

A Constructive Approach to Develop an E-Leadership Model For 21st Century Universities

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Abstract: The present constructive approach aims to develop an e- leadership model for 21st century universities. Four leading universities of Pakistan were selected purposively. Methodology is based on 4 stages. Stage one was about to create a list of e- competencies based on data collected from interviews, survey and observations. Stage two was to develop behavioral indicators for each e-competency and to categorize these competencies. Stage three was about categorizing competencies as core, leadership and professional and to order these competencies and lastly stage four was to validate E-competency list by Jury, Survey and Benchmarking. Then E-Leadership model was developed by connecting theory with data for universities. This model shows that self-determination theory (e-competence, e-autonomy and e-relatedness) are at the core of E-leadership. It also correlates knowledge, attitude, behavior and practice with motivation, needs, skills and competencies within a specific context.

Key Words: E-Competency: E-Autonomy: E-Relatedness: E-Leadership

Introduction

The Corona virus pandemic has affected different aspects of life worldwide. It has changed the way people worked effecting the economy of societies, operations of the organizations and health and wellbeing of the individuals. This emergency period & closure of institutions due to Covid-19 arose the need for the Electronic Leadership (e-leadership) in all organizations and also emphasized for their competencies in e-skills like e-communication, e-social skills, e-team building, e-change management, e-technology skills, and e-trustworthiness. This E-Leadership, an emerging concept is important where the organizations have been facing critical crisis, transforming their processes and adopting electronic- instruments for managing their operations and prevailing situation as well as coping with the aftermath of Covid-19. Electronic Leadership as defined by Avolio *et al.* (2014) is “a social influence process embedded in both proximal and distal contexts mediated by AIT that can produce a change in attitudes, feelings, thinking, behavior, and performance” (p107).The given definition reflects the incorporation of technology within the organization which operates at multiple levels including leader and follower level affecting the organization’s culture and environment. According to Torre and Sarti (2020), E-leadership is a process of influence which is mediated through use of technology which is embedded in the context to which it refers, and it goes beyond physical interaction as it is no longer essential in virtual environment. E-Leadership as defined by Wart, Roman, Wang and Liu (2017) involves the effective usage and blending of the different modes of communication (traditional and electronic). This requires the leader to be aware of the present ICTs, be able to adopt new relevant ICTs for oneself as well as the organization as well as having technical skill and competency enabling the usage of the selected ICTs.

Like any other organizational leadership, the University leadership is vital for achievement of institutional goals and comprises of a connected process of social influence wherein the Vice Chancellor/ Rector/ Deans/ Directors/ HoDs within their specific roles present and share the vision, guide, direct, assist, mentors the followers/team members/faculty and staff to accomplish the predetermined targets. To achieve these targets, it is also important that the leader interacts with their followers and team. A varying style of leadership may be adopted by the leader for interaction ranging from autocratic to democratic, the style adopted depends upon the leader’s own philosophy, the context, organizational culture (Tatlah & Iqbal, 2012).

Many studies have been done to explore the relationship between leadership style, organizational performance, how things work, communication and the commitment level. The studies done by Manzoor, (2011); Mentop, (2011); Hoy and Miskel, (2012) showed that leadership style, leadership processes organizational performance, commitment have strong positive correlation with each other. With reference to the educational institutions, certain leadership processes such as motivation of the employees, communication within and outside the organization and decision making are predominately present. These leadership processes may affect the leadership style which is adopted by the leader as well as get effected by the selected style of leadership (Adserias, Charleston & Jackson, 2017). In higher education intuitions, these leadership processes are complex and dynamic as compared to other organizations as there are many stakeholders involved including students, faculty, education department, government, public at large whom the educational leader has to cater for (Sathye, 2004). The diversity and differences occur as the educational leader works to maximize the values, expectations and takes into consideration the aspirations of the stakeholders so that their satisfaction can be met. (Del, 2005; Chege and Nurumo, 2010).

