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## The Attitudes of the Lebanese Working Students towards E-leadership

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*Hassan A. Saleh<sup>1</sup>*

### **Abstract**

This study aims to examine the attitudes of Lebanese working students towards e-leadership in small and medium enterprises (SMEs). A survey questionnaire is designed and distributed to a representative sample of 322 employed students in SME. The study tests three hypotheses using several statistical techniques based on SPSS software. The descriptive analysis reveals that most respondents use the web widely in their daily work. However, respondents are not commonly aware of virtual organizations and trust to work in virtual environment. In addition, the analysis supports the hypotheses regarding the significant positive attitudes towards ICT, e-leadership, and the factors influencing e-leadership. This research ends with implications, limitations, and future research.

**Keywords:** E-leadership, SMEs, working students, Lebanon.

### **1. Introduction**

In recent years, all types of organizations have faced various changes in business environment, including international competition, expanding activities globally, and the shift towards service/knowledge work environments (Townsend, DeMarie, & Hendrickson, 1998). In addition, Information and Communication Technology (ICT) have affected business activities, which became more dynamic in terms of organizational structures, communications, strategies, processes, and policies (Hunsaker & Hunsaker, 2008).

During the late 1990's, the internet revolution has led to the usage of concept "electronic" "E," which becomes common in daily activities of organizations, including electronic mail "e-mail", e-business, e-commerce,

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<sup>1</sup> Professor, Department of Management, Faculty of Economics & Business Administration, Lebanese University, Hadath - Lebanon. Email address: hsaleh@ul.edu.lb.

e-book, e-seminars, and e-leadership. Hence, the ICT pushed to introduce new approach of leadership in organizations, called “e-leadership”. It is considered as adaptive approach to enhance organizational abilities and to achieve objectives. Indeed, e-leadership has become normal thinking rather than exceptional in organizations (Zaccaro & Bader, 2003). Therefore, it becomes essential for the business organizations to adopt e-leadership in a virtual working environment.

Leadership plays a crucial role in the success of all sizes of organizations, including small and medium enterprises (SMEs). It is widely accepted that SMEs become a significant part in the economic growth of every country, including Lebanon. The majority of SMEs attempts to increase productivity, organizational effectiveness, sustained competitive advantage, and reasonable return on investment. It is obvious from the literature that leadership is the key factor for achieving organizational objectives. However, workers in SMEs lack of managerial and technical skills, particularly electronic communication with the sphere of intense competition, which prevent achieving entrepreneurial objectives (Storey, 2005).

In this regard, transformational changes in organizational environment is the central job of leaders to manage international markets, globalization of businesses, and information (Tan, 2003). Avolio and Kahai (2003) set four changes in the environment: the access to information and media, the greater workforce connectivity, the ability to reach and touch others, and the communication in the e-environment.

Since these changes occur due to the advanced computing technologies, companies are forced to use technologies to provide a new approach of information management. This leads to the use of the concept of “electronic networks “E” in order to identify how all connection technologies, including software, communication infrastructure, integrate and collaborate with all organizational stakeholders (Hwa, 2008). As a result, virtual organizations (networked organizations) have developed, which led to adopting e-leadership in the new working environment. Its practices might vary according to the country characteristics, corporate culture, and the sector itself.

## **2. Mainframe of the study**

### **2.1. Research problem**

E-leadership requires new ways of thinking and adapting e-environment. Leaders who can adjust these changes with different ways of thinking and use information technology tools may foster business growth. The skills associated with traditional leadership (e.g., communication and decision-making) are important. However, technical skills for leaders are essential to achieve business objectives and strengthen competitive advantages. Hence, business leaders require a new set of leadership skills and knowledge to enhance organizational performance. The problem is about the extent of which workers in SMEs are aware of e-leadership. The problem arises since workers in SMEs vary in perceiving and interpreting e-leadership. Workers in SMEs are highly different in terms of functions, characteristics, skills, competencies, and culture. The problem statement of this study is summarized in the following question: What is the attitude of Lebanese working students towards e-leadership in SMEs, and how do they perceive e-leadership in the context of virtual organizations?

