

## Exploring Employee Perception Towards E- training and Online Learning Modules of IT Companies in Chennai

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**[Abstract]** The traditional classroom environment and learning experience are replicated through the virtual training environment. The study focuses on the value created through efficient online training programs for IT employees. A training program needs to address specific requirements of distinct groups with respect to their technical exposure, experience, age, duties, and responsibilities imparted to them, rather than developing a general training program for all the employees. This study aims to analyze the perceptions of IT employees towards virtual training (e-training) and e-learning. A sample of 153 respondents employed in IT organizations in Chennai was selected for the study. A method of non-probability sampling, convenience sampling was employed to select the samples. A questionnaire was used as the study instrument. Statistical methods adopted are descriptive statistics used to explore the perceptions of the IT employees regarding e-training factors. Exploratory factor analysis was applied to identify the factors that influence the effectiveness of virtual training. The impact of the effectiveness of e-training was assessed using multiple regression analysis. SPSS v23 was used to analyze the data. The reliability of the study is confirmed as 83.6% (Cronbach's alpha =0.836). Results confirm that perceived ease of use, behavioral intention, and perceived usefulness of e-training has more impact on e-learning. Since virtual training allows many groups together through the same platform at the same time across the world, virtual training has been identified as the best alternative for a face-to-face training sessions in on-campus training sessions. Transfer of knowledge and learning are, thus, maximized with the help of the advancement in the technology, which enables easy accessibility and offers learning for all. A thoughtfully, well-designed online training program for IT employees will enrich and systematically enhance their KSA in the digital world.

**[Keywords]** e-training, online learning, IT employees, KSA, Perceived usefulness

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### Introduction

In today's scenario, the world is rapidly succeeding on the road by utilizing many technical applications that are ever-increasing and provide a way to connect with others and transfer and acquire knowledge. The knowledge acquired through the traditional classroom is limited, since it depends on the quality of the instructor to provide information and access to knowledge. However, connecting the participants across the world enables an instructor to gain new constructs of knowledge through virtual platforms say Ahmad et al. (2018). In fact, e-learning is a canopy term that refers to different electronic means of education, the electronic methods to access learning, and the education process itself. Virtual classrooms, digital collaboration, web-based and computer-based learning, interactive TV, audio and video recordings, and so on are some of the important electronic ways of e-learning. Hence, e-learning is the appropriate method for micro-learning, distance learning and flexible learning approaches. Moreover, a blended approach to learning can be developed effectively by integrating e-learning and face-to-face instruction, according to Debattista (2018). While developing online courses, certain criteria need to be considered as significant. Generating a list of criteria for online courses enables the participants to benefit greatly after signing up for the courses.

It is necessary to have an idea learning management system enables the participant and the instructor to navigate easily. E-learning courses make learning material as an important feature when it is formatted in a simple way and easily available for the participants (Nawaz, 2010). The diverse ways of learning with the help of the fast-developing technological advancements have a great impact, and learning delivered through such ways is immense. Now, many organizations have started to cater to on off-campus training methods rather than focusing on on-campus methods, as the former learning method has many advantages. The main advantage of this off-premise training is the space, unlike on-campus learning. With the help of virtual platforms, synchronous and asynchronous modes in organizations can accommodate many participants under a single roof for the courses they wish to learn, since factors such as space and time are no longer considered as limiting factors in e-learning, (Sarabadani et al., 2017). A learning management system provides a process that enables organizations to create and offer access to online learning programs.

The choice varies from cloud-based deployment to licensure of open-source materials and so on by considering the price and connectivity and, also, by ensuring whether it supports methodologies used in the classes. It requires the instructor and participants to be connected at the same time on the learning platform. The LMS platform may help access to user devices' cameras and microphones so that the participants can interact with the instructor, clear their queries, and behave in the same way as in a traditional classroom (Shahmoradi et al., 2018). With the help of virtual training, it is possible to manage a multi-task monitor with a chat window, raise hands, and scan the polling questions if one needs to and, also, advances in presentation while teaching the lesson. It is necessary to take some time to check with the technology before a training session if one needs to ensure comfort with the features available. In some special cases, if required, one may get the assistance of the administrator to manage the technical aspects (Vasconcelos et al., 2020).

