Pacific Business Review (International)
Volume 17, Issue 12 June 2025

Exploring the Impact of AI in Training and Development: An Analysis Using the UTAUT Model Among IT Professionals

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Abstract

Artificial Intelligence (AI) is increasingly transforming Training and Development (T&D) programs within the Information Technology (IT) sector, offering potential benefits such as task automation, personalized learning experiences, and enhanced organizational efficiency. This study examines the integration and impact of AI in T&D through a mixed-methods approach, combining quantitative surveys and qualitative interviews with IT employees and HR professionals. Quantitative data were gathered via structured surveys administered to 300 IT employees across various organizations. The surveys utilized Likert-scale questions to assess perceptions of AI integration in T&D, performance expectancy, and behavioral intentions regarding AI adoption. Concurrently, qualitative insights were obtained through semi-structured interviews with HR managers and IT professionals to explore themes such as challenges, benefits, and practical considerations of AI implementation in T&D. Findings from the quantitative analysis highlight a significant positive correlation between performance expectancy and the intention to adopt AI in T&D. Employees perceive AI as enhancing T&D effectiveness by automating routine tasks, delivering personalized learning experiences, and improving overall organizational performance. However, the study identifies several challenges, including ethical concerns related to AI use, data privacy issues, and the ongoing need for continuous skill development among employees. The qualitative analysis underscores the importance of addressing these challenges to maximize the benefits of AI in T&D. Recommendations include developing comprehensive AI-driven T&D strategies aligned with organizational goals, establishing clear ethical guidelines for AI use, and fostering a culture of continuous learning and adaptation. These recommendations aim to support organizations in leveraging AI technologies effectively to enhance employee development and maintain competitiveness in the dynamic IT sector. This study contributes to the evolving discourse on AI's role in reshaping T&D practices within organizations, offering insights into how AI can be strategically implemented to optimize learning outcomes, enhance employee skills, and drive sustainable organizational growth in the digital age.

Keywords: Artificial Intelligence, Training and Development, IT sector, Performance Expectancy, Ethical Considerations

Introduction:

In the rapidly evolving landscape of technology, Artificial Intelligence (AI) has emerged as a transformative force across various industries. The integration of AI in Training and Development (T&D) has particularly gained traction, promising to revolutionize how employees acquire skills and enhance their professional competencies. This study aims to explore the impact of AI in T&D within the Information Technology (IT) sector, a field known for its dynamic nature and high demand for continuous learning. By leveraging the Unified Theory of Acceptance and Use of Technology (UTAUT) model, this research seeks to identify and analyze the factors that influence the adoption of AI-driven training programs among IT professionals. The UTAUT model, which consolidates various theoretical perspectives on technology acceptance, provides a robust framework to understand the complexities surrounding the implementation of AI in organizational settings. This investigation is timely and significant, given the growing need for organizations to remain competitive through innovative training solutions. As AI continues to redefine the boundaries of what is possible in employee development, understanding the drivers of its adoption can offer valuable insights for both academia and industry practitioners.

Background of the Study:

The advent of Artificial Intelligence (AI) has brought about significant changes across numerous sectors, with the IT industry being at the forefront of this transformation. AI's potential to enhance various business functions has led to its increasing incorporation into Training and Development (T&D) initiatives. AI-driven T&D programs are designed to provide personalized learning experiences, real-time feedback, and adaptive learning pathways, thus making training more efficient and effective. As organizations strive to maintain a competitive edge, the need for continuous upskilling of employees has become paramount. The IT sector, characterized by its rapid technological advancements and ever-evolving skill requirements, necessitates innovative approaches to employee development. Despite the promising advantages of AI in T&D, its adoption is not without challenges. Factors such as perceived ease of use, perceived usefulness, social influence, and facilitating conditions play a critical role in determining the acceptance of AI technologies. The Unified Theory of Acceptance and Use of Technology (UTAUT) model provides a comprehensive framework to analyze these factors and understand their impact on technology adoption. This study delves into the IT sector to gauge how these factors influence the acceptance and implementation of AI in T&D programs, providing insights that can aid organizations in effectively integrating AI into their training strategies. As AI continues to evolve, its successful adoption in T&D can significantly enhance employee performance, driving organizational success in an increasingly competitive landscape.

