

Leveraging Artificial Intelligence for Employee Development: Evidence from IT Companies

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Abstract

Today's technology allows for an expansion of Artificial Intelligence. In organizations, holistic functions are more important than isolated processes, so AI can be used to create teachable systems that are capable of evaluating content and taking action. AI can also be used to pair and collaborate with other systems. This creates a lot of new and exciting opportunities. An analysis of AI adoption and its influencing factors on effective implementation was presented in this study. In this study, primary data were collected from employees who had gone through AI training in the organization using a convenient sampling method. The study applied a statistical method of SEM to understand the usability of the AI, i.e. perceived ease of use and intention to adopt it, using a technology adoption model. A study used neural networks as a machine learning statistical method to identify the influencing factors for the effective implementation of artificial intelligence in training and development organizations. The study found that implementing AI would allow employees to make new and better decisions, plan for projects, and enhance their growth, allowing them to make better decisions.

Key words: *Artificial Intelligence, Machine learning, Training and development, Neural networks.*

Introduction

The study will help to explain how artificial intelligence (AI) will highly impact employee training and learning development in the future. It may result in changes almost all aspects of all people's lives, including the workplace. Today, almost every industry and business is experiencing the spread of the impact of artificial intelligence. AI-powered applications along with tools are becoming more and more available in the workplace. AI can have a significant impact on how they are recruited, onboarded, and induced into a particular organization, through this how we receive professional training and growth, as well as how we receive services. Ultimately, this will make a milestone on the way for us to pass on to our wisdom and its insights to future generations.

Artificial intelligence is transforming employee recruitment and also participation, especially in the Human Resource in training and development. AI-powered solutions analyze data silently in their context and provide insights about how to improve efficiency. Artificial Intelligence's potential for better personalization in training and predictive analytics of the learning patterns is a

huge opportunity for companies, with the corporate training industry valued at \$130 billion in the United States.

Researchers and industry leaders believe artificial intelligence (AI) is the bright future of our industry. However, if we take a closer look, AI isn't the future, it's the present. Your email service, for example, uses artificial intelligence to filter out spam emails. The knowledge that Amazon and other e-commerce platforms have gathered allows them to offer products to consumers based on their expertise. Using artificial intelligence, Siri, Alexa, and Google Assistant are improving the user experience. Even though technology is still in its infancy, and several businesses have made already invested a huge sums in artificial intelligence, with a belief that Artificial Intelligence -enabled products will definitely have a bright future.

A New Normal for Learning and Development: Artificial Intelligence is here to make change in the way that we have learned and developed it for millennia, and it is here to do so. Today, artificial intelligence is revolutionizing the way people learn and develop, giving them limitless ways to absorb knowledge. This is one of the biggest technical trends of 2018 that has been the use of AI in education and learning, which has revolutionized learners' experiences. Whether it is social media, retail, coding, or warfare, artificial intelligence has become part of every aspect of human life. Artificial intelligence and humans are so intertwined that it is impossible today to develop, learn, and grow without machine intervention. During the past few decades, Artificial Intelligence has been brought about with a lot of convenience and its improvements to learning and development. Today, people learn primarily through severe applications and websites with that help them improve, grow, and upskill.

Among these areas Artificial Intelligence may have the potential ability to completely revolutionize learning (training) and development.

A professional who works in training & development that must be aware of the continuously and constantly evolving technology and how to make apply it to develop the learning process. In terms of Artificial Intelligence training Learning & Development professionals that can explore and incorporate Artificial Intelligence advancements in order to develop innovative teaching and learning methods and techniques. Most Approximately 88 percent of consumer service will be given by robots (bots) by the end of 2020, according to Gartner, a leading consulting and consultancy firm. In another study, AI is expected to supply 30% of training materials by 2025. Furthermore, Bank of America estimates that AI will drive \$14-33 trillion in annual industrial development by 2025. In this study, we examined how Artificial Intelligence can benefit the training and development of employees in information technology companies. We considered two major organizations that use AI extensively in large-scales in the study. Besides big IT companies, AI adoption is plausible in big companies that focus on improving the skill set of their employees in order to adapt to the recent changes across the whole globe in order to service their consumers.

Statement of the Problem

We are witnessing a breakneck pace of transformation in every aspect of our lives, including our jobs and professional lives, as artificial intelligence (AI) transforms everything around us. This article discusses how artificial intelligence will impact employee training and learning. As artificial intelligence becomes more prevalent in virtually every business, and products and solutions powered

by it are becoming more common in the workplace. In the near future, Artificial Intelligence will be undoubtedly play an significant and important role in how the employees are employed, onboarded, and initiated into particular organizations, as well as them in how we receive skilled training and important personal development programs. Eventually, we all will be able to pass on our knowledge to future generations of particular workers. (Arun Antony Chully and Eric Premnath (2019)).