### **2.2. Research significance**

This study is significant for several reasons, including e-leadership is scarce in the literature of management, especially in Arab and developing countries. It contributes to the literature a new empirical study that examines e-leadership in Lebanon, including their attitudes and variations towards virtual organization. Furthermore, this study identifies the major barriers to implement e-leadership in Lebanese culture, and provides some suggestions to adopt e-leadership successfully. Finally, this study ends with some limitations and some directions for future research.

### **2.3. Research objectives**

The main aim of this research is to examine the attitudes of Lebanese working students towards e-leadership in SMEs. Its objectives are as follows:

- Introducing theoretical analysis about e-leadership, and its experience in various countries, including the developing countries.

- Assessing the usage of ICT in the Lebanese SMEs.
- Analyzing the attitudes of Lebanese workers towards e-leadership in SME.
- Determining the factors that influence e-leadership in SME in Lebanon.
- Providing guidelines to support the e-leadership environment in SME in Lebanon.

## **2.4. Research questions**

This research covers answering the following questions:

- What is the attitude of Lebanese workers by using ICT?
- What is the attitude of Lebanese workers towards e-leadership?
- What managerial skills are required to practice the e-leadership from the perspective of Lebanese employees?
- What are the major factors that influence e-leadership in Lebanese SMEs?
- What are the implication of this study for theory and practice, including the limitations of the study and future research?

## **2.5. Hypotheses**

Based on reviewing the literature, the following hypotheses are developed and tested.

1. Employees in Lebanese SMEs have significant positive attitude towards using ICT.
2. Employees in Lebanese SMEs have significant positive attitude towards e-leadership.
3. Employees in Lebanese SMEs have significant positive attitude regarding the factors that influence e-leadership.

## **2.6. Methods of data collection**

This study primarily adopts quantitative method, via a survey

questionnaire that is divided into two parts. The first part includes 33 questions used to measure the attitudes of employees towards e-leadership based on five point Likert scale with responses from 1 (totally disagree) to 5 (totally agree). The second part covers the individual and organizational characteristics, including gender, age, years of experience, level of management, staff number, age of organization, and type business. A pilot study of 30 working students is conducted to ensure clarity of the questionnaire. A Cronbach's Alpha scores (0.810), which is considered high for the internal reliability of the questionnaire. Finally, several colleagues from different universities reviewed and examined the content of the questionnaire and made several modifications.

## **2.7. The sample**

A convenient random sample of 322 working students is selected to represent the target students at the Lebanese University who work in SMEs. The selection of students' sample is essential to achieve the main purpose of the study since one of the major goals of university education is to prepare students for being future workers by developing their skills and influence their behavior (Patterson, 2012). Previous research indicates that leadership development is strong among students (Day, 2001). Chang and Lee (2013) find that leadership style has a strong influence on students' learning performance. The questionnaire is distributed during spring semester of the academic year 2015-2016; it is collected by the researcher, with the help of instructors in these target classes.

## **3. Literature review**

Because of the technology advancement and electronic economy, leaders in organizations changed their attitudes towards the advantage of the internet, by connecting people in all countries as they are in a small country.

### **3.1. Virtual organization and virtual team**

Traditional organization is vertically integrated and has hierarchical structure to manage processes and reach objectives. However, organizational theory has evolved over the years, due to the changes in environment. Many organizations in the 1980s have modified their structures for more autonomy and empowerment, which led to decrease of

supervision, faster decision-making, and quicker information process. Hence, horizontal structures and virtual teams have prevailed the practices of management in organizations.

Members of virtual organization are in distance from each other, with cultural differences. They communicate with each other through ICT and coordinate laterally based on dynamic relationships. In this regard, teamwork is the vital approach to virtual organizations, since employees work in different geographical locations. Townsend, DeMarie, & Hendrickson (1998) define virtual teams as groups of people who work in different entities that spread in different geographic locations using ICT to complete tasks and achieve organizational objectives. Hence, virtual teams work together in an interpedently, using ICT to collaborate and accomplish common goals effectively, regardless of space, time, and geographic locations (Grenier & Metes, 1995; Hedberg, Dahlgren, Hansson, & Olve, 1997; Curseu, Schalk, & Wessel, 2008; Martins, Gilson, & Maynard, 2004; Lipnack & Stamps, 1997; Moyntoya-Weiss, Massey, & Song, 2001).

