Understanding the influence of E-leadership on Virtual Team Performance Empirical Study

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Abstract

This study aims to investigate the existing and the importance of E-leaders in organizations in the Saudi context. Paralleled with the globalization of trade and business, a new type of organization known as Virtual Organization (VO) has been emerged in the 1990s. The VO partners are relying on the Virtual Team (VT) to fulfill designated tasks and projects, by which interaction and collaboration take place among geographically distributed and often culturally disparate individuals. So, this study focuses on understanding the E-leaders as a new type of leadership about its VT members that are geographically dispersed. E-leadership may face many challenging in a virtual context such as building trust, articulating the influence, clear communication. In addition to the cultural differences and diversity, some of these challenges will be addressed in this study.

Keywords: E-leader,Virtual Team(VT), Advanced Information Technology(AIT), Virtual Organization (VO), Information and Communications Technology(ICT), Emotional Authenticity, Social Exchange, Multinational Corporation (MNC).

1. Introduction:

As a result of new trends, especially, the technology advancements, a unique style of leadership has been developed as adapting to the change in the circumstances in the business world; this adaptation called Virtual Organization (VO) that have been appeared in the 1990s. Such a paradigm, allows Multinational Corporation (MNC) to use the different ICTs that encourage collaboration among team members. At the same time, VO partners have been increasingly dependent on the Virtual Team (VT) to accomplish multitasks and more distance projects. Such interaction penetrates the geographically and culturally distribution. This study focuses on investigating the existing of the E-leadership style and its influence on the Virtual Team (VT) performance. E-leaders and the VTs may face many challenges for building and sustaining the competitive advantages in a virtual context. Since trust and, influence is hard to be made, and also communication is more complicated. Thus, the role of communication technologies, cultural differences, and trust will be addressed in this study. Also, this study target at investigating the existing of the E-leadership in VOs and VTs in the Saudi context by which a theoretical framework of leadership in VOs will be developed. The extensive literature in the field of E-leadership has been reviewed. Therefore, several considerations for leadership educators and practitioners were identified.

However, many frameworks have been developed to conceive of leadership in these new aspects; there is still much work to be done. With an understanding of the way leadership can be enacted leadership educators and practitioners can be helped by the development of the necessary skills and core competencies in the virtual spaces.

The questionnaire has been used as a research method, and it aims to investigate empirically that (i) E-leaders has been exit and important in Saudi organizations. (ii) E-leader skills and behavior are significantly affecting virtual members' performance. Finally (iii) the virtual members' performance is positively related to the performance of other members within the virtual team.

2. Literature review

2.1 E-Leadership

Based on a value study has been developed by a leadership scholar Petrie, through a year interviewing 30 leadership experts on the future trends of leadership development (Petrie, 2014). The experts believed that the work environment is changing at a fundamental level (due to new technologies, information overload, and new values and expectations), thus they found the leadership development methods have not changed enough to accommodate for this transformation. In particular, they reported that the previous leadership strategies that were effective in the past are increasingly misaligned with the leadership challenges of the future (Petrie,2014). This gap calls for a more considerable systemic change in the leadership approach coping with the digital revolution. The digital information and technological revolutions help in transforming the way we act and create competitive advantages. Now organizational form and new work environment are shaping up asking for a unique style of leadership. The unique structure of the organization is called virtual organizations, the new work environment is known as a virtual environment, and the emerging leadership pattern is labeled as E-leadership. The distinguishing feature of Electronic leadership- (E-leadership) is the new interface between the leader and his followers. E-leadership exists in the E-environment in which the work is completed by information technology substantially, the internet (Hani, 2001). In such a way, not only the communication between followers and leaders takes place through information technology, but also the collection and dissemination of information take place via the same mediator (Avolio et al.,03). Information and communication technologies (ICTs), sometimes called the advanced information technologies (AITs), (e.g., websites, YouTube), e-mail, video conferencing, virtual teams, groupware systems, social media, texting, blogs, document sharing, as well as a host of enterprise information storage and analysis systems, among others. It is important to note that AITs have very different functions, including informing, interaction, planning, record-keeping, and data analysis. Some targeted at serving multiple purposes while others are aimed at a specific purpose or function., E-leadership has been defined as "social influence process embedded in both proximal and distal contexts mediated by AIT that can make a change in attitudes, feelings, thinking, behavior, and performance" (Avolio et al. 2014:p 107). The E-leadership then is an influencing process, mediated by AIT and resulting in changes to outcomes. Carreño has defined E-leadership as a new leadership paradigm that requires the leader to achieve these leadership objectives in a computer-mediated manner with virtual teams that are dispersed over space and time, the main medium of communication amongst leader(s) and followers being the electronic conduit supported by computers. This new paradigm provides a plethora of new opportunities, as well as several new challenges and strategies (Carreño, 2014). Based on Parry (1998) who suggested that examine the social influence processes, as a center of the e-leadership, is a challenge, yet should employ inductive, context-sensitive, qualitative methods. It is now a time to explore new ideas and theories, which are empirically based, to reaffirm e-leadership. Based on Zaccaro (2003) "E-leadership will be the routine rather than the exception in our thinking about what constitutes organizational leadership." On the other hand, Virtual Teams has been defined by Anderson et al., (2007) as, "the team with members who located in different locations. VTs are working by using various tools instead of face-to-face groups in doing their tasks (i.e., teleconference, video conferencing, messaging, etc.). This kind of VTs creates a new type of E leadership (virtual leadership).

