

ICT Based Innovative Learning Approach and Awareness in MNC's Towards Various Programs like Woman Empowerment, Diversity, Equity, and Inclusion (DEI), LGBTQAI+, Veterans and Others

Rohan Shivendra Singh^a, Tanushri Mukherjee^b, Pallavi Mishra^c

^aResearch Scholar, Amity School of Communication, Amity University Rajasthan, Jaipur, India

^bAssociate Professor, Amity School of Communication, Amity University Rajasthan, Jaipur, India

^cAssociate Professor, Amity School of Communication, Amity University Rajasthan, Jaipur, India

ABSTRACT

The enormously increasing global business environment leads to MNCs giving importance to diversity, equity and adding DEI as an important component for a productive and innovative workforce. The introduction of ICT into corporate learning opened new hopes for raising awareness and fostering inclusive practices. The study puts forth an efficient method to study how ICT supports DEI initiatives in MNCs. The study explores how ICT based learning approaches lead to enhancing initiatives such as women empowerment, LGBTQAI+ inclusion, and broader DEI goals within MNCs. Implementation of e-learning platforms, mobile applications, and digital knowledge sharing tools will increase scalability across diverse teams. The paper studies the strategies implemented by leading MNCs, the effect of ICT tools, and challenges faced at various levels. Inclusion of ICT tools with inclusive learning content influences organisational culture, employee awareness and social accountability. The study strongly recommends strengthening ICT-enabled DEI learning practices to support long-term, sustainable inclusion in the workplace.

Keywords: E-Learning, ICT, Integration, Inclusion, LGBTQAI+, MNC, Veterans, Women Empowerment, DEI.

How to cite this article: Singh RS, Mukherjee T, Mishra P. ICT Based Innovative Learning Approach and Awareness in MNC's Towards Various Programs like Woman Empowerment, Diversity, Equity, and Inclusion (DEI), LGBTQAI+, Veterans and Others. *Int J Drug Deliv Technol.* 2026;16(48s): 305-330. DOI: 10.25258/ijddt.16.48s.31

Source of support: Nil.

Conflict of interest: None.

Introduction

Multinational organizations (MNCs), with their different workforces and broad reach, are in a position to encourage initiatives that support “Women Empowerment”, “Diversity, Equity, and Inclusion” (DEI), LGBTQAI+ rights, and Veteran reintegration. The introduction of ICT has great impact on how knowledge is delivered and shared within organizations. ICT-based learning platforms, including e-learning modules, mobile training applications, virtual classrooms, and AI-driven content systems, provide scalable and adaptable solutions for fostering awareness and behavioral change among employees.

Organizations are now looking into ICT as practice into their learning and development frameworks. For example, training modules on unconscious bias, gender sensitivity, and mental health awareness can be delivered interactively through simulations, quizzes, and scenario-based learning, making them more engaging and impactful.

The study aims to create more understanding about how multinational corporations are leveraging ICT-based learning

approaches to promote awareness and engagement with socially critical initiatives, including women empowerment, DEI, LGBTQAI+ inclusion, and veteran support.

3. Review of the Literature

Organization model is totally changed by introduction of ICT tools towards training and engagement. It helps in promoting organization culture as well as educate the workforce. The survey gives thematic study of corporate research pertains to ICT's introduction towards different programs such as women empowerment, LGBTQAI+ inclusion, and veteran integration in MNCs.

Blended Learning Culture: The rise of educational technology, information and communication technologies (ICT), and artificial intelligence has significantly reshaped modern teaching and learning environments. These technological developments have driven institutions toward digital solutions, including video conferencing platforms like MS Teams, Zoom, and Google Meet, alongside cloud-based educational resources. Research indicates that incorporating ICT and multimedia resources serves as a critical catalyst for

lifelong learning, supporting ongoing growth in both professional careers and academic pursuits (N Mahanta et al., 2022).

ICT in Organizational Learning: In the corporate environment, information and communication technologies have gained recognition as essential tools for enabling learning experiences that are adaptable, readily available, and capable of expanding across entire organizations. Technologies including learning management platforms, smartphone-based learning applications, and internet-hosted training systems empower companies to distribute educational materials to employees regardless of their physical location (Al-Fraihat et al., 2019). According to El Kadiri et al. (2020), e-learning has undergone significant transformation, developing into adaptive, individualized approaches such as smartphone-enabled learning and virtual/augmented reality experiences, which facilitate hybrid learning models, anywhere-anytime access, and collaborative knowledge sharing within corporate settings (Abdullah & Rahman, 2020).

Promoting Diversity and Inclusion through ICT: Organizations have begun to use ICT-based solutions specifically focusing at promoting inclusivity. Interactive modules, video case studies, and e-learning simulations are commonly utilized to sensitize employees on various problems related to unconscious bias, cultural competence, and respectful communication. While fewer studies focus on DEI specifically, ICT-enabled e-learning modules and simulations are cited in broader organizational learning literature (e.g., El Kadiri et al. 2020) for their potential to offer consistent, scalable training experiences (Abdullah & Rahman, 2020).

Empowering Women through Digital Learning Platforms: Digital mentorship programs, online leadership training, and mobile-based learning for women in remote locations have made impact in closing gender-based skill gaps. Lalrinsangi & Kharbiryumbai (2024) review how ICT—particularly digital education platforms—helps empower women by reducing educational barriers and enabling entrepreneurship and political engagement (NCERT, 2023). Singh & Mathur (2021) further investigate ICT's role in

enhancing women's socio-economic opportunities across education, governance, health, and employment in India (Singh & Gupta, 2021). Pal & De' (2021) offer a critical lens via their ICT4D gender framework, highlighting that poorly designed ICT initiatives can exacerbate inequality or expose women to risks (Sambasivan & Das, 2021).

Enhancing LGBTQAI+ Inclusion: The inclusion of LGBTQAI+ brought a maximum difference workplace. The impact of ICT-based DEI training is greatly increased when supported by inclusive policies, leadership commitment, and an open organizational culture that encourages dialogue and feedback.

Challenges Highlighted in the Literature: The majority of DEI-focused ICT implementations are kept focus on large enterprises, keeping less interest on small and medium business. Secondly, existing evaluation do not fully capture behavioral change or long-term cultural impact. Thirdly, while the literature praises the potential of emerging technologies like AI and VR in DEI training, but lacking in real world applications.

4. Research Gap

In spite of Implementation of ICT in organizational learning and development, there exists a lot of deficiency in understanding how exactly these technologies support the deeper objectives of inclusion and diversity in multinational organizations (MNCs). Firstly, most studies focus on capabilities or DEI strategies independently, with lack of examination of how the two intersect in real-world organizational settings. Secondly, most of the research concentrated on big enterprises neglecting medium and small enterprises. The adaptability of content, the accessibility of platforms in low-connectivity regions, must and should explore more in depth. Thirdly, evaluation metrics for ICT-based inclusive learning programs are often limited to completion rates and do not accurately capture the long-term transformation in attitudes or workplace behavior. Addressing Organizations gaps is very important to resurrect through digital learning. How best MNCs are utilizing the ICT tools is studied in this work.