Research Relevance

The relevance of this research lies in its potential to address a critical gap in the understanding of AI adoption in Training and Development (T&D) within the IT sector. As organizations increasingly invest in AI technologies to enhance their T&D initiatives, it becomes essential to comprehend the factors that facilitate or hinder this adoption. The IT sector, being at the cutting edge of technological innovation, provides a fertile ground for examining these dynamics. By applying the Unified Theory of Acceptance and Use of Technology (UTAUT) model, this study offers a systematic approach to identifying the determinants of AI acceptance among IT professionals. Understanding these factors is not only academically significant but also practically valuable for organizations seeking to implement AI-driven training programs. The findings can inform strategic decisions, helping organizations to design and deploy more effective AI-based T&D solutions that align with the needs and expectations of their workforce. Moreover, in an era where continuous learning and skill development are crucial for maintaining a competitive edge, insights from this research can contribute to enhancing the overall efficacy of T&D practices. By bridging the gap between theoretical models and practical

applications, this study aims to advance the discourse on AI in T&D, ultimately contributing to the broader goals of organizational growth and employee development.

The Problem Statement:

Despite the promising advantages of integrating Artificial Intelligence (AI) into Training and Development (T&D) programs, the adoption of these technologies remains inconsistent and poorly understood within the IT sector. Many organizations face significant challenges in implementing AI-driven T&D initiatives, including resistance from employees, inadequate infrastructure, and a lack of understanding of AI's practical benefits. This inconsistency poses a critical problem: how can organizations effectively encourage the adoption of AI in T&D to enhance employee performance and overall organizational competitiveness? The existing literature provides limited insights into the specific factors that influence AI acceptance among IT professionals, making it difficult for organizations to develop strategies that foster successful implementation. By utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT) model, this research aims to systematically investigate these factors, including perceived ease of use, perceived usefulness, social influence, and facilitating conditions. Addressing this problem is essential for unlocking the full potential of AI in T&D, thereby enabling organizations to better equip their workforce with the skills and knowledge necessary to thrive in an ever-evolving technological landscape. This study seeks to fill the gap in understanding and provide actionable insights that can guide organizations in overcoming barriers to AI adoption in T&D.

Significance of the Study:

This study holds significant value for several stakeholders, including academic researchers, industry practitioners, and policymakers. By exploring the factors influencing the adoption of Artificial Intelligence (AI) in Training and Development (T&D) within the IT sector using the Unified Theory of Acceptance and Use of Technology (UTAUT) model, the research contributes to the theoretical understanding of technology acceptance in a high-tech context. For academic researchers, the findings offer a deeper insight into the complexities of AI implementation in organizational settings, providing a foundation for future studies and theoretical advancements. Industry practitioners, particularly those in the IT sector, stand to benefit from practical insights into the determinants of successful AI adoption in T&D. These insights can inform the design and deployment of more effective and user-friendly AI-driven training programs, ultimately enhancing employee performance and organizational competitiveness. Furthermore, for policymakers, the study highlights the need for supportive infrastructure and policies that facilitate the integration of advanced technologies in corporate training environments. By addressing the barriers to AI adoption and identifying key enablers, this research can help shape strategies that promote innovation and continuous learning. In a broader context, the study underscores the importance of leveraging AI to meet the evolving skill demands of the modern workforce, thereby contributing to economic growth and development.

Research objectives:

- To assess the present level of integration of Artificial Intelligence (AI) in Training and Development (T&D) programs for IT employees across diverse organizations.
- To analyze the correlation between performance expectancy and the behavioral intention to adopt AI in T&D among IT employees.
- To provide valid recommendations to organizations on how to enhance the adoption of AI in T&D programs

Hypothesis Statements:

- H1: There is a significant level of integration of Artificial Intelligence (AI) in Training and Development (T&D) programs across various organizations for IT employees.
- H2: There is a positive correlation between performance expectancy and the behavioral intention to adopt AI in T&D among IT employees.

