# Training on the Use of Information and Communication Technologies: A Field Study on the Attitudes of Administrative Leaders in the Government Agencies in the Kingdom of Saudi Arabia

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***Abstract:*** *This study aimed to know the attitudes of the administrative leaders in the government agencies in the kingdom of Saudi Arabia towards their training on the use of information and communication technologies, to know the extent to which some of the characteristics of these leaders influence their attitudes, and to identify the main obstacles that limit on the use of ICTs. A random sample of (168) of leaders were surveyed through a questionnaire. The results showed that there are positive attitudes towards the use of ICTs, and that no demographic characteristics affect that attitude. The study showed that the most important constraints that limit their training are limited time available, the desire of to be involved in training, and weakness of the training infrastructure. The study suggested several recommendations, such the preparation of appropriate training programs for training administrative leaders, providing appropriate incentives, and allocating an a sufficient budget to achieve the training objectives.*

***Keywords:*** *Administrative leaders, Training, Information and Communication Technologies, Government Agencies*

**Introduction**

Administrative leaders are central to human resources as their activities and tasks are considered crucial in managing and supervising organization. Despite the importance they have, it seems they come from nowhere (Eagly 2018). Their tasks and activities require them to possess several skills and technical capabilities that may assist them in the course of performing their various tasks. The government agencies strive to develop leaders in all fields especially in the field of information and communication technologies, and the administrative leaders themselves seek to develop themselves through training, practicing and learning (Hasanien, 2017: 61). The government agencies are in a dire need, now more than ever, to keep pace with all technological development through training the leaders on the use of such technologies for achieving the goals of the governmental institutions and performing administrative activities effectively (Malkawi, 2017. This cannot be achieved unless the leaders themselves are very keen to be trained on the use of these technologies as well as their conviction of the importance of continuous development). Many agencies attend to training being a tool to raise the level of performance, increase productivity and efficiency; and prepare the employees to perform tasks entrusted to them and shoulder more responsibilities (Al-Nowyajem, 2005).

The administrative leaders are one of the most important factors in building and managing organizations; something which require the existence of leaders with competitive advantages in these organizations who are capable of running them effectively in order to achieve the objectives of these organizations (Mansour, 2008, Al-Otaiby, 2014, Al-Qahtani, 2014). It is also very important for those leaders to possess characteristics and skills; the most important of which are the technical skills, through which they can perfect and excel in performing work (Al-Allaq, 2016: 5). This requires being familiar with the attitudes of administrative leaders towards their training on the use of ICTs in the government agencies. Thus, this study aims to recognize the attitudes of administrative leaders in the government agencies in the Kingdom of Saudi Arabia regarding their training on the use of ICTs, and to be familiar with the most important obstacles that limit their training. This, in turn, will help the government agencies to develop their skills and thus make sure they perform the tasks entrusted to them in an effective way. Consequently, this study was organized in an introduction and four main sections.

## SECTION I: THE GENERAL FRAMEWORK OF THE STUDY

**Problem Statement**

ICT's are considered one of the main drivers for achieving administrative work with the various systems and applications they include. As it is very crucial for administrative leaders all over the organization to

do their job and perform their tasks in a very effective way, the use of ICT's, in this case, is very important in achieving this role. Hence, training administrative leaders on the use of ICT's is vital, as training is one of the most important elements of development. There is a lack in the studies concerned with recognizing the attitudes of the administrative leaders with regard to their training on the use of ICTs especially in the Kingdom of Saudi Arabia. Thus, the study problem is represented in knowing the attitudes of administrative leaders regarding their training on the use of ICT's in their agencies, as well as recognizing the main obstacles that limit their training.

**Significance of the Study**

The importance of this study is based on two main dimensions; the first is that it is directed to an important group of workers in the government agencies, the administrative leaders. The second dimension is that it focuses on the attitudes of the administrative leaders regarding their training on the use of ICTs. There is also another scientific dimension which is represented in highlighting the attitudes of administrative leaders concerning their training on the use of ICT's, which will attract the attention of researchers and practitioners who seek to know the attitudes of the administrative leaders regarding these technologies and the training on how to use them. The study also raise the attention on the level of government agencies and administrative leaders with regard to the importance of the attitudes of administrative leaders and eliminating obstacles that limit training on the use of ICTs. This, consequently, will help them develop their knowledge, skills and capabilities in order to help them to perform their roles effectively and thus achieving the objectives of the organization.

**Study Objectives**

The study aims to achieve the following:

1. 1-Recognizing the characteristics of administrative leaders in government agencies.
2. 2-Identifying the attitudes of administrative leaders regarding their training on the use of ICTs in government agencies.
3. 3-Knowing the nature of the relation between personal and organizational traits of administrative leaders, as well as their attitudes words training on the use of ICTs.
4. 4-Being familiar with the main obstacles that hinder the training of administrative leaders on the use of ICTs.
5. 5-Presenting suggestions and recommendations that aim to raise the awareness of the administrative leaders regarding their training of the use of ICTs in government agencies.