5. Research Framework

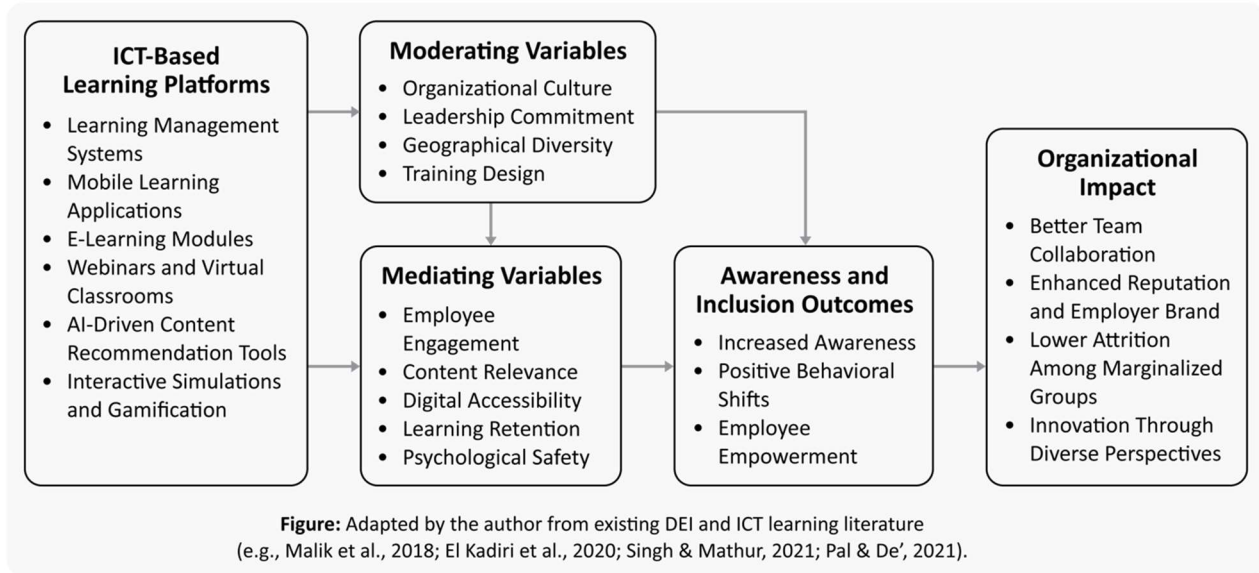


Fig. 1. Research Framework

The research framework infers the importance of ICT based learning platforms in MNCs. Digital tools such as LMS, mobile applications are enablers of delivering the knowledge at the beginning later on it is scalable and accessible at diverse geographical locations. The framework mentions two ways: one is mediating variables and another is moderating variables. Mediating variables represent the actions through which ICT tools shape employee learning experiences whereas Moderating variables acquires the dynamic interaction between technology and human behavior in advancing inclusive practices.

Main objective of this proposed work is to make ICT based learning platforms to increases the awareness and training on equity and inclusion programs in MNCs. Second to analyze the effect of DL tools on employee engagement, behavioral change, giving importance to women empowerment, LGBTQAI+ inclusion, and veteran reintegration. Evaluate the impact of ICT enabled inclusion programs such as leadership support and cultural diversity also to identify key challenges and barriers faced by MNCs in implementing ICT-based initiatives. We have proposed a solution for increasing ICT-driven learning systems to build sustainable, inclusive, and equitable workplace environments.

6. Objectives of the Study

6.1 Objectives

Q1: To develop an understanding about how ICT based learning platforms increases the awareness and training on equity and inclusion programs in MNCs.

Q2: To study the effect of DL tools on employee engagement, behavioral change, giving importance to women empowerment, LGBTQAI+ inclusion, and veteran reintegration.

Q3: To study various factors such as leadership support and cultural diversity through ICT enabled inclusion programs

Q4: To identify key challenges and barriers faced by MNCs in implementing ICT-based inclusion initiatives.

Q5: To propose suggestions for increasing ICT-driven learning systems to build sustainable, inclusive, and equitable workplace environments.

7. Hypothesis Framework

The following hypotheses are formulated how effective ICT-based learning approaches are on women empowerment, DEI, LGBTQAI+ inclusion, and veteran support in multinational organizations:

7.1 Hypothesis

H1: Positive relationship between the use of ICT-based learning tools and employee awareness of diversity and inclusion problems in MNCs.

H2: ICT-based training programs effectively increases employee participation in organizational initiatives such as women empowerment, LGBTQAI+ inclusion, and veteran support.

H3: The ICT-based learning tools bring vast changes in awareness and behavioral change among employees.

H4: Limited digital access, language differences, and content irrelevance greatly affects the success of ICT-enabled inclusion programs in remote teams.

8. Methodology

This chapter describes the research methodology employed to investigate the contemporary application of information and communication technologies (ICT) in fostering diversity, equity, and inclusion (DEI) within organizational learning, training, and professional development contexts. The research utilizes a descriptive methodology to document current organizational practices, complemented by an exploratory approach aimed at identifying evolving patterns, implementation challenges, and potential avenues for digitally-enabled inclusive learning across varied workplace settings.

The study population comprises organizational personnel from critical functional areas: Human Resources departments, Learning & Development teams, DEI leadership, and executive management. Participants were selected through purposive sampling techniques to ensure inclusion of individuals with direct involvement in DEI programming and corporate learning strategies. The research involved 120 participants, a sample size determined to provide adequate representation across organizational hierarchies while maintaining feasibility for comprehensive data gathering and rigorous analysis.

The Methodology adopted effectiveness of ICT-based learning approaches is as shown in Fig.2.

To establish measurement quality and consistency, preliminary testing was undertaken with a subset of 10–15 individuals representing characteristics similar to the main study population. This initial phase served to identify potential issues with question clarity and verify that survey items accurately addressed the research aims. Insights gathered from this preliminary testing informed revisions to the survey instrument.

Information was obtained through dual channels: primary and secondary data sources. Primary information came from standardized questionnaires and structured interview protocols, providing systematic comparability across respondents. The data collection tool incorporated both fixed-response items and narrative questions, allowing for numerical analysis alongside contextual understanding. Statistical methods—both descriptive and inferential—were applied to quantitative data, whereas narrative responses underwent thematic coding to extract recurring concepts and interpretations.

Research ethics guided all phases of the investigation, encompassing voluntary participation procedures, participant anonymity, data confidentiality measures, and adherence to principles of transparent and accurate reporting. The research parameters center predominantly on large-scale international organizations, with findings considered within the context of inherent constraints associated with participant self-disclosure methods.

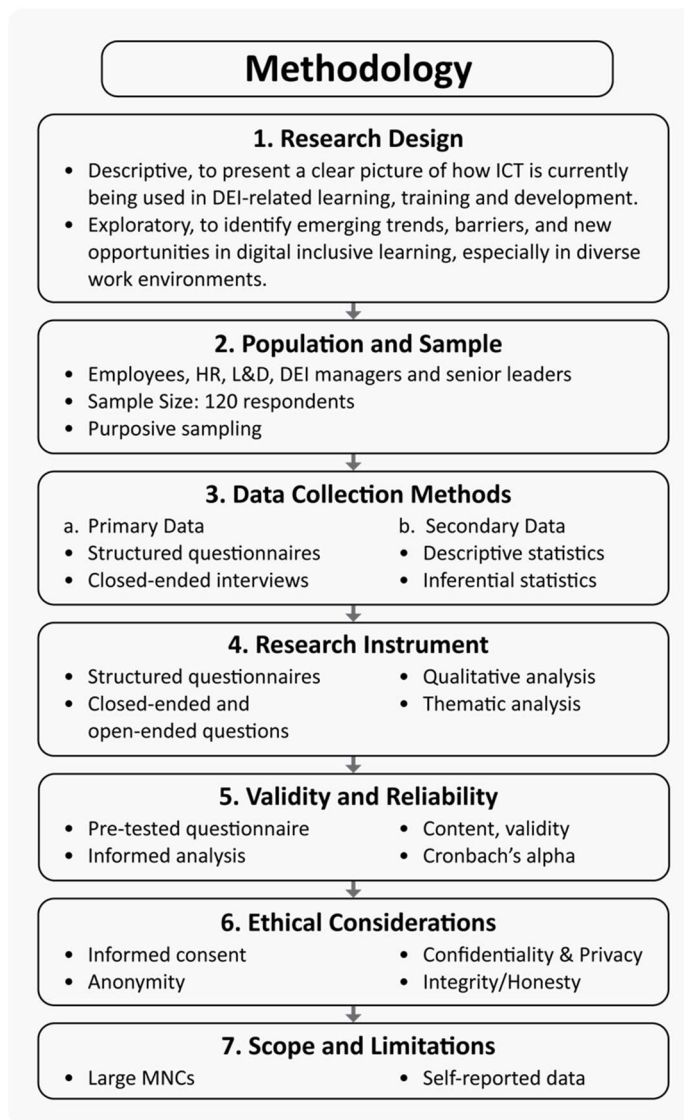


Fig. 2. Methodology

Population and Sample

The research involved 120 participants. This number was considered more essential to ensure meaningful representation across different organizational roles while remaining manageable for in-depth data collection and analysis.

Validity and Reliability

Pre-testing involved 15–20 participants with profiles consistent with the target population. The purpose of this pre-test was to check problems related to appropriateness of wording and confirm the alignment of questions with the study objectives. Feedback obtained during the pilot helped refine the questionnaire.

