

# ASSESSING THE IMPACT OF E-TRAINING AND DEVELOPMENT ON EMPLOYEES' IN-ROLE PERFORMANCE: A STUDY OF SERVICE SECTOR ORGANISATIONS IN THE UAE

Ruchi Maheshwari Bangur\*, Mohammad Abu Faiz\*\*

\*Assistant Professor, Department of Commerce and Management, Banasthali Vidyapith, Jaipur, Rajasthan, India.

\*\*Assistant Professor, College of Business, City University Ajman, UAE; Research Scholar, Department of Commerce and Management, Banasthali Vidyapith, Jaipur, Rajasthan, India. Email: [m.faiz@cu.ac.ae](mailto:m.faiz@cu.ac.ae)

---

**Abstract:** Given the rapidly evolving work environment and increased digitalisation in social life, electronic learning (E-learning) systems have emerged as effective tools for training human resources. These systems can comprehensively cover areas such as technologies, products, services, culture and policies. By utilising E-learning organisations can empower employees with lighter workloads to take on more responsibilities through targeted training. Study indicates that E-learning enhances employee performance by boosting productivity, thereby improving work quality and overall performance levels. E-training will probably improve employees' knowledge and abilities because it provides access to current information. Employee resilience and career development have been shown to significantly increase worker productivity. However, productivity is not directly impacted by e-training. A sample of 223 was collected from employees working in service sector. The factors that identify the Impact of E-Training and Development on Employees' In-Role Performance in Service Sector are Increased Accessibility and Flexibility, Enhanced Learning Experience, Enhanced Job Performance and Support for Continuous Learning.

**Keywords:** E-Learning, Training and Development, Performance, Service Quality, Service Industry and Employee Performance

---

## INTRODUCTION

In today's rapidly changing environment organizations must constantly adapt to new opportunities and overcome rising challenges. Two areas stand out as pivotal for organisational success: technology and human resources. The rise of digitalisation has transformed how companies operate, develop their workforce and pursue growth. Among these advancements, e-learning has emerged as a game-changer for training and development, offering organisations a flexible, cost-effective and efficient way to enhance employees' skills and knowledge.

E-learning, a product of the digital revolution, is gaining traction as businesses grapple with training a diverse and widely dispersed workforce. Unlike traditional methods that depend on fixed schedules and locations, e-learning provides the flexibility for employees to access training anytime and

anywhere. This adaptability is particularly valuable for organisations with team members spread across different time zones or working non-traditional hours. By breaking the barriers of time and location, e-learning ensures equitable learning opportunities for all employees.

A notable advantage of e-learning is its ability to align seamlessly with an organisation's strategic goals. Digital tools and platforms now enable companies to design tailored training programmes that address specific skills and industry needs. For instance, businesses can create courses targeting areas of improvement directly tied to their objectives. This approach not only enhances individual performance but also drives collective success. A well-trained, agile workforce is a cornerstone of competitiveness in today's dynamic market.

E-learning isn't merely about convenience; it also raises the quality of training. Modern platforms often feature elements like videos, simulations and real-time assessments,

making learning more engaging and interactive. These tools accommodate diverse learning styles; ensuring employees derive maximum value from their training experiences. Furthermore, e-learning allows employees to progress at their own pace, revisiting materials as necessary to deepen understanding and better apply their knowledge in practical settings.

In service industries, particularly in regions like the UAE, e-learning plays a crucial role in workforce development. Service-based businesses depend heavily on skilled employees to deliver exceptional customer experiences. Through e-learning, employees can stay updated on the latest industry trends and gain the competencies needed to excel in their roles. This boosts individual performance and equips organisations to remain competitive and innovative.

However, the journey to implementing e-learning isn't without hurdles. Limited access to technology, resistance to change and insufficient managerial support can all hinder its success. To overcome these challenges organisations must invest in appropriate tools, develop engaging and relevant content and nurture a culture that prioritizes continuous learning. Providing on-going resources and support ensures employees feel encouraged and confident in using e-learning platforms effectively.

This paper delves into the impact of e-learning on employee training and development, emphasising its role in enhancing performance and, accessibility and fostering continuous learning. By examining the experiences of service-sector organisations in the UAE, this study aims to uncover best practices and pinpoint areas for improvement. E-learning holds immense potential for businesses to cultivate a skilled, motivated and future-ready workforce in an ever-changing business landscape.

## LITERATURE REVIEW

Yang and Lin (2011) studied that the implementation of online distance learning in training programmes has significantly impacted learners, enabling greater flexibility and accessibility in education. By understanding learners' self-efficacy, distance educators and training developers can create tailored strategies that better address the specific needs of these individuals. This study aims to provide insights into the requirements of distance learners, which can lead to the design and development of more effective online learning environments. Advancements in telecommunication technology have broadened educational opportunities for those who may struggle to engage in traditional instructional settings. Enhanced educational technology has become crucial for the professional development of employees in

various business sectors, making online distance learning an increasingly popular option among instructional designers. As organisations seek to optimise their training methods, the integration of innovative online learning approaches is essential for fostering a more skilled and adaptable workforce.

Cheng and Chen (2015) highlighted that e-learning systems are being increasingly adopted by organisations as a strategic approach to enhance employees' skills while also reducing the costs associated with traditional training methods. However, despite the growing use of e-learning, its impact, particularly on shift-duty staff, remains underexplored. While e-learning offers numerous advantages for organisations, such as flexibility, scalability and accessibility, there is limited research on how satisfied shift-duty employees are with these systems and the specific effects on their performance and professional development. From an organisational management perspective, e-learning systems serve as one of the most beneficial tools for skill development and training. These platforms enable companies to deliver consistent training content to a diverse and geographically dispersed workforce without the logistical challenges associated with in-person sessions. While much of the academic discussion around e-learning has focused on its use in educational institutions, there has been comparatively little emphasis on its application in the workplace.