**Questions and Hypotheses**

The study poses the following questions:

1. What are the personal and organizational characteristics of administrative leaders in the study sample of government agencies?
2. What are the attitudes of the administrative leaders regarding their training of the use of ICTs in government agencies? This question leads to the following hypothesis
   "The average of the attitude of the administrative leaders regarding their training on the use of ICTs is less than the hypothetical average (3)".
3. 3-Is there any impact of personal and organizational characteristics (scientific qualification, age, years of experience, job type) of the administrative leaders on their attitudes towards training on the use of ICTs? This questions leads to the following hypothesis:
   "There are no statistically significant differences between the attitudes of administrative leaders regarding their training on the use of ICTs and their personal and organizational characteristics (scientific qualification, age, years of experience, job type)
4. What are the main obstacles facing the administrative leaders when trained on the use of ICTs?

**Limitations of the Study**

The limitations of this study are to recognize the attitudes of administrative leaders towards training on the use of ICTs and the main obstacles limiting the training of such leaders on the light of the available literature related to study theme and resulting opinions of study sample. This study is limited to surveying the opinions of administrative leaders during the fourth quarter of the year 2018.

## SECTION II: METHODOLOGY

**Methodology**

The study applied the descriptive analytical approach which describes, construes and focuses on the phenomenon (Al-Assaf 1995: 189). The study derived its data and information through office survey of the literature and studies on the attitudes of administrative leaders towards training on the use of ICTs, and the field survey of a sample of administrative leaders in government agencies.

**Population and Sample**

The population of the study are the administrative leaders in the government agencies in the Kingdom of Saudi Arabia. The researcher, because of the vast numbers of those administrative leaders, chose the approach of two-stage sampling; the first stage included the identification of government agencies (the number

is 110 agencies represented in ministries, public agencies, apparatus and organizations with the exception of military agencies. The researcher then chose a random sample amounting to (20%) of government agencies reaching (22) agencies. The stage 2 included the identification of (12) questionnaires to each agency, so the distributed questionnaires amount to (264), which were distributed through the departments of public relations and media, planning and development and research. The researcher received (176) questionnaires representing (67%) of all questionnaires. The researcher excluded (8) questionnaires because they were not complete. Consequently, the number of valid questionnaires suitable for research and analysis amount to (168) questionnaires representing (64%) of all the distributed questionnaires.

**Data Collection**

The researcher applied the survey approach to collect study data by designing a special questionnaire. To verify the face validity to study tool, it was presented to a group of referees in the fields of methodology, statistics and administration; (3) of those referees are from Saudi universities, (4) of them are from the Institute of Public Administration. The stability test was verified through conducting a pilot survey on a random sample of (18) administrative leaders. Depending on the data of pilot sample, Pearson coefficient was obtained and its degrees ranged between (0.48) and (0.73). The internal reliability coefficient was computed by Cronbach Alpha Equation, and it was (0.783).

**Data Analysis**

The Statistical Program for Social Science (SPSS) version (21.0) was used, and a number of descriptive approached were employed, the one-sample t-test was used to test that the mean average is equal or more than the value of the hypothetical average of the scale (3) according to the applied Likert Five Points Scale at the significance level (0.05%). The one-way ANOVA Test was employed to make sure that the personal and organizational characteristics have no effect on the attitudes of administrative leaders towards their training on the use of ICTs.

## SECTION III: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

**First: Theoretical Framework**

**Administrative Leaders**

Many researchers and practitioners devote their interest to administrative leaders being very significant in most organizations specially the government agencies as a main pivot for administrative development. Despite the variety of leadership styles, the administrative leader possess the characteristics of different leadership styles (Mason, 2018). The administrative leader is the main drive, motivator and influencer of employees' behaviors. Administrative leadership is responsible for realizing the objectives, missions, and bringing about the qualitative transformations for any human gathering (Moustafa, 2016: 195). The administrative leadership faced a difference and contradiction in modern administrative thinking regarding its concept, constituents, and elements due to lack of research methodologies and measurement processes. This led to several theories and leadership styles which construed its establishment including the approach to characteristics and attitudes (Abul Fadl, 1996: 15). Due to the diversity of leadership styles, it gained vast interest. Some indicated the importance of the leadership and its role in organizing and managing formal and informal institutions to raise the level of performance. The administrative leadership is associated with the establishment of human society and it developed historically since the establishment and appearance of countries and their institutions. Several administrative theories have been developed in this regard (Abdul Hamid et al, 2011: 171; Aboudy, 2010: 17).

It is crucial to develop the administrative leaders due to the important role they play in directing different operations in the organizations and activating their strategies. The administrative leaders also play a central role in managing crisis. The administrative leaders face several difficult and complicated tasks and situations (Broekema, et al., 2018). The administrative leaders are very important these days and their importance becomes evident through keeping pace with the surrounding variables (Saif, 2017: 12). The modern administrative thought focused on the importance of preparing and developing administrative leaders for the sake of accomplishing organization tasks and achieving their objectives through affecting the others to achieve distinguished performance (Al-Silmy, 2017: 163). Some indicated the scarcity of administrative leaders who possess necessary skills (Masoud, 2009: 37). The researchers classified the characteristics of the administrative leader into three groups of skills i.e. intellectual, technical and humanitarian (Al-Rabiey, 2012: 301). Others expressed that there are five characteristics of the leader i.e. technical, humanitarian, educational, symbolic and cultural (Coklar, 2012). The administrative leaders are very needed for different agencies. Their importance stems from them being the coupling link between the employees and the accomplishment of organizations' objectives. They are also the catalyst of positive powers responsible for developing and enhancing human resources (Al-Baradie, 2015). Using ICTs is considered one of the most important skills and knowledges that administrative leaders should strive to acquire. The organizations of today go through complications and future changes. There are several skills that should be possessed by future leaders including organization of business networks through the smart use of electronic media and personal communications. The future leader is in dire

need for vast business networks and technologies communications to better serve the organization as they provide speed in disseminating and receiving information (Al-Tarawna, 2013).