### Literature Review

According to Kose (2010), e-learning offers great flexibility in the development of learning support during the entire life, despite the time and manner of preparation and trainee availability. Lifelong learning methods can be planned for each participant based on the preparation stage of training by various methods, like face-to-face training, distance learning methods, etc. Now, due to ICTs methods in education and online training which enables students and teachers to be connected directly, have paved the way in long-term learning. Goyal and Sumit (2012) pointed out the e-learning importance in modern training in their paper.

In addition, they discussed the practical aspect, its advantages and disadvantages, and compared it with tutor-based training; they examined whether traditional classroom teaching can be replaced by e-learning methods more effectively. Nowadays, e-learning approaches are becoming prevalent, since there is a constant increase in the number of online users. When comparing tutor-based learning, the greatest advantages of e-learning are that it can be available and easy to access 24/7 and 365 days per year; still, it has to be scheduled accordingly, since it is a one-time class. Another advantage of e-learning is cost-effectiveness, since once the course content is developed it can be used and modified easily for both training and teaching.

Jokic et al. (2012) focused their study on how e-learning applications can be used in organizations. ICTs Innovations and e-learning developments in the current scenario have created conditions in which innovative methods of learning have attracted SME's, thus helping to prevail over customary barriers, like shortage of financial resources, facilities, expertise, and time. The paper presents the need for learning in the organization and also explores the potential and existing role of e-learning in developing the skills of the employees in small and medium-sized organizations. The study revealed that the respondents have positive attitudes toward training and development through e-learning. Moreover, this method of training was not used in the surveyed organizations. It is also observed that ICTs are not employed widely, and it is essential to train, encourage, and motivate for use of such technologies by the employees for learning. Vejacka and Martin (2012) explored through their study the courses about electronic and digital signatures and their uses in both ITing and non-ITing practices. Thus, it improves the conditions for using electronic communication services among the future users of such services in e-government. Last year, courses were conducted with the help of a comparative questionnaire survey on different aspects of the knowledge and

skills used by employees for e-ITing services; this was done before and after completion of the course. The result indicates many positive improvements in the level of knowledge of the employees. In fact, the attendants of this course actually gained some practical experience in e-training use and learned much useful information. Thus, it increases the awareness among the young generation of potential IT users on e-training. The study suggested and brought important feedback to be considered to make a few changes in the educational process of ESIB courses in the upcoming years.

Aydogdu Karaaslan (2013) conducted a study among the employees working in foreign-owned ITs in İzmir. Foreign-owned ITs are exploring the markets in Turkey and attained success and innovation. At present, there are nearly 350 branches with 7000 employees who are serving around 3 million customers for a period of the last 22 years to attain sustainable growth and innovation. Further, this research study investigates the e-learning role in vocational success and the levels of web-based education for IT employees who enjoy it. Moreover, web-based training given to IT employees helps them increase their professional achievements, yet it was also reported that there are many differences in their achievements due to individual skills and capability.

According to Shivangi Dhawan (2020), Indian educational institutions and organizations like schools, colleges, universities, and companies are following traditional methods of learning, and to be more precise, they use a traditional person-to-person setup for lectures inside a classroom. Even though many educational institutions and organizations have started to focus on blended methods of learning, many institutions are bounded with traditional procedures. The Coronavirus (SARS-CoV-2), which can lead to a fatal disease of COVID-19, has shaken the entire world. The World Health Organization declared the situation as a pandemic.

Due to such a pandemic situation, educational institutions and organizations across the world face challenges, and they are being forced to change into online teaching modes in an instant. A lot of educational institutions and organizations that were not willing to change before have been left with no option but to shift into a new phase of online teaching-training methods. The prime objective of this study is to investigate the importance of online learning and analyze e-learning strengths, weaknesses, opportunities, and challenges (SWOC) at the time of crisis. This study also highlights the growth of EdTech startups during COVID-19 and other natural disasters. It also includes propositions for educational institutions and organizations to cope up with challenges that are related to online learning and teaching.