### **3.2. E-leadership**

E-leadership is defined as the influence of one person on the behavior of others in the digital environment (Chamakiotis, & Panteli, 2011). It is a new approach of leading virtual organizations with speed and flexibility to compete in the e-world (Annunzio, 2001). According to Avolio, Kahai, and Dodge (2000), e-leadership is about the influence of a leader on individuals through ICT to change their attitudes and behavior towards better performance.

Several studies propose new frameworks about e-leadership in organizations with the advanced information technology (Avolio et al., 2000). These frameworks include advanced information technology (e-mail, internet, video conferencing, and e-learning).

Badrinarayanan and Arnett (2008) propose a framework that consists the key factors influencing the effectiveness of virtual team. These include the nature and frequency of communication perspectives, trust & commitment of team members, knowledge acquisition & integration, social integration & connectedness, decision quality & speed, and creativity & innovativeness of team.

Lin, Wang, Tsai, & Hsu (2010) propose a model according to a meta-analysis based on social dimensional factors that are critical to the team effectiveness, including communication, knowledge sharing, cooperative attitude, and competitive conflict. Avolio and Kahai (2003) suggest that e-leaders should use ICT to reach out people, and deal with matters related to workforce diversity. Fisk (2002) considers e-leadership as transformational, because of the characteristics involved, including the visionary, engagement, and collaboration. In this regard, Scott (2012) suggests eight factors that enhance the influence of leadership including charismatic, supportive, intelligence, charismatic responsible, vision, integrity, risk taking, and challenges tradition.

Cascio (2000) highlights three essential skills that e-leader should have to manage effectively virtual teams including communication, collaboration, and socialization. Hence, communication skills is essential in virtual team and other stakeholders inside and outside the organization (Kahai, Carroll, & Jestice, 2007; Annunzio, 2001). In this regard, Grenier and Metes (1995) suggest that leaders in virtual organization should use ICT in an efficient manner to enhance innovation and creativity, and to create a healthy environment (Annunzio, 2001). Other skills for e-leadership focus on management skills, including technical skills to manage information, interpersonal skills for sound communication, conceptual skills for strategic thinking, and HR development (see Kissler, 2001; Van Welsum & Lanvin, 2012). Pauleen (2003-2004) suggests that interpersonal relationship management is one of the key skills for effective leadership. E-leadership aims to guide virtual team members' behaviors toward shared goals based on (ICT). DeRosa (2009) stresses the significance of e-leadership to manage virtual teams, as become more predominant in organizations. Accordingly, e-leaders should develop new skills to face challenges of leading virtual team, including collaboration, socialization and communication (Cascio & Shurygailo, 2003).

The personality of e-leader must be highlighted, including honesty, awareness, visionary, innovative, responsiveness, consciousness, learning, risk-taking (Annunzio, 2001). Hence, Pierce and Hansen (2008) argue that the development and trust totally mediate the personality traits of e-leaders and teams' effectiveness. Others argue that e-leadership might have negative impact on virtual workforce without having confidence and faith in it

(Avolio et al., 2000). E-leaders play an important role to build trust and cooperation among team members (DeRosa, Hantula, Kock, & D'Arcy, 2004). Indeed, trusty relationship is a key factor for successful interactions among team members (Kanawattanacha & Yoo, 2002; Paul & McDaniel, 2004).

#### **4. Previous studies**

In this section, the author reviews the main studies that examine e-leadership and virtual team. Howell, Neufeld and Avolio (2005) examine the relationship of leadership and physical distance with business unit performance based on survey questionnaire distributed to a sample of managers. The authors find that leaders become more responsible in virtual organizations, particularly when changes are suited to structure, size, complexity, and managerial activities. They also find that transformational leader highly predicts performance in comparison with transactional leader.

Politis (2014) investigates the influence of e-leadership on building trust and commitment in virtual teams employed by organizations in UAE. He finds some practices of e-leadership, including the positive relationship between virtual teams and commitment, and virtual feedback and trust. He concludes that virtual leaders need to practice additional coordination and control in order to use information effectively in virtual works.