Technology has changed in organizational training with learning and development in over the past decade, but leadership is in particular faced with several more common challenges, one of which is the lack of customized Training & learning. A common criticism of L&D experts is that they provide generic and non-customized skills training or staff training programs. An element that may be blamed for this is the time factor associated with content generation. In addition, most LMSs have confused and complex user interfaces, making it so hard for employees to navigate and adapt to them over time. Due to the difficulty of finding and helps in discovering most appropriate and important learning information, in which the user who Experience suffers. According to Hal G. Gueutal , Richard D. Johnson and Sandeep Gandhi (2017).

Literature Review

In the review of literature we compiled many papers and articles about how artificial intelligence can be used to train and develop employees.

In recent years, artificial intelligence (AI) will have made significant progress and may continues to achieve a long-term and expanded educational goals. Beverly Park Wool (2015) discusses basic two educational problems that may require artificial intelligence: mastering and customizing education and 21st century skills. This paper begins with an overview of artificial intelligence and some of its history, before discussing why AI has been so influential in the advancement of education. In addition to providing a list of educational programs that incorporate artificial intelligence technologies, we also provide analytical resources to support new educational theories and customize teaching. The use of intelligent tutors in the classroom is transforming academics' ability to study and analyze large data sets. A study by Nitin Borge (2016) explains that artificial intelligence management (AI) has unintentionally harmed teaching and learning in the educational system. By using new technology, students will be able to succeed and maintain their educational goals. By using artificial intelligence, students who have either poor academic performance or are more lazy in order to comprehend the topics in which the teacher has already covered in class it will be more closely and critically examined. As a result of the analysis, the student will gain a better understanding of each subject. In order to determine how to proceed with the AI review, the report of a pupil who is lagging or having difficulty grasping certain topics will clearly be presented to Tutors, Professionals or Parents. Additionally, AI studies can provide students with easy-to-understand topics so they can develop their skills in a field they are uncertain about by using simple examples or presenting them in an easy-to-understand manner. Aside from saving resources, information systems can also provide teachers with the information they need to better understand details they would not be able to comprehend on their own without them. Stefan (2017) examines how new technology impacts how students learn as well as how organizations train and develop in higher education and learning as part of his exploration of the development and use of artificial intelligence in higher education and learning. We are examining updated technological advancements as well as the growing pace of adoption of upcoming innovations with in higher education system in a new warm environment in where the artificial intelligence that is embedded in university fabrics. As we identified, higher education institutions face many obstacles when it comes to student-learning, teaching and student-service innovations, and future directions. This paper assesses the potential impact of artificial intelligence on education. Maud Chassignol (2018) discussed the use of digital technology in

education and related materials. It is clear from the current literature that teaching approaches, technology assessment, and student contact should all be considered when designing an educational environment. Artificial intelligence will have a profound impact on all of these factors, write the authors.

This research aims to provide scientists and researchers with an innovative platform for self-deployment or DIY to help them develop their own self-deployment or DIY through a virtual reality learning system. Self-exploration would most likely be possible only in extremely valuable usage cases by 2030, impacting the value proposition in comparison to the provision of educational services, improving stakeholder and value-focused proposals through constant contact with the Heutagogical strategy and stakeholders. **The use of artificial intelligence (AI) in foreign language learning and teaching is explored by Silvia Pokrivačkova (2019).** A variety of approaches, tools, and tools are covered in the article, including, computer learning ,natural language, adaptive learning processing, data analysis, crowdsourcing, neural networks, and algorithms. The paper addresses ICALL, which is a subset of CALL, as a subset of other foreign language along education and resulting it from the use of Artificial Intelligence-powered technologies. Furthermore, it summarizes eight different forms of foreign language training that IA-powered resources provide, as well as the limited findings of the current study. The third focus is on building a framework for the effective teacher training in foreign language training , so that AI's resources are simpler, more efficient, and more effective in teaching. According to the author, the current CALL teacher qualification framework needs to be rethought. **A review of the technical phenomenon known as artificial intelligence and how it can be applied to business-to-business knowledge-based marketing by Paschal Jeannette (2019).** This article examines the foundations of each artificial intelligence framework as well as their interrelationships. Various building blocks are discussed in this paper in terms of their impact on business awareness in B2B marketing, as well as future research directions. In this paper, AI is described from the input-process-output perspective. The interaction of particular components transforms data into useful facts and better understanding. A general marketing leader rather than an IP expert is the target audience for this article, which discusses the phenomenon of artificial intelligence, how it really works, and how it impacts the knowledge marketing strategies in B2B companies. The paper describes how IA can influence B2B marketing functions