Amara and Atia (2016) studied that e-training has emerged as a crucial component in the rehabilitation and development of human resources, offering a flexible and tailored approach to enhance individuals' knowledge and skills without imposing additional burdens. By leveraging the Internet and modern communication devices organisations can implement this training method effectively and cost-efficiently. E-training provides institutions with an excellent opportunity to align their training initiatives with technological advancements while improving staff efficiency. This approach encourages a culture of ongoing learning and adaptation among employees in addition to assisting in the accomplishment of organisational goals. One important sign of society's shift to a digital environment is the use of the Internet and information technology in human resource education and training. This shift enhances efficiency and effectiveness in learning processes while promoting information awareness. As a result organisations can cultivate highly skilled and informed human resources, which are increasingly sought after in today's competitive environment. This transformation not only empowers individuals but also contributes to the overall progress of communities in the digital age.

According to Kamal et al. (2016) the primary objective of corporate e-learning is to enhance job performance and

employee satisfaction while fostering a more productive and competitive workforce. Numerous business executives acknowledge the strategic importance of e-learning in the fast-paced, technologically advanced business environment of today, but their motivations for implementing it can vary. Some leaders view e-learning as a critical tool for creating a competitive edge, while others focus on the necessity of globalisation and budget optimisation. For companies seeking to gain a competitive advantage, e-learning plays a pivotal role in aligning employee development with overarching business objectives. By offering accessible, flexible training that equips employees with the latest skills and knowledge organisations can remain agile and innovative in the face of rapid industry changes. This not only improves individual job performance but also positions the organisation to outpace competitors by cultivating a highly skilled, adaptable workforce.

Ali et al. (2018) found that training plays a crucial role in equipping employees with the skills necessary to perform their jobs effectively and develop their capabilities. This enhancement in employees' abilities ultimately contributes to improved organisational performance. Employee productivity is significantly influenced by various factors, including the motivation and encouragement provided by the organisation to help them achieve its goals and objectives. The relationship between employee productivity and training was explicitly examined in this study and the results showed a substantial, positive and causal relationship between the two. The findings suggest that effective training programmes can lead to substantial increases in workforce productivity, as employees become more proficient in their roles. To improve these benefits, it is recommended that organisations focus on employing training methods that are well-suited to their specific business needs and the tasks assigned to their employees. Businesses can create an environment that encourages ongoing learning and growth by customising training programmes to fit the objectives of the company and the nature of the work. This will ultimately increase employee productivity and the success of the organisation as a whole.

According to Areiqat and Al-Doori (2018), e-training offers unmatched flexibility by eliminating the traditional constraints of time and space. Trainees can access video and audio training materials from any location and at any time, providing a level of convenience and accessibility that traditional training methods cannot match. This has led organisations around the world to increasingly invest in e-learning for workplace education, employee development and career advancement, recognising its effectiveness in delivering results. E-training's success is closely tied to advancements in computer technology, which have enabled

the creation of sophisticated platforms that facilitate flexible, self-paced learning. One of the key advantages of e-learning is its ability to accommodate shift-duty employees, whose irregular work schedules often make traditional, in-person training sessions difficult to organize. For these employees, whose working hours do not always follow a consistent routine, e-training provides a solution by allowing them to access training modules whenever their schedules permit. This flexibility ensures that all employees, regardless of their shift or location, have equal opportunities to enhance their skills and knowledge through on-the-job training.

Makonjio et al. (2019) found out that increased competition forces organisations to change in order to meet the demands of a changing environment, especially one that is focused on the customer. E-learning has emerged as an effective training tool and is being recognised by bank managers and researchers alike as an important tool for enhancing the performance of employees. Thus, e-learning provides an effective and engaging method of training that replicates the conventional classroom setting while offering the flexibility of learning at one's own pace and time. Its learner-centered approach makes it possible for organisations to design training that is relevant to the real-life experience of employees and in a way that will support the business objectives. E-learning makes it possible to involve a large number of people in the training process at a very fast pace using communication and information technology, including network or standalone systems as the learning mediators. This method helps to ensure that practical applications increase productivity, which in turn fosters the growth of organisations. In today's world, where change is the only constant and development is a never-ending process, e-learning is an essential tool for enhancing the performance of the workforce and supporting growth over the especially in highly competitive industries.

Knowles et al. (2019) highlight that the training and development programmes offered to new hires significantly enhance their ability to perform their roles effectively, leading to increased productivity and improved succession planning within the organisation. Social networking tools positively influence training and development practices by contributing to time savings, cost efficiency, quality enhancement and transparency. However, mobile technology does not have a significant impact on time savings within these training practices. E-learning encompasses the use of computers and other electronic devices to deliver training and educational materials. It represents a virtual process through which individuals can acquire knowledge, skills and information. This technology-enabled learning creates a digital environment where technology intersects with human creativity, facilitating rapid knowledge development

and application. E-learning solutions provide employees with the flexibility to access learning content from home, allowing them to balance their personal and professional lives while studying at their convenience. Unlike traditional print media, e-learning offers personalised instruction tailored to individual needs.