In an independent study, Jarvenpaa, Knoll, and Leidner (1998) inspect the determinants of trust in virtual teams. The authors found that team leaders are able to build higher trust in comparison to teams without leaders. In addition, Jarvenpaa and Leidner (1999) find that trust in virtual teams takes the form of "quick" confidence, and seems temporary and insubstantial, which probably requires the role of team leader to enhance communication and trust among members of virtual teams. In this regard, Malhotra, Majchrza and Rosen (2007), based on their study, find several successful practices of e-leadership in virtual team including: 1) building trust through the usage of ICT; 2) updating the usage of technology; 3) enhancing diversity; 4) spreading the visibility of virtual team members to external entities; and, 5) receiving benefits from other teams.

Jawadi, Daassi, Favier and Kalika (2013) investigate the effective e-leadership from the perspective of effective Leader-Member Exchanges



(LMX), based on a sample of virtual team members. They find that the roles related to open systems, rational goals, and human relations have substantial positive effect on LMX. The results also indicate the significance of technology, communication, and coordination for an effective virtual team.

In another study based on a large survey with virtual team members, Jawadi (2013) found that leadership has positive moderator role on ICT usage, while it has significant negative moderator effect on trust development. In the same theme, Jawadi (2010) analyzes the role and functions of e-leadership in reaching high performance in virtual teams. She finds that e-leaders are able to build trust in virtual teams based on coordination, control, and facilitating and mentoring at lesser level. Moreover, Fernandez and Jawadi (2015) examine the variables that enhance performance in (R&D) virtual project teams. They found that leadership plays a positive and important role in enhancing the relationships among members of virtual teams. The findings also highlight the importance of concurrent meetings, frequent interaction, cooperation, and trust to enhance performance.

Pinar, Zehir, Kitapci, and Tanriverdi (2014) examine the impact of leadership behavior team learning on virtual team performance in Turkey. They find a strong association with both task-oriented and relationship-oriented leadership and internal learning. Yet, both task-oriented and change-oriented leadership have strong association with external learning. They also shows null significant association between change oriented leadership and internal learning, and between relationship-oriented leadership and external learning. In this respect, Yoo and Alavi (2004) study the behaviors and roles of emergent leaders in seven virtual team in the U.S. The results indicate that emergent leaders highly stress on email messages, particularly related to tasks.

Qteishat (2014) examines the factors that influence the adoption of E-Leader in Jordanian banks based on the Technology Acceptance Model (TAM). The analysis shows different variables that influence the attitudes of leaders to employ technology, including ease of use, usefulness, reliability, and responsiveness. The attitude of leaders positively influences the adoption of e-leadership.

From another perspective, Korzynski (2013) examines the role of online

social networks and its impact on working environment of leaders in the USA, UK, Germany, France, Russian Federation, Australia and China. He finds that online social networks are highly beneficial for participative and consultative leadership style in comparison with directive leadership style. In addition, several variables appear to support leadership, including the number of activities, number of platforms and size of the company.

Purvanovaa and Bono (2009) examine transformational leadership in traditional and virtual teams based on a sample of leaders in both teams. They find that transformational leadership has stronger effect in virtual team performance, in comparison with traditional teams. In addition, transformational leaders are also more satisfied and respected in the virtual teams than in the traditional teams. In this regard, Yahchouchi (2009) finds that leaders in the Lebanese context are more transformational than transactional, and transformational leaders have positive association with organizational commitment.

In terms of motivation, Fan, Chen, Wang, and Chen (2014) scrutinize the effects of leaders in motivating members of virtual team to promote creativity. Their results show that the approach of leaders in motivating and feedback via e-mail instructions have different effects on creativity of team members. Hence, team members become more creative based on direction-giving instructions and feedback encouragement.

In sum, the literature review, including previous studies, covers variety of worldwide leadership topics, and studies of e-leadership and virtual teams. It helps identify and test the hypotheses, and make interpretations and conclusions of this study.