An analysis of Alexandra Klimova's (2020) teaching of increased reality courses has been conducted. In the study, students, scientists, and policymakers will be assessed in order to gather information about learning strategies, objectives, expertise, and skills related to enhanced reality. As Augmented Reality technology expands rapidly and its scope of applications expands, highly skilled professionals in this field are in high demand. **The influential AIED studies of Xieling Chen (2020) have been examined exhaustively and systematically by him.** As a result of the study, 40 publications have been examined, along with their most commonly used terms, theories, and innovations, based on their annual top papers, organizations, circulation and regions/countries. We will compare and majorly explain the relationship that exists between mining of information , AIED, teaching analytics computer-based education, in general and narrow definitions of ITED. It appears that the AIED research is of greater impact and interest ; deep learning technologies are rarely incorporated into major educational contexts; traditional Artificial Intelligence technologies, such as natural language processing, are frequently used in deep education contexts, but advanced technologies are always seldom employed; and studies are always lacking. As a result of the above literature review, it is evident that no study has considered the role of artificial intelligence in employee training and development. In this study, we have attempted to fill the research gap after examining artificial intelligence in employee training and development for employees in selected IT companies.

Adoption of artificial intelligence in employee training and development and factors that influence its adoption are examined in this study.

Research Gap

In light of the above literature review, it will be evident which shows , Artificial Intelligence will definitely plays a critical role in training and development as well as other areas. There have been many academics and scholars conducting extensive or wider research on this topic, and a very few of them have focused on the following areas.

This paper discusses advancements in AI education, research, strategy, and practice related to improving the human condition.

In order to improve people's lives, few studies have examined how AI can be used to test emerging design approaches and techniques intended to superiors AI research, education, practice and strategy.

This study strictly focuses on evaluating Artificial Intelligence in teaching, management and learning using a deep narrative structure that was derived from preliminary research.

Research Questions

As a result of the research gap, the following research questions have been formulated

Does the training and development of employees involve Artificial Intelligence?

Training and development of employees are affected by various factors when artificial intelligence is implemented.

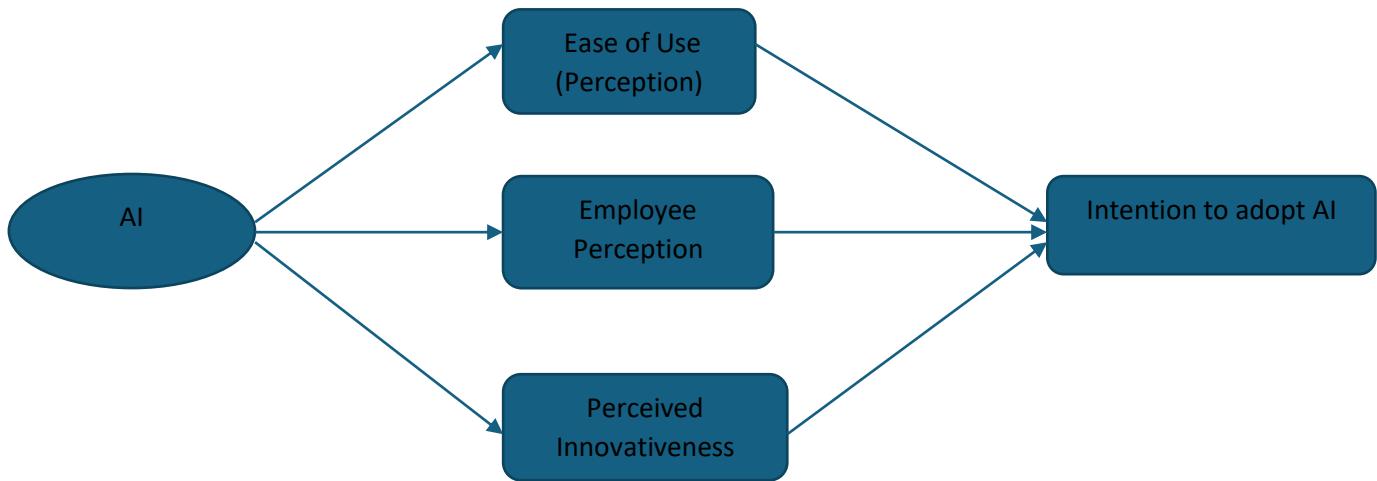
Research Methodology

In this study, the role of AI in training and development of employees by HR departments in IT companies is examined through descriptive research. IT companies located in the Hyderabad region were examined, as well as those that implemented effective training and development for their employees.