### Objectives

1. To identify the factors that influence the effectiveness of e-training
2. To evaluate the impact of effectiveness of e-training on e-learning
3. To study the mediation effect of adoptability of e-training during COVID-19 between effectiveness of e-training and e-learning

### Hypothesis Testing

**H<sub>0</sub>(i):** There is no significant impact of effectiveness of e-training on e-learning.

**H<sub>0</sub>(i):** There is no significant mediation effect of adoptability of e-training during COVID-19 between effectiveness of e-training and e-learning.

### Methodology

This study aims to analyze the perceptions of IT employees towards e-training and e-learning. A sample of 153 respondents employed in IT organizations in Chennai was selected for the study. A non-probability sampling method, convenience sampling, is used to select the samples. A questionnaire is used as the study instrument. The questionnaire consists of four parts: the first part is comprised of personal information of the respondents; the second, third, and fourth sections are comprised of scales related to the effectiveness of e-training, e-learning, and the adoptability of e-training during COVID-19. Exploratory factor analysis is applied to identify the factors that influence the effectiveness of virtual training. Multiple regression analysis is used to assess the impact of the effectiveness of e-training on e-learning. Mediation analysis is used to identify the mediator effect of adoptability of e-training during COVID-19 between effectiveness

of e-training and e-learning. SPSS v23 is used to analyze the data.

### **Data Collection**

The Cronbach's alpha = 0.836 confirms the reliability of the study is 83.6%. Table-I presents the personal information of the respondents involved in this study.

*Table 1*  
*Personal Information about the Respondents*

Variables	Classification	Number of respondents	Percentage
Gender	Male	89	58.2
	Female	64	41.8
Age group	18-25 years	37	24.2
	26-35 years	65	42.5
	36-45 years	36	23.5
	46-55 years	7	4.6
	Above 55 years	8	5.2
Marital status	Single	79	51.6
	Married	74	48.4
Present Status	On site work	49	32
	Work from	104	68
Attended e-training program	Yes	93	60.8
	No	60	39.2
Number of e-training programs attended	One	16	10.4
	Two- five	49	32
	Above Five	28	57.6

From Table 1, it is noted that 58.2% are male and 41.8 are female, 24.2% of the respondents are in 18-25 years old, 42.5% of them are 26-35 years old, 23.5% are 36-45 years old, 4.6% of them are 46-55 years old, and 5.2% of the respondents are above 55 years old. It is also noted from Table 1 that 51.6% of them are single, and 48.4% of them are married. It is observed that 32% of the respondents participated are engaged with on-site work, and 68% of them work from home. It is found that 60.8% of the respondents have attended e-training programs, and 39.2% of them have not. Among those who have attended e-training programs, 10.4% have attended only one, while two to five programs were attended by 57.6% of the respondents; 32% of the respondents attended more than five programs.

### **Factors That Influence the Effectiveness of E-Training**

Factors that influence the effectiveness of virtual training (e-training) among the IT employees in Chennai have been identified. Factors that influence the effectiveness of e-training are restrained by fifteen items. According to the responses given by the employees, factor analysis through principal component method using vari-max rotation was applied to cluster the items in to factors. The KMO measure (0.826) for this analysis confirms the sample size is adequate and the Bartlett's test of sphericity's Chi-square value, 427.321 ( $p=.000$ ), is also found to be significant. Table 2 shows the Eigen values of the factors that were explored.

Fifteen variables have been categorized into four factors after analyzing association between variables (effectiveness of virtual training). Fifteen items are condensed in to four factors that explore the original data. From the cumulative percentage column, the four factors altogether account for 66.11% of variance. The four factors identified with components are revealed in Table 2.

*Table 2*  
*Initial Eigen Values of Factors that Influence the Effectiveness of E-Training*

	Eigen Value	% of Variance	Cumulative %
I	6.982	34.26	34.26
II	2.336	18.38	52.64
III	1.415	7.25	59.89
IV	1.122	6.22	66.11