## **5. Findings and analysis**

### **5.1. Individual and enterprise characteristics**

Table 1 shows respondents' and enterprises' characteristics with regards to gender, age, years of experience, job position, size of the enterprise, age of the enterprise in years, and type of business. Respondents are almost split equally between males and females. Most respondents are between 20-25 years (63%), 21.1 % are between 25-30 years old, 9.6 % are between 31-35 years, and only 6.2 % are above 35 years old. In terms of years of

experience, most respondents have 1-5 years of experience (69.6%), 18% have experience between 6-10 years, and 12.4 % have experience above 10 years. Respondents' job position are classified according to top management (9.3%), middle management (22.7%), supervision (20.8%), and operations (47.2%). The size enterprises is measured based on the number of employees. 44% of enterprises have fewer than 10 employees, 33.5% have between 10 to 50 employees, and 22.0% of enterprises have between 50 to 250 employees. Age of the enterprise is determined based on the number years has been established. 37.9% are established between 1-10 years, 36.0% are established between 11-20 years, 9.0% are established between 21-30 years, and 17.1% are established above 30 years. Finally, enterprises have variations in term of type of businesses. Service enterprises are about 52%, about 20% are technical, 5.6% are manufacture, and the left enterprise focused in other businesses (i.e. commerce).

**Table 1: Respondents' demographic characteristics**

Variable	Category	Frequency	Percentage
<b>Gender</b>	Male	165	51.2
	Female	157	48.8
<b>Age</b>	20-25	203	63.3
	25-30	68	21.1
	31-35	31	9.6
	<35	20	6.2
<b>Years of experience</b>	1-5	224	69.6
	5-10	58	18.0
	<10	40	12.4
<b>Job position</b>	Top management	30	9.3
	Middle Management	73	22.7
	Supervision	67	20.8
	Operational	152	47.2

<b>Variable</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Staff number in organization</b>	>10	143	44.4
	10-50	108	33.5
	51-250	71	22.0
<b>Age of organization</b>	1-10	122	37.9
	11-20	116	36.0
	21-30	29	9.0
	<30	55	17.1
<b>Type of business</b>	Service	169	52.5
	Manufacture	18	5.6
	Technical	64	19.9
	Others	71	22.0

## 5.2. Attitudes of respondents towards using the ICT

Table 2 displays respondents' attitudes towards using the ICT. Although about 90% of respondents agree widely using the web, only 9.4% are aware of virtual organizations, 44% use internet to track issues related to their jobs, and only 14.8% trust working in virtual organizations. Hence, 32.3 % and about 40% are not sure of their awareness towards virtual organizations and trusting to work with this type of organizations. In terms of workers practicing the web, respondents agree that workers are able to use the web (65.5%), the usefulness of the web (64.3%), using the Web to communicate with members in the organization (66.7%), introduces technology advancement to practice virtual activities (60.9%), and Workers foster practicing teamwork in the organization (69.9%). Yet, Table 2 indicates that a reasonable portion of respondents classified as “not sure” of using the web in an average of 22.8%.

**Table 2: Attitudes of respondents towards using the ICT (in %)**

#	Item	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
1	I widely use the Web	2.8	3.4	4.0	47.2	42.5	4.2
2	I am aware of virtual organization (working distance & using ICT)	6.2	8.1	32.3	37.3	15.8	3.6
3	I use e-mail to track issues related to my job	4.7	8.4	10.2	36.3	40.4	3.9
4	I trust working in virtual organizations	5.3	14.3	33.9	35.1	11.5	3.3
5	Workers are able to use (ease to use) the Web	3.7	5.9	24.8	36.3	29.2	3.8
6	Workers use the Web to communicate with members in the organization (i.e. distribute workload, track issues, & provide feedback)	4.0	9.6	19.6	42.5	24.2	3.7
7	Workers consider the usefulness of the Web to the organization	2.5	11.2	22.0	43.5	20.8	3.7
8	Workers introduces technology advancement to practice virtual activities	3.7	8.7	26.7	44.4	16.5	3.6
9	Workers foster practicing teamwork in the organization	2.2	7.1	20.8	46.9	23.0	3.8

### 5.3. Attitudes of respondents towards e-leadership

Table 3 illustrates the attitudes of respondents towards e-leadership. It indicates also that the positive attitude of respondents towards e-leadership is not as high as their response towards using the web. Only 47.8% agree that e-leader is able to influence followers through ICT, 60.5% agree for the ability to empower team members and encourage innovation and change, and about half of respondents agree that e-leader is able to enhance collaboration, identify clear roles, build social relationship, and improve customer services. Yet, respondents' agreements for the other items are below 50%. Hence, respondents are highly not sure for all items of e-leadership with an average of 31.4%. Therefore, one can say, using widely the web does not mean that respondents understood the concept of e-leadership.