Supporting parameters

The present study will taken the Technology Adoption Model (TAM) developed by Gurinder Singh et al, (2020)¹ to find out the ease of use or impact of AI for the adoptability of AI in the IT industry. According to the authors, the HR managers' opinions in Delhi-NCR IT companies were examined. The present study focused on employees who had completed AI-based training within the organization. Based on the TAM variable models, we examined the intention of employees to adopt AI in terms of perceived innovativeness, perceived ease of use, and intended adoption and employee perception

Research Framework



Study Hypothesis

Hypothesis 1

This study examines the way how the implementation of artificial intelligence affects employee training and development. It will be purely based on the results of the study, the following factors were identified as those factors which influencing the successful implementation of artificial intelligence within organizations / firms.

H0: There are no significant differences between factors affecting employees' training and development following AI's implementation in efficiency.

H1: The effective implementation of AI affects employee training and development significantly

Hypothesis 2

A study on adoption of the artificial intelligence in modules of training and development of every employees in organizations has examined the TAM model parameters and examined how they affected the intention to adopt artificial intelligence adoption. In order to examine an employee intention to adopt the impact of AI, the TAM model variables were taken into consideration, such as ease of use (Perceived), employee's perception, and perceived innovativeness of employees.

H0: TAM parameters do not significantly impact AI adoption intentions

H1: The TAM parameters have a significant impact on AI adoption intentions

Sample Methods

A convenience sampling method was used to collect primary data. In convenience sampling, researchers collect market research data from a convenient pool of respondents.

Sample Units: As part of the study, respondents were those employees who have recently been trained and developed with artificial intelligence (AI) technology at their workplace. The study

evaluated Deloitte and Amazon India. In these two organizations, artificial intelligence is extensively used in human resources management at various stages, from employee selection during the recruitment process to training and development for new employees.

Sample Size: The questionnaire for collecting the sample was distributed among 200 employees of Deloitte and Amazon.

Questionnaire: Based on two objectives the study was framed with relation to the objectives. The responses were collected in 5 point Likert scale.

Data Reliability

Cronbach's alpha was used as the primary data analysis test as reliability for the questions. The standard or calculated value for the Cronbach's alpha was 0.863, which was greater than the base value. As a result, the study is able to use the primary data in order to analyze it.

Statistical Tools

We used SPSS Statistics software for the analysis of the framed objectives. The following statistical methods were used:

Structure Equation Model

In behavioral sciences, the model called Structural Equation Model (SEM) is a very general and statistical modeling technique. It is also sometimes referred to as regression analysis or called path analysis. Interest in Structural Equation Model is frequently directed toward theoretical constructs, which are represented by the variables that can be referred indirectly. In Browne (1993), regression coefficients or path coefficients are used to indicate the relationship between the theoretical constructs.

Neural Network

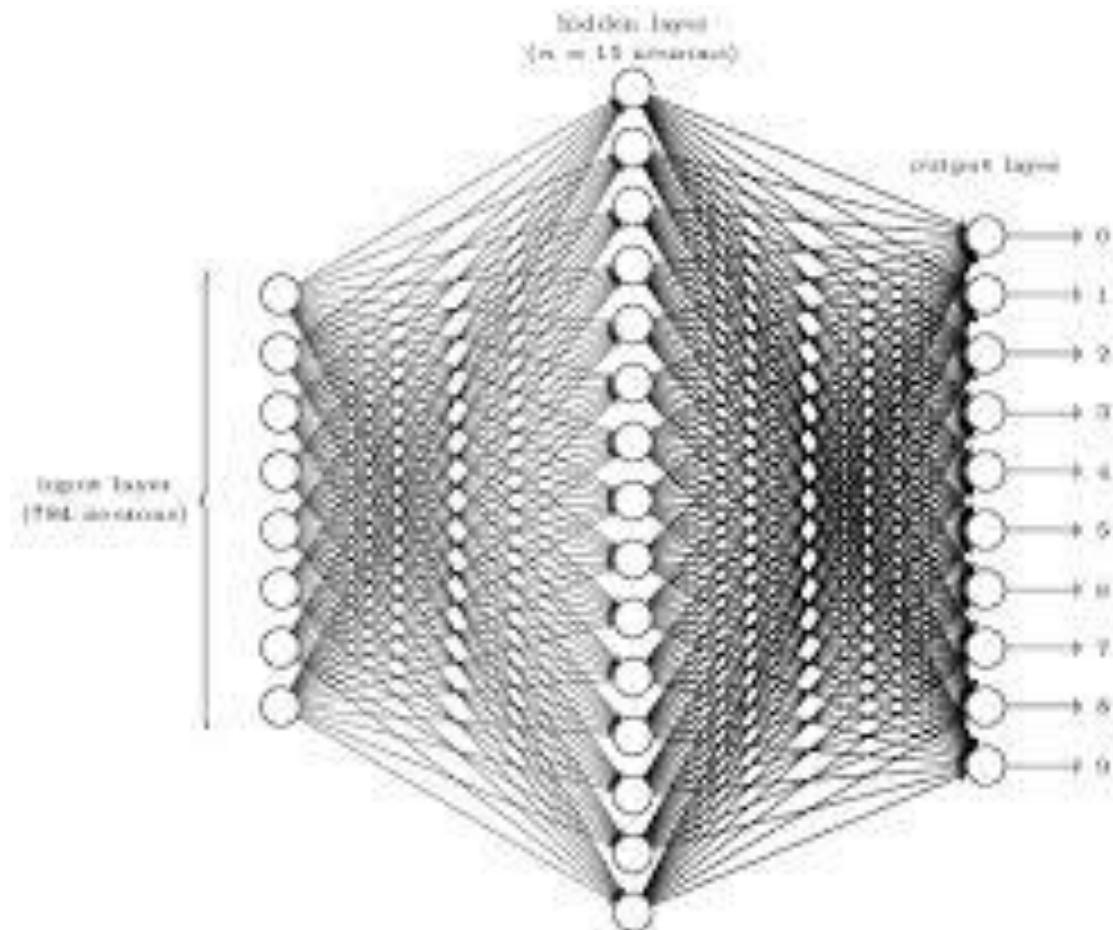
A neural network was applied to identify the most highest to lowest in influencing factors which should be prioritizing them by importance level in order to find the highest to lowest factors that influences for effective implementation of training and development of concerned employees.

