



E-LEARNING AND DIGITAL TRANSFORMATION: KEY FACTORS INFLUENCING IMPLEMENTATION IN DUBAI GOVERNMENT ORGANIZATIONS

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Abstract

There is an increasing recognition among organizations that investment in learning and development interventions is essential for enhancing organizational performance and achieving excellence. E-Learning has emerged as a widely adopted method of delivering training and education particularly within Dubai government organizations in the United Arab Emirates (UAE). Organizations often consider developing the skills and knowledge of their employees by using advanced technologies and approaches. The present study aims to examine key factors influencing implementation of E-Learning in Dubai government organizations in the UAE. The review shows that the use of E-Learning has spread among organizations faster than any other method, particularly within Dubai government organizations. Therefore, this research aims to shed light on the current status of E-Learning implementation in Dubai government organizations in the UAE. Moreover, the study explores different E-Learning technologies and approaches that are used in organizations. It also addresses the advantages and disadvantages of using E-Learning and digital transformation. In addition, it identifies the major barriers and challenges hindering effective implementation of E-Learning methods in organizations and offers evidence-based recommendations to support strategic planning and policy development. The findings contribute to a deeper understanding of how E-Learning can be effectively integrated into Dubai government organizations to support digital transformation and capacity building in the UAE.

Keywords: E-learning, public sector, learning & development, digital transformation, workplace



INTRODUCTION

In the 21st century, communication technology explosion has increased the use of digital devices for many reasons in the world of work and education (Kumar, Wotto and Bélanger, 2018). There is increasing recognition among organizations that investment in learning and development interventions is necessary for sustained organizational performance and excellence (Kamali, 2018). Specifically, E-Learning has seen a continued upward trend with both government and private sector continuing to invest in learning and development (Giannakos, Mikalefand Pappas, 2022). E-learning has also become a fundamental topic in most studies over the past few years (Msomi et al., 2016; Gros and García-Peñalvo, 2023). Yet, studies have confirmed that organizations are facing numerous barriers and challenges in implementing E-Learning among organizations (Ellis and Kuznia, 2014; Gokah et al., 2015; Jokiahho et al., 2018). Currently, most organizations in the UAE are focusing on E-Learning, but there are not many details about the extent to which key factors influencing the implementation of E-Learning (Salloum et al., 2019; Qurotul Aini, et al., 2020). In the context of the UAE, and particularly in Dubai government organizations, this study addresses the following research question: “What key factors influencing the implementation of E-Learning in Dubai government organizations?” The present study is a conceptual paper that aims to examine the key factors influencing the E-Learning implementation in Dubai government organizations in the UAE. The review shows that E-Learning has spread out among organizations faster than any other method, particularly within Dubai government organizations. Therefore, this research aims to shed light on the current status of E-Learning implementation in Dubai government organizations in the UAE. Moreover, the study explores different E-Learning technologies and approaches that are used in organizations. Furthermore, it addresses the advantages and disadvantages of using E-Learning and digital transformation. Also, it identifies the major barriers and challenges of using E-Learning methods in organizations. Understanding the key factors influencing the E-Learning implementation in Dubai government organizations is critically important, as the existing literature tends to focus on E-Learning methods and practices, rather than the drivers. The purpose of this study is to examine the key factors influencing the E-Learning implementation in Dubai government organizations in the UAE. Additionally, it suggests some ideas that can contribute to the solutions to these problems facing employees. Today, technology is an essential material in the future of learning and development. Thus, we find some employees who are facing difficulties in using the technology.