Sample and Sampling procedure - Evaluation Criteria for the study

Adoption of ICT-Based Learning Tools

- Extent of implementation of digital platforms (e-learning tools, LMS, virtual classrooms)
- Frequency and effectiveness of usage in employee training or educational outreach
- Integration of emerging technologies like AI, VR, AR for inclusive learning

Employee Awareness of Social Initiatives

- Awareness levels regarding key initiatives: Women Empowerment, DEI, LGBTQAI+, Veterans
- Internal communication strategies employed by the organization
- Role of training, newsletters, webinars in promoting awareness

Perceived Effectiveness of Inclusion Programs

- Employee feedback on the effectiveness of DEI and inclusive learning programs
- Case studies or internal reports on improved inclusion outcomes
- Measurable impacts (e.g., promotion rates, retention, engagement surveys)

Policy Framework and Governance

- Existence and enforcement of policies related to inclusive education and training
- Accessibility of learning resources to all employees irrespective of gender or orientation
- Governance structure supporting equity and inclusive learning development

Cultural Integration of ICT and Inclusivity

- How organizational culture supports both technological adaptation and social equity
- Leadership role in promoting digital and social transformation
- Cross-cultural challenges in multinational contexts

Training Participation and Inclusivity Metrics

- Participation rates in ICT-based programs disaggregated by gender, ethnicity, veteran status, etc.

- Inclusiveness of curriculum content
- Mechanisms to receive feedback from minority or underrepresented groups

Innovation in Learning Design

- Customization of content for diverse employee needs
- Use of storytelling, gamification, and real-life scenarios for social awareness
- Efforts toward continuous improvement and co-creation of learning modules

Barriers and Challenges

- Identification of barriers in adopting ICT-based inclusive learning (technical, cultural, social)
- Employee perspectives on existing gaps
- Resource allocation issues and managerial bottlenecks

Sustainability and Long-term Impact

- Sustainability of ICT initiatives in terms of scalability and adaptability
- Long-term organizational impact on diversity, employee satisfaction, and innovation
- Alignment with global goals (e.g., UN SDGs)

Benchmarking and Best Practices

- Comparison with industry standards or global benchmarks
- Identification of leading practices across different MNCs
- Lessons learned and scope for replication.

9. Data Analysis & Interpretation

Section A: General Information

9.1 Gender:

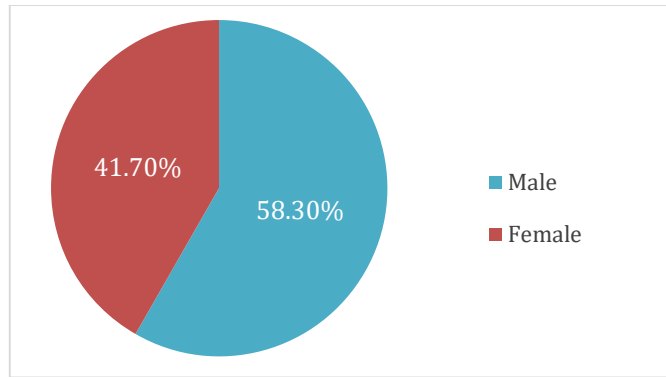


Fig. 3. Gender Composition

Table 1. Gender Composition

Gender	Count	Percent
Male	70	58.3
Female	50	41.7
Total	120	100.0

Findings & Analysis:

Out of 120 employees, 70 (58.3%) are Male and 50 (41.7%) are Female. The chart shows that the workforce is male dominated, though females also represent a significant proportion. This indicates a reasonably balanced gender representation, but with scope for improving female participation to achieve greater equality.

9.2 Age Group:

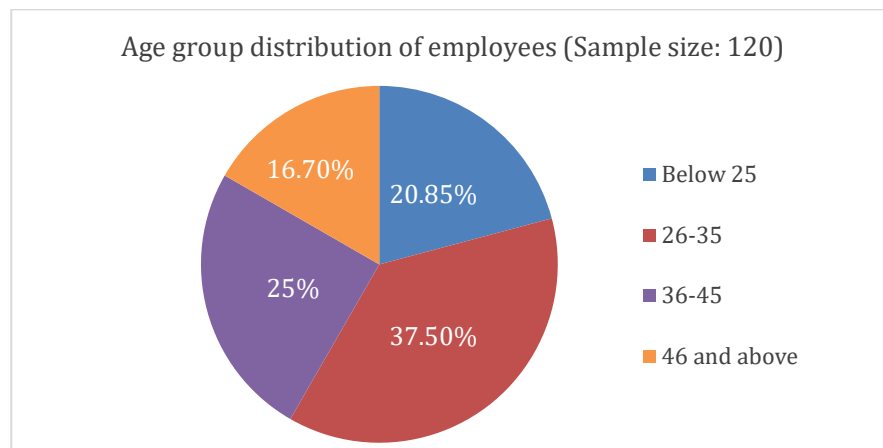


Fig. 4. Age Group Distribution

Table 2. Age Group Distribution

Age Group	Count	Percent
26–35 years	45	37.5
36–45 years	30	25.0
Below 25 years	25	20.8
46 and above	20	16.7
Total	120	100.0

Findings & Analysis:

The above table says that the workforce is predominantly young and mid-career professionals, blended with good presence of experienced staff, showing fewer senior employees nearing retirement.

9.3 Department:

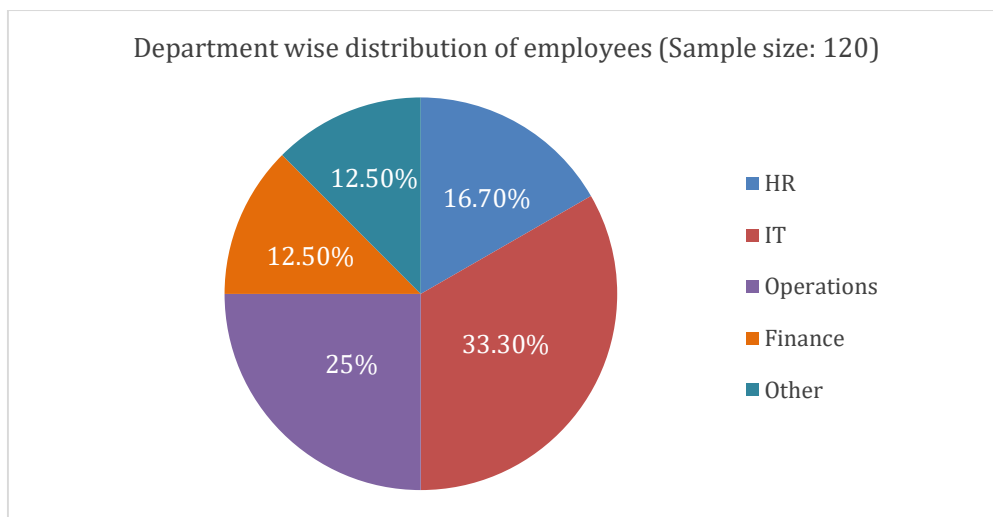


Fig. 5. Department wise Distribution

Table 3. Department wise Distribution

Department	Count	Percent
IT Department	40	33.3
Operations Department	30	25.0
HR Department	20	16.7
Finance Department	15	12.5
Other departments	15	12.5
Total	120	100.0

Findings & Analysis:

The table above illustrates the organizational structure of departments within the company.

9.4 Total work experience:

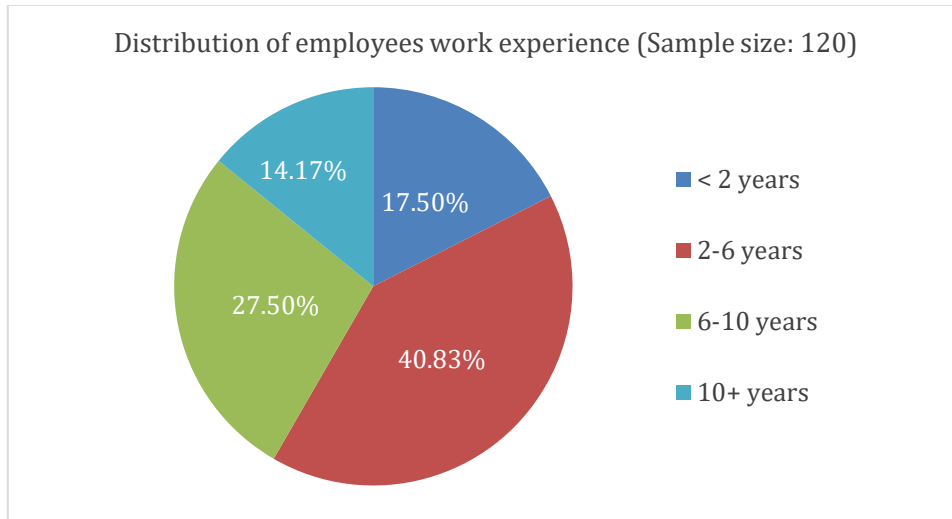


Fig. 6. Experience Level Breakdown

Table 4. Experience Level Breakdown

Experience level	Count	Percent
2–6 years	49	40.83
6–10 years	33	27.50
< 2 years	21	17.50
10+ years	17	14.17
Total	120	100.0

Findings & Analysis:

The above table shows the experience level breakdown which impacts the development of the company on a vast scale.