Faeni et al. (2020) explored that the integration of technology, particularly digital banking, into service innovation as a training medium is essential for enhancing employees' knowledge and skills to better meet customer needs. This approach emphasizes not only the delivery of services but also the understanding and emotional connection that employees develop with those services. In the era of the Fourth Industrial Revolution, employees across all sectors must possess strong digital skills. By fostering both heart share and mind share, companies can enhance customer loyalty to their products. This emotional engagement can significantly contribute to a positive corporate image. In traditional companies, effective service delivery relies on established processes that prioritise customer experiences and interactions, ultimately driving long-term success. However, in the digital age, customer priorities for direct services have evolved, necessitating new models of service assessment. Traditional indicators, such as politeness, friendliness and personal care, may no longer be sufficient in a predominantly digital environment. As a result, a new measure of service quality has emerged, specifically designed to moderate customer satisfaction in the context of digital banking. This innovation represents a significant opportunity for banks to attract prospective customers and enhance their services. By focusing on these new quality metrics, banks can foster customer loyalty and create lasting relationships with their clientele.

Hassan et al. (2020) found the relationship between e-training, motivation and performance of employees among the academicians in UniMAP. The study also revealed that e-training and development are important in improving job performance through increasing knowledge, skills and motivation. E-training was viewed as a useful and easily accessible means of self-improvement for the academicians and was useful in meeting the needs of the academic profession. The study also showed that employee performance, motivation and e-training infrastructure are correlated, indicating the necessity of creating appropriate training programmes. Some of the challenges identified include low engagement, inadequate technical resources and lack of motivation, which act as constraints to effective performance. The study also showed how important e-training is to raising the calibre of research, teaching and administration in universities. The authors suggested that in order to increase the tool's influence on academic staff

performance, it is crucial to upgrade the e-training resources and offer incentives.

Wolor et al. (2020) emphasised the importance of training for boosting employee performance especially with the rise of remote work due to the COVID-19 situation. Online training plays a role not only in improving employee's skills and knowledge but also enhancing their adaptability to meet organisational goals within a constantly evolving digital environment. The availability of easily accessible learning options makes online training a cost-efficient solution for companies. This mode of training is particularly beneficial for millennial who tend to prefer online learning methods. The research discovered that online training enhances efficiency and organisational preparedness by cultivating a workforce equipped to address obstacles that arise over time. Moreover, engaging in training initiatives is crucial for sustaining employee involvement, drive and effectiveness within remote and mixed work conditions. This study further emphasizes the significance of training as an asset for companies striving to navigate and excel within the changing workplace landscape.

Janna et al. (2021) pointed out that career development is a critical factor in boosting both employee productivity and resilience, serving as a cornerstone for organisational success. E-learning is essential to this process because it gives workers the abilities and information they need to perform at higher levels, extend their professional capabilities and align more closely with the company's goals and policies. Through digital training platforms organisations can provide employees with continuous development opportunities, enabling them to enhance their abilities and remain adaptable in a rapidly changing work environment. By adopting e-learning strategies, businesses can ensure that their workforce remains competitive and aligned with the latest industry trends.

Asamoah and Avenorgbo (2021) investigated how e-training positively influences employee performance through enhancement of skills, flexibility and efficiency at work; thus, e-training is critical for the survival of SMEs in the market. It was also brought out that the e-training infrastructure and methods positively influenced performance and interactive platforms and hybrid approaches fared better in terms of outcome. However, low awareness, slow adoption, poor internet connection and lack of quality content are some of the constraints that affect its usage. Large capital investments, frequent maintenance and effective employee involvement were some other areas identified in which much attention needs to be given if maximum benefit has to be derived from e-learning. E-learning from the organisational perspective provides flexibility and scalability to meet the

ever-evolving training needs of the modern workforce. The authors have also emphasised overcoming these challenges so that the potential of e-learning is realised in SMEs.

Akpoviro and Adeleke (2022) pointed out that e-learning serves as an efficient, cost-effective and results-driven tool, allowing sales teams to receive training on new products and develop sales strategies online from any location, at any time and on any device. It significantly reduces the cost of training, especially when employees are spread across different regions, enabling companies to provide training in a shorter time frame. Corporate learning adds a vital dimension to training, where learners actively contribute to creating new knowledge and skills that support the organisation's growth and development. Globally, businesses—whether large or small, local or international—are increasingly embracing E-learning as an effective tool for delivering training. In a business, E-learning involves training provided through computers to individuals or groups, helping organisations meet their objectives efficiently.

Farouk (2022) found that enhancing job performance and boosting productivity are among the top priorities for organisations striving to stay competitive in today's dynamic business environment. To achieve these goals organisations have increasingly recognised that investing in their human resources is one of the most effective strategies. As a result, there is a growing emphasis on employee development through targeted training programmes aimed at improving knowledge and functional skills. E-training, in particular, has emerged as a powerful tool in this regard. By offering flexible, accessible learning opportunities, e-training helps employees refine their professional skills and adapt to evolving workplace demands. Beyond simply increasing productivity, e-training enhances the overall efficiency of employees, empowering them to contribute more effectively to their organisations' goals. Importantly, e-training is not just about skill-building. It plays a vital role in improving employees' job satisfaction and sense of security, as it fosters continuous personal and professional growth.

Sharma and Rathore (2022) conducted a study to determine the effectiveness of e-learning in corporate training and the results showed that it increased employee output, happiness and commitment to the organisation. The study also identified the advantages of e-learning, which include flexibility, scalability and low cost and therefore e-learning is a viable method of training as compared to the traditional ones. It also helps in developing the employees' skills that are in consonance with the goals of the organisation and fosters the learning culture. However, challenges such as poor infrastructure, lack of management support and haphazard implementation are seen as threats to its

effectiveness. According to the researchers, for e-learning to attain its optimal outcome, there is the need to create quality content and ensure that management is behind it. From the organisational perspective, e-learning is an effective tool that helps companies adapt to changes in the environment and enhance their performance. In addition, the study also provided a solution and that is to conduct more research in order to explore the application and effectiveness of it in various industries. However, the study also identified some gaps, which stated that there is a need to understand more about its use and consequences.