The rapid increase in use of Information communication technology has affected the way in which organizations work, likewise ICTs have made deep impact on the educational institutions. Despite this, there has been less integration of literature on leadership theories, styles and ICT adoption. Leaders which were previously required to learn and use technology for enhancing their competencies, are now required to adopt ICT tools for meeting the demand of emerging style of leadership in educational institutions, the E-leadership. Adserias, Charleston & Jackson (2017) pointed out that common definition of e-leadership in literature is limited to ICT mediated organizational communication, where as it is a dynamic and border concept, which require usage of ICT tools both for personal growth, productivity as well as for the productivity and efficiency of the organization.

Different terms have been used by the researcher while studying both technology and e-leadership like the virtual leadership, online leadership, digital leadership, IT leadership (Hollingworth & Mrazek, 2004), virtual teams leadership (Cascio & Shurygailo, 2003; Hambley, O'Neill & Kline, 2007), leadership of online communities (Jameson, 2011), ICT leadership (Yee, 2000), technology leadership (Anderson & Dexter, 2000; 2005; Tan, 2010), e-leadership (Jameson, 2013, Gurr, 2004) or educational technology leadership (Kearsley & Lynch, 1994). Multiple different terms reflects the ambiguity between terms and highlights the need for additional studies for clarity and understanding e-leadership and educational technology. Tan (2010, p902) stated that demand of ideational papers and qualitative studies in this area shows that this is a potentially fertile area for research as many aspects are to be explored. This was supported by Jameson (2013), that there were limited numbers of study on e-leadership despite educational leadership and educational technology research field kept growing in quantity and impact.

Review of literature on e-leadership shows that most of the available research work is done in the area of technological innovations in educational technology (Bowen *et al*,2013), challenges & opportunities for e-leadership (Barwick & Back, 2007), competency and styles of technology leadership (Tan, 2010), their e-skills and e-learning outcomes (Gomes, 2011).Seven factors identified by Chua and Chua (2017) for e-leadership quality included willingness, planning, practices, culture, support, challenges and need for ICT integration in leadership processes. Research on e-leadership in education is relatively scarce notably in higher education. Research on leaders using ICT to formalize e-leadership is also less explored area, due to which there is less information on the best practices adopted by the e-leaders (Mcleod and Richardson, 2011). Gupta (2011) conducted review of 77 research articles and concluded that e-leadership is a new phenomenon and more research is required for exploration of its different aspects. What component and How the e-leadership is practiced and implemented in educational institutions is also of interest to the researchers (Liu *et al*. 2018; Lilian, 2014; Weng & Tang, 2014). For E-leadership, the communication with the followers, team members become vital as it becomes virtual communication however, work done in this field is also modest. Liu *et al* (2018) recommended that E-leadership should be explored in multiple aspects, not just usage of ICT & technology adoption but also for the quality of technology usage.

This study examined the existing e-leadership competencies and their level of practice in higher educational institutions in order to identify the gaps and perform need analysis for development of the model. Self-determination theory provides the theoretical basis for this study. The Self Determination Theory (SDT) has emerged as an effective theory in context to human motivation at work places & work organizations. It is based on individual's motivation, development, and wellness. This theory of human motivation suggests that humans are motivated to develop and change due to their innate psychological needs which are

universal in nature. These three needs are competence, autonomy and relatedness. When an individual's these three psychological needs are satisfied, they become self-determined and optimal outcomes are expected. The needs satisfaction can effect performance in this way like autonomous work environments have been reported to be very effective in enhancing motivation resulting in better performance and higher productivity (Kaur & Noman, 2020). Another important needs which concern the individuals' achievement & skills is the Competence and relatedness, individual need to have a sense of connectedness, belonging and they will have a need to strengthen their competency to develop proficiency in tasks which are important for them (Deci & Ryan, 2008). SDT is an appropriate candidate for explaining relationship of E-leadership practices with their knowledge, competencies and e- skills and provides the ground to develop an E-Leadership model.