9.5 Have you participated in any ICT-based training sessions related to inclusion or diversity in your organization?

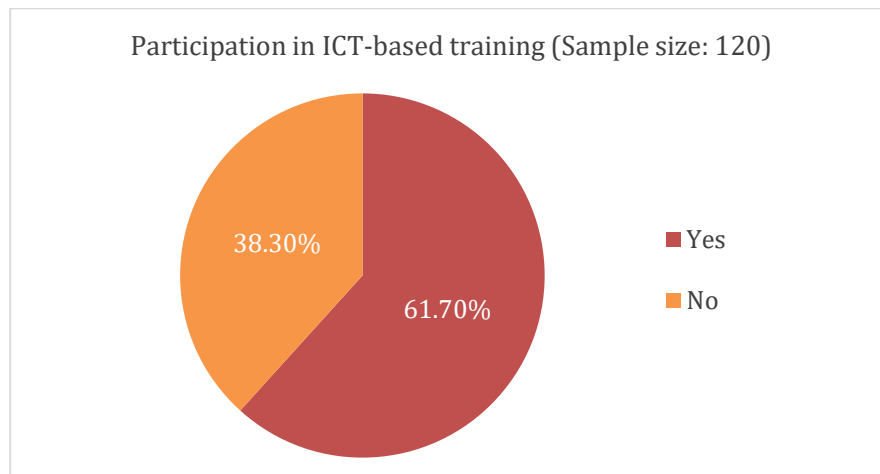


Fig. 7. Participation in ICT based Training

Table 5. Participation in ICT based Training

Participation	Count	Percent
Have participated	74	61.67
Have not participated	46	38.33
Total	120	100.0

Findings & Analysis:

Based on the sample data of 120 employees, **61.67%** (74 employees) have participated in ICT-based training sessions related to inclusion or diversity, while **38.33%** (46 employees) have not.

This indicates that many of the employees have taken part in such training, suggesting that the organization has had a high level of engagement with these training initiatives.

None of the hypotheses can be proved with the information provided.

Section B: Use of ICT-Based Learning Tools

9.6 Usage of ICT platforms for inclusion-related training.

Response to the Question “Which of the following ICT platforms have you used for inclusion-related training? (Select all that apply)

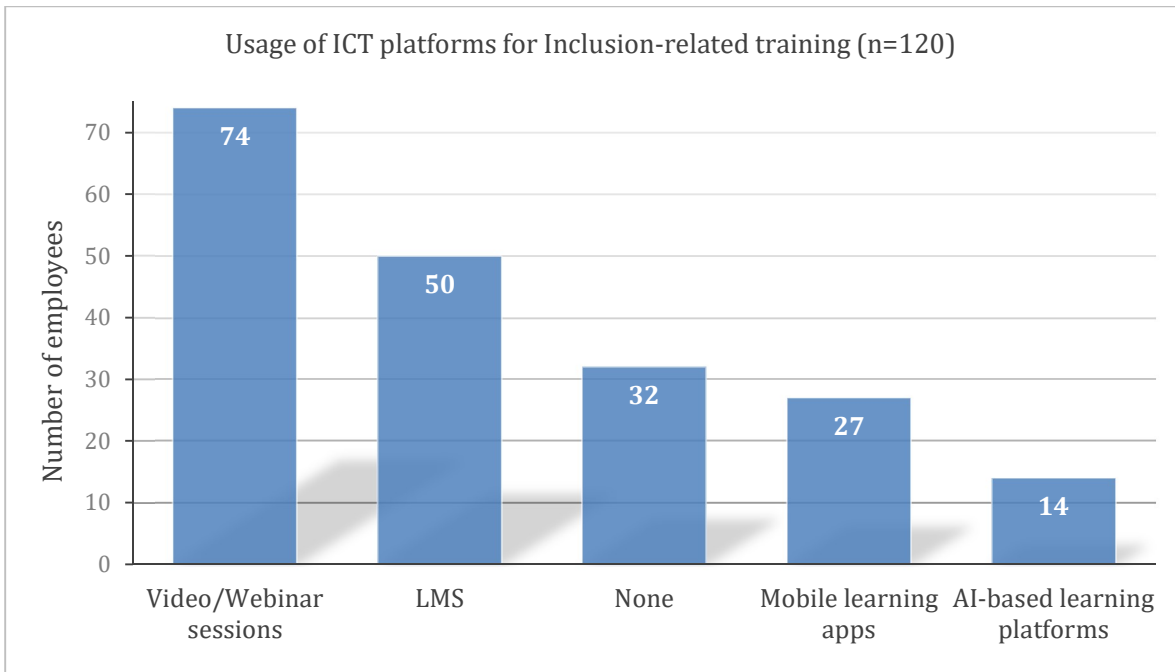


Fig. 8. ICT Platforms

Table 6. ICT Platforms

Platform	Count	Percent
Video/Webinar sessions	74	61.67
Learning Management System (LMS)	50	41.67
Not using any	32	26.67
Mobile learning apps	27	22.50
AI-based learning platforms	14	11.67

Findings & Analysis:

Based on the sample data of 120 employees, the most widely used platform for inclusion-related training is **Video/Webinar sessions**, with **61.67%** of employees reporting its use. This is significantly higher than other options, suggesting that live or pre-recorded video sessions are the preferred method for this type of training. The second most used platform is a **Learning Management System (LMS)**, used by **41.67%** of employees. This indicates a solid adoption of formal learning platforms. The number of employees who reported using **Mobile learning apps (22.50%)** and **AI-based learning platforms (11.67%)** is considerably lower. This suggests that these newer technologies are not yet as widely integrated into the training programs. Furthermore, **26.67% of the employees** reported not using any of the listed platforms for this training, which could indicate a need to expand the reach and variety of available training methods.

Identifies types and frequency of ICT tools — forms the independent variable for H1 (use of ICT) and H2 (ICT-based training participation). Hence H1 & H2 are proved.

9.7 Frequency of engaging in ICT-based training sessions.

Response to the Question “How frequently do you engage in ICT-based training sessions?”

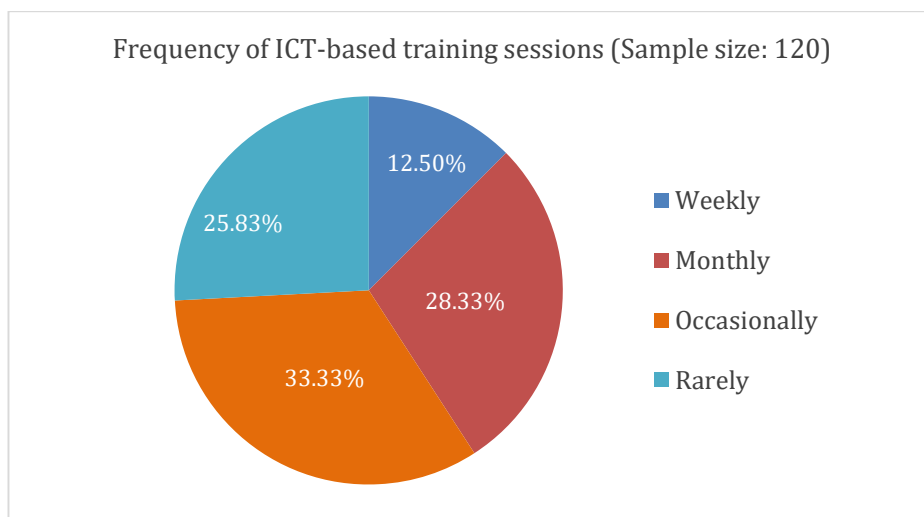


Fig. 9. Frequency Engagement in ICT Training Sessions

Table 7. Frequency Engagement in ICT Training Sessions

Frequency	Count	Percent
Weekly	15	12.50
Monthly	34	28.33
Occasionally	40	33.33
Rarely	31	25.83
Total	120	100.00

Findings & Analysis:

The above table shows that while many employees do participate in ICT-based training, it is not a routine, high-frequency activity for the majority of the workforce.