Processing Case Abstract			
		N	%
Sample	Training Sessions	70	58.3%
	Testing Samples	50	41.6%
Valid Number		120	100.0%
Excluded Number		0	
Total Number		120	

Datical Analysis Tabulation

Objective 1: In order to understand how the implementation of AI using the neural network affects employee training and development

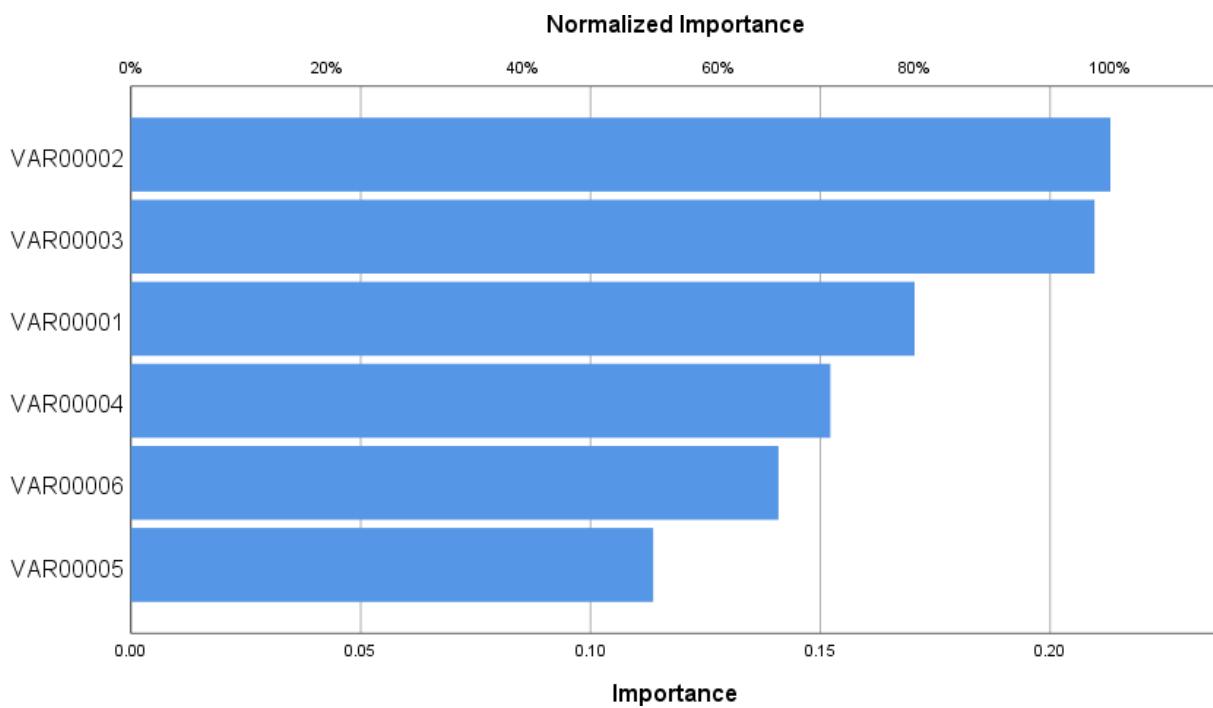
According to the study below, neural networks are used to discover how AI is being adopted in training and developing employees in the IT industry. In this study, the training test has been allocated 58.3%, and the testing test has been allocated 41.6%. Thus, the purpose of these results is to evaluate the Neural Network.