Literature Review:

Over the past centuries, the world has witnessed substantial advancements in technological innovations, largely due to the industrial revolution. This shift enabled the substitution of human labor with machinery. In more recent times, artificial intelligence (AI) has advanced to the point of taking over tasks that require intellectual capabilities. This progression is attributed to the development of algorithm-based machine learning and autonomous decision-making systems. AI's influence spans a variety of industries, from management to logistics (Dwivedi et al., 2021). Additionally, the rise of computers with superior computing power and the advent of technologies like Big Data have further driven AI advancements. As AI becomes increasingly mainstream, it is crucial to examine its implications across various fields, especially those where it replaces human decision-making processes. Numerous prominent figures worldwide have expressed concerns regarding the future implications of AI (Duan et al., 2019). The potential of AI in emerging economies is somewhat restricted due to issues such as data quality and availability, privacy concerns, and a shortage of skilled professionals (Sharma et al., 2021).

Artificial Intelligence (AI) offers numerous advantages for companies, including the automation of routine tasks. AI-driven automation has transformed business processes in various industries by managing repetitive tasks and enabling employees to concentrate on more critical activities. AI applications boost efficiency by customizing services to meet customers' needs while also enhancing organizational safety and security. However, implementing AI systems comes with challenges, such as ethical responsibilities and employment-related concerns (Villar and Khan, 2021). Similarly, Vieira and Sehgal (2017) emphasized the automation of routine tasks as a significant benefit of AI, citing the use of chatbots to address customer inquiries. Rezaei et al. (2023) demonstrated that AI algorithms greatly improve the accuracy of disease diagnosis by analyzing medical images and patient symptoms, although human oversight is still necessary to ensure decisions are unbiased, fair, and accurate.

Samwel (2018) connected organizational performance with the productivity of individual staff members, emphasizing the importance of training and development (T&D) for organizational success. The study focused on the impact of training on the productivity of employees in a drilling company, analyzing data from 219 respondents. The findings indicated a significant correlation between training activities and employee performance. The research highlighted that the existing training and development policies in drilling companies were inadequate and recommended the advancement of policies to foster more effective training and development. These improved policies would guide organizations in implementing robust training and development strategies.

Meijerink and Bondarouk (2021) discussed the benefits organizations can gain from incorporating AI into training and development. AI can automate the search for relevant training programs and evaluate the effectiveness of these programs. By using predictive programming algorithms, organizations can anticipate employee competencies and training needs.

To explore the impact of personalized, practical training programs on continuous professional development, Brouwer et al. (2022) conducted a study on university lecturers. The researchers conducted semi-structured interviews with five participants, five years after they had obtained their university teaching qualification (UTQ). The results showed a lasting impact, with many respondents indicating a shift in their professional aspirations towards becoming more organized teachers. However, the study was limited by its focus on a single graduating class from the UTQ program in one country and a small sample size of only five respondents. The authors suggested that further research is needed to better understand the impact of training program design on training outcomes.

Theoretical Frameworks of Training and Development:

While artificial intelligence (AI) offers numerous benefits for human resource development, it also presents certain barriers. Pereira et al. (2021) conducted a systematic review to explore the relationship between AI and professional

outcomes. They found that AI's integration into "training and development" is driven by the need to enhance organizational learning, knowledge sharing, decision-making, and virtual team communication. Votto et al. (2021) observed that AI is increasingly utilized in human resource management systems (HRMS) and information management systems. Their study showed that both employees and HR trainers see the benefits of AI in training and development, with AI-enhanced training assistants contributing to employee growth.

Kambur and Akar (2021) investigated HR managers' perceptions of AI and developed a reliable scale for measurement. The study, involving 821 HR managers and employees in Turkey, found that participants believe AI will reduce monotonous tasks, lower the stress of finding suitable candidates, and provide access to a larger pool of qualified applicants. Additionally, they felt that AI in training and development would streamline processes and lessen the burden on the HR department.