Measures exposure to ICT-based learning; higher frequency can lead to higher awareness (H1) and participation in inclusion programs (H2). Hence both H1 & H2 are proved.

9.8 What kind of diversified inclusion topics have you received training on? (Select all that apply)

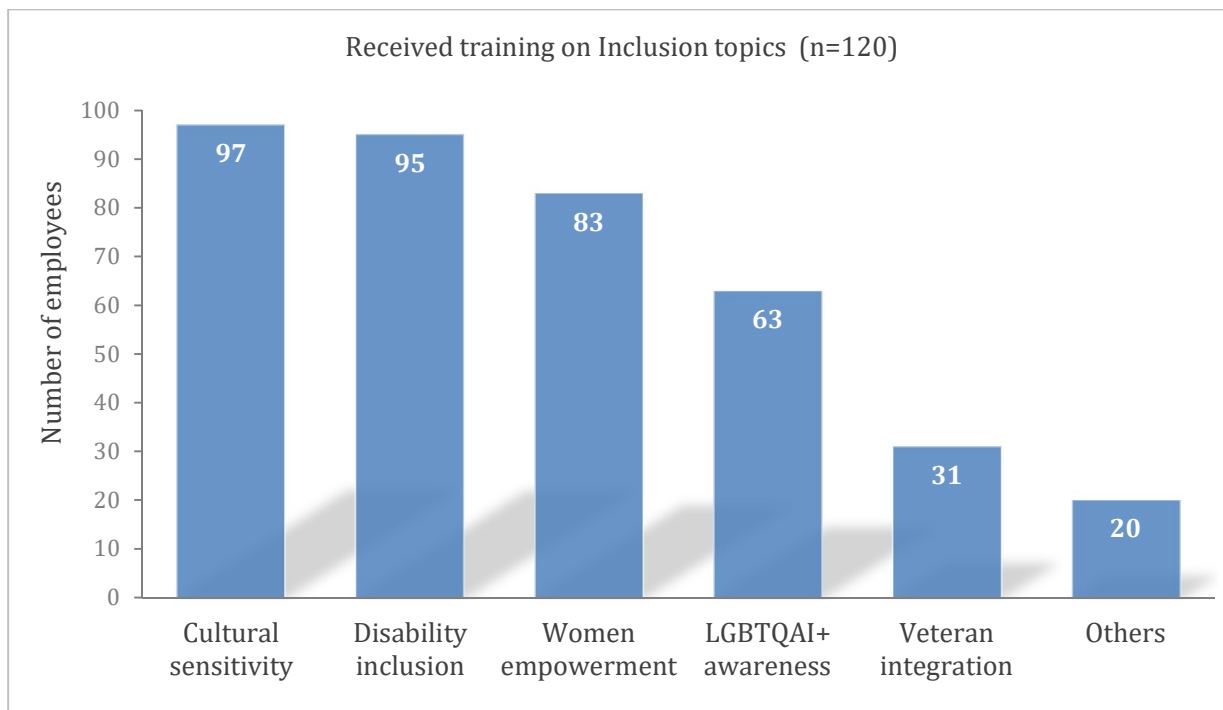


Fig. 10. Topics Inclusion

Table 8. Topics Inclusion

Topic	Count	Percent
Cultural sensitivity	97	80.83
Disability inclusion	95	79.17
Women empowerment	83	69.17
LGBTQIA+ awareness	63	52.50
Veteran integration	31	25.83
Other	20	16.67

Findings & Analysis:

Based on the sample data of 120 employees, the above table highlights the organization's strong focus on these foundational areas of inclusion. The topics with the lowest reported training rates are Veteran integration and Other, saying that these may be less common or more niche areas of the organization's training curriculum.

Directly supports H2 — checks whether ICT training covers key inclusion themes (women, LGBTQIA+, veterans). Hence H2 is proved.

Section C: Awareness and Impact

Please indicate your level of agreement with the following statements:
 (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

9.9 The ICT-based training programs in my organization effectively raise awareness about diversity and inclusion.

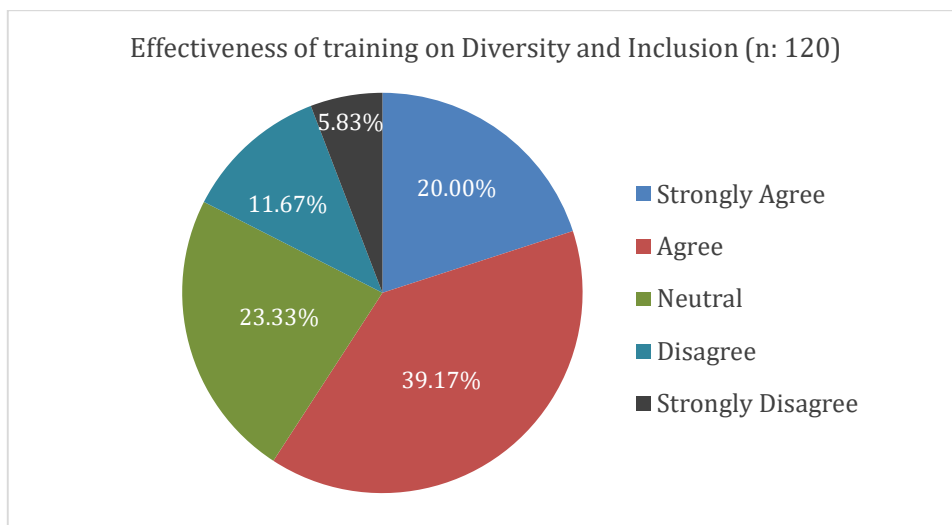


Fig. 11. Effectiveness

Table 9. Effectiveness

Agreement	Count	Percent
Strongly Disagree	7	5.83
Disagree	14	11.67
Neutral	28	23.33
Agree	47	39.17
Strongly Agree	24	20.0
Total	120	100.0

Findings & Analysis:

Based on the sample data of 120 employees, a strong majority of employees hold a positive view, with **39.17%** agreeing and **20.00%** strongly agreeing that the training is effective. The combined percentage of employees who agree or strongly agree is **59.17%**. The percentage of employees remain neutral is **23.33%**. Overall, the findings suggest that the training programs are generally successful in raising awareness, although there is room for improvement to convince the neutral and disagreeing segments of the workforce.

Measures awareness improvement, directly testing the positive relationship between ICT learning and awareness (H1). Hence H1 is proved.

9.10 I feel more confident addressing inclusion-related topics after completing online training.

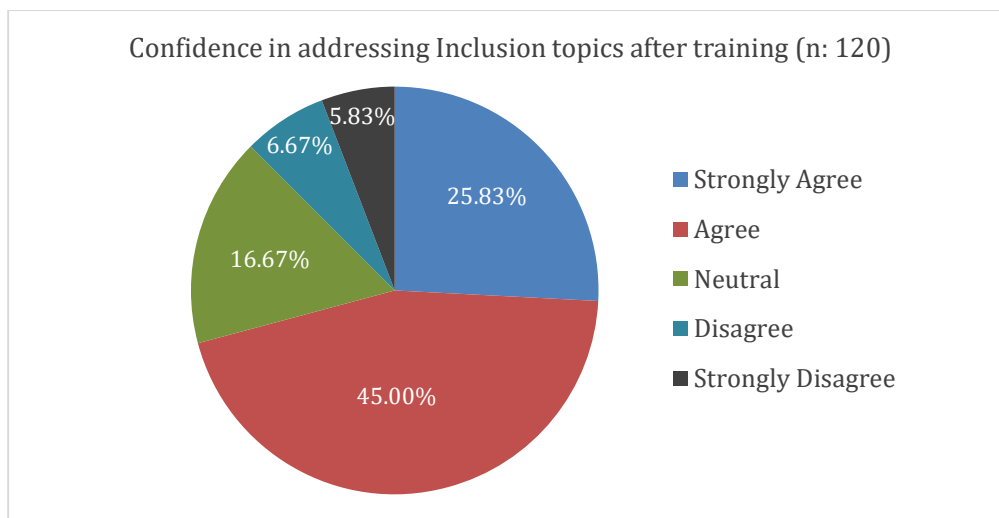


Fig. 12. Conference Addressing

Table 10. Conference Addressing

Confidence	Count	Percent
Strongly Disagree	7	5.83
Disagree	8	6.67
Neutral	20	16.67
Agree	54	45.0
Strongly Agree	31	25.83
Total	120	100.00

Findings & Analysis:

Data analysis indicates overwhelming support for the confidence-building impact of training, with positive responses totaling **70.83%**, comprising **45.00%** agreement and **25.83%** strong agreement. The neutral cohort (**16.67%**) may benefit from supplementary training interventions. Negative sentiment remained minimal, with combined disagreement rates of just **12.5%** (**6.67%** + **5.83%**), underscoring the program's widespread effectiveness.