Source: Artificial Intelligence Foundation Computational agents

A hidden layer of the study was adoption model of artificial intelligence(AI) to make importance through affecting influencing factors with an effective implementation from the perspective of the selected staff.

Importance of Independent Predictor Variable		
	Priority value	Normalized Importance
AI as customized learning programs helps to makes machine learning	.172	80.1%
Fast and short learning programs	.215	100.0%
Availability of Real time feedback	.209	97.3%
Cost of Training is Low	.132	73.2%
Leading to time savings	.123	56.3%
Usage of statistical analytics with an aim to addressing employee's efficiency	.121	67.1%



Artificial Intelligence (AI) use in training and development (T&D) for IT. Short- and fast-learning programs were ranked high with 100%, which means that employees will be able to make better and smooth decisions as a result of these learning programs. A real-time feedback system seemed to be able to make improve the adoption of Artificial Intelligence (AI) in the IT industry at the next importance level. The importance level of “machine learning through Artificial Intelligence with customized learning programs” is 80.1%, meaning that Artificial Intelligence AI will be able to understand employees that are more easily through these training programs. According to the importance level of 73.2%, “Training costs are very low,” which means that the organization’s expenses will also be reduced as a result. AI adoption will able to improve employee efficiency by using statistical analytics, in which a factor that utilizes statistical analytics to address employee efficiency. In terms of time savings, 56.3% of factors affect adoption of AI. As a result, the

organization and employees will be able to improve efficiency by improving the short and fastest teaching employees, Farah Zahidi (2020)2. As a result, the null hypothesis has been rejected and the alternative hypothesis accepted. Therefore, it indicates that influencing factors have significant differences in implementing Artificial Intelligence.

Objective 2 : Analysing how employees of selected IT companies are adopting AI

In order to explain relationships between multiple variables, Structure Equation Modeling (SEM) uses a given set rules of statistical methods. It allows the simultaneous analysis of relationship evaluated between the multiple number of dependent variables and the number of independent variables. In order to analyse data, SEM was chosen because multiple measuring objects can be used to test causal relationships between constructs. A second benefit is that it provides robust with efficient statistical set of procedures to dealing with the complex multiple systems. The present study critically examines the way how the use of Artificial Intelligence (AI) will improve IT companies' scheduling training and development(T&D) processes. The model in this study considers the model consistency as a first step, followed by goodness of fit index, which indicates that it is significant. As a final step, the determined hypothesized model (Structural Equation Model) has been formulated, and the obtained results are evaluated and presented in detail below. Using data presented the table below, which contains Fit statistics, Obtained values , Recommended and, explains the result, the Goodness of Fit is implied.

Table-1: Goodness for Fit Index of SEM

Fit statistics	Standard Recommended Value	Obtained Value
Chi square Analysis		231.325
Degree of freedom		4
Chi square significance	p < = 0.05	0.000
Goodness - Fit Index	>0.90	.983
Adjusted Goodness Fit Index	>0.90	.981
Normed Fit indexes	>0.90	.722
Relative Fit Index	>0.90	.810
Comparative Fit Index	>0.90	.949
Tucker Lewis Index	>0.90	.889
RMSEA	<0.05	0.000

The results indicate the fitness of the hypothesized model. The results indicate that Artificial Intelligence is being used for training and development in the IT sector. A GFI (Goodness Fit Index) of 0.983 and an Adjusted Goodness of Fit Index of 0.981 were observed to be above the recommended level. A normative fit index of greater than 0.722 is found along with a relative fit index of 0.810. There are Goodness Index such as Comparative Fit (0.983) and Tucker Lewis Index (0.889) that are the above the threshold. Root Mean Square is 0.000, it which implies that , the model is more significant. Therefore, Goodness of Fit index clearly concludes that the model is satisfactory.