Objective

The objective of this study was:

To develop a model to lead, manage and influence digitally driven change across sector, universities, departments, services and teams.

Research Questions

- i. To what extent E- leadership prevails in Pakistani public universities?
- ii. Which new competencies are necessary for e-leaders?
- iii. Is self-determination theory required for e-leadership?

Methodology

“Mehrebenen-Mixed-Methods-Design” also called Multilevel mixed designs of Teddlie and Tashakkori's (2009) was adapted. These are parallel or sequential designs and mixing occurs across multiple levels of analysis, data are analyzed and integrated to answer related aspects of the same research question or related questions. The research was based on questions about identifying and measuring existing e-leadership competencies and their level of practice. Addressing these research questions provided grounds for need analysis which gradually lead to development of a model based on behavioral indicators (knowledge, skills and attitudes).

Population of the study

All employees (academic & non-academic) working in Pakistani public universities comprised the population of study. There are total 130 public universities in Pakistan recognized by HEC. Target population was individuals employed in 4 HEC recognized public universities located in Punjab province (Lahore, Rawalpindi , Bahawalpur and Multan).

Sampling Strategy & Sample

Purposive sampling strategy was used. The purposive sampling technique is the thoughtful choice of informants due to the qualities they possess and doesn't require underlying theories or a set number of informants. According to Bernard (2002) the researcher decides what needs to be known and includes people who can and are willing to provide the information based on their knowledge or experience. Four

Leading universities were selected purposively. From each university VC, Registrar, Controller, Deans, Directors, HODS and peoples working under them were selected to collect data.

The sample size for both qualitative and quantitative data was different. The sample size for Qualitative data was smaller and comprised of 02 VCs, 02 Registrar, 02 Controller Examination and 02 Treasurer and 02 HOD from the selected universities. For quantitative data, 200 questionnaires were sent to senior, middle and junior level of leadership in academic and nonacademic departments and offices of selected universities. For this purpose, a list of all departments /offices along with hierarchy of command was obtained from Registrar office of selected universities and then individuals at senior, middle and junior leadership position in that offices were selected as participants. An email was sent through their registrar office to brief them about research purpose and to get their consents. For quantitative data collection, Participants were accessed through online google forms.

Instrument

Questionnaires and interview were used as data collection tool.

1. Media and Technology Usage and Attitudes Scale developed by L.D. Rosen, K. Whaling, L.M. Carrier, N.A. Cheever, and J. Rokkum (2013) was adapted and used after modifications for measuring current level of technology use and attitude of leadership toward use of technology.
2. Self-developed Interview protocol was used for exploring challenges and opportunities of technology use for leadership in Pakistani universities.

Stage 1: Create a list of E-Competencies

Interviews were conducted to a cross-functional mix of total 8 individuals as first-line leaders (4), middle leaders (2), and senior leaders (2) from sample universities. Thematic analysis was carried out to explore media use, practices and challenges for university leadership. Media and Technology Usage and Attitudes Scale was administered in 200 employees of selected universities to investigate the media use and attitude of the e-leaders. Response rate was 93%. As 186 out of 200 questionnaires were got back. Among them 21 were incomplete, so analysis was carried on for 165. Use of smart phone was found with highest mean values ($M= 7.81$, $SD= 1.78$) then second most usage was of Facebook ($M= 7.80$, $SD= 1.79$) while online friendship was found to be least used ($M=3.21$, $SD=6.77$). Overall significant and frequent use of media was found with $M=5.9$ and $SD= 4.07$. E-leadership practices were also observed by communicating concerned universities through e-mails, Whats app, Zoom and skype. Regarding attitude towards media use was found significantly positive and no significant difference was found for male and female participants. Using interviews, survey and observations (including information on how individuals act, think, and feel while doing their jobs) and other activities, a list of the major e-competencies and the requirements needed by the leaders to carry them out in an exemplary fashion was developed (thematic analysis and then quantitative analysis). Based on self-determination theory of leadership, E-competencies were then categorized under E-Competence, E- autonomy and E- relatedness.