2.2 Advanced Information Technology (AIT)

The interaction and collaboration between leaders and followers have been changed significantly. These days, Leaders are extensively using electronic channels. Indeed, they have been given the rapidity of growth in organizations and their global reach. Therefore, it is advantageous for organizations to have E-leadership that can

cope with the challenge of creating and working in the new virtual environment. The reality of virtual organization has dramatically changed the communication patterns, the skills needed to instill confidence and trust, and contemporary leadership only cannot be understood without the effect and co-evolution of AITs on e-leadership, and e-management. Van Wart (2016) stated that the massive shift towards the virtual tasks has changed the organizational structures and the context of leadership, and thus how leadership is exercised (Van Wart 2016: p102-122). The most important digital technologies, in terms of; mobile technology; cloud computing; big data, social media; and the internet of things Called the BIG -Five technologies are increasingly transforming organizations by enabling business innovation (Spil,2017: p 408-417).In the same manner, Ying (2012) has suggested three different strategies for improving the effectiveness of virtual teams; first; provide appropriate technology to the tasks; second; ensure adequate training for using the technology and enabling members to convey social cues; third; devise a mechanism for doing working ties in an appropriate manner to improve communication and solve conflicts (Ying Chieh, 2012: p723-733). Therefore, the Advanced Information Technology (AIT) has played a significant role in Adding additional technical skills for both E-leaders and virtual team members, modifying e-leader's behaviors so they can act more as monitors and coordinators, changing organizational structures to new tech-supported structures and ending geographical barriers. On the other hand, the (AIT) has raised many communication and trust issues. Bishop et al. (2010) discussed e-mail networks and technology to support global virtual teams. The authors acknowledged that historically, managing employees that are not co-located had relied mostly on endless email folders bursting at the seams, designed to track issues, manage performance, and distribute the workload. Such methods are highly inefficient beyond the most rudimentary data volume. As a result, the distant manager's understanding and perception of his virtual team members are often skewed by a lack of information that they usually obtain by being near employees. The authors proposed a set of tools called the Digital Diffusion Dashboard that provide metrics and analytics to enable the virtual manager to understand better the network that connects him or her with the virtual team. The tools analyze the system, the extract analytics about volumes, response time, individuals with whom an employee regularly interacts, cultural influences in the workload of an employee. Additionally, the proposed tools can help manage the adoption of new global processes as well as staff changes and turnover to shorten transition time for both incoming and existing employees. All of these measurements have a significant impact, especially in virtual teams where the tools help bridge the gap between location and perceived performance (Beckerman, 2015: p17).

The fundamental point is that E-leadership takes place in an environment where information technology acts as an intermediary. In such a state of affairs, not only may a leader's communication with followers take place via information technology, but the collection and dissemination of information required to support organizational work also take place via Information Technology. In synthesis, the most major bottom line is that E-leadership in the virtual context is not about connecting technology, but about connecting people in the best of the ways.

2.3 Key Competencies for E-Leaders

The E-leader guarantees the purpose of traditional leadership that is still focusing on vision, direction, motivation, inspiration, and trust, etc. These days, he must be able to do these issues electronically responding to the virtual context. For that reason, the E-leader will need a system that must support the virtual environment as well as enhance the team's synergies. In this structure, many specific skills have to identify and acquired. Also, E-leader must be ready to understand the virtual teams, by learning how to effectively communicate and deal with multicultural end ethical issues, raise trust with the team members, etc. Additionally, he may require to be able to choose the technological tools that best support E-leadership and the virtual teams. There are only a few numbers of models that could be the reference for the new e-leadership paradigm, and that would help the E-leaders to maximize their performance, as well as the performance of the teams they lead. (Samartinho, 2015: p105-133). Grenier and Metes (1995) identified six skills that E-leader must-have. First, defining the relationship between the information and the suitable technology. Second, the awareness of technologies and techniques that are central to maintain the flow of the data and information during virtual operation. Third, the great determination of when and how to replace traditional work processes by the virtual ones. Fourth, the ability to calculate the value of e technologies. Fifth, the ability to recognize and encourage creativity and technological innovation. Sixth competence is to experiment with ideas that he should