Akpoviro and Adeleke (2022) investigated the impact of learning on employee performance and service quality at Kwara State University, located within Nigeria's borders. It was revealed by their research that online learning accelerates the learning process for employees while decreasing downtime and enabling them to shoulder responsibilities. However, challenges such as time constraints and financial restrictions may hinder its effectiveness. The research also indicated that employees with workloads tend to benefit from online learning as it enhances their productivity and capacity to manage additional duties. Moreover, online learning programmes have boosted the enthusiasm of employees. Enhanced the quality of service by providing the solutions that cater to the specific requirements of the organisation. Looking at it from a learner perspective, e-learning is cost-effective, adaptable and pertinent training resources that are coherent with business objectives and promote information exchange. In order to enhance the efficiency of training, the experts suggested utilising eLearning platforms and instruments for assessing advancement. The research underscored the significance of learning for improving employee skills and motivation and enhancing service quality while stressing the importance of overcoming obstacles to achieve outcomes.

Al-Mansoori and Al-Hashmi (2022) concentrated their research on how e-learning is used in UAE public sector firms and how it affects employee performance and knowledge transfer. The study also found that affordability, adaptability and accessibility make it possible for employees to attend training sessions on their own time as some of the advantages of e-learning: However, the research identified some challenges that include poor technological infrastructure, a lack of willingness to change and insufficient managerial support, among others, as some of the factors that hinder its growth. The motivation of the employees and the technology literacy were identified as the factors that could make or break the e-learning projects. From a management point of view, e-learning is a managerial strategy and can be applied to training objectives, to develop the skills of the workforce

and to reduce the expenses. The study also identified the accessibility of the content and the right support as important for the engagement of the employees and the effective learning process. The authors concluded that if the mentioned challenges could be solved, there would be a significant increase in the use of e-learning systems in public organisations.

Al-Kharabsheh et al. (2022) stated that digital training offers the unique advantage of being conducted without the constraints of time and location, enabling employees to engage in learning at their convenience. This flexibility not only facilitates continuous skill development but also allows for more transparent and comprehensive digital performance appraisals. When employees are motivated, they tend to exhibit higher levels of job performance, making motivation a critical factor in the workplace. Furthermore, research indicates that employee motivation significantly amplifies the positive effects of both digital training and digital performance appraisal on overall job performance. This interplay suggests that for organisations seeking to enhance employee performance, focusing on these three components—digital training, digital performance appraisal and employee motivation—is essential. In this context, employee motivation serves as a mediating variable that influences how digital human resource management (HRM) practices impact employee job performance.

Sektiaji (2022) states that to enhance employee performance, it is crucial for organisations to tailor online training and motivational strategies to meet the specific needs of their workforce. Fluctuations in employee performance can often be attributed to the effectiveness of the motivation and the structure of the online training programmes offered. This has prompted researchers to explore the relationship between the effectiveness of online training, employee motivation and overall performance. Observations of changes in employee behaviour following online training indicate the success of the company in delivering impactful learning experiences. Employees often report that the knowledge, skills and attitudes gained during online training enable them to execute their tasks more effectively and contribute positively to the organisation's goals. The results indicate that online training and employee performance are positively and significantly correlated. Specifically, as the quality of online training improves, employee performance is likely to enhance accordingly. This emphasizes how crucial it is to fund top-notch online training courses that are in line with workers' requirements in order to promote improved performance outcomes for the organisation.

Altwijri and Aldosemani (2022) explored the impact of e-training on enhancing job performance assessments within

a university setting located in Saudi Arabia. The findings indicated that e-training plays a role in enhancing employees professional competencies, such as skill development, promoting a sense of accountability and improving communication skills among participants. Nevertheless, challenges observed throughout the study included varying levels of proficiency among employees, resulting in a level of collaboration and decreased engagement during e-training sessions. The research revealed that online training is beneficial for enhancing employee's abilities and bridging knowledge gaps to better align their performance with the organisations objectives by leveraging tools such as the Job Performance Evaluation Charter (JPEC). From a perspective, e-training is seen as a cost-efficient method to enhance employee skills and output. The study also emphasised the significance of refining policies, developing tailored training initiatives and establishing ICT infrastructure to optimise e-training effectiveness within education settings.

Chethana and Noronha (2023) emphasised the importance of training and development in the IT industry as a key factor to increase employee performance as well as organisational performance. The study revealed that there has been an increasing use of e-learning platforms, including the synchronous and asynchronous modes that are being embraced for their versatility and economy. Also, the study found that cultural factors such as power distance and collectivism influence the success of such learning methods. However, the research revealed a challenge where many Indian organisations do not pay due attention to the need for proper training. The most interesting finding of the study was that personal role involvement has greater impact on human resource development than general workplace involvement. Some of the large Indian IT firms such as TCS, Infosys and Wipro have designed their training programs to enhance leadership skills, technical know-how and career progression with the objective of promoting creativity and increasing efficiency. Furthermore, the study also revealed some of the challenges that hinder the effectiveness of these programmes. Some of the challenges include high costs, low participation rates and lack of strong follow up systems. Therefore, the authors emphasised the need to ensure that training programmes are well-coordinated and culturally sensitive so that the benefits that have been identified can be realised and these challenges managed.

