987);
6. The members of the team are jointly responsible for outcomes (Hackman, 1987).

There are three broad categories of teams: traditional (co-located), virtual (completely distributed) and semi-virtual or hybrid (containing both local and remote members), according to

Bester and Wong (2008) and Sarker, Ahuja, Sarker and Kirkeby (2011). The limitations of electronic communication could negatively affect team members' perceptions of their remote members (Burke, Aytes, Chidambaram & Johnson, 1999).

There are also four modes for multi-disciplinary teams to collaborate: face-to-face, synchronous distributed, synchronous and asynchronous distributed (Bassanino et al., 2014). Studies revealed that virtual teams that were distributed to different degrees may experience different kinds of dynamics than completely co-located or completely distributed groups would do (O'Leary & Cummings, 2007). For instance, Bazarova and Walther (2009) found that when a virtual group was split among two or three geographical subgroups, with several members at each location, greater conflict occurred than incompletely distributed or co-located groups, especially when participants perceived greater homogeneity elsewhere.

Just like traditional teams, virtual teams also go through different stages. Furst et al., (2004) maintained that there were four stages of virtual teams: forming, storming, norming (midpoint) and performing; each stage had different leadership challenges. Hertel et al., (2005) maintained that there were five stages of virtual teams: Preparation, launch, performance management, team development and disbanding. Purvanova and Bono (2009) found that the typical virtual project team was characterized by temporary lifespan and membership, spatial dispersion and the use of predominantly computer-mediated communication.

In addition, multi-teaming is an emerging concept in the e-leadership field. Multi-teaming means virtual team members reside on more than one team at once. Researchers have not formed a consensus on whether multi-teaming is another discontinuity or an elemental characteristic of team participation, or whether multi-teaming has a positive effect on team performance in virtual environments (Chudoba et al., 2005). Comprehension of multi-teaming will complement the understanding and application of e-leadership.

Degree of Virtuosity

The degree of virtuosity is sometimes called virtuosity index. Virtuosity refers to the virtual business teams in terms of geographic distribution, corporate and national culture information and communication media usage, task interdependence and other important factors of virtual

business environments. The degree of virtuosity measures or describes the dimensions of virtual teams or virtual tasks. Over time, researchers have agreed on assessing team virtuosity as a continuum rather than an on-off dichotomy (Kanawattanachai & Yoo, 2007; Al-Ani et al., 2011). At one end of the continuum is the completely distributed team, which is high in virtual tools usage, low in media richness and completely asynchronous across one or more dimensions (Kirkman & Mathieu, 2005). Due to the ubiquity of the Internet, a pure face-to-face business environment is becoming less prominent. Most business environments are a hybrid of traditional and virtual structures. As long as people occasionally rely on computer-mediated communication in addition to face-to-face interactions to cooperate on tasks, the work setting has a degree of virtuosity (Chudoba et al., 2005).

According to Chudoba et al., (2005) there are three dimensions closely associated with the degree of virtuosity: team distribution, workplace mobility and variety of practices. Team distribution is defined as the degree to which people work on teams with members who are distributed over different geographic and time zones, relying upon collaboration technologies. Workplace mobility is defined as the degree to which employees work in environments other than regular offices, including different office sites, home, airports and places outside the workplace. Variety of practices is defined as the degree to which the employees experience technology and work process diversity on their teams.

Concluding Remarks

Through an understanding of the differences between traditional business environments and virtual business environments can help virtual leaders adjust their skills for effective leadership. The study of Al-Ani et al., (2011) might suggest that traditional leadership theories and practices can be applied to virtual business settings, with appropriate modifications to how messages are delivered, and performance results are measured. According to Kerfoot (2010), challenges of virtual leadership were the same as traditional leadership but occurred in a much different venue where direct supervision and interaction were impossible. This means virtual leaders should educate themselves well on the usage of advanced information technology to achieve high productivity. They also need to adjust to the asynchronous communication environments,

synergizing dispersed teams with less salient work identities but heightened needs for self-regulation.

Virtual leaders can be trained to successfully influence team members while relying on computer-mediated communication, building trust, shortening the subjective distance, sharing information, processing gains and losses, dealing with feelings of isolation, encouraging participation and enhancing coordination and cohesion (Alistoun & Upfold, 2012).

Information and communication technology has revolutionized how society communicates, how people collaborate and how leaders lead. Virtual workplaces have transformed the traditional business mindset and it is clear that they are here to stay (Lepsinger & DeRosa, 2015). Information and communication technology has institutionalized many practices over the past three decades. Leadership practices have quickly embraced virtual connections in addition to in-person communications. Leaders need to know how to take advantage of technologies and exert their leadership influence through technologies.

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