not be hesitant in experimenting with their ideas and their applications. Regarding the core competencies for E-leadership, Susan (2001) identified seven competencies. communicating with followers, managing information resources, communicating with stakeholders outside the organization, facilitating discussion, active listening, empowering and lastly delegating. Fisk (2002) said that the core of E-leadership is transformational. As such E-leaders are visionary, engaging, fusing, and collaborating. Cordery,et.al. (2009) Had specified four central E-leader skills and related tasks are proposed as follows; first. The human relations skills; the leader helps his/her followers in resolving conflicts; enables open and honest discussion, motivates the followers, builds team spirit and gives recognition. Second; Management of tasks and activities; the leader makes it possible to reach the aims, helps in organizing work tasks, assumes responsibilities in the deployment of new technological devices and coordinates both activities and communications in the work community. Third, resource acquisition; the leader enables the followers to work efficiently and informs them about customers' requirements. Fourth; the creation of vision and direction for the operations, the leader must ensure that the operations are aligned with the mission of the organization and offer a clear vision. Therefore E-leader's competencies and characteristics are somewhat similar to traditional leaders. However, they differ in some behavior, attitudes, and skills. E-leaders have developed progressively skills and behaviors that allow them to interface the virtual environment. No matter how many technologies have been used, people need to feel that they are an essential part of the organization and to be recognized as such. They need to believe that what they are doing will make a difference. E-leaders must help them by clarifying and transferring not only where an organization is going but also how to get there. Susan (2001) lists several ethics that E-leader must have to develop a successful work environment. It includes; honesty, responsiveness, vigilance, willingness to learn and relearn a sense of adventure and Vision (Mohammad, 2009).

2.4 Key Competencies for Virtual Team Members

The virtual environment is characterized by a high degree of risk and unknown, more membership, and task complexity. It is difficult for everyone to be productive and efficient in the specific demands of such an environment. Those, whose performance is significantly dependent on the significant workplace structure, are unable to deliver at their full potential in virtual settings. For a successful virtual team, the maximum amount of care has to be provided while staffing a team member. The virtual team leader has to look for competencies beyond just good technical and communication skills

Some critical competencies must be acquired by each virtual team member. First, is being Independent, self-motivated and disciplined (in the global context, managers and team members are located at different places, sometimes even in different time zones). There is no one to monitor the members. Each member should be able to set his own daily goals and plans and should be able to stick to his timelines. Second; the development of intercultural sensitivity, any member must be aware of how to deal with other cultural traits and should be able to show respect towards them. Therefore, we may ensure strong interactions as well as the formation of trust among the members. Third; being able to manage complexity and uncertainty since the differences in time zones, languages, cultures, the nature of tasks and technology-mediated interactions increase the complexity of the work environment. There is also a certain level of uncertainty about the roles within the teams, which technology tools to use, a delegation of tasks and career growth. All this uncertainty and complexity act as obstacles for creating trust. One must be able to break the task into milestones, have a vision and clear mission to define workflow and processes to stay productive in such a virtual environment. Fourth, the competence to use Information and Communication Technology Tools (ICT), the member should be able to effectively use a variety of ICT to communicate and collaborate with the team members effectively. Many ICT tools have emerged as such; emails, web conferencing, instant messaging, etc. Any member should be adept at using these tools, present written and verbal information in a logical manner, which should be easily understood by others as well as the ability to learn the expressions when communicating with other members. D'Souza and Colarelli(2010) investigated the team member selection in a virtual team. They examined the importance of task skills and four personal characteristics when selecting the members of virtual and Physical (face-to-face) teams. The study indicated that task skills had a greater impact on selection decisions for virtual teams. Females appeared to take more females into their teams in both virtual and physical environments; thus, gender bias

was an issue. While this study did not find any influence of race, physical attractiveness, and attitudinal similarity to participants.