**Training the Administrative Leaders**

Training is one of the most important methods to develop human resources especially when it becomes vital to keep pace with the social, economic and technological changes. Al-Humairy (2012) suggests that training leaders is considered a cornerstone in the process of administrative development in general taking into consideration the current circumstances the different organizations are facing and their requirements. That is the reason why the administrative leader should possess the knowledge, skills and capabilities that help him to lead. Consequently, training requires several qualitative programs that enhance such knowledge and behavioral, technical and administrative skills.

As training is considered a tool to develop administrative leaders, McCauley et al (1998) indicated that is increases the ability of the individual to be effective in leadership roles and processes. Brungardt (1996) also suggested that training is a form of growth or development stage in life cycle, which in turn encourages, promotes and helps to broaden knowledge and experience required to improve the potentialities of the leader. Several agencies attend to training and allocate huge budget for it, as well as several qualitative training packages. In this regard, the United States of America spends an amount of (87.6) billion dollars on training industry in general (Training Magazine, 2018: p19).

The Kingdom of Saudi Arabia pays a great attention to education and the training of work force. The appropriations for the public education, higher education and the training of workforce in the year 2019 state budget are (192.82) billion Saudi Riyal. These appropriations included the allocations of the initiatives to achieve the Kingdome Vision 2030 programs (Ministry of Finance, State Balance Sheet for the year 2019, p 63). Administrative training styles and its modern trends vary to include several styles such as e-training, competency-based training (CBT), direct training through the internet, training through multimedia (Ismael, 2014). Training administrative leaders stems from the concepts of technical and administrative training which is based, in concept, on the importance of identifying training needs which in turn is based upon analyzing the organization, the job and the targets of training process.

With regard to training the administrative leaders on ICTs, it is very important, not only on the individual level, but it goes beyond that to influence the work team and the organization itself. In the context, Hanebeck (2000) suggested that there are four main attitudes affecting the society and the way the society deals with these technological means; the most important of which is huge acceleration in technological innovations (p 27). In this context, training on such technological innovations is one of the main factors contributing in broadening the training on ICT's. It started with the invention of these innovations and their development. However, approached them with different directions with regard to duration and reasons of use, and the effect of this on behaviors (Eied, 2003; Al-Khateeb, 2007: 16). With knowledge development, and as many resources include several multimedia, combined with the variety and development of such resources emphasized the importance of training on technology. This development became an effective tool to clarify many types of modern knowledge and coexist with such modern means and technologies in society (Shodaifat and Arshad, 1428 H: 230).

To acquire the skills to deal with different ICTs, all public and private institutions spend huge budgets on training which is determined normally according to the needs of organizations and individuals. Training should also be related to the objectives and priorities the organization wishes to achieve (ASTD, 2005). As training is related to job satisfaction and commitment, there should be proper budgets for such training in different organizations in order to achieve this relation effectively, (Owens, 2006). There is no doubt that there are different factors and variables that influence training including, as Alexander (1991) suggested, cost, lack of available resources, lack of time, and the dire need to materials, devices and other helping aids (p 70). Cerych (1982) summarized several problems facing countries regarding training on technology as follows: comprehensiveness of training to different levels, lack of financial resources, weak training, availability of suitable hardware and software (pp 422 – 423).

With increasing demand on training, individuals and organizations seek to guarantee the highest return on investment (ROI). That's why training should be designed using standards that achieve high quality, should have clear objectives, should have an opportunity to promote what follows the training, and should be assessed properly (Emanuel, 2010: 77). Leaders should be trained on different knowledges and skills using several means such as workshops, focus groups etc. (Bass, 2004).

**Information and Communication Technologies**

The digital revolution led to a huge growth in data and information that can exchanged, organized, saved and searched, beside facilitating communications among individuals and organizations alike. Technology has become the one essential element in the production processes and in providing various services all over the world and must be governed and audited (Malkawi et. al., 2010). Many countries strive these days to achieve a proper level of digital transformation and invested millions in ICTs (Malkawi, 2017). In this regard, the Kingdom of Saudi Arabia achieved qualitative leaps in digital transformation for organizations from rank (105)

in 2003 to rank (44) in 2016 (Electronic Government Program, 2016). The transformation process requires that the administrative leaders and employees in the organizations to possess certain skills. In this regard, Groysberg (2014) suggested that the technological skills to deal with ICTs are among the most important seven skills to be possessed by executive managers. Consequently, ICTs have great effects on both the society and the individuals. Technological developments, especially ICTs accelerated rapidly in the last twenty-five years (Kurzwell, 2000). The importance to develop certain digital skills for leaders led to the creation of a new sub field for electronic leadership. Electronic leadership may be defined as the social influence that can be achieved through using advanced information technologies (Montgomery et al, 2017: 528). It also created a kind of virtual leadership where its effect lies in practicing the styles of leadership and influence using modern communication technologies (Al-Ghadier 2016). The rapid technological developments affected the accurate identification of the concept of information and communication technologies as it can be used in different contexts; the most important of which are; (1) technical systems related to ICT's; (2) communication tools (3) modern, comprehensive and developed total systems for ICT's such as different integration systems.