Abdeldayem and Aldulaimi (2020) conducted research in Bahrain to understand the impact of AI on human resources management. Their findings suggested that the public sector in Bahrain would be well-positioned for digital transformation with the implementation of Vision 2030. The study highlighted that AI could help manage gender equality and increase decision-making responsibilities for HR managers, particularly in dynamic environments. It also suggested that AI could effectively organize, coordinate, and plan training for employees.

Gambhir et al. (2022) conducted a descriptive study using secondary data, emphasizing the unparalleled capabilities of deep learning in analytics and pattern recognition within large datasets. They noted that AI technologies have significantly improved marketing by understanding consumer needs and suggested that similar approaches could enhance HRM by assessing employee competencies and tailoring training programs accordingly. AI can assist HR by automating repetitive tasks and supporting decision-making processes.

Vrontis et al. (2021) conducted a systematic literature review to examine AI's impact on HRM at both organizational and employee levels. They found that while AI enhances organizational performance, it also raises ethical challenges. AI is being used to train employees, provide feedback, and support similar to a human trainer, which not only enhances individual learning but also improves overall organizational performance. The study emphasized the importance of training employees to effectively use AI technologies.

According to Votto et al. (2021b), promoting staff professional growth is crucial for achieving organizational goals. AI can support HR managers by recommending personalized training based on employees' interests, skills, and potential. AI-enhanced training programs can facilitate employee development by tracking progress, recommending training, and providing personalized onboarding for new employees. The authors recommended further research on tactical human resource information systems (T-HRIS) to better understand their application.

Methodology of the Study

This study employs a mixed-methods approach, combining quantitative and qualitative research methodologies to gain comprehensive insights into the adoption and impact of Artificial Intelligence (AI) in Training and Development (T&D) within the IT sector. The quantitative component involves the use of structured surveys administered to a sample of IT employees across various organizations to measure the extent of AI integration in T&D and to examine the relationship between performance expectancy and the behavioral intention to adopt AI. A total of 300 respondents will be selected using a stratified random sampling technique to ensure diverse representation. The survey will include Likert-scale questions to capture the respondents' perceptions and attitudes towards AI in T&D. For the qualitative component, semi-structured interviews will be conducted with HR managers and IT professionals to gain deeper insights into the challenges, benefits, and practical considerations of implementing AI in T&D programs. The interview data will be analyzed using thematic analysis to identify recurring themes and patterns. The integration of both quantitative and qualitative data will provide a holistic understanding of the factors influencing AI adoption in T&D and its impact on organizational performance. Ethical considerations, such as informed consent and data

confidentiality, will be strictly adhered to throughout the research process.

Data collection methods:

Data for this study will be collected using a combination of surveys and semi-structured interviews. The survey instrument will be designed to gather quantitative data on the integration of Artificial Intelligence (AI) in Training and Development (T&D) programs within the IT sector. A stratified random sampling technique will be employed to select a sample of 300 IT employees across various organizations. The survey will include Likert-scale questions to assess respondents' perceptions of AI in T&D, performance expectancy, and their behavioral intention to adopt AI technologies. Concurrently, semi-structured interviews will be conducted with HR managers and IT professionals to obtain qualitative insights into the challenges, benefits, and practical considerations of AI implementation in T&D. The interviews will explore themes such as organizational readiness for AI adoption, ethical considerations, and the impact on employee training outcomes. Data collection will be conducted adhering to ethical guidelines, ensuring participant confidentiality and voluntary participation. The combination of survey data and interview transcripts will provide a comprehensive analysis of AI adoption in T&D and its implications for organizational practices and employee development.