It tells the personal impact of ICT-based learning, supporting awareness (H1) and empowerment/participation (H2). Hence H1 & H2 proved.

9.11 How training content is relevant and cultural sensitive?

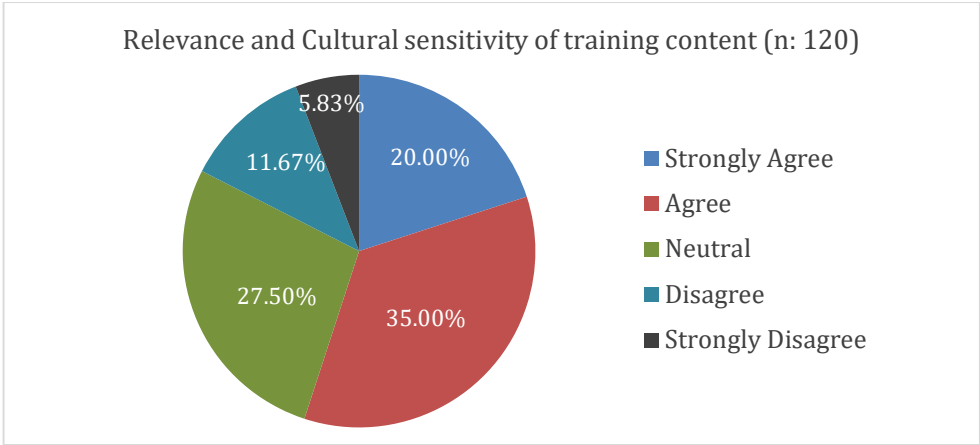


Fig. 13. Relevance and Cultural Sensitivity

Table 11. Relevance and Cultural Sensitivity

Statement	Count	Percent
Strongly Disagree	7	5.83
Disagree	14	11.67
Neutral	33	27.50
Agree	42	35.0
Strongly Agree	24	20.0
Total	120	100.0

Findings & Analysis:

The above table strongly agreeing that the training content is relevant and culturally sensitive and also mentions the improvements needed in the quality of the training.

It studies about content relevance — one of the barriers mentioned in H4. Hence H4 is proved.

9.12 Whether the ICT platforms are user-friendly as well as easily accessible?

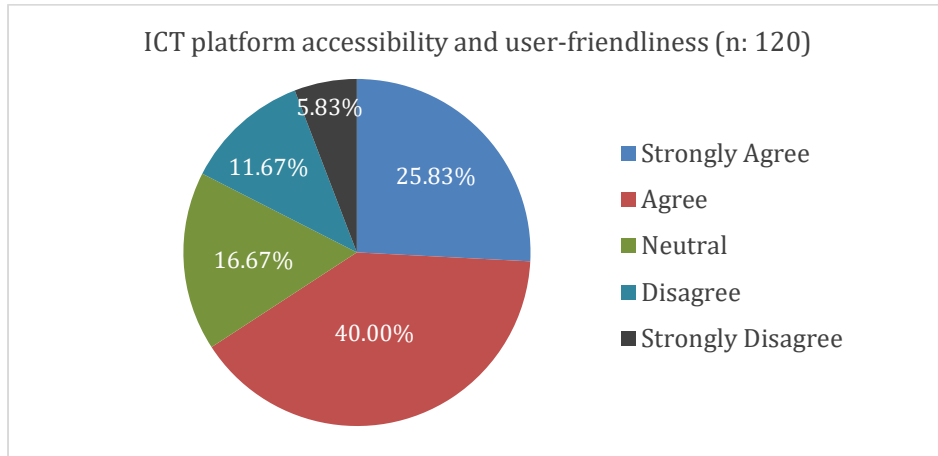


Fig. 14. ICT Platform Accessibility
Table 12. ICT Platform Accessibility

Statement	Count	Percent
Strongly Disagree	7	5.83
Disagree	14	11.67
Neutral	20	16.67
Agree	48	40.00
Strongly Agree	31	25.83
Total	120	100.00

Findings & Analysis:

The above table suggests that the organization's ICT platforms for training are generally well-received in terms of accessibility and user-friendliness, but there is still some room for improvement.

It generally relates to affecting the program success. Hence H4 is proved.

9.13 I apply what I have learned from these training sessions in my daily work interactions.

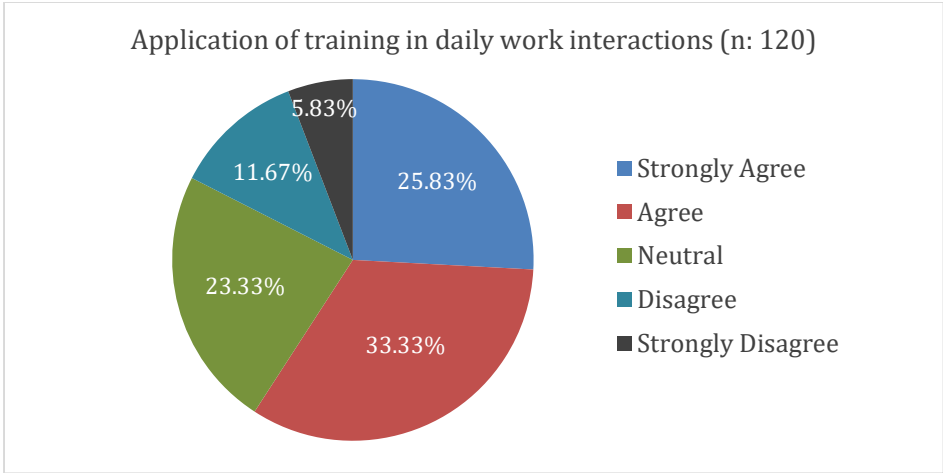


Fig. 15. Applications of Training

Table 13. Applications of Training

Confidence	Count	Percent
Strongly Disagree	7	5.83
Disagree	14	11.67
Neutral	28	23.33
Agree	40	33.33
Strongly Agree	31	25.83
Total	120	100.0

Findings & Analysis:

Results reveal mixed patterns in training application. Over half of respondents (**59.16%**) report incorporating learned skills into daily responsibilities—**33.33%** agree and **25.83%** strongly agree. However, 40.83% either remain uncertain (**23.33%**) or actively report challenges with practical implementation (**17.5%: 11.67% + 5.83%**). This distribution suggests that while training effectiveness is evident for the majority, a substantial proportion of employees would benefit from enhanced alignment between training content and job-specific requirements.

Reflects behavioral change — could be strengthened or moderated by leadership support (H3). Hence H3 is proved.

9.14 Under-represented group challenges can be better understand by the training.

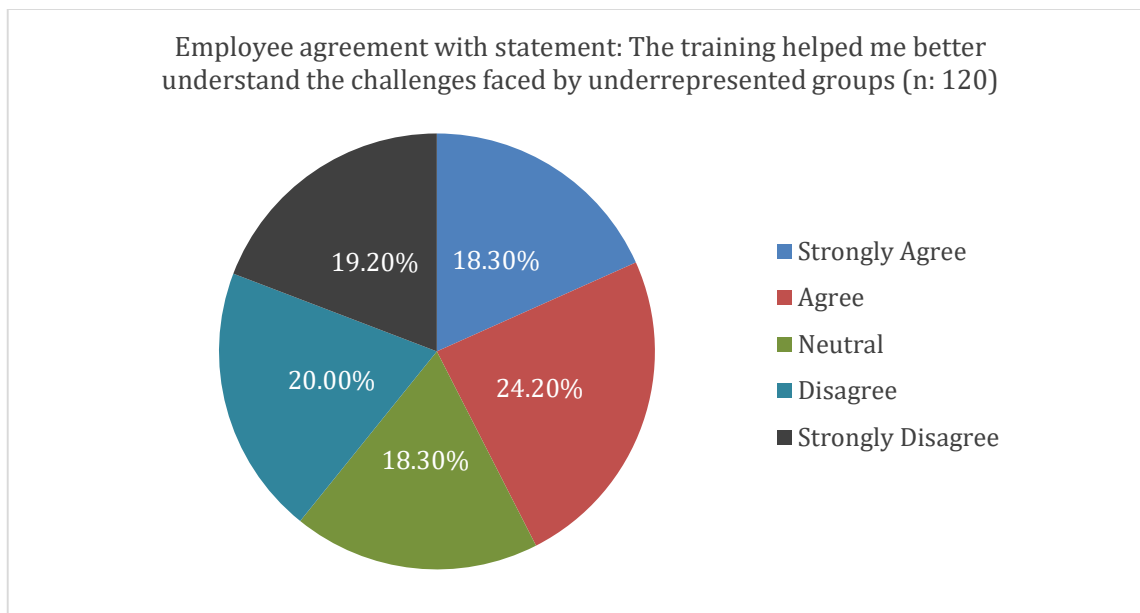


Fig. 16. Under-represented groups challenges

Table 14. Challenges faced by underrepresented groups

Confidence	Count	Percent
Strongly Disagree	23	19.2
Disagree	24	20.0
Neutral	22	18.3
Agree	29	24.2
Strongly Agree	22	18.3
Total	120	100.0

Findings & Analysis:

The above data infers maximum portion of employees thought of effectiveness of training and its importance in broader audience.

