

# Leveraging AI for Creating Personalized Training Modules: Health Sector

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## Abstract

The demand for continuous professional development and training is paramount in the rapidly evolving healthcare landscape. Traditional training methods often lack personalization, upskilling, and challenge, catering to individual learning styles and preferences. However, the emergence of Artificial Intelligence (AI) presents a transformative opportunity to revolutionize training methodologies in the health sector. This research paper emphasizes studying the existing training method followed and its challenges. It also explores identifying the training needs in the health sector and explores the various AI technologies to develop personalized training, its impact, and potential challenges for the same. The paper focuses on the familiarity of AI technologies used for customized training, how they address individual training needs in the health sector, and their effectiveness. Many ethical questions need to be addressed in light of the growing application of artificial intelligence (AI) in healthcare. AI must be humanized in medical education to guarantee that the development and use of AI's algorithms adhere to moral standards and advance fair healthcare results for patients and medical practitioner trainees.

**Keywords:** Personalized training, Artificial Intelligence, Healthcare

## I INTRODUCTION

Employee training is now a significant & frequently debated problem nowadays because they're connected to considerable essential assets. This human resource is the core unit

in the expansion process, any culture can experience macroeconomic and social movement. Employee development is achieved mainly through in-service

training. As a result, the effectiveness of the instruction procedure is dependent on the ease of clear and precise instruction notions between the persons concerned, including trainers, trainees, and training supervisors, as well as the use of modern training methods. It addresses medical personnel's requirements while also developing their expertise and abilities. The expansion of medical-related assistance can't be assessed just through extending healthcare & medical services supplying

sophisticated technology and equipment; it must also be judged through the extent of human achievement of physicians, & other members of healthcare groups. It is the first result of continuing healthcare training & education workshops (Anwar, 2021).

### Need for personalized training.

Traditional training has a few problems, such as the training content not being according to the needs of employees and a single approach to the training. These led to a failure to meet the organization's needs. (Li et al., 2019).

With the rise of artificial intelligence, there is a scope for addressing these issues. Many organizations are introducing technology-based training to replace traditional training. (Salas et al., 2012).

- These programs do not consider individual learning styles (visual, aural, kinesthetic) or past knowledge. This can result in irritation and decreased motivation among students [Wilson, 2014].
- Traditional programs have few customization possibilities, making them inflexible. Learners frequently proceed through information at a set rate, independent of their learning speed [Diao et al., 2022].
- Generic training may not meet learners' unique demands and problems in their regular job responsibilities. This reduces the perceived value and usefulness of the training [Zhiyenbayeva & Ergesheva, n.d.].

### Introduction to Personalized Training in Healthcare

The old one-size-fits-all approach to healthcare is experiencing substantial

change. As genetics, digital health technology, and data analytics revolutionize the medical scene, personalized training for healthcare workers gains traction. This introduction will examine the rising need for customized training, the potential benefits to patients and providers, and the present state of research in this burgeoning sector. In the past, healthcare workers have received standardized training programs that may not effectively address individual learning styles, patient demographics, or the unique problems of new medical professions. This strategy can create knowledge gaps and impede the successful adoption of evidence-based procedures (Hoffman et al., 2019).

### The Role of AI in Training

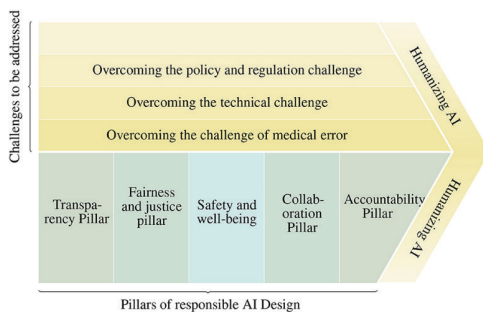
AI in training may encompass basic AI concepts using AI tools and platforms. Training helps employees acquire the relevant skills to use AI, empowering them to interact with the technologies. AI in training can enhance efficiency in the work and overcome obstacles (Shorey et al., 2019).

Employees engaged with AI training are more receptive to innovation and change, encouraging exploring and implementing new ideas to enhance productivity (Pedro et al., 2019).

It will open the doors to fast routine tasks and help make better decisions. Training is an intervention that supports work productivity by increasing and empowering employees with knowledge and helping increase the relevant skills with the help of AI (Bragas et al., 2022).