2.5 E-leadership Challenges

Kerfoot (2010) notes that the traditional and E-leadership facing the same challenges, but for E-leadership, challenges occur in different places, since no direct interaction nor supervision. Therefore, E-leaders may need to develop new skills to cross E-environment barriers. Also, Avolio et al., (2000) and; Roebuck et al., (2004) said that the most critical challenges occurred because there is no trust in the E-leadership since trust is critical for virtual teams. Huang et al., (2009) focus on the decision-making process as the main challenge. While, Karpova et al., (2009) identify time difference and lack of nonverbal cues as the main challenges. Chang and Lee (2013) argued that transactional and transformational leadership styles should be applied by E-leaders. However, E-leaders appear to leverage several strategies to manage uncertainties in their digital and face to face work. People, time, and technology dominate the types of uncertainties E-leaders experience, while conditional communication, team, time, and technology are the primary strategies used by E-leaders to manage their uncertainties (Gilstrap and Hendershot, 2015: p86-96). These challenges and others included uncertainty and trust of followers toward the leader within the virtual team; a recent study has found that "distance has a significant negative moderator effect on the contribution of leadership to trust development" (Jawadi et al. 2013: p.18). Another challenge is the resistance to change the leadership culture within the organization, Manole (2014) concluded that virtual teams will not fully replace traditional teams in the future, but represent as an alternative to reducing costs for big companies that need to maintain a competitive advantage and offer same products and services as the competitors. In addition to resistance management the leadership may be required to acquire additional skills to work effectively within virtual teams, what distinguishes E-Leaders are the skills, attitudes, knowledge and professional and personal experiences (Mohammad,2009:21). Another challenge is the lack of support from other parts of organizations. Much prior research indicates that to succeed E-leadership needs support from the entire organization (Martinez Sánchez et al., 2008). and additional cost pressure to work in virtual team's context, as part of creating competitive advantage, organizations relocate and create virtual teams to reduce costs (Manole, 2014: p72-76). Also, technological mediation can be highlighted as the greatest difference having an impact on everyday activities while human relations and interaction skills are the most challenges that face the E-leader. The limited-time for the E-leader to exert influence is often shorter, as there are fewer personal meetings. Communication problems and misunderstandings in TM communications are frequently seen as the most common problems in E-leadership. That's why E-leaders are asked to communicate often and take into account that the message sent may not necessarily be interpreted by the follower in the same way meant by the leader especially in the initial phase of the leader-follower relationship. Most importantly, this is seen to have its effect on the creation of trust in the relationship (Savolainen,2013: p.290). Reed and Knight (2010) developed a study that included one hundred and fifty information technology professionals that investigated the differences in communication risk between traditional project teams and virtual project teams. The results indicated little difference between the two circumstances. However, virtual team projects are riskier due to insufficient knowledge transfer. According to Lilian, (2014), the main challenges for the E-leader are typically related to some critical points. Based on the literature review the main sources of challenges can be categorized as follow: -

2-5-1 Trust

Trust has been extensively studied in the virtual team's research. Mutual trust plays a main role in successful international alliances (Uber C., 2002), and it is strongly significant in virtual teams that face uncertainty and have lack knowledge of all the group members (Child, 2001). Consequently, trust is seen as a key point in virtual distances than in traditional teams (Cascio & Shurygailo,2003). Being the necessary condition for successful virtual teams (Child, 2001). Trust is seen as significant in virtual teams since it will be established by setting expectations and achieving results that meet or exceed those expectations (Cascio & Shurygailo,2003 & Raisinghani, et al.,2010), it is essential to explore the leadership-related traits, skills, and behavioral patterns may generate and enhance trust in a virtual environment. Therefore, E-leaders who can diminish the level of uncertainty with their behavior and actions promote

trust through setting mutual expectations, enhancing coherence, and inspiring and motivating team members, which may improve team success and organizational value creation (Lilian, 2014).

2-5-2 Communication

Face-to-face communication is superior to computer-mediated contact for several reasons. First, it is more abundant in nonverbal (i.e., visual) and cues. Second, it minimizes information loss due to the simultaneous use of multiple communication channels. Third, it maximizes feelings of social presence and conversational involvement. Fourth, it transmits information about social context; and finally, it is the least physical communication than any other communication media. (Purvanova & Bono,2009). Also, communication is such a virtual setting may lose some social or contextual information, such as the level of expertise or the social status of the team member because of the unphysical communication among members (Kayworth&Leidner,2002). Thus, communication across cultures presents E-leaders with particular challenges as such; dealing with team members who don't have a shared context or who must implicitly speak since they don't have a chance to say all of what they want to say (polychromic). For effective communication across cultures, it requires sensitivity, trust-building capacity, and the ability to create healthy relationships to bridge the communication gap (Uber, 2002). Therefore, as Lilian, (2014) noted the E-leader is strongly required to motivate and inspire the globally dispersed team to enhance team cohesion and improve the synergy.

2-5-3 Distance and Time

One of the most critical challenges of E-leaders is the distance. Distance might be a physical distance (zone or organizational size); an operational distance (team size) or cultural distance (different values). Therefore, E-leaders may address the functional, physical, as well as the cultural gap by quickly responding to the specific needs of the geographically dispersed team members, by enhancing feelings of closeness, and by applying the right information technologies, may create a successful virtual team. Therefore, E-leaders are required to proactively mitigate time-related stress, the tight schedules, and deadlines inherent to virtual projects, he also needed to address arising issues quickly, and effectively coordinate team members' tasks over different time zones thus the team members' expertise, talent, and competence will be fully harnessed, and the team success may be maximized (Lilian, 2014, Chris, 2010).