*Table 3*  
*Factor Loading of Effectiveness of E-Training*

Factor	Components	Factor loading
Factor1: Perceived usefulness	E-learning mode of training is convenient as per the trainer	0.785
	E-learning provides opportunity for all to study irrespective of their location	0.722
	Taking of test and Submission electronically is made available.	0.681
	This enables interactive communication between trainer and trainee virtually.	0.527
Factor 2: Perceived self-efficacy	I confidently use e-learning system	0.742
	I have confidence to operate e-learning tasks.	0.628
	I am confident to use contents of online learning	0.514
Factor 3: Perceived ease of use	I think platforms of e-learning are user-friendly.	0.712
	I access easily while finding necessary information when using online learning platforms	0.651
	The learning process is simplified by using e-learning service	0.602
Factor 4: Behavioral intention	I feel my way of learning is more compatible with e-learning services.	0.535
	I have an intention of using e-learning to support my learning.	0.781
	To update my course knowledge, I intend to learn from e-learning methods with latest policies and practices.	0.695
	I have an intention in using e-learning as a tool for pre-learning of concepts.	0.594
	I can enhance knowledge in any area of my interest	0.516

From the Table 3, “Factor 1” is a mixture of four variables that reflect the usefulness of e-training. So, it is named as “Perceived usefulness.” Factor 2 is a grouping of three variables and they are reflecting the Self-efficacy of e-training, it is called as “Perceived self-efficacy” factor. Factor 3 is a combination of five variables which consists of variable related to ease of use in e-training. Hence it is named as “Perceived ease of use” factor. “Factor 4” is a mix of four variables related to Behavioral intention of e-training and it is called as “Behavioral intention” factor. It is concluded that Perceived usefulness, perceived self-efficacy, Perceived ease of use and Behavioral intention are the factors that influences the effectiveness of e-Training.

#### ***Impact of Effectiveness of E-Training on E-Learning***

Effectiveness of e-training dimensions (Perceived usefulness, perceived self-efficacy, Perceived ease of use and Behavioral intent) are taken as independent variables and e-learning is taken as dependent variable to see the impact of effectiveness of e-training on e-learning, multiple regression analysis is used. The results are presented in the Table 4.

Table 4

#### ***Impact of Effectiveness of E-Training on E-Learning***

Independent Variables	R <sup>2</sup>	Beta	F-statistics	t- value
(Constant)	0.576			7.358*
Perceived usefulness				*
Perceived self-efficacy	Adjusted R <sup>2</sup>	0.817		3.429*
Perceived ease of use		0.147		*
Behavioral intent	0.557	0.058	39.372** (p=.000)	1.081
		0.406		5.155*
		0.308		*
				4.284*
				*

\*\* Significant at 1% level

F-value 39.372 in Table-III is significant at 1% level,  $H_0(i)$  is rejected. The R<sup>2</sup> value of 0.576 shows 57.6% variability of effectiveness of e-training on e-learning. It is noted that Perceived usefulness, Perceived ease of use and Behavioral intention are having positive significant impact on e-learning. But perceived self-efficacy is not having significant effect on e-learning. Further single unit development in Perceived usefulness, Perceived ease of use and Behavioral intent have improved e-learning by 0.147, 0.406, and 0.308 units, respectively. It is concluded that perceived ease of use followed by perceived usefulness and behavioral intent predicts e-learning more among the IT employees in Chennai.

#### ***Identifying Mediation Effect of Adoptability of E-Training during COVID-19 between Effectiveness of E-Training and E-Learning***

In this mediation analysis, the effectiveness of e-training is taken as the independent variable, e-learning is taken as dependent variable, and adoptability of e-training during COVID-19 is taken as the mediator variable. Table 5 below depicts the regression results for the impact of the effectiveness of e-training on adoptability of e-training during COVID-19. It is noted that the effectiveness of e-training significantly predicts the adoptability of e-training during COVID-19 ( $\beta = 0.612$ ,  $p = .000$ ).

Table 5

*Impact of Effectiveness of E-training on Adoptability of E-training during COVID-19*

Independent Variable	$\beta$ - value	R <sup>2</sup> value	F-Value	t-value
Effectiveness of e-training	0.612	0.527	28.524**	7.635**

\*\* Significant at 1% level

Table 6 depicts the regression results for the impact of the adoptability of e-training during COVID-19 on e-learning. It is noted that the adoptability of e-training during COVID-19 significantly predicts e-learning ( $\beta = 0.589$ ,  $p = .000$ ).