The ICTs systems across the organization include several systems; such communication systems, decision support systems, management information system and office management systems. Integrating ICTs in organizations, through complicated and costly enterprise resources platforms, became very important as a part of ICTs system itself. The leaders play a crucial role in selecting and implementing such systems (Wart et al, 2017). These systems help communication and interaction, and support structuring work environments, solve problems and promote digital transformation. The ICTs systems are very important for leaders and organizations now more than ever.

**Second: Literature Review**

This section reviews some related literature. Yousuf (1994) conducted a study that aimed to recognize the attitudes of administrative leaders towards computer in the United Arab Emirates. The study sample included (210). The most important conclusions were that the administrative leaders in the government agencies did not comprehend its importance and role in facilitating the process of planning, control, and taking decisions. The study also concluded some obstacles that limit the use of this technology such the lack of qualified individuals, the leaders were not convinced of the importance of this technology, and lack of necessary budget to provide computers.

Al-Shehri (1999) conducted a study that aimed to identify the internal approached adopted by government agencies to develop managers. The study conclusions revealed that the managers have positive attitudes towards some methods adopted to develop them including the efforts exerted to train them to help their career growth. The study recommended that it is imperative to make the managers aware of the importance of continuous development, self-education, and joining different training programs and courses.

Al-Beshi (2001) conducted a study with the purpose of diagnosing the reality of Saudi central administrative bodies and the proper means to develop them. The study recommended that it is very important to train administrative leaders on the practical and scientific methods for development and change. Fulantelli and Allegra (2003) carried out a study which focused on clarifying some research results related to the attitude of small firms towards ICTs, beside recognizing the main elements to overcome the obstacles that hinder the use of technologies, and the need for training. The study indicated the importance to overcome all obstacles, and the need for continuous training to avoid such obstacles.

Ma, Chung and Thorson (2005) conducted a study on government leaders in China in order to identify the extent of using information and communication technologies. The study conclusions stated that the leaders use ICTs in order to promote both the efforts to accelerate decentralized public administration and the government's ability to supervise main activities. Al-Fadiel (2006) carried out a study to recognize the reality of using computers by supervisors in the course of performing their tasks and the skill level they enjoy. The study population included (155) male supervisors and (200) female supervisors. The study results indicated that most supervisors use computers very well. The study recommended that those supervisors should join more training courses. Gupta, Subhasish, and Gupta (2008) carried out a study on the adoption of ICTs in government agencies in developing countries in order to apply e-government. The study suggested that expected efforts and performance, social impact, and soft circumstances positively influence the use of ICTs.

Abu qudais, et al., (2010) conducted a study in Jordan with the purpose of identifying the main factors influencing the attitudes of senior faculty staff members in Jordanian universities towards the use of ICTs regarding knowledge and training. The study surveyed (251) of faculty staff members. The study concluded that the staff members possess the basic skills and knowledge, as well as the positive attitudes towards training on technologies, and that there is a need to focus this training on ICTs.

Gawdat (2010) undertook a study aimed to recognize the reality of using computer by the Academic Leaders in Um Al-Qura University in order to accomplish their job responsibilities in the light of time management and the obstacles that limit its use. The researcher surveyed (166) of those leaders. The study revealed that the level of use was high, and the main obstacles were the rapid development in technology. The study recommended that it is important for academic leaders to join computer training courses. (Al-Harahsha,

2013) identify the degree of use of computers by the leaders at Jordanian schools, and the impact of gender, academic qualification, scientific progress, and years of service, The study sample consisted of (107) managers, the study indicated that there are no statistical significance differences that may be attributed to the academic qualification and years of experience.

Qureshi (2013) undertook a study that aimed to identify the leadership impact on the meaningful usage of ICTs through several interviews with leaders. The study concluded that the leaders enjoy a prominent role as critical factors when it comes to the implementation of ICTs. Those leaders also do not have to be experts in these technologies but they are in need of a vision to adopt the implementation process. They also possess the ability to support different implementation phases regarding career development, and the leaders feel they are good users of these technologies. The study recommended a clear vision to integrate these technologies, and the need to redefine the strategy to use ICTs for the optimal use of these technologies.

Al-Khithlan (2016) carried out a study with the purpose of identifying the reality of using administrative information systems in Salman bin Abdul Aziz University in the Kingdom of Saudi Arabia from the point of view of administrative and academic leaders in the University. The study population consisted of (243) deans, supervisors, heads of divisions and managers of departments. The study sample was (98). The study revealed that these systems are used in a satisfactory way to a certain extent, and that there are statistically significant differences that are attributed to the academic qualification regarding the reality of the administrative information systems between the responses of MA holders and PhD holders in favor of the PhD holders. There were no statistically significant differences among the responses of study sample that are attributed to the years of experience.