2-5-4 Diversity

Diversity refers to the variety of human structure, believes systems and strategies for adapting to situations that exist within different groups and people. It is typically applied to like the differences in race, ethnicity, language, religion. Etc. Many factors may cause the diversity as such culture, geographic location, communication style, etc. The difference between high and low context can explain many communication problems that leaders face when they interact with those of a culture different from their own that's why the European &North American leaders get frustrated working with followers from Asian or middle eastern cultures. Since the VTs may represent great diversity, E-leaders must design a cultural mindset "a way of thinking that takes culture into consideration, decision-making, and behaviors " E-leaders may be required to change the diversity challenges into opportunists by having a cultural mindset that goes beyond a simple set of E-leader skills (Lilian, 2014)

2.6 E-leadership in Organizations

Today information technology mainly the internet has emerged as the source of survival. No organization can ignore this fact. As the number of people who worked off-site increased, depending on e-mail to communicate with people on-site has been increased. Also, research has demonstrated that electronic mail is more effective in improving the distribution of information and knowledge (Nancy B. etal.,1999). Whereas face-to-face communication is more effective in some situations where levels of vague and uncertainty are high (Nohria, E,1992). The Manager's initial reluctance about telecommuting rests on concerns of control (Nancy B. et, al., 1999). The question"How do you measure productivity, build trust, and manage people who are physically out of sight" (Mason, 1993; Nancy et., al., 1999). Because telecommuters are physically out of sight, supervisors need to rely on measures other than physical observation to control and monitor performance. The solution for many organizations may be a focus on output

controls and assign telecommuters projects whose outcomes are easily measured (Hamblin 1995; Nancy B. et al., 1999). Leadership plays an essential role in the successful deployment of technology in organizations. Information and communication technology adaptation involves the acquisition and usage of new IT or new features of existing IT, the unused IT, and the modified usage of existing features in existing IT. Leaders can act to influence these behaviors. The interactions between leaders and followers have been transformed dramatically. These days, leaders conduct many of the leadership processes via the E- channels. Given the increasing growth in organizations and their global reach, "shortly, E-leadership will be the dominance over organizational leadership" (Zaccaro, Bader, 2003). Therefore, it is essential for all organizations to have E-leadership that can cope with the challenge of creating and working in the new work environment. Based on the literature, it is plausible to assume that E-leadership is existed and essential in organizations.

H1: E-leadership has significant existing in the organizations

2.7 E-leaders and Virtual Team Members Relationship

Based upon the leader-member exchange (LMX) theory, Goh and Wasko (2012) indicated that the relationship between a leader and a team member is influenced by some critical factors as; the degree to which a team member develops relational resources with the team (trust, identification, norms, and obligation,). The degree to which a team member is allocated resources by the leader (the empowerment and the group assignments). And, the extent to which a team member receives or creates resources. Which resulted from the individual performance. These authors have found that it's not just the quantity of members' resources, but also the type of member resources, that has a direct influence on performance (Goh and Wasko, 2012: p861-885). Wakefield et al. (2008) suggested that the virtual team leader may assume a specific role or roles to manage conflict. They also suggested that the high ability to perform the internal leadership roles, the better will be the leader and the team performs in the virtual environment (Wakefield and others, 2008: p434-455). Bergum (2009) has noticed that E-leader's regular face-to-face meetings are important for motivating the followers as well as in clarifying and confirming messages. Personal meetings can 'smooth' the obstacles brought by TMI to the leader-follower relationship and also for building trust. He also noticed that the number and frequency of meetings could not be substituted for their quality. Those followers who had met the leader every week were more satisfied than those who met their leader several times a week or fewer times than once a week. It is thus assumed that the relationship between VTs' performance and E-leader behavior will be positive. This issue can be investigated via the following Hypothesis

H2: E-leader behavior is significantly affecting the Virtual Team members' performance.

2.8 Virtual Team Members relations with each other

Unlike traditional teamwork, day-to-day monitoring is not an option in the virtual work environment. In virtual teams, one cannot walk over to the adjacent cubicle of the colleague to seek help. The virtual team member should be proactive enough to reach out to the other members to resolve any problem. On the other side, the members should collaborate with other members when they face similar situations. The virtual setting also calls for being proactive in informing the virtual team leader about any possible delays and changes. Carte and others focused on identifying emergent leadership behaviors that were most strongly associated with the performance of self-managed virtual teams. Further, they investigated what type of leadership concentrated or shared mattered over time. Their findings suggested that in such environments, shared monitoring and concentrated producing behaviors were more likely to be exhibited by high-performing teams. Further, their findings suggested that time matters. Leadership behaviors exhibited early in the team's life were more predictive of success than those exhibited later. Moreover, the high-performing teams focused on task accomplishment early on and stayed focused. Two likely by-products of the shared commitment to high-quality team outcomes are better relational development and greater trust among team members (Seers1996). These results have clear implications for practice. They indicated that a combination of individual and collective leadership behaviors is needed to ensure the success of self-managed virtual teams. This combination consists of individual production behavior; wherein members lead the group by utilizing their skills in