## Ethical Considerations and Privacy Concerns in Personalized Training

Artificial intelligence (AI) is a rapidly developing field, and as a result, its applications across a wide range of domains are growing. Medicine, specifically how medical practitioners receive their training, is one such application domain. AI can completely transform medical education by giving professionals cutting-edge, individualized tools and resources to increase their expertise. The ability to fully customize and adapt medical teaching to each student is made possible by artificial intelligence and complete studying methods. (Tahri Sqalli et al., 2021a).



Source: <https://www.frontiersin.org/articles/10.3389/frai.2023.1189914/full>

**FIG 1:** Pillars of Responsible AI Design

## II Review of Literature

The study mainly focuses on drastically altering the digital transformation on the way the industrial companies work together to generate and seize importance (Xie, Wu, Xiao, & Hu, 2016; Lenka, Parida, & Wincent, 2017; Teece, 2018; Appio, Frattini, Messeni Petruzzelli, & Neirotti, 2020). The work also emphasizes on the combined effects of several digital innovations in

order to bring about novel actors( and actor constellations), structures, practices, values and belief that change, threaten, replace or complement existing rules of the game within organizations, ecosystems, industries, or fields that is the precise definition of this technological phenomenon(Hinings and Gegenhuber, 2018, p. 55). It also concentrates on a wide range of enabling techniques which includes IoT(Internet of Things), combined manufacturing, data mining and AI to form the basis for the innovation era(Rindfleisch, O'Hern & Sachdev, 2017). From the research paper it is observed that AI(Artificial Intelligence) is one of the most often utilized components of technology in Business interact with industrial marketplaces for executing various business processes such as administration, costs and selling(Martínez-López & Casillas, 2013; Syam & Sharma, 2018). If we see Artificial Intelligence can give businesses a numerous type of marketplace understanding, which are crucial for company-to-company branding as well as understanding clients, consumers and competitors in the medical field (Paschen, Kietzmann, & Kietzmann, 2019). The research study mainly revolves around the fact that the nation of intelligent medicine recommendation systems has recently garnered significant attention which is due to rapid expansion in healthcare data and growing demand for customized regimens (Smith, J. A.,2018). The research paper also focuses on the basic idea of using machine learning and artificial intelligence to improve drug selection that were first presented early research in this field (Johnson, L. M., &Brown, S. E,2019). The study shows that researchers emphasized the possible advantages which could improve patient adherence and lessen unpleasant drug

reactions, increasing the overall healthcare results (Zhang, Q., & Wang, L, 2020).

(Kamboj and Rahman, 2015) States that the value of systematic reviews is rising across all academic disciplines and the technology and healthcare sectors are two areas where they are particularly well liked. The study states that to stay current in their respective domains, professionals in the information technology and medical industries and scholars follow a systematic evaluation process (Webster, J.; Watson, R.T, 2002). In addition to this the research shows that these assessments are at times used as a springboard in order to create new technological recommendations in order to apply in various other disciplines including the well-being (Moher, D.; Liberati, A.; Tetzlaff, J.; Altman, D.G, 2009). The research work explains that the IT and medical specialists do not base their decisions on a single study's decision result. The study also shows some faults because they are based on insufficient data or because they evoke preconceived preconceptions, which results in findings that are not definitive (Abbas, Z.; Raza, S.; Ejaz, K, 2008). It has been observed that IT and healthcare professionals must base their decisions on a solid evidence in their professional and academic activities (Kitsios, F.; Kamariotou, 2021).

### III CONCEPTUAL FRAMEWORK

The research study mainly depicts the conceptual framework. In this, we would explain the training plan to the people, specify the training needs, translate the training needs into action, and plan the training. After this, we would ask how it can be implemented in human resources,

examine non-training options in the medical field, systematically scan the environment, and decide on the formal or informal training provided to the medical staff and students. Then, we would choose a training supplier who would be sourcing to provide training to the medical staff and, finally, would be preparing and monitoring the training plans.