Noti and Liaz (2016) conducted a study that aimed to realize the attitudes of managers and entrepreneurs in tourist organizations towards the use of ICTs and how these attitudes influence the image and decision taking. The study was carried out on a sample of (208) of managers and entrepreneurs numbering. The study stated that the majority of study sample think that ICTs provide valuable information and promote proper decision taking processes. ICTs also provide them with access to information and sharing such information with great ease. The attitudes towards such technologies have a positive relation when used with the purpose of gaining knowledge.

Al-Qahtani (2017) performed a study that aimed to recognize the role of developing administrative leaders in improving the organizational performance in the Emirate of Riyadh Province. The study suggested that the administrative leaders at the Province are developed through increasing performance level to reach the excellence level, and the training needs to train administrative leaders are identified in a scientific way using modern technologies. The study revealed that there are some obstacles facing the development of administrative leaders and they are represented in low financial and morale incentives, lack of financial resources, and lack of modern technologies in some leadership positions. Atanasoff and Vena (2017) indicated, in their study on the pressures produced by technology when used on different workers in the organization, that although the use of technology might promote the efficiency of work environment, productivity and flexibility, the technological tools may have reverse effects on the physical, cognitive and psychological health of individuals. They may also have reverse effects on organizations regarding low satisfaction and commitment.

Manuel, et al., (2017) conducted a study in Spain to recognize the critical factors in adopting ICTs by those responsible for small enterprises. The study sample consisted of (148) enterprises. The study concluded that the training directed to the entrepreneurs in fields related to ICTs might limit the negative effect resulting from the increasing aging of the employer in using ICTs.

## SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

**First:** Characteristics of study sample: to answer the first question, "What are the organizational and personal characteristics of administrative leaders in the government agencies?" the characteristics of the sample were as shown in the next table:

**Table (1): Frequency and percentage of study sample characteristics**

| Variable | | Frequency | % |
|---|---|---|---|
| Academic Qualification | Bachelor Degree | 62 | 36.9 |
| | MA | 92 | 54.8 |
| | PhD | 8 | 4.8 |
| | Other | 6 | 3.6 |
| | Total | 168 | 100% |
| Age | Less than (35) years | 46 | 27.4 |
| | From (35) to (45) years | 98 | 58.3 |
| | More than (45) years | 24 | 14.3 |
| | Total | 168 | 100% |
| Years of Experience | Less than (5) years | 18 | 10.7 |

| Variable | | Frequency | % |
|---|---|---|---|
| | From (5) to (10) years | 36 | 21.4 |
| | From (10) to (15) years | 77 | 45.8 |
| | More than (15) years | 37 | 22 |
| | Total | 168 | 100% |
| Job Category | Department Manager | 72 | 42.9 |
| | General Manager | 86 | 51.2 |
| | Assistant Deputy | 6 | 3.6 |
| | Deputy | 4 | 2.4 |
| | Total | 168 | 100% |
| Training provided by the agency | Yes | 168 | 100 |
| | No | 0 | 0 |
| | Total | 168 | 100% |
| Training by individual efforts | Yes | 158 | 94 |
| | No | 10 | 6 |
| | Total | 168 | 100% |
| ICTs individual literacy | Great | 129 | 76.8 |
| | Average | 21 | 12.5 |
| | To some extent | 14 | 8.3 |
| | Illiterate | 4 | 2.4 |
| | Total | 168 | 100% |

Table (1) shows that more than half study sample (55%) hold MA degrees, while (37%) hold Bachelor degrees. The ages of more than half study sample (58.3%) range between (35) and (45) years. More than half study sample (51.2%) work as General Managers. All study sample (100%) receive training from the organization they work in. About (94%) receive training by individual efforts. About (77%) think that they are familiar with ICTs to a great extent, while (2.4%) think that they are illiterate regarding ICTs.

**Second:** to answer the following question: "What is the attitude of administrative leaders towards training them on ICTs in government agencies", and to test the zero hypothesis, "The average attitude of administrative leaders towards training them on ICTs in government agencies is less than the hypothetical average", the researcher specified (30) phrases that can measure the attitudes of the administrative leaders according to Likert-Five Scale. The grand mean for total answers was extracted, and the agreement degree and explanation were determined to answer the first question according to the adopted average scale as shown in the following table.

**Table (2): the average scale used to explain the attitudes of total answer of study sample.**

| Average | Degree |
|---|---|
| From (1) to < (2.5) | Weak |
| From (2.5) to < (3.5) | Average |
| From (3.5) to < (5) | Strong |

Table (3) explains the means, standard deviations and explanation degree for sample responses. The mean for participants' responses for all phrases stated in the questionnaire was (3.71) which is considered strong. This denotes that the administrative leaders have positive attitudes towards their training on ICTs in government agencies.