executing the task at hand, and shared monitoring behavior; wherein members move the group forward by coordinating activities and keeping track of deliverables. Thus, good performance appears contingent upon members displaying two types of leadership: contributing their expertise to the group *and* being a team player. In other words, "I've done my part, now it's their turn," does not seem to be a recipe for success in self-directed settings. Also, being engaged in what other members are doing and ensuring they remain on track appear to be equally essential ingredients for success. Moreover, these behaviors need to be established early in the life of the group, if they are to impact ongoing performance (Carte and others, 2006). Thus, it is assumed that the relationship between Virtual Team members' performance and other Virtual Team members' performance will be positive. The assumed connectedness between Virtual Team members' performance and other Virtual Team members' performance is expressed in the following hypothesis.

> **H3: The Virtual Team members' performance is positively related to the performance of other members of the virtual team.**

3. Empirical Study

3.1 Research Methods

The study was conducted by using the quantitative data collection method which was a questionnaire with closed-ended questions. The sample consists of 66 firms. These organizations are ranging from initially, startups to large organizations from different industries in Saudi Arabia context. However, due to the limited number of organizations that apply virtual teams' processes. Also, due to the limited number of respondent's organizations, the sample has expanded to include some organizations from other areas as such; Lebanon, the United Arab emirate, Turkey, the US, Jordan. The E-leadership frameworks literature review was used as a basis for constructing the survey questions. All the issues of the questionnaires were pre-tested with a small group of participants who were not used in the final analysis. All instruments were correspondingly modified and used to capture data in this study.

3.2 First. Testing the Significant and the Existing of E-leader in Organizations

To investigate the statistical significance of the existence and importance of the E-leader dimensions in organizations as the central part of this study. Based on the mean of the E-leadership dimensions the determination of whether these dimensions are satisfactory existence in organizations or not was determined. A one-sample t-test was performed to determine whether the dimensions of E-leadership factors (table 1) are significantly different from the mid-point 3.0. The results are presented in Table (1) below to demonstrate the existence and importance of E-Leadership in organizations.

Table (1)			
The Existence and Importance of E-Leadership in organizations	**N**	**Mean**	**Std. Deviation**
• The Existence of E-leader in the organization is one of the requirements for organization survives.	65	3.86	0.86
• The characteristics of e-leader in the organization are somewhat dissimilar to the characteristics of traditional leaders.	65	3.92	0.74
• E-leader plays a significant role in improving organizational performance in an organization	65	4.00	0.71
• Your organization offers e-leadership training programs for both beginner and professional.	65	4.05	0.74
• The networked organizational structure is fit for your organization	65	3.68	0.85

Table (2) One-Sample Test						
	Test Value = 0					
					95% Confidence Interval of the Difference	
The Existence and Importance of E-Leadership in organizations	t	df	Sig (2-tailed)	Mean Difference	Lower	Upper
• The Existence of E-leader in the organization is one of the requirements for organization survives.	27.107	65	.000	2.62546	2.4332	2.8177
• The characteristics of e-leader in the organization are somewhat dissimilar to the characteristics of traditional leaders.	30.074	65	.000	2.98071	2.7840	3.1774
• E-leader plays a significant role in improving organizational performance in organization	55.101	65	.000	3.71259	3.5789	3.8463
• Your organization offer e-leadership training programs for both beginner and professional	47.743	65	.000	3.34112	3.2022	3.4800
• The networked organizational structure is fit for your organization	83.794	65	.000	3.67951	3.5924	3.7667

The results of one sample test, (see table 1&2) are found to be significantly different from the mid-point 3.0 (p<0.01). And this result confirms that all the dimensions for E-Leadership are on the positive side. Therefore, hypothesis one is accepted.

H1: E-leadership significantly has significant existing in the organizations existed and essential in the organizations

This result agrees with the study of Sahay & Baul (2015) who confirmed that the virtual environment and teams are critical. These are due to the changing working conditions and competitive business environment. It also agrees with the result of Mohammad's study (2009) who indicated that information technology had been dramatically altered by the advent of the internet and its technologies. These technologies have been instrumental in creating a virtual organization and, create the need for E-leadership. It is noted that the successive four stages of evolution in information technology and their integration in the organization did not replace the earlier stages. Instead, they co-existed, in different combinations.