Data analysis procedures:

The collected data will undergo rigorous analysis to examine the integration and impact of Artificial Intelligence (AI) in Training and Development (T&D) programs within the IT sector. Quantitative data from the surveys will be analyzed using descriptive statistics to summarize respondents' perceptions and attitudes towards AI in T&D. Specifically, mean scores and standard deviations will be calculated for variables related to AI integration, performance expectancy, and behavioral intention to adopt AI. To test the relationship between variables, correlation analysis will be employed. Pearson's correlation coefficient will assess the strength and direction of relationships between performance expectancy and the behavioral intention to adopt AI in T&D among IT employees. This analysis will help determine if a significant positive correlation exists between these variables. Furthermore, to examine the differences in perceptions among different demographic groups (such as age, experience level, and job role), Analysis of Variance (ANOVA) will be conducted. ANOVA will allow us to assess whether there are statistically significant differences in mean scores for variables related to AI integration and behavioral intention across these demographic categories. Overall, the combined use of quantitative analysis (correlation, and ANOVA) and qualitative analysis (thematic analysis) will facilitate a nuanced exploration of AI's role in T&D and its implications for organizational strategies and employee development practices.

Empirical Findings:

Objective :Table 1: Data analysis using the ANOVA technique to compare the levels of AI integration (DV) with Designations factor (IV) that help determine if statistically significant differences exist between the groups' means.

AI Integration Parameters		Sum of Squares	df	Mean Square	F	Sig.
I am aware of the use of artificial intelligence in our training and development programs.	Between Groups	.243	1	.243	.289	.591
	Within Groups	511.593	609	.840		
	Total	511.836	610			
Artificial intelligence is extensively integrated into our training and development programs	Between Groups	.860	1	.860	.867	.352
	Within Groups	604.099	609	.992		
	Total	604.959	610			

AI Integration Parameters		Sum of Squares	df	Mean Square	F	Sig.
The integration of artificial intelligence has significantly improved the effectiveness of our training and development programs.	Between Groups	.003	1	.003	.004	.950
	Within Groups	469.578	609	.771		
	Total	469.581	610			
Employees actively participate in AI-based training and development programs offered by our organization.	Between Groups	4.424	1	4.424	5.362	.021
	Within Groups	502.408	609	.825		
	Total	506.831	610			
Sufficient resources are allocated for integrating artificial intelligence into our training and development programs.	Between Groups	8.923	1	8.923	8.573	.004
	Within Groups	633.911	609	1.041		
	Total	642.835	610			
AI technologies are effectively used to customize training programs to meet individual learning needs.	Between Groups	.029	1	.029	.039	.843
	Within Groups	450.603	609	.740		
	Total	450.632	610			
I am satisfied with how artificial intelligence is being integrated into our training and development programs.	Between Groups	2.663	1	2.663	2.765	.097
	Within Groups	586.479	609	.963		
	Total	589.142	610			
There is a plan in place to expand the use of artificial intelligence in our training and development programs in the future.	Between Groups	10.533	1	10.533	11.845	.001
	Within Groups	541.575	609	.889		
	Total	552.108	610			
The organization provides adequate support for the use of AI in training and development.	Between Groups	6.560	1	6.560	6.861	.009
	Within Groups	582.275	609	.956		
	Total	588.835	610			
The use of AI in training and development has led to improved job performance among employees.	Between Groups	1.400	1	1.400	1.533	.216
	Within Groups	556.407	609	.914		
	Total	557.807	610			

The ANOVA analysis in Table 1 provides insightful interpretations regarding the current state of Artificial Intelligence (AI) integration in Training and Development (T&D) programs for IT employees across various organizations. The analysis compares the levels of AI integration (dependent variable) with designations (independent variable) to determine statistically significant differences between the groups' means.

Firstly, no statistically significant differences were found in the awareness of AI in training programs ($F(1, 609) = 0.289$, $p = 0.591$), extensive integration of AI ($F(1, 609) = 0.867$, $p = 0.352$), perceived improvement in training effectiveness ($F(1, 609) = 0.004$, $p = 0.950$), effectiveness of AI in customizing training programs ($F(1, 609) = 0.039$, $p = 0.843$), satisfaction with AI integration ($F(1, 609) = 2.765$, $p = 0.097$), and perceived improvement in job performance ($F(1, 609) = 1.533$, $p = 0.216$) across different designations. This indicates a general consensus among employees of different designations regarding these aspects of AI integration in T&D programs.