It gives attention as well as inclusion programs. Hence H1 & H2 proved.

9.15 Inclusive workplace has been developed by the addition of ICT tools.

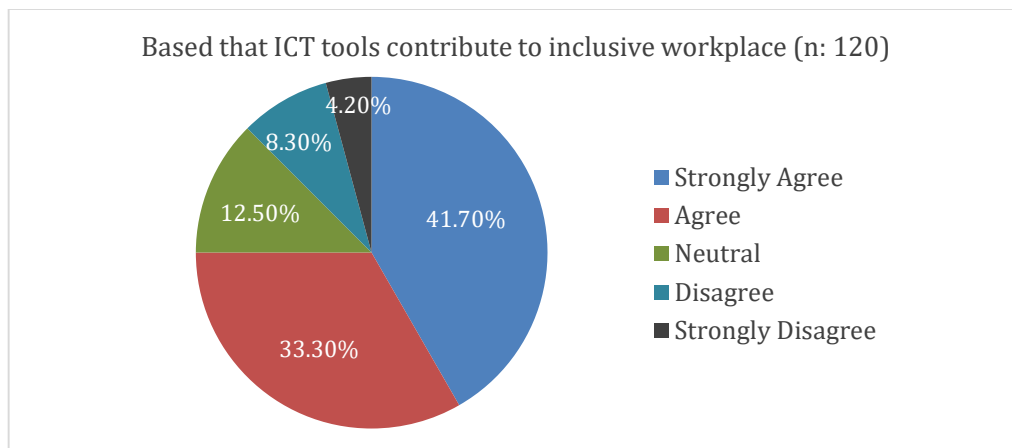


Fig. 17. ICT Tools Contribution

Table 15. ICT Tools Contribution

Confidence	Count	Percent
Strongly Disagree	50	41.7
Disagree	40	33.3
Neutral	15	12.5
Agree	10	8.3
Strongly Agree	5	4.2
Total	120	100.0

Findings & Analysis:

This data justifies importance of ICT tools in creating inclusive workplace. The table says more potential in building equitable and accessible work atmosphere.

ICTs importance in bringing inclusion awareness. Hence strongly proves H1.

Section D: Organisational Support and Barriers

9.16 How organisations promote ICT based inclusion learning.

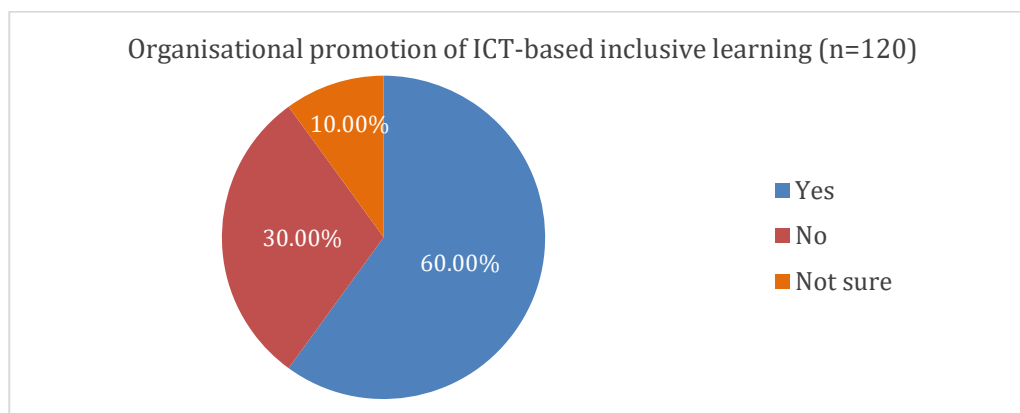


Fig. 18. Organizational Promotion

Table 16. Organizational Promotion

Response	Count	Percent
Yes	72	60.0%
No	36	30.0%
Not Sure	12	10.0%

Findings & Analysis:

The data says that a majority of employees feel their organization actively encourages participation in ICT-based inclusion learning, mentioning that a significant portion of organisations are taking proactive steps to leverage technology for diversity and inclusion training.

Organizational/leadership encourages ICT based inclusion learning — the moderating variable in H3.Hene proves H3.

9.17 Mention ICT-based inclusion training challenges (Select all that apply)

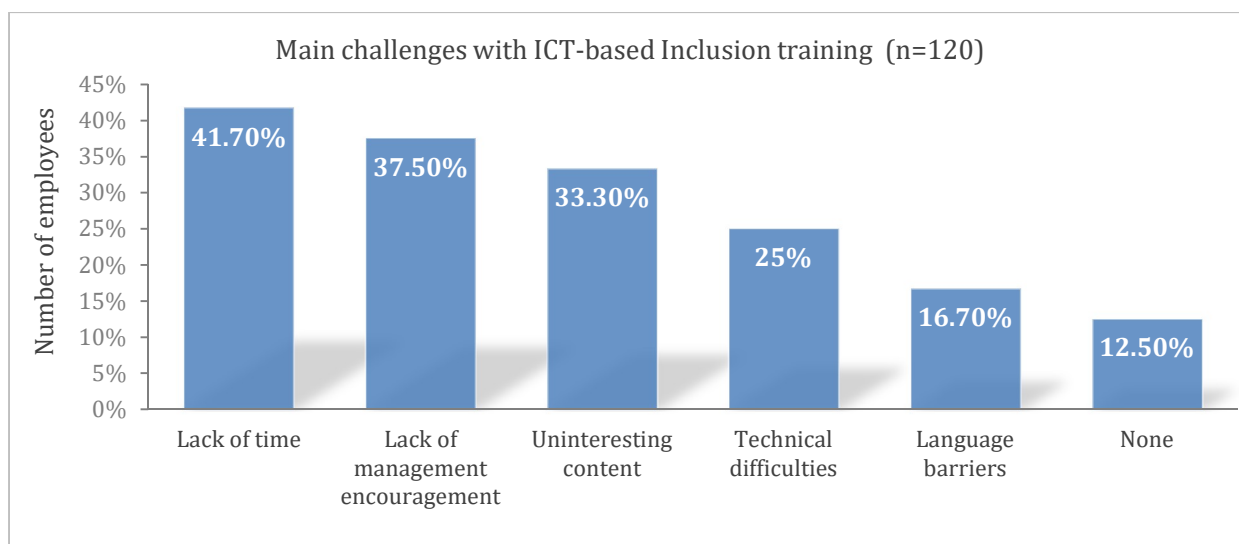


Fig. 19. ICT Training Challenges

Table 17. ICT Training Challenges

Challenge	Count	Percent
Lack of time	50	41.7%
Lack of management encouragement	45	37.5%
Uninteresting content	40	33.3%
Technical difficulties	30	25.0%
Language barriers	20	16.7%
None	15	12.5%

Findings & Analysis:

The above table finding points to a need for organizations to integrate training into the regular work schedule rather than treating it as an add-on. These findings indicate significant opportunities to enhance ICT-based inclusion training initiatives.

It measures hurdles listed in H4 (language, content, access issues). Hence proves H4.