Moreover, organizations won't be able to apply all four steps. Various organizations operate at different levels depending on their capability to assimilate these technologies. The reasons for lagging are both technological and managerial. The more advanced versions of E-commerce and information technology are transforming the way organization have been working. As a result, a new organizational form, an original work environment, and a new leadership form are shaping up. The new organizational structure is a virtual organization, the new work environment is E-environment, and the new leadership form is E-leadership.

3.3 Second. Investigating the Significant Effect of E-leader behavior on Members' Performance within the Virtual Team

A correlation analysis has been used as the most appropriate technique to test the main hypothesis. Since the main hypothesis of this research contains investigating the relationship between one independent variable (The E-leader behavior), and one dependent variable (Virtual Team members' performance).

The basic form of the single regression equation in the form:

Y=a+bx

Where:
Y= the predicted value on the DV,
a=the y-intercept, the value of y when all Xs=0,
x= the various IVs,
b= the various coefficient assigned to the IVs during the regression.

The goal of the correlation is to derive the B values known as regression coefficients or beta coefficient. The beta coefficients allow the computation of reasonable Y values with the regression equation. The correlation between the obtained and predicted values for Y indicates the strength of the relationship between the DV and IVs. A positive coefficient indicates that the predicted value of the dependent variable increases when the value of the independent variable increases and the vice versa is correct. The result suggests that For the **Virtual Team members' performance, the E-leader behaviour** is found to be essential since **E-leader behaviour** is positively predictor of **Virtual Team members' performance**. 13.4% of the observed variability in the virtual team member performance is explained by the independent variable (R= 0.366,) (see table 3). However, there is a weak positive correlation that may be regarding the small size of simple or other factors.

Table 3 Model Summary [b]				
Model	R	R Square	Adjusted R Square	Sig. (2-tailed)
1	.366[a]	.1339[*]	.1336	.003
a. Predictors: (Constant),				
b. Dependent Variable (Virtual Team Performance)				

H2: E-leader behavior is significantly affecting the Virtual Team members' performance.

Hypothesis (2) might be **rejected**. Since the result shows that only 13% of the virtual team members' performance has been affected by E-leader behavior. This result indicates that there is a weak relationship between the practice of E-leader and virtual team performance.

This result shows that the E-leaders still need to address the challenges that may exist in the virtual teams. Generally speaking, the virtual teams are separated by distance and time. All interactions and communications between the virtual team members are taking place via ICT. Today, leaders face challenges over integrating ICT and human (virtual employees). Since ICT plays a critical role in a virtual organization and applying this ICT is affected by many factors such as social factors, usability factors, and situational factors. Integrating technology with traditional models is most famous for today's competitive business and also acts as a significant challenge. So, virtual leaders need to overcome those challenges to achieve organizational effectiveness. E-leadership also faces challenges because of the individual barriers, interpersonal barriers, organizational barriers and changing nature of job or work. Many studies had recommended that E-leaders must develop skills and knowledge to overcome the challenges in E-leadership activities.AS example; Nader et al.;(2009) who claimed that the leader of the virtual team should overcome the managing conflict, cultural and functional diversity in virtual teams and mistrust among the team members.

3.4 Third. Testing the Significant Relationship between the Virtual Members' Performance and the Performance of Other Members within the Virtual Team

By using the same manner, the correlation analysis had been performed to investigate the third hypothesis of this research. This hypothesis is investigating the correlation relationships between one dependent variable (the performance of other members within the virtual team) and one independent variable (Virtual Team members' performance). A positive coefficient shows a positive correlation relationship. The result shows that the **VT members'**

performance has a moderately positive effect on the performance of other members of the virtual team. **VT members' performance** is positively predictor of **other Team members' performance**. The estimated value of the dependent variable increases when the value of the independent variable increases and vice versa. About 23.5% of the observed variability in the other team member performance can be explained by the independent variable. The result as shown in the table (4) indicates that we can safely reject the null hypotheses that the correlation coefficient for the independent variable and the dependent variables is zero, for (R= 0.485,) (sig = 0.000 which mean P< 0.001).

Table 4
Model Summary [b]

Model	R	R Square	Adjusted R Square	Sig. (2-tailed)
	.485 [a]	.235**	.234	.000
a. Predictors: (Constant),				
b. Dependent Variable (Virtual Team Performance)				

Therefore, we would accept the third hypothesis (3)

H3: The Virtual Team members' performance is positively related to the performance of other members within the virtual team

These results agree with the study of Connelly&Turel (2016) that examined different factors that affect virtual teams' success: the extent to which team members are perceived to express their emotions authentically, or "team emotional authenticity." Their empirical results identified some factors that influence emotional authenticity. This study also suggested that emotional authenticity affects team trust, which in turn affects the teamwork behaviors, which result in the high level of improvement of team performance. As they continue to see further innovations in E-collaboration methods, such as the tools of the organization social networking and the messaging services on smartphones, virtual teams are likely to become even more famous (Connelly& Turel, 2016). So, we can highly agree with them that the perceptions of emotional authenticity have significant effects on virtual team performance, albeit indirectly. This result also assures that managers of the company should invest more in the VTM to create, knowledge, and increase employees' creativity to stimulate incremental innovations in already existing information technology that will directly create their future competitive advantage (Ale et al., 2011).