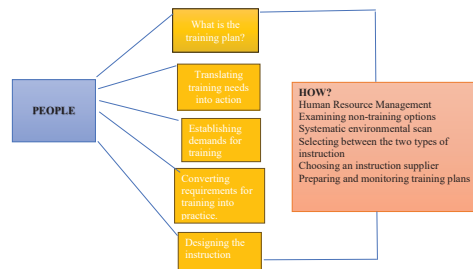


FIG 2: Conceptual Framework

## IV RESEARCH METHODOLOGY

### A Motivation for the study

- Artificial Intelligence (AI) has become an important part. Training modules can be tailored to improve knowledge retention and skill development by using AI to analyze learners' strengths, limitations, and learning styles.
- Healthcare practitioners need to have a wide range of skills and competencies. Personalized training modules can help to address specific skill gaps among healthcare practitioners.
- Since traditional training methods can be costly and lengthy, artificial intelligence-powered customized training modules can be more affordable in the long term.
- AI systems may evaluate enormous amounts of information generated by

users' interactions with training modules and offer essential insights.

## B Statement of the problem

In the rapidly growing healthcare landscape, there is a need for all healthcare professionals to learn continuously and improve their skills based on technological advancement and other domain-specific needs, which will further ensure superior patient care. One-size-fits-all traditional training methods usually fail to upgrade the skill set and meet healthcare professionals' needs and preferences. There is increased complexity in the medical field and a growing demand for the healthcare system, so there are several challenges for management in designing a practical personalized training module for professionals. Conventional training will not support skill gaps and competencies required or expected from the health care professionals.

## C Research Questions

- How can AI technologies effectively personalize the training modules in the health sector?
- What are the challenges of integrating AI-personalized training in healthcare?
- What ethical considerations and privacy concerns should be well-thought-out while healthcare professionals use AI-personalized training modules?

## D Research Objectives

1. To study the existing Training methods followed in the health sector.
2. To identify the challenges of the existing process.
3. To identify the specific training needs in the health sector (based on the roles,

skills required, various medical practices, and personalized learning)

4. To explore the various AI technologies to develop personalized training.
5. To study the impact of personalized training modules on employees' performance (knowledge upgradation and retention, learning style, performance metrics. Employee engagement, skill acquisition. User experience, perceived value, usability, acceptance)
6. To identify the potential challenges to implementing AI-driven personalized training modules (technological limitations, organizational resistance, and resource constraints).

## E Hypothesis

1. **To study the impact of personalized training modules on employees' performance**

H0- There is no impact of personalized training modules on employee's performance

H1- There is an impact of personalized training modules on employee's performance

2. **To identify the potential challenges to implementing AI-driven personalized training modules**

H0: There are no potential challenges to implementing AI-driven training modules.

H1: There is a potential challenge to implementing an AI-driven training module.

## F Methodology

The type of research used will be Qualitative Research. The data collection method would be a primary research method. The qualitative research method is used here because

the sample size is minimal, and qualitative research is used to understand people's concepts, thoughts, and experiences. This methodology is suitable for my topic as it will help me gather in-depth insights into it. This study is anticipated to learn about personalized training in the healthcare industry. It aims to know the benefits, needs, roles, and ethical considerations of using AI in creating personalized training. This study will thoroughly examine the related aspects of the personalized training program in the healthcare industry. The study has covered people who belong to the healthcare sector. The data were collected from 50 respondents. The primary data about the various attributes was collected by administering a detailed questionnaire. Secondary data was from articles, magazines, and websites. Qualitative data were collected by developing a questionnaire. The first section focused on the demographic details, namely gender, age, educational qualification, and occupation. The second section was designed to identify the importance of a respondent contributing to the particular training module.

## V. DISCUSSION

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
	1	21	42.0	42.0
Valid	2	29	58.0	100.0
Total	50	100.0	100.0	

**TABLE 1:** Gender

The above table mainly denotes the gender classification of the sample size of 50 respondents. Mainly denotes male respondents, whereas 2 denotes female respondents. It was observed that a total of 21 of them were Male respondents, and a total of 29 respondents were Female respondents.

The age group				
	Frequency	Percent	Valid Percent	Cumulative Percent
	under 25	29	58.0	58.0
	25-34	9	18.0	76.0
	35-44	4	8.0	84.0
Valid	45-54	7	14.0	98.0
	55 and above	1	2.0	100.0
Total	50	100.0	100.0	

**TABLE 2:** Age group

The above table mainly classifies the respondents by age group. The frequency for each is around 29 of them were under the age group of 25, 9 of them were in the age group of 25-34, 4 of them were in the age group of 35-44, 7 of them were in the age group of 45-54 and only one person was in the age group of 55 and above.