**Table (3): Arithmetical mean, standard deviation and explanation degree for sample responses regarding their training on ICTs.**

| N | Phrase | M | Std. | Explanation Degree |
|---|---|---|---|---|
| 1 | Is one of the main methods to train administrative leaders | 4.24 | 0.86 | Strong |
| 2 | Helps to develop the leader's capabilities to be effective | 3.73 | 1.19 | Strong |
| 3 | The agency allocated enough budget for training | 2.93 | 1.19 | Medium |
| 4 | Helps to develop and expand knowledge | 3.44 | 1.30 | Medium |
| 5 | The agency provides several diverse training packages | 3.76 | 1.19 | Strong |
| 6 | Training styles on technologies is varied in the agencies | 3.26 | 1.26 | Medium |
| 7 | The training provided suits the individual not the agency | 3.41 | 1.20 | Medium |
| 8 | It keeps pace with acceleration in technologies these days | 3.81 | 1.24 | Strong |
| 9 | Keep pace with the diversification of enriching resources | 4.20 | 0.963 | Strong |
| 10 | Requires the availability of sufficient financial resources | 4.31 | 0.811 | Strong |
| 11 | Requires available time for administrative leaders | 4.41 | 0.753 | Strong |
| 12 | Requires availability of suitable hardware and software | 4.33 | 1.91 | Strong |

| N | Phrase | M | Std. | Explanation Degree |
|---|---|---|---|---|
| 13 | Achieves highest ROI in leaders | 3.70 | 1.25 | Strong |
| 14 | Designed as per the accurate needs of administrative leaders | 2.74 | 1.37 | Medium |
| 15 | Helps to achieve communication | 3.68 | 1.19 | Strong |
| 16 | Requires proper administrative support to use technology | 3.95 | 1.12 | Strong |
| 17 | I do not possess basic technical skills to use technology | 3.11 | 1.27 | Medium |
| 18 | The agency does not possess the infrastructure for training on technology | 4.21 | 0.99 | Strong |
| 19 | Current training program at the agency do not suit me | 3.77 | 1.23 | Strong |
| 20 | Contributes in increasing work productivity in a better way | 4.38 | 0.88 | Strong |
| 21 | Contributes in performing work easily | 4.41 | 0.89 | Strong |
| 22 | Develops the skills of administrative leaders at work | 3.78 | 1.22 | Strong |
| 23 | Promotes achieving the highest accuracy at work | 4.49 | 0.71 | Strong |
| 24 | Planning and Development Departments do not contribute largely in developing administrative leaders with regard to using technology | 4.28 | 0.81 | Strong |
| 25 | The agency possess a clear vision to integrate technology in work | 3.66 | 1.12 | Strong |
| 26 | Requires the proper will from administrative leaders | 3.87 | 1.08 | Strong |
| 27 | The agency does not possess proper plans for training on technology | 2.79 | 1.31 | Medium |
| 28 | The focus is on theoretical training more than practical training | 3.63 | 1.12 | Strong |
| 29 | Training programs provided at the agency are few and unavailable continuously | 3.87 | 1.22 | Strong |
| 30 | Low incentives for training on technology at the agency | 4.05 | 1.13 | Strong |
| **Total** | | 3.79 | 1.13 | Strong |

To confirm the attitudes of study sample towards their training on ICTs, and to test the zero hypothetical test, "the average attitudes of administrative leaders towards their training on ICTs in the government agencies is less than the hypothetical average (3)". The One-Sample T Test (t) was adopted to test that the value of the mean is more than or equal to the value of the hypothetical average of the scale (3) as per the adopted Likert-Five Scale at the significance level (0,001%) to verify the statistical function. This indicates that study sample does not possess positive attitudes towards training them on ICTs.

**Table (4): (t) Test for sample responses**

| N | Phrase | M | Std. | t | Significance | Order |
|---|---|---|---|---|---|---|
| 1 | Is one of the main methods to train administrative leaders | 4.24 | 0.86 | 18.59 | Significant | 7 |
| 2 | Helps to develop the leader's capabilities to be effective | 3.73 | 1.19 | 7.93 | Significant | 19 |
| 3 | The agency allocated enough budget for training | 2.93 | 1.19 | -0.744 | Insignificant | 28 |
| 4 | Helps to develop and expand knowledge | 3.44 | 1.30 | 4.38 | Significant | 24 |
| 5 | The agency provides several diverse training packages | 3.76 | 1.19 | 8.23 | Significant | 18 |
| 6 | Training styles on technologies is varied in the agencies | 3.26 | 1.26 | 2.69 | Insignificant | 26 |
| 7 | The training provided suits the individual not the agency | 3.41 | 1.20 | 4.44 | Significant | 25 |
| 8 | It keeps pace with acceleration in technologies these days | 3.81 | 1.24 | 8.48 | Significant | 15 |
| 9 | Keep pace with the diversification of enriching resources | 4.20 | 0.96 | 16.17 | Significant | 9 |
| 10 | Requires the availability of sufficient financial resources | 4.31 | 0.81 | 20.92 | Significant | 5 |
| 11 | Requires available time for administrative leaders | 4.41 | 0.75 | 24.29 | Significant | 2 |
| 12 | Requires availability of suitable hardware and | 4.33 | 1.91 | 14.44 | Significant | 4 |