However, statistically significant differences were observed in the active participation in AI-based training programs ($F(1, 609) = 5.362$, $p = 0.021$), indicating that participation levels vary significantly across different designations. Additionally, perceptions of sufficient resources allocated for AI integration also showed significant differences ($F(1, 609) = 8.573$, $p = 0.004$), suggesting that different designations may experience varying levels of resource adequacy. Furthermore, significant differences were found in the perception of plans to expand AI use in training programs ($F(1, 609) = 11.845$, $p = 0.001$), and the perception of organizational support for AI use in training and development ($F(1, 609) = 6.861$, $p = 0.009$), indicating that these aspects are viewed

differently across designations. While there is a general consensus on many aspects of AI integration in T&D programs, significant differences exist in areas such as active participation, perceived resource sufficiency, future expansion plans, and organizational support, which vary across different employee designations. These findings highlight the need for tailored approaches to AI integration in training and development to address the specific needs and perceptions of employees across various designations.

Objective 2: To examine the relationship between performance expectancy and the behavioural intention Coding of variables:

Code	Performance Expectancy
PE1	I believe that using AI in training and development will enhance my job performance
PE2	AI tools in training programs help in achieving learning outcomes more effectively.
PE3	Using AI for training and development increases productivity for IT employees.
PE4	AI-driven training solutions can provide personalized learning experiences that are beneficial to my career development
PE5	The use of AI in training and development makes learning more engaging.
Code	Behavioral Intention
BI1	I intend to use AI-based training tools in the future
BI2	I will recommend the use of AI in training and development to my colleagues
BI3	I am motivated to learn new skills through AI-enabled training programs
BI4	I plan to actively seek out training programs that incorporate artificial intelligence
BI5	I believe it is important to use AI in training and development to stay competitive in my field

Table 2 Data Analysis using Pearson's correlation coefficient to identify the relationship between Performance Expectancy (PE) and Behavioral Intention (BI) to use AI

PE & BI Variables		PE1	PE2	PE3	PE4	PE5	BI1	BI2	BI3	BI4	BI5
PE1	Pearson Correlation	1	.815**	.700**	.794**	.698**	.749**	.764**	.763**	.725**	.693**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
PE2	Pearson Correlation	.815**	1	.818**	.796**	.725**	.715**	.743**	.750**	.730**	.690**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
PE3	Pearson Correlation	.700**	.818**	1	.720**	.637**	.730**	.714**	.731**	.718**	.680**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
PE4	Pearson Correlation	.794**	.796**	.720**	1	.752**	.780**	.793**	.814**	.845**	.745**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
PE5	Pearson Correlation	.698**	.725**	.637**	.752**	1	.728**	.761**	.716**	.695**	.824**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
BI1	Pearson Correlation	.749**	.715**	.730**	.780**	.728**	1	.814**	.858**	.833**	.863**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611

PE & BI Variables		PE1	PE2	PE3	PE4	PE5	BI1	BI2	BI3	BI4	BI5
BI2	Pearson Correlation	.764**	.743**	.714**	.793**	.761**	.814**	1	.819**	.736**	.874**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	611	611	611	611	611	611	611	611	611	611
BI3	Pearson Correlation	.763**	.750**	.731**	.814**	.716**	.858**	.819**	1	.849**	.848**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	611	611	611	611	611	611	611	611	611	611
BI4	Pearson Correlation	.725**	.730**	.718**	.845**	.695**	.833**	.736**	.849**	1	.746**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	611	611	611	611	611	611	611	611	611	611
BI5	Pearson Correlation	.693**	.690**	.680**	.745**	.824**	.863**	.874**	.848**	.746**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	611	611	611	611	611	611	611	611	611	611
**. Correlation is significant at the 0.01 level (2-tailed).											

The Pearson's correlation analysis in Table 2 examines the relationship between Performance Expectancy (PE) and Behavioral Intention (BI) to use AI in training and development among IT employees. The results reveal several significant correlations at the 0.01 level (2-tailed), indicating strong relationships between the variables.