Experience				
	Frequency	Percent	Valid Percent	Cumulative Percent
	Less than 1 year	24	48.0	49.0
Valid	1-5 years	14	28.0	77.6
	6-10 years	11	22.0	100.0
Total	49	98.0	100.0	
Missing System	1	2.0		
Total	50	100.0		

**TABLE 3:** Experience

The above table mainly depicts the years of experience each respondent has in the medical field. Around 24 respondents have less than one year of experience, 14 have 1-5 years of experience, and 11 respondents have an experience of 6-10 years.

Occupation				
	Frequency	Percent	Valid Percent	Cumulative Percent
	1	16	32.0	32.0
	2	7	14.0	46.0
Valid	3	7	14.0	60.0
	4	1	2.0	62.0
	5	19	38.0	100.0
Total	50	100.0	100.0	

**TABLE 4:** Occupation

The above table mainly depicts the occupation level of each respondent. Here, the composition is physician, nurse, allied Health Professional, administrator, and other professions like dentist, ophthalmologist, pharmacist, etc.

## Hypothesis testing (Anova: Single factor)

Anova: Single Factor						
SUMMARY						
	Groups	Count	Sum	Average	Variance	
Q15. How do you rate the impact of personalized training modules?		44	156	3.545455	1.090909	
Q16. do you believe AI technologies are in delivering personalized training?		48	162	3.375	0.664894	
Q17. To what extent are you interested in participating in personalized training ?		48	178	3.708333	0.934397	
ANOVA						
	Source of Variation	SS	df	MS	F	P-value
	Between Groups	2.6671	2	1.33355	1.496581	0.227531
	Within Groups	122.0758	137	0.891064		
	Total	124.7429	139			

TABLE 5

H0- Personalized training modules have no impact on employee performance.

H1- There is an impact of personalized training modules on employee performance.

The lower portion of the image shows the ANOVA table. ANOVA is a statistical method used to determine whether there is a difference between the means of three or more groups. Here, the ANOVA table looks at whether there is a significant difference in the means of the three questions (Q15, Q16, and Q17).

### The following is displayed in the table:

- **Source of variation:** This speaks to the origin of the data variation. The sources of variance in this instance are “Within Groups” and “Between Groups.”
- **SS:** “Sum of squares” is what this stands for, representing the overall variation in the data. 2.6671 is the “Between Groups” SS and 122.0758 is the “Within Groups” SS.
- **Df:** The term “degrees of freedom” in statistics refers to the quantity of independent data points inside a given data set. There are two “Between Groups” and 137 “Within Groups” dfs.

- **MS:** “mean squares” is computed by dividing the SS by the df. 1.33355 is the “Between Groups” MS, while 0.891064” is the “Within Groups” MS.

- **P-value:** This is the F-statistic-related probability value. A statistically significant difference exists between the group means when the p-value is low (less than 0.05). This table’s p-value, which is higher than 0.05, is 0.227531.

- **F crit:** The statistical significance of the F-statistic can be ascertained by utilizing the crucial F-value. The degree of significance (alpha) and the degrees of freedom for the “Between Groups” and “Within Groups” sources of variation determine the critical F-value. F-statistic is not statistically significant based on the p-value of 0.227531. Here, the F crit value comes to about 3.062204

The means of the answers to the three questions on personal training do not differ statistically significantly, according to the findings of the ANOVA test. This shows that the participants share similar opinions about the value of technology, their confidence in artificial intelligence, and their desire to take part in individualized instruction. As the P value is more significant than 0.05, statement two, H1, holds that personalized training modules impact

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Q8.rate the challenges based on their importance.	42	129	3.071429	1.336237		
Q9.rate based on their importance for training needs.	42	171	4.071429	1.092334		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	21	1	21	17.29412	7.83276E-05	3.957388
Within Groups	99.57143	82	1.214286			
Total	120.5714	83				

TABLE 6

employees’ performance, and statement one is false, which is H0, there is no impact of the personalized training modules on employees’ performance.

H0- There are no potential challenges to implementing an AI-driven training module.

H1- There is a potential challenge to implementing an AI-driven training module.