Islam (2023) examined the impact of training and development on performance by underscoring its contribution to enhancing employee effectiveness and output levels. The research underscored the significance of having infrastructure and interactive tools for online training initiatives within the modern tech-centric environment. Despite the flexibility and cost efficiency of training programmes being acknowledged

for their scalability benefits, the study pointed out a noticeable oversight regarding the influence of self-efficacy. Employee performance is enhanced when individuals have a sense of confidence about their competencies. The management needs to make sure that employees are well supported and motivated at work to boost productivity and morale within the organisations framework of operations. E-learning systems play a role by providing opportunities for skill development and promoting innovation without the expenses associated with conventional training methods while also fostering a culture of continuous learning. The research indicates the importance of enhancing e-learning platforms and interfaces to improve their effectiveness and engagement levels, particularly post-pandemic. Further investigation is necessary to explore ways to optimise e-training systems for user engagement and overall effectiveness.

Khan et al. (2023) assessed the effect of training on the motivation and job satisfaction of employees within banking organisations located in Pakistan where e-learning is prevalent. The findings indicated that training proves to be more impactful when coupled with e-learning systems by enhancing motivation and job satisfaction levels among employees. E-learning enables employees to acquire skills and knowledge promptly, leading to an environment for teamwork and collaborative learning experiences. Nevertheless, obstacles such as variations among technology competencies and insufficient engagement could impede the effectiveness of online learning initiatives within organisations. Viewed from a standpoint, online learning presents an adaptable means to educate staff members while guaranteeing that their development is congruent with company objectives. The research underscored the significance of crafting appropriate online learning initiatives and leveraging cutting-edge technology to enhance the experience, thereby boosting employee efficiency and contentment.

Devi and Vandana (2023) highlight how organisations are leveraging innovative strategies to enhance training effectiveness and efficiency. AI-powered adaptive learning systems are a key trend, offering personalised experiences tailored to individual learner needs, which optimise outcomes. Additionally, gamification techniques, incorporating game-like elements into training, boost engagement, motivation and knowledge retention, creating an enjoyable and interactive environment that sustains interest and improves performance. Personalised learning further ensures employees receive targeted and relevant training, enhancing skill acquisition and job performance. These approaches reflect the evolving training landscape, adapting to dynamic organisational and learner needs while fostering a skilled

workforce. As technology advances, adopting innovative methodologies becomes essential for creating meaningful, engaging learning experiences. Organisations embracing these trends cultivate continuous learning cultures, enabling them to thrive in today's competitive, fast-changing environment. This proactive strategy enhances employee capabilities and drives organisational success in an evolving workplace.

Trifu et al. (2024) stressed that online training is a useful solution that helps to overcome the problems of traditional methods of training, which are necessary for improving the safety and working environment of employees. Although there are many disadvantages of online training, the advantages of it are greater and should encourage organisations that are interested in the development of their employees. However, the benefits and drawbacks should be assessed by the training organizers, keeping in view the organisational and learner factors. Online training is most effective for basic training like induction or a self-paced training approach that is using an ideal display for screening the equipment acquisition. On the other hand, there are certain training programmes that require the interaction with the trainers and other peers and such training would be more effective if done face-to-face. Using both online and traditional approaches to training can enable organisations to develop efficient and suitable training strategies that are suitable for various training.

## OBJECTIVE

To assess how e-training and development initiatives impact workers' in-role performance in the UAE's service sector.

## STUDY'S METHODOLOGY

This study collected data from 223 employees working for service sector organisations in the United Arab Emirates. The data was collected using random sampling techniques and analysed through Explanatory Factor Analysis (EFA) to identify key insights and derive results.

## Findings of the Study

The participants' demographic information is displayed in the table below. The study involved 223 participants with a nearly equal gender distribution, where 117 males (52.47%) and 106 females(47.53%). The participants were divided into three age groups based on their age; 30.94% of the participants were between 26 and 30 years old, 31.84%

were between 30 and 34 years old and the remaining largest segment of 37.22% were above 34 years old. The participants were selected from three different branches of the service industry to make sure that all the participants were from different backgrounds. More specifically 23.77% of the participants were from the banking sector, 39.46% from the hotels and restaurants sector and the remaining 36.77% from the healthcare sector. This diverse sample allowed the authors to capture the views of different employees on how e-learning and training and development programmes affect the in-role performance of the employees irrespective of their industry or organisational level.

**Table 1: Details of Participants**

Variable	Participants	% age
<b>Gender of Participants</b>		
Male	117	52.47%
Female	106	47.53%
<b>Total</b>	<b>223</b>	<b>100</b>
<b>Age in years</b>		
26 to 30	69	30.94%
30 to 34	71	31.84%
Above 34	83	37.22%
<b>Total</b>	<b>223</b>	<b>100</b>
<b>Sectors</b>		

Variable	Participants	% age
Banking	53	23.77%
Hotels & Restaurants	88	39.46%
Healthcare	82	36.77%
Total	223	100

**Factor Analysis**

**Table 2: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.766
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	3741.439
	df	91
	Significance	.000

The KMO value (0.766) indicates a good level of sampling adequacy, confirming that the dataset is suitable for factor analysis. Bartlett's test produced a significant result (chi-square: 3741.439, p-value: 0.000), demonstrating strong correlations among variables. These findings validate the dataset, ensuring meaningful factor extraction. This enabled the identification of key factors, including increased accessibility, enhanced learning experience, enhanced job performance and support for continuous learning, crucial for evaluating e-training's impact on employee performance.