| N | Phrase | M | Std. | t | Significance | Order |
|---|---|---|---|---|---|---|
| | software | | | | | |
| 13 | Achieves highest ROI in leaders | 3.70 | 1.25 | 7.28 | Significant | 20 |
| 14 | Designed as per the accurate needs of administrative leaders | 2.74 | 1.37 | -2.48 | Insignificant | 30 |
| 15 | Helps to achieve communication | 3.68 | 1.19 | 7.43 | Significant | 21 |
| 16 | Requires proper administrative support to use technology | 3.95 | 1.12 | 10.93 | Significant | 12 |
| 17 | I do not possess basic technical skills to use technology | 3.11 | 1.27 | 1.09 | Insignificant | 27 |
| 18 | The agency does not possess the infrastructure for training on technology | 4.21 | 0.99 | 15.72 | Significant | 8 |
| 19 | Current training program at the agency do not suit me | 3.77 | 1.23 | 8.17 | Significant | 17 |
| 20 | Contributes in increasing work productivity in a better way | 4.38 | 0.88 | 20.25 | Significant | 3 |
| 21 | Contributes in performing work easily | 4.14 | 0.89 | 16.46 | Significant | 10 |
| 22 | Develops the skills of administrative leaders at work | 3.78 | 1.22 | 8.28 | Significant | 16 |
| 23 | Promotes achieving the highest accuracy at work | 4.49 | 0.71 | 27.20 | Significant | 1 |
| 24 | Planning and Development Departments do not contribute largely in developing administrative leaders with regard to using technology | 4.28 | 0.81 | 20.45 | Significant | 6 |
| 25 | The agency possess a clear vision to integrate technology in work | 3.66 | 1.12 | 7.68 | Significant | 22 |
| 26 | Requires the proper will from administrative leaders | 3.87 | 1.08 | 10.37 | Significant | 13 |
| 27 | The agency does not possess proper plans for training on technology | 2.79 | 1.31 | -2.06 | Insignificant | 29 |
| 28 | The focus is on theoretical training more than practical training | 3.63 | 1.12 | 7.31 | Significant | 23 |
| 29 | Training programs provided at the agency are few and unavailable continuously | 3.87 | 1.22 | 9.22 | Significant | 14 |
| 30 | Low incentives for training on technology at the agency | 4.05 | 1.13 | 12.11 | Significant | 11 |
| **Total Average** | | 3.79 | 1.13 | 10.51 | Significant | |

Table (4) shows that the means for all phrases is (3.79) out of (5) degrees, and the standard deviation is (1.13) which reflects alignment in the points of view of study sample. It is also clear that (t) value is (10.51) which is a statistically significant value at the significance level (0.001%). This denotes that the differences in the study sample responses is considered significant differences in research population, and this can enable mainstreaming of study conclusions. This denotes the rejection of zero hypothesis and the acceptance of alternative hypothesis.

Table (4) illustrated, the values of the means for all phrases ranged in its minimum from (2.74) for the phrase "Training is designed as per the accurate needs of administrative leaders", to its maximum value amounting to (4.49) for the phrase, "Training promotes achieving the highest accuracy at work", and the order of phrases as per the attitudes. This results conforms, on the whole, regarding the use of ICTs and the positive attitude towards it, with the conclusions of (Ma, Chung and Thorson, 2005) study in China. It also conforms to the conclusions of (Abu Qudais, Al-Adhialeh, and Al-Omari, 2010) with regard to the positive attitudes towards training on ICTs, and with the conclusions of (Qureshi, 2013) regarding that the leaders think they are skilled in using such technologies, which denoted a positive attitude towards ICTs. These conclusions also agree with the conclusions of (Al-Shehri, 1999) in that the administrative leaders possess positive attitudes towards their training including training on ICTs which will help career development.

**Third:** to answer the third question, "Is there any effect of organizational and individual characteristics of administrative leaders (academic qualification, age, years of experience and job category) on their attitudes towards training on ICTs", and to test the emanating zero hypothesis, "There are no statistically significant differences between the attitudes of administrative leaders towards training on ICTs and their organizational and individual characteristics (academic qualification, age, years of experience and job category). The One-Way ANOVA test was adopted due to the multiplicity of sub variable categories. The test at the significance level (0.05), as shown in table (5), that the academic qualification has no influence on the attitudes of administrative leaders towards training on ICTs, as the (F) value is (0.891) which is considered a statistically insignificant

value at the significance level (0.05), F=0.891, MS = 0.463, p>0.05 (0.670). It was clear that age has no influence on the attitudes of administrative leaders towards training on ICTs, as the (F) value is (1.02) which is considered a statistically insignificant value at the significance level (0.05), F=1.02, MS=0.406, p>0.05 (0.448). It became also evident that years of experience have no influence on the attitudes of administrative leaders towards training on ICTs as the (F) value is (1.21) which is considered a statistically insignificant value at the significance level (0.05), F=1.21, MS=0.946, p>0.05 (0.200). It appeared also that job category has no influence on the attitudes of administrative leaders towards training on ICTs, as the (F) value is (0.677) which is considered a statistically insignificant value at the significance level (0.05), F=0.677, MS=0.333, p>0.05 (0.938). The previous results indicate the approval of zero hypothesis, which means that the organizational and individual characteristics of administrative leaders has no influence on their training on ICTs. This result conforms to the results of (Al-Harahsha, 2013) indicating that there are no statistical significance differences that may be attributed to the academic qualification and years of experience.