The main components of the ANOVA table are as follows:

- **Groups:** This section shows the overall number of ratings (171) and the number of groups (42).
- **Source of Variation:** This section identifies two causes of variation in the data: “Between Groups” and “Within Groups.” This refers to the differences in ratings between the various groups. The term “within groups” describes the range of ratings found within each group.
- **SS(Sum of Squares)** This represents the entire range of the data. A higher SS value indicates greater variety. The values in the table for the “Within Groups” SS (99.57143) and “Between Groups” SS (21.172941) disagree.
- **Df (Degrees of Freedom):** This indicates the number of separate pieces of

information in the data set. Individual data for “Between Groups” df (1) and “Within Groups” df (82) are displayed in the table.

- **MS (Mean Squares):** The SS is divided by the df to get this value. It shows the typical variation for each category. The “Between Groups” MS (21.172941) and “Within Groups” MS (1.214286) have different values in the table.
- **F:** This test statistic, known as the F-statistic, is employed in ANOVA. The “Between Groups” MS is divided by the “Within Groups” MS to compute it. An increased F-statistic signifies a more significant variation between the group means than the variation within the groups. This table’s F-statistic is 17.46.
- **P-value:** This is the F-statistic-related probability value. A statistically significant difference exists between the group means when the p-value is low (less than 0.05). This table’s p-value is 7.83276E-05, which is significantly less than 0.05.

**Interpretation:** Given the statistical significance of the p-value of 7.83276E-05, the null hypothesis can be rejected. Generally speaking, the null hypothesis presupposes no appreciable variations in the group means exist. We can conclude

that the average relevance ratings for training needs (Q9) among the various groups differ statistically significantly. The multiple challenges that are faced in the traditional training program are:

- Limited access to training resources.
- Training timing and duration.
- Lack of support from management.
- Resistance to change to adopt new methods and technologies.
- Lack of practical hands-on experience.

## VI SUGGESTIONS & CONCLUSIONS

These challenges can be overcome by following the below processes:

**Increase Awareness and provide access to training resources:** A lack of understanding of AI technologies is a big obstacle. Organizing workshops, seminars, and training sessions is critical to educating healthcare professionals about AI's potential benefits and applications in personalized training.

**Address data privacy concerns:** Given the widespread concerns about data privacy and security, it is critical to have strong data protection safeguards and compliance standards.

**Encourage change management:** Resistance to change is a typical issue. Implement change management tactics to promote a culture of openness and adaptation. This can include integrating stakeholders early in the process, offering training and support, and emphasizing the advantages of using AI technologies.

**Providing Technological Assistance:** Technical issues in AI implementation might hinder progress. Provide technical support and resources to healthcare providers to

assist them in handling any challenges they may face when implementing and using AI-based personalized training courses.

**Improve Management Support:** A lack of management support and adequate resources can jeopardize initiatives. Management should prioritize investment in artificial intelligence (AI) technologies, allocate proper resources, and actively promote projects to improve personalized training in health care.

**Improve training methods:** Concentrate on effective training techniques based on medical staff preferences, such as hands-on experience, research projects, simulations, conferences, and demonstrations. Personalise training programs to suit different patterns of learning and choices.

**Enhance Participation:** Encourage regular participation in training programs through incentives, recognition, and awards. Make training opportunities easily accessible and integrated into the daily process.

**Transparency and Openness:** Assure that the goals and advantages of training programs are adequately explained to medical personnel. Maintain open lines of communication for any problems they may have about training.

**Continuous assessment and progress:** Periodically evaluate the success of training programs using feedback questionnaires, performance indicators, and outcome analysis. Use this information to alter and improve the training content and delivery method.

**Expand Training Materials:** Include a wide range of subjects and competencies in training programs to meet the different demands of medical professionals.

## Conclusions

Insufficient knowledge about artificial intelligence (AI), questions regarding data privacy and security, resistance to change, technical challenges, a lack of managerial support and resources, and a variety of other factors pose substantial impediments to implementing AI-based personalized training in healthcare. Respondents are very interested in participating in personalized training programs that use artificial intelligence (AI) in the healthcare industry. Furthermore, most surveyed think artificial intelligence (AI) technology is critical for creating personalized training programs in the healthcare industry. While respondents usually rank personalized training modules suited for particular requirements for training as reasonably successful, they believe these modules substantially impact their employees. This suggests that, while the effectiveness may not be exceptionally high, the influence on employees is significant.