VTM attempt to cope with the risk and uncertainty resulting from the physical and psychological distance by changing their behaviors to deal with the online context. As an example, the content of the communication may take on greater importance; communicators may, therefore, provide more contextual information and errors regarding the need for more explanations. Online correspondents also have been needed to take particular consideration in their use of grammar and tone especially, when communicating with people who they do not know or defined well (Vignovic and Thompson, 2010). There is evidence from fMRI brain activity that emoticons and non-verbal communication activate the same brain pathways (Yuasa et al., 2011). However, prior studies suggest that providing face-to-face interactions among the team members and even sending team members to meet and interact with their colleagues across the world is a necessary prerequisite to success in the team.

Similarly, investment in training for differences in language and culture plays a vital role in successful communication and collaboration within the team for sharing meaning, sufficient work and task completion (Jones & Graham, 2015). Other researchers have focused on the characteristics of the group and also, the motivations of VTM (Gibson et al., 2011). A potential problem contributing to the low level of VT performance is the difficulties of interpersonal communication among VTM. Since online interactions tend to be shorter in length, have a quicker pace, and generate misunderstanding regarding these messages (Kock, 2007), which may lead to miscommunication. Silence (e.g., waiting for people responding), in particular, can be difficult for VTM to interpret and can lead to interpersonal problems among team members that are difficult to resolve (Cramton, 2001).

4. Conclusion and Recommendations

Leading a virtual team is more complicated than a standard workgroup. With virtual teams' employees, and business environment that spread out across different states and time zones and even different continents the E leaders must know how to break down the communication barriers that come along with this business environment. With the Virtual business context: people, teams, and organizations must get the decisive E-leadership style and problem-solving skills that needed to steer sides in this complex business world. Therefore, E-leaders should receive extensive training in human resource management, project structure, Knowledge management, for high task and high people involvement including; feedback, empathy, caring and coaching. It is highly recommended that E-leaders provide importance to long-term sustainable competitive advantages.

This study recommends VT leaders to ensure the success of the virtual teams and individual team members. Also, it is essential for E- leaders in providing confidence, motivation, proper guidance and coordination to the virtual team members. This research will help virtual team members to provide better performance and thereby developing the organizations. So, E-leaders need to build a new virtual regulatory management paradigm to understand and identify the issues that arise in a virtual working environment. On the other hand, E-leaders need to learn data science that has never been this easy for working professionals. They must make the best use of ICT to become a data scientist. This study agrees with (Sahay & Baul,2015) in recommends VT leaders to respect the importance of the systematic training for managers and team members, fully embracing delegation, the establishment of trust, and constant communication among the team members. The most virtual team will have its blend of virtual team challenges in working across barriers of distance, cultures, and time zones, through ICT and across the world boundaries. The "one size fits all" orientation to virtual team leadership and collaboration is unlikely to be successful. Most likely, virtual teams will not replace current teams. Although the virtual teams will continue to be an essential type of work arrangement, they are not appropriate for all circumstances.

This research draws the attention of researchers to the importance of the integration of the VTM and other fields such as small and medium enterprises (SMEs) and relationship with the virtual team. Further research has to be made on this topic to fully understand the influence of E-leaders on the performance of virtual teams. Also, due to the lack of work that has been directed toward exploring and analyzing the existing inter-relation. It is recommended that future research shall be aimed at shifting away from investigating virtual teams separately to the formation and development of a collaborative system which can support the relationship among virtual team members. Effective E-leaders may address the challenges and barriers in a trial to convert it into opportunities by actively adapting new virtual settings, adopting new skills, and by choosing the precise ICT for suitable tasks. However, future research needs to investigate the overall role of E-leaders in managing virtual teams in such a virtual setting, and what kind of E-leaders may respond to and change the challenges and threats into chances. In conclusion, the discussion in this paper suggested that there is a knowledge gap that needs to be covered by future research. Accordingly, future research is expected to identify what type of leadership will significantly address the traditional as well as new challenges, and create successful virtual teams.

5. Study Limitations and Future Research

This study was exploratory. Therefore, while we can see patterns emerging in terms of models for effective virtual team performance, more quantitative studies should be done to validate these trends. Also, this study has examined a limited number of firms from different industries without targeting a specific sector or country. It would be good to conduct similar research in various business environments, from stable to more active areas.

6. Acknowledgment

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