**Table 3: Attitudes of respondents towards e-leadership (in %)**

#.	Item	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
10	E-leader is able to influence followers through ICT.	3.1	10.6	38.5	37.9	9.9	3.4
11	E-leader is able to empower team members to make freedom decisions	2.8	9.0	27.6	44.7	15.8	3.6
12	E-leader is able to foster high standards of ethics among team members	6.2	14.3	34.8	34.8	9.9	3.4
13	E-leadership encourages innovation and change to adapt circumstances	3.4	10.6	25.5	45.3	15.2	3.6
14	E-leadership is able to enhance collaboration among team members	5.0	13.0	32.0	38.2	11.8	3.4
15	E-leader is able to identify clear roles to team members	4.7	12.4	28.9	38.2	15.8	3.5
16	E-leader is able to inspire and motivate to team members	6.2	15.5	27.6	38.5	12.1	3.3

#.	Item	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
17	E-leader is able build social relationship with team members	12.4	19.3	26.7	30.7	10.9	3.1
18	E-leader is able to resolve conflicts successfully.	10.2	18.9	35.4	25.2	10.2	3.1
19	E-leader is able to form alignment action with shared values in organization	5.0	17.1	38.8	31.7	7.5	3.2
20	Virtual workplace leads to increase performance.	6.2	15.2	36.0	30.1	12.4	3.3
21	Virtual workplace leads to improve customer services	5.0	10.6	32.6	37.3	14.6	3.4
22	Virtual workplace leads to decrease social connection among employees	3.7	9.3	23.3	37.0	26.7	3.7

#### 5.4. Attitudes of respondents towards factors influence e-leadership

Table 4 displays the attitudes of respondents towards factors influencing e-Leadership. It indicates that 63.7% of respondents agree on building virtual culture in organizations, 23.3% are not sure, and 13% disagree. In terms of providing e-learning courses to support virtual working, 50% agree, 31.4% are not sure, and 18.7% disagree of providing e-learning courses. 64.3% of respondents agree that organization hires talent employees to improve electronic activities, 11.8% disagree, and 23.9% are not sure of hiring talent employees. In the same theme, 47.8% of respondents believe that employees lack of required skills to practice virtual activities, 30.7% are not sure, and 20.8% disagree. In terms of limited resources, 47.5% support the resource limitation, 33.9% are not sure, and 17.7% disagree of limited resources to establish virtual organization. Finally, 55.9% of respondents believe that time zone differences hinder collaboration among team members, 28.3% are not sure, and 18.8% of respondents do not agree that time zone differences hinder collaboration among team members.

**Table 4: Attitudes of respondents towards factors influence e-leadership (in %)**

#	Item	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
23	The organization recently focuses on building virtual culture	3.7	9.3	23.3	37.0	26.7	3.3
24	The organization provides e-learning courses to support virtual working	5.0	13.7	31.4	33.9	16.1	3.5
25	The organization hires talent employees to improve electronic activities	4.3	7.5	23.9	41.0	23.3	3.7
26	Resources are limited to establish virtual organization	5.3	13.4	33.9	36.0	11.5	3.3
27	Time zone differences hinder collaboration among team members	3.7	12.1	28.3	41.9	14.0	3.5
28	Employees Lack of required skills to practice virtual activities	3.7	17.1	30.7	36.6	11.8	3.3

## 6. Testing hypotheses

In testing Hypotheses, one sample-t-test is used to determine whether the mean scores are substantially different from 3 (test value=3), the standard mean of the Likert scale answers according to the questionnaire (1, 2, 3, 4, 5). Number “3” is (not sure) or neither agree nor disagree is tested to determine whether the answered values depart from not sure. Hence, the hypothesized population mean is compared with the answers of respondents. The criteria for accepting the hypothesis when calculated t is greater than or equal the tabulated (t) =1.645 and if p-value < 0.05.