- Firstly, the belief that using AI in training and development will enhance job performance (PE1) shows significant positive correlations with all behavioral intention variables (BI1 to BI5).
- Specifically, PE1 has the highest correlation with the intention to use AI-based training tools in the future (BI1, r = .749), followed by recommending the use of AI to colleagues (BI2, r = .764), motivation to learn new skills through AI (BI3, r = .763), planning to seek out AI training programs (BI4, r = .725), and the belief in the importance of AI for competitiveness (BI5, r = .693).
- Similarly, the perception that AI tools help achieve learning outcomes more effectively (PE2) also shows significant positive correlations with all BI variables, with the highest correlation being with BI3 (r = .750) and the lowest with BI5 (r = .690).
- The belief that using AI increases productivity for IT employees (PE3) has significant positive correlations with all BI variables, with the highest correlation observed with BI3 (r = .731) and the lowest with BI5 (r = .680).
- The belief that AI-driven training solutions provide personalized learning experiences beneficial for career development (PE4) exhibits very strong positive correlations with all BI variables, with the highest correlation being with BI4 (r = .845) and the lowest with BI5 (r = .745).
- Finally, the perception that AI makes learning more engaging (PE5) shows significant positive correlations with all BI variables, with the highest correlation observed with BI5 (r = .824) and the lowest with BI3 (r = .716).

Overall, these results indicate that performance expectancy significantly influences behavioral intention to use AI in training and development among IT employees. The strong positive correlations suggest that higher performance expectancy is associated with a stronger intention to adopt and advocate for AI in training and development activities. This highlights the importance of enhancing employees' perceptions of the benefits and effectiveness of AI tools to foster their intention to use these technologies in their professional development.

Recommendations for the Study:

Based on the findings of this study, several recommendations emerge to enhance the integration and effectiveness of Artificial Intelligence (AI) in Training and Development (T&D) programs within the IT sector. Firstly, organizations should prioritize the development of robust

AI-driven T&D strategies that align with business objectives and employee skill enhancement goals. This includes investing in AI technologies that facilitate personalized learning experiences and adaptive training programs tailored to individual employee needs. Secondly, there is a need for continuous monitoring and evaluation of AI implementations in T&D to gauge their impact on employee performance and organizational outcomes. Regular feedback mechanisms and analytics should be employed to assess the effectiveness of AI algorithms in predicting training needs and improving learning outcomes. Thirdly, HR managers and decision-makers should address ethical considerations associated with AI, including data privacy, algorithmic bias, and transparency in decision-making processes. Establishing clear ethical guidelines and governance frameworks will help mitigate risks and build trust among employees regarding AI applications in T&D. Lastly, fostering a culture of continuous learning and adaptation is crucial. Organizations should support employees in acquiring AI-related skills and competencies through ongoing training and development initiatives. This proactive approach not only prepares employees for future AI advancements but also enhances organizational agility and competitiveness in the evolving digital landscape. Implementing these recommendations will enable organizations to harness the full potential of AI in T&D, driving innovation, efficiency, and sustainable growth.

Conclusion

In conclusion, this study has explored the integration and impact of Artificial Intelligence (AI) in Training and Development (T&D) programs within the IT sector. The findings indicate that AI offers significant potential to revolutionize T&D by automating routine tasks, personalizing learning experiences, and enhancing organizational efficiency. The research highlighted a positive correlation between performance expectancy and the behavioral intention to adopt AI in T&D among IT employees, underscoring the importance of perceived benefits in driving acceptance and implementation. However, challenges such as ethical concerns, data privacy issues, and the need for continuous skill development were identified as barriers that organizations must address to fully leverage AI's capabilities in T&D. Recommendations include developing robust AI-driven T&D strategies, ensuring ethical AI use, and fostering a culture of continuous learning. Overall, this study underscores the transformative role of AI in enhancing employee development and organizational competitiveness, urging stakeholders to embrace AI technologies strategically and responsibly for future growth and innovation in the IT sector.

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