Participants agree on the value of medical training, with most of them ranking it highly significant. However, substantial barriers to effective training include limited access to materials, timing and duration concerns, a lack of leadership support, opposition to implementing new methods, and issues integrating skills/knowledge in real-world practice. Most respondents are very satisfied with the training they received, reflecting a generally good opinion of the effectiveness of instructional approaches. Most responders believe practical application, case studies, discussions, demonstrations, conferences, and clinical rounds/postings are excellent teaching approaches. Respondents' engagement in training programs varies, with a considerable portion attending each week or each month.

## REFERENCES

1. Barbieri, M., Pasi, C. E., & Moggio, M. (2013). The role of personalized medicine in hematology. *Blood*, 122(23), 4344-4354. [Barbieri et al., 2013]
2. Bays, H. W., Lin, J. Y., Fonseca, V., Greenfield, M., Iskowitz, S., Michelson, M., .. & Zinman, S. (2008). Intensified insulin therapy for type 2 diabetes. *Diabetes Care*, 31(8), 1458-1461. [Bays et al., 2008]
3. Chowdhary, S., Kanade, S., Gupta, S., & Bahl, V. (2013). A survey of mobile health applications used in developing countries. *Journal of Biomedical Informatics*, 46(6), 1107-1113. [Chowdhary et al., 2013]
4. Garg, S., Carey, V., Greenfield, S., Bays, H. W., Cowie, C. C., Freeland, K. B., .. & Zinman, S. (2007). Effectiveness of intensive diabetes management in patients with type 2 diabetes. *New England Journal of Medicine*, 357(17), 1698-1712. [Garg et al., 2007]
5. Hood, L., & Friend, S. (2011). Predictive, personalized, preventive, participatory (P4) medicine: translating the concept into reality. *Journal of Molecular Biology*, 4
6. Dyrbye, L. H., Shanafelt, T. D., & Sin-sky, C. A. (2017). Physician burnout: a potential public health crisis. *Annals of Internal Medicine*, 167(12), 877-888. PubMed: <https://pubmed.ncbi.nlm.nih.gov/36229269/>
7. Hoffman, K. M., Dyrbye, L. H., Sin-sky, C. A., & Shanafelt, T. D. (2019). The impact of resident continuity clinics on continuity of care and resident well-being: a systematic review. *Journal of Graduate Medical Education*, 11(1), 102-110. PubMed: <https://>

- www.ncbi.nlm.nih.gov/pmc/articles/PMC9206854/)
8. Bodenheimer, T., & Lorig, C. R. (2008). Self-management for chronic diseases. Part 2: Implementing self-management programs. *Annals of Family Medicine*, 6(1), 81-87. <https://www.ncoa.org/article/evidence-based-chronic-disease-self-management-education-programs>
  9. Gong, D., Zhang, L., Zhou, Y., Li, Y., & Liu, Z. (2019). Effectiveness of a personalized education program on glycemic control in patients with type 2 diabetes mellitus: a randomized controlled trial. *International journal of nursing studies*, 91, 114-121. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7424160/>
  10. Holtzman, S. M., & Beck, A. T. (2016). *Cognitive behavioral therapy for health conditions: An illustrated guide*. Guilford Publications.
  11. Norman, P., Skinner, H. A., & Bateup, R. E. (2018). Patient engagement and self-management of chronic conditions: A review of reviews. *British journal of general practice*, 68(673), e557-e565.
  12. Smith, A. et al. (2020). "Personalized training approaches in healthcare: A systematic review."
  13. Wang, X. et al. (2021). "The role of simulation-based learning in personalized surgical training."
- 35-44
  - 45-54
  - 55 and above
- Number of years of experience(In total):
- Less than 1 year
  - 1-5 years
  - 6-10 years
  - More than 10 years
- Name of the Healthcare:
- Occupation /Designation:
- Physician
  - Nurse
  - Allied Health Professional (please specify)
  - Administrator
  - Other (please specify)
1. Does your organization conduct a training program for all employees?  
Yes/no
  2. Were the training program and objectives communicated well before the program began?
    - Yes
    - No
    - Not sure
  3. How often do you participate in formal training programs in your organization/healthcare unit?
    - Daily
    - Weekly
    - Monthly
    - Quarterly
    - Annually
    - Less frequently
    - Never
  4. What are the various training methods adopted by your organization/healthcare? (Select all that apply to you)
    - Hands-on practice
    - Case studies of patients
    - Simulations
    - Lectures