Table 6

*Impact of Adoptability of E-training during COVID-19 on E-learning*

Independent Variable	$\beta$ - value	R <sup>2</sup> value	F-Value	t-value
Adoptability of e-training during COVID-19	0.589	0.563	30.325**	6.593**

\*\* Significant at 1% level

Table 7 depicts the mediation effect of the adoptability of e-training during COVID-19 between the effectiveness of e-training and e-learning. Model-1 reveals that the effectiveness of e-training significantly predicts e-learning ( $\beta = 0.534$ ,  $p = .000$ ).

Table 7

*Mediation Effect of Adoptability of e-training during COVID-19 between the Effectiveness of E-training and E-learning*

Independent Variable	$\beta$ - value	R <sup>2</sup> value	F-Value	t-value
Model -1				
Effectiveness of e-training	0.534	0.583	26.242**	7.329**
Model-2				
Effectiveness of e-training	0.208	0.521	30.214**	3.217**
Adoptability of e-training during COVID-19	0.334			

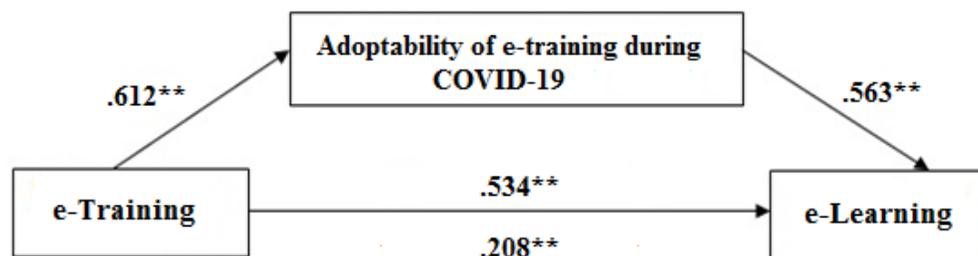
\*\* Significant at 1% level

It is revealed from Model-2 that both the effectiveness of e-training ( $\beta = 0.208$ ,  $p = .003$ ) and the adoptability of e-training during COVID-19 ( $\beta = 0.334$ ,  $p = .000$ ) significantly predicts e-learning. Further, it is noted that  $\beta$  -value of the effectiveness of e-training in Model-2 ( $\beta = 0.208$ ) is less than the  $\beta$ -value of the

effectiveness of e-training in Model-1 ( $\beta=0.534$ ), which confirms the mediation effect of the adoptability of e-training during COVID-19 between the effectiveness of e-training and e-learning. However, the mediation effect observed is partial. In this case  $H_0(ii)$  is rejected. Hence, it is concluded that the adoptability of e-training during COVID-19 serves as a mediator (partial) between the effectiveness of e-training and e-learning of employees working in IT organizations. The mediation effect is shown in the Figure 1.

Figure 1

Mediation Effect of Adoptability of E-Training during COVID-19 between the Effectiveness of E-Training and E-Learning



### Conclusion

Virtual training is the best alternative option for face-to-face training sessions when compared to on-campus training sessions. Virtual training allows many groups together through the same platform at the same time across the world. Transfer of knowledge and learning is maximized with the help of the advancement of the technology, which enables easy accessibility and offers learning for all. Of course, virtual training will bring a new norm in the future, and, therefore, many companies should come forward to embrace the technology, adopt virtual training to unlock its fullest potential, and make use of it in a better way. Therefore, the quality and effectiveness of online training programs for IT employees should be directly related to the time and effort invested in it by the organizations.

It is identified that the perceived usefulness, perceived self-efficacy, perceived ease of use, and e behavioral intent are the factors that influence the effectiveness of e-training. It is noted from the analysis that perceived usefulness, perceived ease of use, and behavioral intent are having positive significant impacts on e-learning. However, perceived self-efficacy is not a significant effect on e-learning. It is observed that perceived ease of use, followed by perceived usefulness and behavioral intent predicts e-learning more among the IT employees in Chennai. Result confirms that the adoptability of e-training during COVID-19 serves as a mediator (partial) between the effectiveness of e-training and e-learning of employees working in IT organizations. Hence, a fully designed training program that addresses the distinct group needs with respect to their age, duties, and responsibilities imparts their technical exposure rather than developing a general training program for the employees. Every industry learns and adapts itself according to the changing trends to function remotely; therefore, IT employees need to adapt and navigate in order to cope with the current trends. A thoughtfully well-designed online training program for IT employees will enrich them systematically into the digital world.

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