**Table 3: Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	6.319	45.137	45.137	<b>3.785</b>	27.034	27.034
2.	2.582	18.444	63.581	<b>3.672</b>	26.230	53.265
3.	1.966	14.041	77.622	<b>2.480</b>	17.714	70.979
4.	1.359	9.708	87.330	<b>2.289</b>	16.351	<b>87.330</b>
5.	.460	3.289	90.619			
6.	.421	3.007	93.626			
7.	.220	1.568	95.194			
8.	.184	1.311	96.506			
9.	.172	1.226	97.732			
10.	.120	.854	98.586			
11.	.074	.531	99.116			
12.	.058	.417	99.533			
13.	.039	.276	99.810			
14.	.027	.190	100.000			

The factor analysis revealed that four key factors collectively explained 87.33% of the total variance in the dataset. Increased accessibility and flexibility contributed the highest at 27.03%, followed by enhanced learning experience at 26.23%, enhanced job performance at 17.71% and support

for continuous learning at 16.35%. These factors highlight the importance of flexibility, interactive methods, targeted skills training and continuous development, offering a comprehensive framework to understand e-training's effectiveness on employee performance.

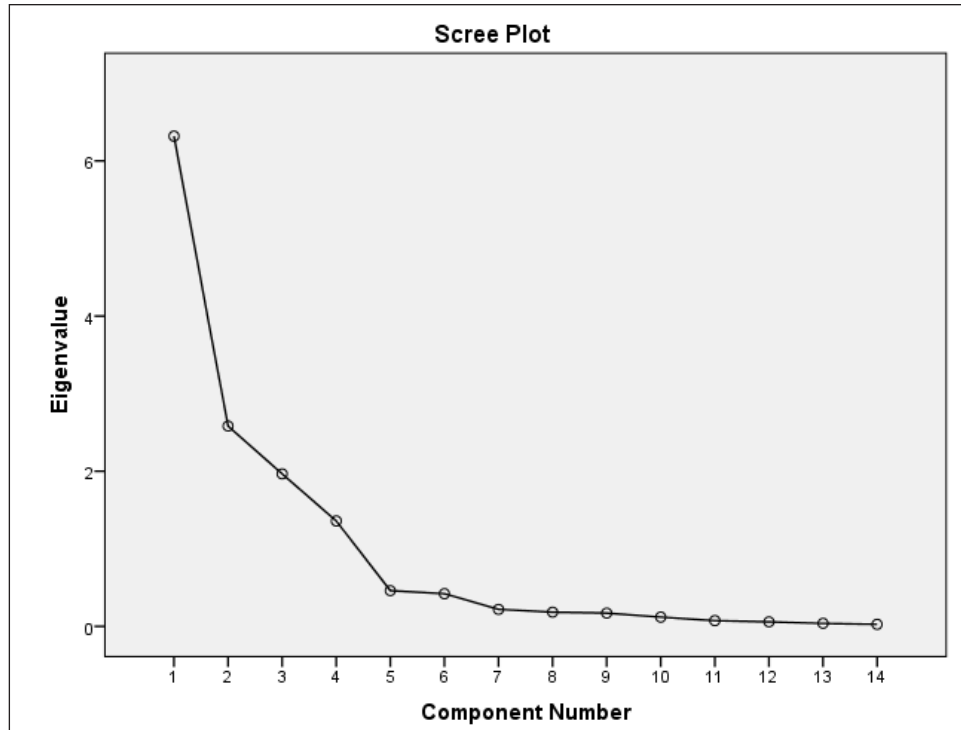


Fig. 1: ScreePlot

Table 4: Rotated Component Matrix

Sr. No.	Statements	Factor Loading	Factor Reliability
	<b>Increased Accessibility and Flexibility</b>		<b>.954</b>
1.	E-training allows employees to access learning materials at their convenience.	.951	
2.	Organisations can provide training to a larger number of employees simultaneously.	.894	
3.	E-training accommodates various schedules and learning paces.	.863	
4.	There is no constraint of physical classrooms.	.861	
	<b>Enhanced Learning Experience</b>		<b>.965</b>
1.	Utilize videos, interactive modules and simulations, catering to different learning styles.	.957	
2.	Many e-training platforms offer real-time assessments.	.915	
3.	Allows employees to gauge their understanding and performance immediately.	.904	
4.	AI-powered adaptive learning systems provide personalised learning experiences.	.894	
	<b>Enhanced Job Performance</b>		<b>.879</b>
1.	Focuses on essential skills and competencies needed for specific roles.	.914	
2.	E-training programs include case studies and practical scenarios.	.842	
3.	Employees apply what they've learned in real-world situations.	.804	
	<b>Support for Continuous Learning</b>		<b>.824</b>
1.	Promotes a culture of continuous improvement and skill development.	.926	
2.	Employees who engage in ongoing training may have better career advancement opportunities.	.921	
3.	Increases overall job satisfaction and retention.	.641	

### Factors and the Associated Variables

The first factor of the study is increased accessibility and flexibility, the variables it includes are E-training allows employees to access learning materials at their convenience. organisations can provide training to a larger number of employees simultaneously. E-training accommodates various schedules and learning paces and there is no constraint of physical classrooms. The second factor is enhanced learning experience, which includes elements like using interactive modules, simulations and videos to accommodate various learning styles; many e-training platforms provide real-time assessments so that staff members can assess their performance and comprehension right away; and AI-powered adaptive learning systems offer individualised learning experiences. The third factor is enhanced job performance, the variables it includes are focuses on essential skills and competencies needed for specific roles, e-training programmes that include case studies and practical scenarios and employees applying

what they've learnt in real-world situations. Last and fourth factor is Support for Continuous Learning; its variables are Promotes a culture of continuous improvement and skill development. Employees who engage in on-going training may have better career advancement opportunities and increases overall job satisfaction and retention.

**Table 5: Reliability Statistics**

Cronbach's Alpha	Number of Items
.896	14

With a Cronbach's Alpha score of 0.896, the reliability analysis shows that the 14 items analysing the effect of e-training on employees' in-role performance are consistent. This high value reflects excellent internal consistency, ensuring that variables such as accessibility, learning experience, job performance and continuous learning are measured reliably and accurately.