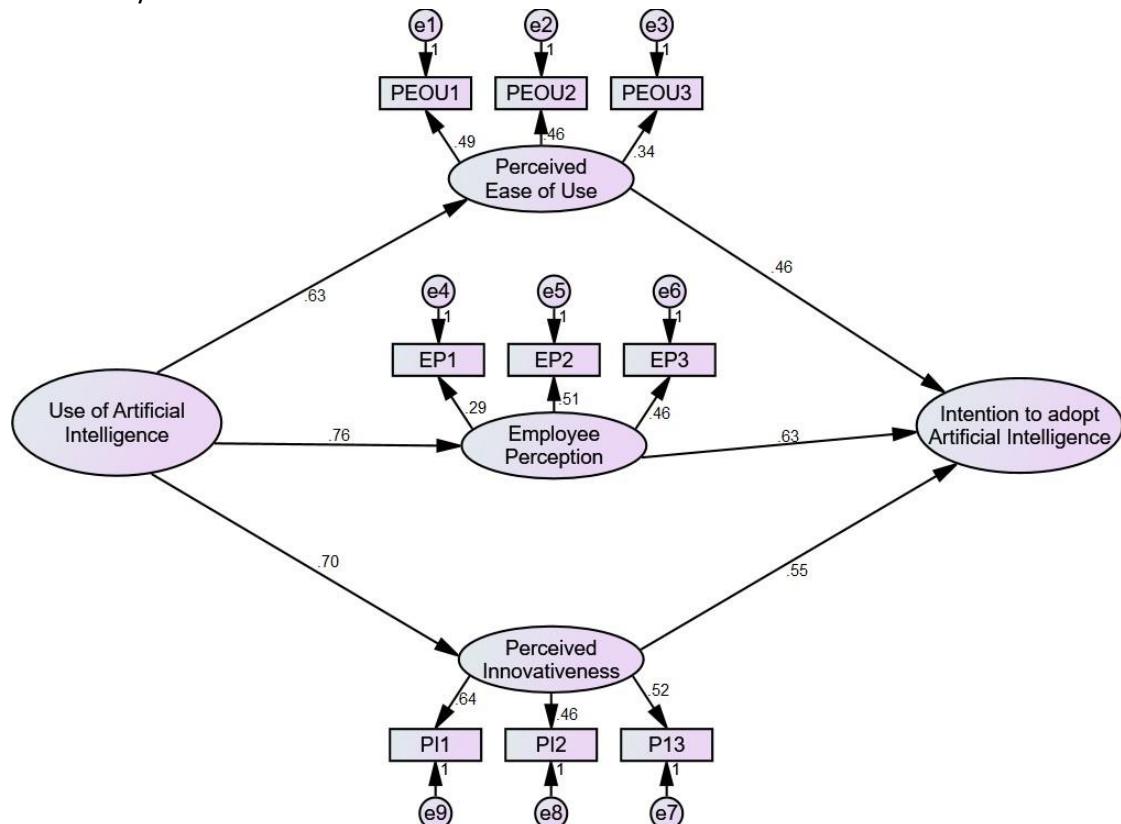


Figure-1

Identifies Artificial Intelligence (AI) in Training and Development(T&D) with reference to TAM using SEM

Source: Field data

Note: It is important that here the most identification of any kind of Structural Equation Model must meet two basic requirements: (1) the number of observations must be at least as high as the number of free model parameters, and (2) the scale (metric) of every unobserved (latent) variable must be high. The following table critically examines regarding the adoption of Artificial Intelligence in the sector of IT, by improving the employee training and development.

Table- 2:
Use of artificial intelligence with respect to regression weights

			Estimate	S.E	C.R	P-value
Perception of Employees	<---	Use of AI	.731	.541	2.112	***
Perceived use of ease	<---	Use of AI	.619	.912	3.136	***
Perceived innovativeness	<---	Use of AI	.682	.431	3.101	***

According to the research results, using artificial intelligence in IT companies will have a significant and positive impact on the values of Technological Acceptance Model scales(TAM). The table truly attempts to describe clearly that how artificial intelligence will clearly affect employee's training and development (T&D). A high level of influence is found on Employee Perception with 0.731 units, indicating that employees are more likely to adopt AI in their Training and Development program. Artificial Intelligence in training and development programmes is also revealing that employee innovativeness will be increased and that understanding capability will increase.