**Table (5): Analysis of Variance ANOVA of the influence of some organizational and individual characteristics towards their training on ICTs**

| Variable | MS | F | P | Significance (0.05) |
|---|---|---|---|---|
| Academic Qualification | 0.346 | 0.640 | 0.937 | Insignificant |
| Age | 0.452 | 1.16 | 0.269 | Insignificant |
| Number of Years of Experience | 0.937 | 1.18 | 0.252 | Insignificant |
| Job Category | 0.540 | 1.29 | 0.150 | Insignificant |

**Fourth:** to answer the question, "What are the main obstacles hindering the training of administrative leaders on ICTs", the researchers specified some obstacles that may limit the training of administrative leaders on using technologies. These obstacles were ordered as per the responses of study sample as shown in the following table (6).

**Table (6): the obstacles limiting the training of administrative leaders on using ICTs**

| N | Variable | | Respondents | Non-respondents | Total |
|---|---|---|---|---|---|
| 1 | Unavailability of time for administrative leaders to train on ICTs | Frequency | 153 | 15 | 168 |
| | | (%) | 91% | 9% | 100% |
| 2 | Unwillingnesss of the administrative leaders to train | Frequency | 136 | 32 | 168 |
| | | (%) | 81% | 19% | 100% |
| 3 | Weak infrastructure for training in the agency | Frequency | 124 | 44 | 168 |
| | | (%) | 74% | 26% | 100% |
| 4 | Weak programs and applications available for training | Frequency | 114 | 54 | 168 |
| | | (%) | 68% | 32% | 100% |
| 5 | Diversity and multiplicity of ICTs | Frequency | 112 | 70 | 168 |
| | | (%) | 67% | 33% | 100% |
| 6 | Weak training plans in the agencies to train administrative leaders | Frequency | 110 | 58 | 168 |
| | | (%) | 65% | 35% | 100% |
| 7 | Rapid development of ICTs which affect the training | Frequency | 108 | 60 | 168 |
| | | (%) | 64% | 36% | 100% |
| 8 | Unavailability of administrative support for training | Frequency | 102 | 66 | 168 |
| | | (%) | 61% | 39% | 100% |
| 9 | Unavailability of technical support for training | Frequency | 100 | 68 | 168 |
| | | (%) | 60% | 40% | 100% |
| 10 | Inefficiency of training providers on using ICTs | Frequency | 98 | 70 | 168 |
| | | (%) | 58% | 42% | 100% |
| 11 | Training patterns provided are weak | Frequency | 96 | 72 | 168 |
| | | (%) | 57% | 43% | 100% |
| 12 | Insufficient budget for training on technology in the agencies | Frequency | 88 | 80 | 168 |
| | | (%) | 52% | 48% | 100% |

Table (6) indicates that more than half of the sample believe that there are obstacles that limit their training on ICTs in the agencies they work in. The percentage of those range from (52%) to (91%). The previous table shows the order and the approval rate of these obstacles. It was evident that (91%) of administrative leaders who are subjects of the study think that the unavailability of time for them to train on ICTs is one of the main obstacles that limit their training. This is followed by the unwillingness of the administrative leaders to train at the rate of (81%), followed by weak infrastructure designed for training at the rate of (74%). These conclusions conform to the conclusions of Al-Qahtani study (2017) regarding lack of modern technologies in

some administrative positions. The following obstacle is the rapid development in ICTs at the rate of (64%), which conforms to the results of Gawdat study (2010) stating that the main obstacle for using and keeping pace with these technologies is the rapid development in technology. The next obstacle is the unavailability of administrative support for training at the rate of (61%), and finally insufficient budget for training on ICTs at the rate of (52%). This result agrees with the result of Yousuf study (1994) which stated that one of the main obstacles the limit the attitudes is the insufficient budget necessary to provide such technologies. It also conforms with Al-Qahtani study (2017) stating that one of the obstacles is the insufficient financial resources necessary to finance the administrative development programs for leaders.

**Fifth: Recommendations**

The study, based on the data and results, recommends the following:

- Attending to training the administrative leaders by government agencies on ICTs as per the new development in the field of technology.
- Preparing training plans suitable for administrative leaders in a way that enables them to train on ICTs.
- Seeking to provide sufficient budgets to train the administrative leaders on ICTs.
- The government agencies should attempt to continuously measure the skills and capabilities of administrative leaders in the field of using ICTs and bridging the gap in the training needs for administrative leaders.
- Providing the proper training environment according to the needs of administrative leaders including laboratories, programs, applications and proper training patterns to train them on ICTs.
- The administrative leaders should seek self-training in the field of ICTs according to the available time and effort they may spare and in a way that achieves their needs for gaining more knowledge and skills towards using ICTs.
- The proper selection of training patterns and providers in a way that aligns with the needs of administrative leaders.

**Sixth: Future Studies**

In the light of study conclusions and recommendations, the researcher suggests the following future studies:

1. Realty and challenges of training administrative leaders on the use of ICTS.
2. Prospecting the requirements and the needs of administrative leaders in the government agencies towards training on ICTs.
3. The readiness of government agencies to train the administrative leaders on using ICTs.
4. A comparative study on the use of administrative leaders in public sector and private sector to ICTs.
5. The influence of training the administrative leaders in government agencies on ICTs on the performance quality and decision-making.

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