CONTEXT OF THE STUDY

Nowadays, the pace of technological change is unbelievable as the internet becomes the most popular source of information and the channel of communication (Kumar, Wotto and Bélanger, 2018; Suryanto et al., 2023). The current rapid development of information technology has received positive feedback from the community. Currently, the public sector view E-Learning as an essential instrument for obtaining skill-based organizational outcomes (Giannakos, Mikalefand Pappas, 2022). With its state-of-the-art digital infrastructure, Dubai has set the stage for rapid advances in E-Learning. The focus of this study is Dubai government organizations because recently there has been an increased emphasis on E-Learning and digital transformation in Dubai government organizations in UAE. Today, many organizations are aware of the importance of E-Learning and are developing plans to improve the competences of the workforce and their professional skills (Gros & García-Peñalvo, 2023). Dubai's Government has presented its forward thinking-prowess with the launch of a 50-year plan known as The UAE Centennial 2071 Project, the year which will be the nation's 100th anniversary. The main purpose of launching this plan is to put in place a vision that extends to five decades, thereby preparing the nation for future generations. It also aims to have a clear map for long-term government work in order to make the United Arab Emirates the best country in the world (UAE Government). The plan consists of four aspects: economy, education, government development and community cohesion. Currently, Dubai government organizations are using a Learning Management System (LMS) which provides a learning platform that can enable interactive learning anywhere and at any time as long as the users are connected to the system via the internet (Turnbull, Chugh and Luck, 2020). As E-Learning played an increasingly critical role during the pandemic, the heavy reliance on the use of E-Learning became a challenge in public sector organizations. Successful implementation of E-Learning systems hinges upon addressing the challenges faced by the learners and the instructors. Whilst there have been many studies which have attempted to address the challenges that are faced in implementing an E-Learning system (Ellis and Kuznia, 2014; Tarus, Gichoya and Muumbo, 2015; Giannakos et al., 2022), there have been limited studies that focused on exploring the barriers and challenges of implementing E-Learning in the context of the public sector. This study seeks to explore the key factors influencing the implementation of an E-Learning system in Dubai government organization in the UAE.

E-LEARNING DEFINITION

The main process of E-Learning starts with learning, so it is important to understand the meaning of learning. Learning is defined as a process whereby individuals obtain new skills in

order to increase their knowledge and improve their productivity and performance (Kok, 2013). The main purpose of learning is to improve the performance of employees in order that organizations can meet their goals (Chadwick & Raver, 2015). E-Learning is defined as an innovative way to enhance education and learning (Stecula & Wolniak, 2022). According to Hoppe, et al. (2003), E-Learning is the learning that is supported by digital-electronic tools and media. There are different definition terminologies of E-Learning based on the field in which it is used (e.g. education, military, etc.). Different authors have defined E-Learning, for example, the term E- Learning refers to all training activities that use electronic media or information technology where it is used to support the learning process (Effendi and Zhuang, 2005). Also, it is described as a computer-based environment having relatively open systems which permit interaction encounters with other participants and providing access to a wide range of resources (Piccoli, Ahmed, and Lves, 2001). Another author stated that E-Learning is the process of learning facilitated by mobile devices (Kearney, et al., 2012). Furthermore, the UNESCO Institute for Information Technologies in Education (IITE) defined E-Learning as the use of information and communication technologies (ICTs) in different processes of education to support and improve learning across higher education and beyond (UNESCO, 2020). In the context of public sector organizations, E-Learning serves as a strategic tool to upskill employees, enhance productivity, and ensure ongoing professional development through flexible and cost-effective means (Msomi et al.,2016)

E-LEARNING TECHNOLOGIES AND APPROACHES

There are different approaches to E-Learning and most of the discussion concerning E-Learning has traditionally focused on educational courses in academic institutions. Today, there are various types of E-Learning that organizations can choose based on their specific goals and needs. The following section presents different E-Learning approaches that can be used within organizational environments, particularly in government settings in order to support employee development and strategic capacity-building.

Blended Learning

Blended learning is an educational approach that includes framing the teaching learning process that incorporates both traditional face-to-face classroom methods with online learning activities (Hrastinski, 2019). It has scope for constructive learning; collaborative learning and computer assisted learning. Learners usually engage in both in-person and online activities. This approach offers a more flexible and personalized learning experience (Dangwal, 2017). Additionally, blended learning encourages continuous engagement beyond the physical

classroom, allows learners to access materials anywhere and anytime, and promotes the development of digital literacy skills (Jost et al., 2021).

Microlearning

Microlearning is an educational approach that is characterized by its bite-sized and easily digestible units (Dolasinski & Reynolds, 2020). It is one of the most powerful tools for learners, enabling complex information to be broken down into brief chunks. Microlearning is appropriate for quick learning and the reinforcement of knowledge where learners need specific information or skills (Silva et al., 2020). This method is designed to enhance learning and performance in the most effective manner via short pieces of contents (Taylor and Hung, 2022).