**Table 6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799 <sup>a</sup>	.638	.632	.46423

Predictors: (Constant), Increased Accessibility and Flexibility, Enhanced Learning Experience, Enhanced Job Performance and Support for Continuous Learning

The study's regression analysis result had an R-squared value of 0.638 suggesting that 63.8% of the variance in employees' in-role performance is predicted by the following variables: increased accessibility and flexibility, enhanced learning

experience, enhanced job performance and support for continuous learning. This shows a high level of correlation between e-training and performance.

**Table 7: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	82.947	4	20.737	96.223	.000 <sup>b</sup>
Residual	46.981	218	.216		
Total	129.928	222			

a. Dependent Variable: Overall Impact of "E-Training and Development of Employees" In-Role Performance in Service Sector.

b. Predictors: (Constant), Increased Accessibility and Flexibility, Enhanced Learning Experience, Enhanced Job Performance and Support for Continuous Learning.

ANOVA investigation reveals a strong correlation between employees' in-role performance and e-training. The model is statistically significant with a p-value of 0.000 and an F-statistic of 96.223. This confirms that the independent

factors—Accessibility and Flexibility, Learning Experience, Job Performance and Continuous Learning—collectively contribute to explaining performance variations, demonstrating e-training's effectiveness.

Table 8: Coefficients

Model	Un standardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.982	.031		128.094	.000
Increased Accessibility and Flexibility	.339	.031	.443	10.869	.000
Enhanced Learning Experience	.065	.031	.085	2.075	.039
Enhanced Job Performance	.240	.031	.313	7.687	.000
Support for Continuous Learning	.444	.031	.581	14.261	.000

a. Dependent Variable: Overall Impact of “E-Training and Development of Employees” In-Role Performance in Service Sector

The table above displays the coefficients analysis results, which show how each independent variable affects employees' in-role performance. The variable Support for Continuous Learning shows the highest impact with a beta value of 0.581, followed by Increased Accessibility and Flexibility (beta = 0.443) and Enhanced Job Performance (beta = 0.313). Enhanced Learning Experience has a smaller but significant impact (beta = 0.085). All coefficients have p-values of 0.000, confirming their statistical significance. These results demonstrate that continuous learning opportunities and accessibility in e-training play pivotal roles in enhancing performance, with other factors contributing complementary benefits to employee development.

## CONCLUSION

E-training and development programmes significantly enhance employees' in-role performance in the service sector by offering flexible, cost-effective and engaging learning opportunities. Organisations that effectively implement e-training can expect improvements in employee skills, motivation, engagement and service quality. The ability to customise training to individual needs fosters a culture of continuous learning, which is essential in today's dynamic business environment. The study identified four key factors—Increased Accessibility and Flexibility, Enhanced Learning Experience, Enhanced Job Performance and Support for Continuous Learning—collectively explaining 87.33% of the total variance in performance outcomes. These findings highlight e-training's effectiveness in providing accessible learning platforms, improving role-specific skills and promoting professional growth.

Supported by robust reliability statistics (Cronbach's Alpha = 0.896) and a significant model (R-squared = 0.638; p-value = 0.000), the study offers a strong framework for understanding how digital training influences performance. However, challenges remain, such as ensuring that all employees benefit equally from e-training and optimising the relatively smaller impact of Enhanced Learning Experience

(beta = 0.085). Additionally, the study's focus on the UAE's service sector limits its generalizability to other industries and cultural contexts.

Future research should explore the integration of advanced technologies like AI and VR to enhance interactivity and personalisation in e-training. Investigating diverse industries and cultural contexts could broaden the applicability of the findings. Moreover, examining the long-term effects of e-training on employee retention and overall organisational performance would deepen the understanding of its strategic value.

## SUGGESTIONS AND RECOMMENDATIONS

The study effectively highlights the significant role of e-training in enhancing employees' in-role performance in the service sector. However, there are areas where further exploration and improvements could be made.

- While the study identifies the importance of enhanced learning experiences, its relatively lower impact (beta = 0.085) indicates room for optimisation. Incorporating advanced technologies like AI-driven adaptive learning and virtual reality simulations could make training more engaging and effective.
- The research focuses on the UAE's service sector. To increase generalizability, future studies should consider diverse industries and geographical regions. Investigating manufacturing, retail or IT sectors can offer broader insights.
- The study primarily evaluates immediate in-role performance. Researching long-term impacts, such as employee retention, career progression and overall organisational success, could enrich the understanding of e-training's strategic value.
- More research should be done on particular issues like poor engagement or infrastructural limitations. Enhancing user-friendly interfaces, optimising content delivery and guaranteeing accessibility for a

range of employee demographics are a few possible recommendations.

- Including real-time feedback systems within e-training platforms can better align training with employees' needs, ensuring continuous improvement and adaptability.

By addressing these recommendations, future research can strengthen the application of e-training and provide a more comprehensive understanding of its influence across various contexts.