*Hypothesis 1: Employees in Lebanese SMEs have significant positive attitudes towards using ICT.*

Table 5 indicates that all items of using ICT regarding the calculated “t” is greater than the tabulated “t” value (1.645) at degree of freedom (321) and (95%) level of confidence, with significant “p value” of (0.000). Table 5 also indicates that all means regarding using ICT are above three, and thus results of all items tilt towards the agreement. Therefore, hypothesis 1 is accepted.

**Table 5: T-test results for the attitudes of employees in Lebanese SMEs towards using ICT**

#	Item	t	df	Sig.	MD	$\bar{x}$	SD
1	I widely use the Web	5.311	321	.000	.57764	4.2	.89
2	I am aware of virtual organization (working distance & using ICT)	15.857	321	.000	.99379	3.6	1.9
3	I use e-mail to track issues related to my job	5.799	321	.000	.33230	3.9	1.12
4	I trust working in virtual organizations	14.047	321	.000	.81366	3.3	1.02
5	Workers are able to use (ease to use) the Web	12.436	321	.000	.73292	3.8	1.03
6	Workers use the Web to communicate with members in the organization (i.e. distribute workload, track issues, & provide feedback)	12.334	321	.000	.68944	3.7	1.05
7	Workers consider the usefulness of the Web to the organization	11.163	321	.000	.61180	3.7	1.0
8	Workers introduces technology advancement to practice virtual activities	15.500	321	.000	.81366	3.6	.98
9	Workers foster practicing teamwork in the organization	5.311	321	.000	.57764	3.8	.94

Note: t= t-value; df= degrees of freedom; sig=significance; MD= mean deviation;  $\bar{x}$ = arithmetic mean; and SD= standard deviation.

*H2: Employees in Lebanese SMEs have significant positive attitudes towards e-leadership.*

This hypothesis is tested based on 13 items relevant to e-leadership. Table 6 indicates that 11 out of 13 items are significant, since the calculated “t” are greater than the tabulated “t” value (1.645) at degree of freedom (321), (95%) level of confidence, and the significant “p-value” is (0.000). The only two items that are not significant, including item (17) e-leader is able to build social relationship with team members ( $p = .209$ ), and item (18) e-leader is able to resolve conflicts successfully ( $p = .322$ ). Thus, the means of these two items (17 & 18) are close to three, but the rest shifted towards the agreement, with an average mean of (3.48). Therefore, hypothesis 2 is primarily accepted stating that employees in Lebanese SMEs have significant positive attitudes towards e-leadership.

**Table 6: T-test results for the attitudes of employees in Lebanese SMEs towards using e-leadership**

#	Item	t	df	Sig.	MD	$\bar{x}$	SD
10	E-leader is able to influence followers through ICT	8.022	321	.000	.40994	3.4	.91
11	E-leader is able to empower team members to make freedom decisions	11.667	321	.000	.61801	3.6	.95
12	E-leader is able to foster high standards of ethics among team members	4.867	321	.000	.27950	3.4	2.4
13	E-leadership encourages innovation and adapt circumstances	10.657	321	.000	.58385	3.6	.98
14	E-leadership enhances collaboration among team members	6.845	321	.000	.38820	3.4	1.0
15	E-leader is able to identify clear roles to team members	8.244	321	.000	.48137	3.5	1.0
16	E-leader is able to inspire and motivate to team members	5.805	321	.000	.34783	3.3	1.1
17	E-leader is able to build social relationship with team members	1.259	321	.209	.08385	3.1	1.2
18	E-leader is able to resolve conflicts successfully	.993	321	.322	.06211	3.1	1.1
19	E-leader is able to form alignment action with shared values in organization	3.604	321	.000	.19565	3.2	.97

#	Item	t	df	Sig.	MD	$\bar{x}$	SD
20	Virtual workplace leads to increase performance	8.022	321	.000	.40994	3.3	1.1
21	Virtual workplace leads to improve customer services	11.667	321	.000	.61801	3.4	1.0
22	Virtual workplace leads to decrease social connection among employees	4.867	321	.000	.27950	3.7	1.1

Note: t= t-value; df= degrees of freedom; sig=significance; MD= mean deviation;  $\bar{x}$ = arithmetic mean; and SD= standard deviation.