Table 1: Categorization of Eleadership competencies based on SDT

E-Competence	E- autonomy	E- relatedness
e-communication	e-planning	e-technological skills
e-social skills	e-team building skills	
e-trustworthiness	e-decision making	
	e- risk taking /management	

Stage 2: Build Behavioral Indicators for each competency

Major behavioral indicators for each competency that must be performed to produce the desired outputs was developed by consulting with the purposively selected 8senior leaders from sampled universities. For each competency the major behavioral indicators (Knowledge, Skills, and Attitudes) were listed. These behavioral indicators will not only be problem focused but future focused too. Reason behind this was to develop a strong model to guide and facilitate universities to cope with the future. These behavioral indicators were part of strategic planning as tandem manner.

Table2: Behavioral Indicators

SDT	E-Competencies	Behavioral Indicators
E-Competence	e-communication e-social skills e-trustworthiness e-lifelong learning skills	Frequent use of media for clear, smooth and without ambiguity communication to develop robust interaction, ability to pursue knowledge for personal or professional reasons drawing on technology.
E-Autonomy	e-planning e-team building skills e-decision making e-risk taking /management	Pre-planning changes, building virtual teams, assigning tasks and setting targets for them. monitoring their progress, using technology for cooperation and collaborations inside and outside the universities, technology related risk taking and management etc
E-Relatedness	e-technological skills	Know, use and can compare various ICTs for better performance and economic benefits , can solve ICTs related problems like technology break down , setting and focusing media etc

Stage 3: Categorization & ordering

Behavioral indicators of E-CAR (Competency, autonomy, relatedness) were divided into three classes. Core, Leadership, and Professional.

The Core-behaviors were those which were required for all individuals within the university, the Leadership were those which were specific for VCs, Deans, Directors and HODs while the Professional were position specific e.g. Controller Exams, Registrar, Treasurers having different job nature. Behavioral indicators for each competency covered required knowledge, skills and attitudes for specific position. Then competencies

were ordered from the most important competency to the least important competency by discussing with the purposively selected 8 leaders.

Stage 4– Validate E-Competency List

Three practices of validation were used. Jury, Survey and Benchmarking

Through **Jury** practice expert opinion was obtained. Five professional experts were requested to present their opinion in a report form.

By using survey practice: a survey was sent to randomly selected 120 leaders throughout the universities. They were requested to rate each competency/behavior by its order of importance. Few blank areas will also be left for their own remarks. For survey, competencies were not listed by the order as it was done by the researcher after discussion with experts and survey analysis.

Benchmarking: Newly developed e-leadership competency list was then compared with e- leadership competency list of Van Wart, M., Roman, A., Wang, X., and Liu, C. (2019) and Radman(2020).

After validation process, the researcher used the information to revise the competency list of E-leadership and developed an E-Leadership model by connecting theory with data for universities.

The proposed E-Leadership Model is shown in Figure 1.



Figure 1: The E-Leadership Model

The E- leadership model for universities (ELMU) sets out the e- competencies in the area of competence, autonomy and relatedness derived from self-determination theory that leaders at different levels need to lead their offices /departments within universities in the twenty-first century. This model shows that self-determination theory (e-competence, e-autonomy and e-relatedness) are at the core of E-leadership. It also correlates knowledge, attitude, behavior and practice with motivation, needs, skills and competencies within a specific context. For this model, all university leaders, working in different capacities, are expected to lead in ways that:

- improve working and growth of their specific department within university (admin office, Controller Exams office, Registrar office, Treasurer office, academic offices and VC office).
- create the healthy and happy working environment
- promote the use of technology and e- communication and other e-leadership practices.
- develop their departments as smart departments

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- build cooperative and collaborative networks within and beyond their universities to cope with global challenges
- develop their followers as leaders

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