Gamification

Gamification refers to the integration of game mechanics into the educational environment in order to enhance motivation, engagement and learning outcomes (Argote and Hora, 2017). Gamification can be implemented in different organizational processes, and it intends to leverage the motivational power of games to make learning more effective and compelling (Bozkurt and Durak, 2018).

Social Learning

Social learning is a type of learning that occurs via social interactions and experiences where learners can develop their knowledge and skills (Chuang, 2021). It emphasizes the idea that people can learn effectively by engaging with each other and sharing knowledge and experiences in order to retain information. There are different key components and features of social learning such as discussion forums, social media integration, group chats and messaging, peer review and feedback and learning communities (Rumjaun & Narod, 2025).

Distance Learning

Distance learning is known as distance education or remote learning, often using technology where instructors and learners can interact with each other from different geographical locations (Anderson, 2008). It permits the learners to participate and engage with course materials, providing flexibility in terms of place and time (Traxler, 2018). Distance learning utilizes different digital platforms, such as Learning Management Systems (LMS), video conferencing tools and online resources, offering flexible scheduling to access the course materials (Hobson & Puruhito, 2018). Distance learning is a form of didactic information transfer

reaching dispersed listeners, using different forms of media. This form does not require direct contact between the instructor and the learners (Bradley, 2021).

Virtual Reality and Augmented Reality

Virtual reality (VR) is a technology that creates a simulated environment which allows learners to be in a computer-generated world which can be an entirely imaginary universe (Wohlgenannt et al., 2020). The experience can be visual and auditory, and it enables humans to directly interact with a computer-generated environment (Al-Ansi, 2023). It also can create a sense of presence, making the learners feel that they are inside the virtual world. Virtual reality is used as an aid for learning and practice in different fields such as medicine, engineering, design, architecture and education and training (Abdelaziz, Alaa El Din and Senousy, 2014). Augmented Reality (AR) is a technology that deals with the combination of real world and computer-generated data (Alam, et al., 2019). It is unlike virtual reality where the learner is completely immersed in a virtual environment (Al-Ansi, 2023). Augmented Reality allows users to interact with virtual images and can enhance the collaboration between learners and instructors, thus maximizing the learning process (Dargan et al., 2023).

E-Learning Platform

An E-Learning platform is an electronic learning platform using communication technologies to facilitate learning and teaching (Alseelawi et al., 2020). An E-Learning platform can be used to deliver training programs, online courses, webinars, video conferencing and virtual workshops (Mashau & Nyawo, 2021). Learners can access the platform anywhere and anytime allowing them to adjust their learning based on their own schedule and pace (Aixia and Wang, 2011). One type of E-Learning platform is Learning Management System (LMS), which is a software-based platform or web-based technology that helps to automate employee training. By using LMS, learners can have the flexibility to study at their own pace and can access course materials and assignments at their convenience (Rabiman et al., 2020).

These are just numerous examples of E-Learning technologies and approaches currently applied across educational institutions and organizational settings. In particular, public-sector entities in Dubai are increasingly leveraging Learning Management System (LMS) which is used to enhance the learning experience and develop the employees' knowledge and competencies consistently (Khakim et al., 2024). A well-designed LMS enables organizations to establish a structured learning environment and cost effective (Salah & Thabet, 2021). Driven

by the UAE's ambitious visions such as the UAE Centennial 2071 and the National Strategy for Artificial Intelligence, the field of E-Learning continues to grow with advanced technology and new approaches that are constantly being developed to improve the learning experience (Salah & Thabet, 2021). New innovations such as AI-powered learning platforms, mobile learning applications, and immersive solutions such as virtual and augmented reality, are being integrated into government learning strategies to boost engagement and learning retention (Devi et al., 2025). The future of E-Learning in UAE looks promising as technology continues to grow at a rapid pace (Msomi et al., 2016).