*H3: Employees in Lebanese SMEs have significant positive attitudes regarding the factors that influence e-leadership.*

Table 7 indicates that all factors that influence e-leadership are significant since the calculated “t” is greater than the tabulated “t” value (1.645) at degree of freedom (321) and (95%) level of confidence, and the significant of the “p-value” is (0.000). In addition, all items have means of 3.3 and above, shifting towards the agreement category. Therefore, hypothesis 3 is accepted stating that employees in Lebanese SMEs have significant positive attitudes regarding the factors that influence e-leadership. Hence, virtual culture, e-learning, hiring talent employees, adequate resources, and collaboration regardless of time zone are essential factors that influence practicing e-leadership.

**Table 7: T-test results for the attitudes of employees in Lebanese SMEs towards factors that influence e-leadership**

#	Item	t	df	Sig.	MD	$\bar{x}$	SD
23	The organization recently focuses on building virtual culture	6.346	321	.000	.33230	3.3	.94
24	The organization provides e-learning courses to support virtual working	7.143	321	.000	.42547	3.5	2.5
25	The organization hires talent employees to improve electronic activities	12.315	321	.000	.71429	3.7	1.0
26	Resources are limited to establish virtual organization	6.161	321	.000	.35093	3.3	1.0

#	Item	t	df	Sig.	MD	$\bar{x}$	SD
27	Time zone differences hinder collaboration among team members	9.035	321	.000	.50311	3.5	.99
28	Employees Lack of required skills to practice virtual activities	6.302	321	.000	.35714	3.3	1.0

Note: t = t-value; df= degrees of freedom; sig=significance; MD= mean deviation;  $\bar{x}$ = arithmetic mean; and SD= standard deviation.

## 7. Discussions and implications

The descriptive analysis mainly shows positive attitudes towards ICT, except for the awareness and trusting virtual organizations. Hence, even though respondents practice ICT, regarding the web and e-mails, they are not widely aware and do not trust virtual organizations. In addition, respondents mainly have positive attitudes towards e-leadership and the factors that influence it; these factors include culture, e-learning, talent employees, required skills, and resources. Yet, the findings show a reasonable portion of respondents as “not sure,” about e-leadership and factors that influence its practices.

In terms of testing the hypotheses, the results mainly supports the three hypotheses of the study related to attitudes of respondents towards ICT, e-leadership, and factors influencing e-leadership. These results reflect the descriptive analysis, particularly the mean average of respondents. Hence, respondents who use ICT daily, understand the significance of the web very well. Yet, they do not have enough knowledge about the concept of virtual organization and team, since SMEs in Lebanon are still far from practicing virtual organizations. In addition, the findings reveal that virtual culture, e-learning, talent employees, adequate resources are essential to practice e-leadership in SMEs.

In sum, the results of this study shed the light on the significance of understanding employees' attitudes towards e-leadership. Employees, who perceive the significant of e-leadership, might be able to respond quickly to changes in technology and its impact on managing organizations. Therefore, the findings indicate that adopting e-leadership is essential in leading organizations to achieve their objectives. In the same manner, understanding employees' characteristics helps top workers to enhance the concept of

e-leadership by focusing on the usage of leadership approaches and styles according to technology advancement and circumstances. In this regard, universities may also focus on integrating technology to leadership courses, and allowing students to managing SME virtually.

## **8. Limitations and future research**

The main limitation of this study is selecting the sample based on young workers who continuing their higher education in business school at the Lebanese University. Hence, workers from different universities might have different attitudes towards e-leadership. Therefore, a caution is required in generalizing the results.

This study is considered as one of the exploratory studies about e-leadership in Lebanon. It covers gaps about workers' attitudes towards e-leadership. In this respect, future studies might focus on sample from different faculties, in order to have a better understanding about the attitudes of Lebanese managers from different orientations. Further research could test workers' actual behavior in leading virtual organizations. Finally, further research should focus on different cultures to determine differences among workers' attitudes towards e-leadership.

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