## REFERENCES

- Akpoviroro, K. S., & Adeleke, O. A. O. (2022). Moderating influence of e-learning on employee training and development: A study of Kwara State University Nigeria. *SocioEconomic Challenges*, 6(2), 83-93. [https://doi.org/10.21272/sec.6\(2\).83-93.2022](https://doi.org/10.21272/sec.6(2).83-93.2022)
- Ali, R. A. A. M. A., Yusoff, R. M., Ismail, F. B., & Kazi, A. G. (2018). The Effect of training on employees' productivity in public organizations in U.A.E. *International Journal of Entrepreneurial Research*, 1(1), 15-18.
- Al-Kharabsheh, S. A., Attiany, M. S., Alshawabkeh, R. O. K., Hamadne, S., & Alshurideh, M. T. (2022). The impact of digital HRM on employee performance through employee motivation. *International Journal of Data and Network Science*, 7, 275-282.
- Al-Mansoori, M., & Al-Hashmi, S. (2022). Factors affecting the e-learning implementation in UAE public sector organizations. *International Journal of E-Learning and Educational Technologies in the Digital Media (IJEETDM)*, 8(2), 45-56. doi:<https://doi.org/10.1234/ijeetdm.v8i2.5678>
- Altwijri, A. M., & Aldosemani, T. I. (2022). Employee perceptions of the effectiveness of e-training to meet performance evaluation requirements. *International Journal of Learning, Teaching and Educational Research*, 21(2), 49-71. doi:<https://doi.org/10.26803/ijlter.21.2.4>
- Amara, N. B., & Atia, L. (2016). E-training and its role in human resources development. *Global Journal of Human Resource Management*, 4(1), 1-12.
- Areiqat, A. Y., & Al-Doori, J. A. (2018). The role of electronic training in employee performance development. *International Journal of Advances in Management and Economics*, 7(6), 10-15.
- Asamoah, E. S., & Avenorgbo, M. (2021). The effect of e-training on the performance of employees in small and medium scale enterprises amidst the COVID-19 pandemic. *Acta Universitatis Bohemae Meridionalis*, 24(2), 35-45. doi:<https://doi.org/10.32725/acta.2021.006>
- Čevra, B., Kapo, A., Zaimović, T., & Turulja, L. (2022). E-learning in organizations: Factors affecting individual job performances. *International Journal of Emerging Technologies in Learning*, 17(2), 189-208. doi:<https://doi.org/10.3991/ijet.v17i02.26967>
- Cheng, W. Y. T., & Chen, C. C. (2015). The impact of e-learning on workplace on-the-job training. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 5(4), 212-228.
- Chethana, K. M., & Noronha, S. D. (2023). A review of the strategies used in the IT sector for employee training and development. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, 7(2), 141-155. doi:<https://doi.org/10.5281/zenodo.7876687>
- Devi, P. S., & Vandana, P. (2023). A study on recent trends in training and development. *Journal of Emerging Technologies and Innovative Research*, 10(7), 782-788.
- Faeni, D. P., Faeni, R. P., Meidiyustiani, R., & Nursila, F. (2020). The role of e-learning in the era of industrial revolution 4.0 and collaborative learning on employee performance mediated through training. *Talent Development & Excellence*, 12(1), 3246-3257.
- Farouk, D. A. (2022). The impact of e-training system on employees' job performance. *RAIS Conference Proceedings*. doi:<https://doi.org/10.5281/zenodo.7372499>, 30-41.
- Hassan, A., Hassan, J., & Tan, A. Y. (2020). E-training and development, motivation and employee performance among academicians: Case study of academicians in UniMAP. *Journal of Physics: Conference Series*, 1529(3), 032011. doi:<https://doi.org/10.1088/1742-6596/1529/3/032011>
- Islam, Q. (2023). Impact of e-training and development on job performance with reference to Arab countries. *Empirical Economics Letters*, 21(11), 146-158. doi:<https://doi.org/10.5281/zenodo.7757740>
- Janna, N. N., Wolor, C. W., & Suhud, U. (2021). The role of e-training, career development and employee resilience in increasing employee productivity in Indonesian state-owned enterprises. *Business Excellence and Management*, 11(3), 5-21.
- Kamal, K. B., Al Aghbari, M., & Atteia, M. (2016). E-training & employees' performance a practical study on the ministry of education in the Kingdom of Bahrain. *Journal of Resources Development and Management*, 18, 1-8.
- Khan, S. U. D., Hameed, R. M., Zahid, N., & Raja, A. R. M. (2023). Effectiveness of training on employee motivation and job satisfaction with mediating role of e-learning in branchless microfinance banking. *Bulletin*

- of Business and Economics, 12(4), 54-64. doi:<https://doi.org/10.61506/01.00082>.
- Knowles, P., Shaji, E., & Kumar, M. (2019). Influence of e-learning in training & development system and organizational study. *Journal of Research in Business and Management*, 7(2), 49-55.
- Makonjio, F., Odera, P., & Warentho, T. O. (2019). Effect of e-learning programmes on staff performance in commercial banks in Kakamega County. *International Academic Journal of Human Resource and Business Administration*, 3(7), 140-161.
- Sektiaji, S., Sos, S., & M. M. (2022). The effect of online training effectiveness and motivation on PT XYZ employee performance. *International Journal of Research and Review*, 9(9), 89-99.
- Sharma, S., & Rathore, R. (2022). A study on e-learning perspective for employees of corporate sector. *Journal of Management and Science*, 12(1), 31-35. doi:<https://doi.org/10.26524/jms.12.6>
- Trifu, A., Darabont, D. C., Ciocirlea, V., & Ivan, I. (2024). Advantages and disadvantages of the online training system in the field of occupational safety and health. *MATEC Web of Conferences*, 389, 1-7. doi:<https://doi.org/10.1051/mateconf/202438900048>
- Wolor, C. W., Solikhah, S., Fidhyallah, N. F., & Lestari, D. P. (2020). Effectiveness of e-training, e-leadership and work-life balance on employee performance during COVID-19. *Journal of Asian Finance, Economics and Business*, 7(10), 443-450. doi:<https://doi.org/10.13106/jafeb.2020.vol7.no10.443>
- Yang, S. C., & Lin, C. H. (2011). The effect of online training on employee's performance. *Journal of Computers*, 6(3), 458-465.