ADVANTAGES AND DISADVANTAGES

Advantages of E-Learning and digital transformation

There are several advantages of E-Learning that make it an effective training method for organizations. First, organizations do not have to hire instructors to develop learning materials in person as much of the content can be created and delivered online (Sitnikov, et al., 2010). Also, one of the biggest advantages of E-Learning is that it can have the ability to cover distances, particularly valuable for organizations that are spread across multiple locations. Learners and instructors do not have to attend classes physically as they can study and learn in their comfort zone or at their workplace (Ellis and Kuznia, 2014). In addition, E-Learning can also support inclusivity by accommodating learners with special needs via customized content and accessible formats (Quadri, et al., 2017). Moreover, organizations can save costs because some training courses are conducted in different locations which can be far for learners to travel to, resulting in organizations paying for accommodation, transport, and meals. E-Learning will help in minimizing the cost (Lazarenko & Hapchuk, 2024). Another notable advantage is the flexibility of E-Learning offers, it is typically self-paced, allowing learners to complete training at their own speed and the contents of the training course can be repeated until it is understood by the learners (Ellis and Kuznia, 2014). This adaptability not only enhances learning outcomes but also promotes employee autonomy and time management.

Disadvantages of E-Learning and digital transformation

While E-Learning offers flexibility and cost-effectiveness, there are still several disadvantages with E-Learning. One key limitation is that some participants may be technologically challenged or hesitant to engage with digital platforms, particularly if they lack prior experience with online learning (Ellis and Kuznia, 2014). Also, some employees might not be fully equipped technologically, making it hard to implement E-Learning as some learners in

organizations can come from different generations and are not used to the E-Learning method and may not be comfortable navigating digital tools (Ahmad and Tarmudi, 2012). Furthermore, resistance to change is another obstacle frequently encountered with some employees as it is difficult to deal with them and convince them to try the E-Learning method (Ellis and Kuznia, 2014). Moreover, in the multilingual environment like the UAE, language barriers can hinder participation, especially for non-native English speakers, who might face difficulties in understanding and communicating in E-Learning settings (Oktoma et al., 2023). Another disadvantage is that it promotes the tendency of isolation as some learners spend most of their time completing online learning and avoiding the company of others (Akhter, et al., 2021). In a culture where interpersonal relationships and collective learning are highly valued, this isolation can have a negative impact on employees' engagement and morale (Alshare et al., 2011). E-Learning cannot replace traditional learning as both of them should be blended together in order to achieve better results, better service delivery and skilled employees (Sitnikov, et al., 2010; Tagouzi, 2024).

FACTORS AFFECTING E-LEARNING IMPLEMENTATION

Various studies have highlighted a range of factors that are affecting E-learning implementation (Sitnikov, et al., 2010; Ellis and Kuznia, 2014; Al-Balas, 2020). Each of these studies has a different explanation and perspective for each factor. According to Al-Balas, et al., (2020), E-Learning requires a certain level of technological skills as it is usually delivered via electronic devices. Any lack of digital skills will make it difficult to benefit from the advantages of E-Learning. One of the key factors identified in the literature is the competency of the instructors, for example Raman et al., (2019) emphasized that the digital skills of the instructor can have significant impact on the success of E-Learning implementation. Another study by Ellis and Kuznia (2014) added that both instructors and learners might not be committed to using the E-Learning system as they do not have the motivation to do it and because they have never been involved in the process. In addition, the rapid development of future technology might change considerably, and some instructors may struggle to keep up with emerging E-Learning tools and approaches which can hinder the effectiveness of digital education strategies (Cheng, et al., 2011). A lack of technological confidence among instructors may further influence their willingness to integrate E-Learning into their teaching practices (Raman et al., 2019). Also, the interaction between the learners and instructors when using online learning is more difficult than with traditional teaching, which might be one of the factors that can impact the E-Learning implementation. Limited communication and engagement can have a negative impact on learners' satisfaction and overall the

effectiveness of E-Learning (Rajabalee & Santally, 2021). Furthermore, the infrastructure and technology play a pivotal role in implementation of E-Learning (Pratama & Scarlatos, 2020). It requires a huge budget to ensure the appropriate software, hardware, high speed internet connection and the availability of technical support system. Therefore, infrastructure and technology are considered one of the most significant factors that can impact on E-Learning implementation (Quadri, et al., 2017).