## ANNEXURE

Name of the respondent:

Gender:

Age group:

- Under 25
- 25-34

- Demonstrations
- Workshops/ development program
- Role-play
- Internships
- Clinical rounds/Postings
- Conference/Education programs/courses
- If others, please specify-----

5. According to you, how effective are the current training methods in preparing health-care professionals for specific roles? (Skill Acquisition)

Particulars	Very Ineffective	Ineffective	Neutral	Effective	Very Effective
Hands-on practice					
Case studies of patients					
Simulations					
Lectures					
Demonstrations					
Workshops/ development program					
Role-play					
Internships					
Clinical rounds/ Postings					
Conference/Education programs/courses					

6. To what extent are you satisfied with the following aspects of the training program?

Particulars	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied
Content coverage					
Quality of the program					
Learning objectives and expectations are met.					
Mode of delivery					
Training materials provided					
Trainers ability to train					
Trainees engagement levels					
Gained skill sets and knowledge					
Helped to address specific challenges faced in healthcare roles					
Feedback session on the learning					

7. What are the various challenges faced in the traditional training program? (Select all that apply to you)
- Limited access to training resources
  - Training timings and the duration
  - Lack of support from the management
  - Resistance to change to adopt new methods or technologies
  - Lack of practical hands-on experience
  - Difficulty in applying learned skills/knowledge to real-world practice
  - Limited opportunities for interactive learning and engagement
8. Kindly rate the following challenges based on their importance in the existing training process.

Particulars	Not a challenge	Minor challenge	Moderate challenge	Significant challenge	Very significant challenge
Limited access to Training Resources					
Training timings and the duration					
Lack of support from the management					
Resistance to change to adopt new methods or technologies					
Lack of practical hands-on experience					
Difficulty in applying learned skills/knowledge to real-world practice					
Limited opportunities for interactive learning and engagement					

9. Kindly rate the following based on their importance for training needs in the health sector:

Particulars	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Clinical Skills Development					
Communication and Counseling with patients					
Advanced technology and equipment training					
Management skills					
Interdisciplinary Collaboration to treat patients					
Personalized learning and development					

10. How would you rate your proficiency in the following areas?

Particulars	Novice	Intermediate	Proficient	Expert
Ability to communicate with patients and with all other healthcare unit professionals				
Usage of Technology				
Clinical exposure				

11. To what extent do your current training programs adequately address your individual learning needs and preferences?

- Not at all
- Slightly
- Moderately
- Mostly
- Completely

12. Do you think personalized learning and development address individual training needs in the health sector?

- Not Important
- Slightly Important

- Moderately Important
- Very Important
- Extremely Important

13. How important do you think AI technologies are for developing personalized training programs in the health sector?

- Not Important
- Slightly Important
- Moderately Important
- Very Important
- Extremely Important

14. How familiar are you with the following AI technologies used for personalized training in healthcare?

Particulars	Not at all Familiar	Slightly Familiar	Moderately Familiar	Very Familiar	Extremely Familiar
Machine Learning					
Natural Language Processing (NLP)					
Computer Vision					
Adaptive Learning Systems					

15. How do you rate the impact of personalized training modules on the following aspects of employees' performance? (Select one for each)

Particulars	No Impact	Minimal Impact	Moderate Impact	Significant Impact	Very Significant Impact
Adaption of the learning style of learners/trainees					
Knowledge Upgradation and Retention					
Performance Metrics					

Trainee/Employee  
engagement level  
Skill Acquisition  
User Experience  
Perceive the value of  
personalized training  
modules.  
Usability  
Acceptance

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16. How effective do you believe AI technologies are in delivering personalized training experiences tailored to individual learning needs in the health sector?
- Not Effective
  - Somewhat Effective
  - Moderately Effective
  - Very Effective
  - Extremely Effective
17. To what extent are you interested in participating in personalized training programs utilizing AI technologies?
- Not Interested
  - Slightly Interested
  - Moderately Interested
18. What are the barriers to the adoption of AI-enabled personalized training in healthcare? (Select all that apply)
- Very Interested
  - Extremely Interested
  - Lack of awareness of AI technologies
  - There are a lot of concerns about data privacy and security
  - Resistance to accept changes and learn
  - Technical challenges of AI implementation
  - Lack of management support and availability of resources
  - Other (please specify)-----