Table- 2:
Regression weights for measuring the items in TAM

			Estimate	S.E	C.R	P-value
I would enjoy using the AI product because it would be easy to use	<----	Perceived Ease of Use	0.481	0.152	3.030 864	0.034
A clear and understandable interface would be provided by the AI product.	<----	Perceived Ease of Use	0.451	0.134	3.725 806	0.026
It would be difficult for me to use the AI product	<----	Perceived Ease of Use	0.320	0.086	3.552 083	0.016
I would be able to increase my productivity using the AI product	<----	Employee Perception	0.292	0.089	3.280 899	0.028
Users would not find the AI Product easy to use	<----	Employee Perception	0.514	0.134	3.835 821	***
Technically, the AI product would be hard to use	<----	Employee Perception	0.462	0.126	3.666 667	0.022
The idea of trying all sorts of new inventions or ideas appeals to me	<----	Perceived Innovativen	0.642	0.252	2.547	***

		ess			619	
In order to solve difficult problems, I could often come up with multiple solutions	<----	Perceived Innovativeness	0.461	0.221	2.085 973	0.032
As a creative individual, I can believe that innovative technology devices can spark my creativity	<----	Perceived Innovativeness	0.521	0.236	2.207 627	***

The table illustrates that most of the respondents stated that using AI to understand clearly and easily, but a minority of respondents said it was hard to use AI products. It indicates that the use of Artificial Intelligence(AI)has demonstrated a significant and important impact on their level of perception about the use of Artificial Intelligence (AI) in their training and development program. According to the study, AI products will enhance employees' work performance and reduce costs. The study indicates that the alternative hypothesis should be accepted, since innovativeness contributes to the productivity of employee as well as the organizational effectiveness. The p-value indicates the study accepts the alternative hypothesis and rejects the Null Hypothesis.

Table – 3: AI adoption weights based on regression analysis

			Estimate	S.E	C.R	P-value
Aiming to adopt Artificial Intelligence (AI)	<---	Perceived ease of use	0.426	0.123	3.260284	***
Taking Artificial Intelligence into account	<---	Employee Perception	0.612	0.142	4.277778	***
Artificial Intelligence is being considered as a technology for adoption	<---	Induced Perceived innovativeness	0.514	0.145	3.306306	***

As indicated in the table, three measuring items/scales appear to have a significant positive impact on the intention to adopt Artificial Intelligence (AI). Based on the results, Employee Perception was highly impactful with 0.612, followed by certain Perceived Innovation and Perceived Ease of Use. A study suggests implementing AI in training and development will improve the ability of employees to make decision making, work quickly, and take better notes and eagerness to complete the work faster.

Findings of the Study

A major study indicates that artificial intelligence (AI) use within the workplace can be influenced by employee perception through word of mouth or through any feedback that they provide.

Increasing adoption of AI in the IT sector is primarily a result of new generations' habit of utilizing technology. By adopting AI and learning how to use it, an employee will be able to handle some important major decisions with suitable plan for a particular projects, that which will contribute to their individual development and a thorough enhance their adoption of Artificial Intelligence (AI). In the particular study, the results validated Nitin Borge's (2016) findings states that trainee on Artificial Intelligence (AI) enables employees to meet timelines for projects.

In this study, the factors influencing the adoption of AI in IT organizations were examined. As a result of applying the Neural Network methodology and prioritizing the factors, it was found that "short

and fast learning programs" (0.213) had the greatest impact on the success of the study. Therefore, it stated that AI would be able to frame content faster in line with employee requirements.

According to the study, AI implementation in training and development has improved employees' results. The report indicates that the " The Real time Feedback available" (0.210). Thus, it is possible to provide a real-time feedback that creates to every employee without the assistance of artificial intelligence.

A lower value training cost factor (0.152) played an essential role which helps in adopting AI in organizations with a large pool of trainees.

According to the study, artificial intelligence has been effectively adopted by training and development programs in the IT sector by creating awareness among employees of its usage and benefits by using the shortest and fast learning programs. Moreover, the study has revealed that a through feedback which has been given genuinely, it is a great advantage in improving the adoption of AI among employees in the IT industry.

Despite the fact that majority of the employees agree that using AI makes understanding clear and easier, some claim that it is difficult to use AI products.

Summary of the Study

We investigated the role of artificial intelligence (AI) in employee training and development (T&D) in selected Hyderabad-based IT companies. According to the study, Deloitte and Amazon India use artificial intelligence extensively for training and development. Based on the Technology Adoption Model, a structural equation model was used to analyze perceived intention to use artificial intelligence in organizations for employee training and development. It was found that AI adoption was significantly influenced by employee perception and ease of use. Based on the neural network of machine learning method, the study identified the influencing factors and it has been observed on that Artificial Intelligence (AI) will create short and rapid systematic learning programs and give employees to a real-time feedback on their training and development (T&D). A study also found that AI adoption would reduce training costs and improve operational efficiency.

Further Research Scope

This study investigated and concentrated on the need of adoptability and perfect usability of Artificial Intelligence in training and development (T&D) within selected Hyderabad-based organizations. Accordingly, the study helps to suggests expanding the study to include organizations outside the IT sector. Moreover, the study recommends that AI can be used in the education industry to monitor the learning ability of students and provide feedback to improve their learning abilities.

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