CHALLENGES OF USING E-LEARNING METHODS IN ORGANIZATIONS

Implementing E-Learning methods can offer numerous benefits (Ellis and Kuznia, 2014). Yet, many studies have revealed that there are several challenges of using E-Learning methods in organizations (Sitnikov, et al., 2010; Ellis & Kuznia, 2014; Giannakos et al., 2022). According to Giannakos, Mikalef and Pappas, (2022), E-Learning environment is relatively new, and its technologies are developing and changing rapidly. Wu et al., (2022) views the transition from traditional to digital earning can be difficult as it involves converting the physical teaching materials into digital formats which can be time consuming to complete. In addition, there are three factors that determine the successful implementation of E-Learning system such as, the perception of the users, their digital competencies, and computer use knowledge (Lee, Hsieh and Chen, 2013). Moreover, employees should have the acceptance and motivation to learn as it is an essential key to success in any E-Learning implementation (Almaiah, Al-Khasawneh and Althunibat, 2020; Kapo et al., 2021). According to Almaiah et al., (2020), there are several methods that can be utilized to enrich the employees' motivation to learn, such as having a positive and energetic learning environment. Selecting the right E-Learning platform for organizations is another key to ensure the trainees have a successful and positive learning experience (Chou, et al., 2012). Moreover, the quality of the system plays a crucial role in learners' willingness to engage with the E-Learning platform. If the platform lacks quality, learners may be reluctant to use it, eventually leading to resistance or rejection of the system (Giannakos et al., 2022). A lot of studies (Mahmodi, 2017; Dreheeb, Basir and Fabil, 2016) agree that the quality attributes of the system have a critical role in providing user satisfaction to keep on using the E-learning system. A lack of consideration for factors that impact user acceptance of E-Learning may also prove to be a challenge in E-Learning (Qurotul Aini, et al., 2020; Giannakos et al., 2022). As E-Learning plays a vital role in organizational learning strategies, the reliance on the use of E-Learning also becomes a challenge not only for organizations but also for learners and the instructors (Dreheeb, Basir and Fabil, 2016). Successful implementation of E-Learning in organizations mainly depends on addressing

the challenges faced by learners (Tarus, Gichoya and Muumbo, 2015). Therefore, understanding and examining the challenges may guide policy makers to design more effective E-Learning frameworks that fulfill the needs of all learners (Qurotul Aini, et al., 2020).

CONCLUSIONS

This study examines the key factors influencing the E-Learning implementation within Dubai government organizations in the UAE. Despite the robust global research interest in the role of E-Learning implementation in organizations, there is not enough research looking at how different factors impact the implementation of E-Learning in organizations, especially within Dubai government organizations. Previous research has often focused on E-Learning learning in schools and universities (Salloum, et al., 2019) but has rarely examined E-Learning in the public sector entities. While several studies have examined barriers to E-Learning adoption in higher education, there remains a notable research gap regarding its implementation in public sector environment. While this study offers valuable insights into the key factors influencing the implementation of E-Learning within Dubai government organizations, certain limitations must be acknowledged. The research is geographically restricted to Dubai, which may limit the generalizability of its findings to other emirates or international public sector contexts. In addition, the exclusive focus on public sector entities means that differences in E-Learning adoption within the private sector were not addressed. Also, the study relied mainly on secondary data and existing literature; the absence of large-scale empirical data, such as structured interviews or surveys, may have constrained the depth of analysis. Dubai government organizations have already started applying E-Learning as a part of their workforce development strategies. Yet, for these initiatives to succeed, it is essential to explore the technological infrastructure, organizational readiness and human factors comprising digital literacy, employee engagement and motivation that facilitate or hinder successful implementation. In addition, much of the current research tends to overlook the challenges faced in the education system for students not for employees. As the UAE continues to push toward its innovation-led future, aligning with national strategies like the UAE Centennial 2071, having a deep understanding of how to efficiently implement and maintain E-Learning within Dubai government organizations becomes increasingly essential. Researchers should apply a collaborative effort to study how to implement E-Learning successfully in the learning process of organizations. This will help decision-makers and policymakers in developing more inclusive, effective and scalable E-Learning solutions that can enhance employee performance and align with long-term strategic objectives of Dubai government.

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