9.18 Whether leadership in your organization support inclusion efforts via digital learning?

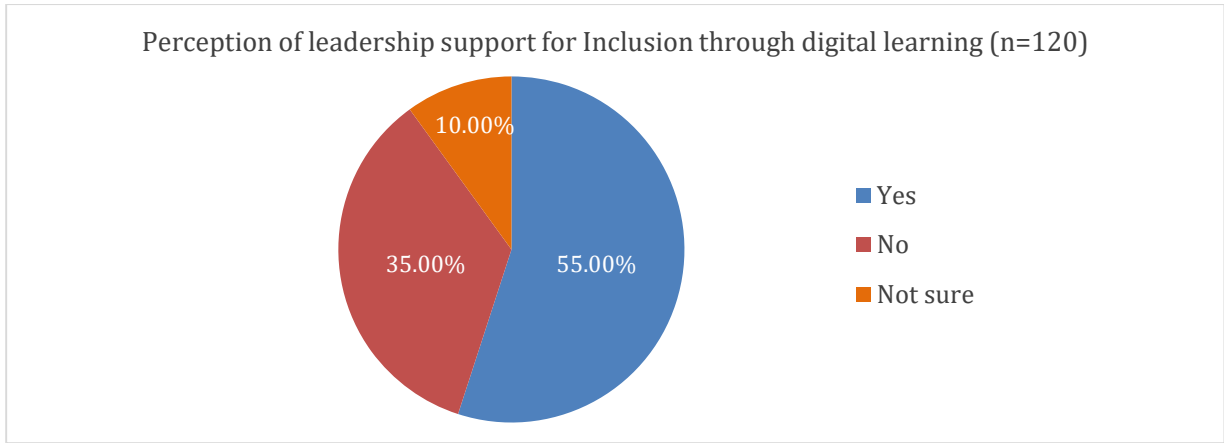


Fig. 20. Leadership Support

Table 18. Leadership Support

Response	Count	Percent
Yes	66	55.0%
No	42	35.0%
Not Sure	12	10.0%

Findings & Analysis:

The data indicates a mixed but generally positive perception of leadership support for inclusion efforts through digital learning. The results highlight that while many leaders are perceived as supportive, there is a clear opportunity for improvement in communicating and demonstrating that support to the entire workforce.

It confirms leadership support as moderator of ICT training effectiveness. Hence H3 is proved.

Section E: Open-Ended Questions

9.19 What are the suggestions could be done to make ICT-based inclusion training more effective in your organization?

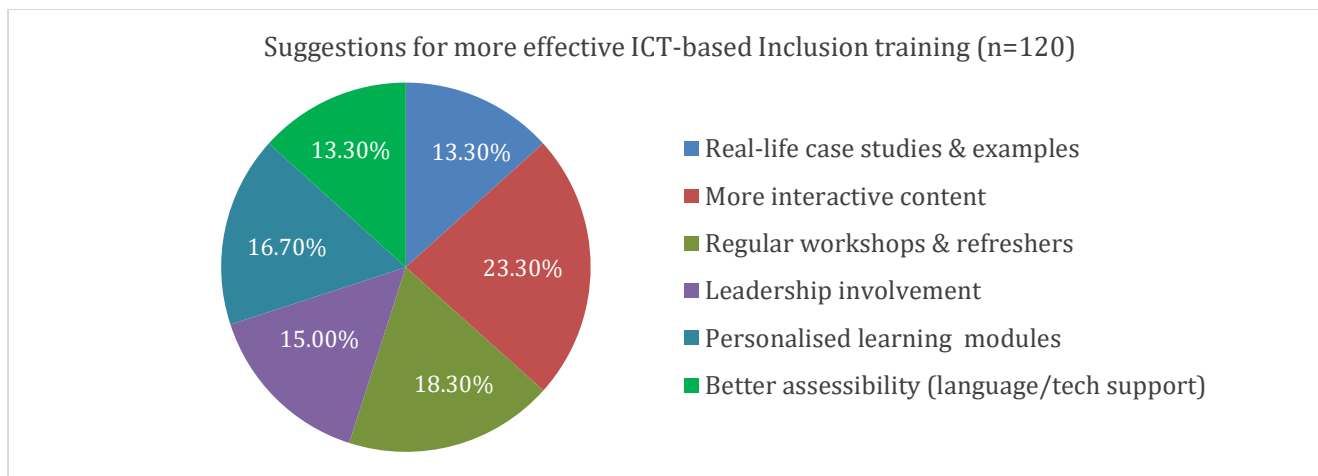


Fig. 21. Suggestions for ICT based Training

Table 19. Suggestions for ICT based Training

Response	Count	Percent
Real-life case studies & examples	16	13.30%
More interactive content	28	23.30%
Regular workshops & refreshers	22	18.30%
Leadership involvement	18	15.00%
Personalised learning modules	20	16.70%
Better accessibility (language/tech support)	16	13.30%

Findings & Analysis:

The table findings stated that all employees want interactive, personalized, and accessible training with leadership support to enhance inclusivity.

The feedback identifies the barriers and improvements aligns with H4. Hence H4 proved.

9.20 Whether ICT alone is sufficient to promote inclusion in the workplace? Why?

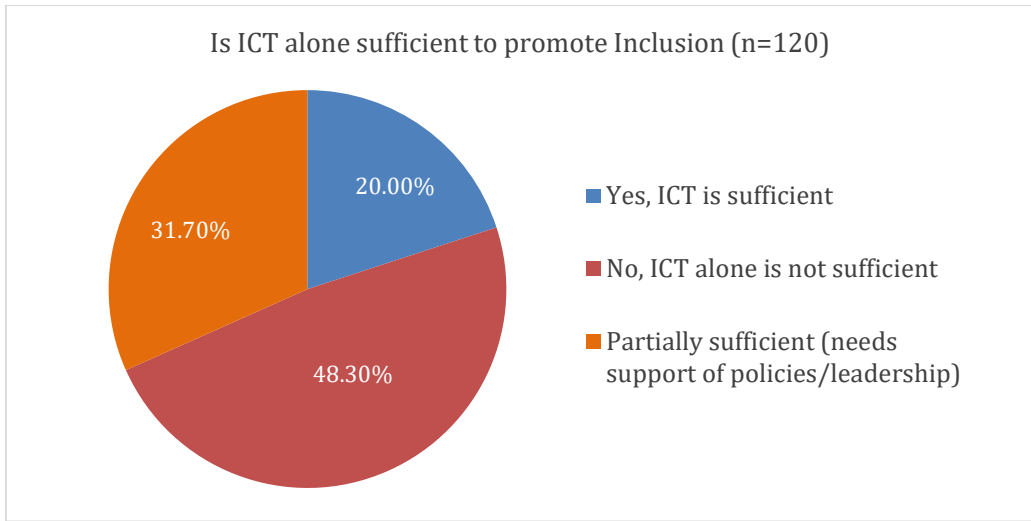


Fig. 22. Applications of Training

Table 20. Applications of Training

Response	Count	Percent
Yes	24	20.0%
No	58	48.33%
Partially Sufficient	38	31.67%

Findings & Analysis:

The table overall says that majority suggest that ICT should complement but not replace broader inclusion strategies, highlighting the importance of policies, leadership involvement, and human interaction.

It gives impression on ICT’s leadership role which is notable in H1, H3, and H4. Hence H1, H3 & H4 proved.

10. Discussion and Recommendations

From the data it is inferred that increasing curiosity among employees about various programs such as women empowerment, diversity, equity, and inclusion (DEI), LGBTQAI+ support, and veteran integration.

On the other side many challenges such as resistance to change, lack of adequate training for trainers, were commonly noted. These problems represent the urgent need for adding ICT for future social initiative programs. Finally the study suggests to the MNCs to include ICT based learning frameworks.

Recommendations:

- **Improve interactivity** in ICT-based training to increase engagement.

- To involve effective employee participation make sure **leadership involvement**.
- **Globalize the framework** to ensure local cultural and technological contexts.
- **Tailor content for diverse groups** and ensure accessibility through multilingual and user-friendly platforms.
- **Establish monitoring & feedback systems** for continuous improvement and accountability.
- **Integrate ICT into long-term DEI strategy** as a core cultural value, not a one-time initiative.

11. Conclusion

This research establishes that integrating ICT into organizational training is essential for advancing diversity awareness and workplace inclusion. Digital platforms enable multinational corporations to effectively educate employees on

gender equality, LGBTQIA+ rights, veteran support, and broader inclusion principles as technology continues transforming professional environments.

Findings demonstrate significant positive relationships between digital learning tools and enhanced employee awareness of diversity issues. Technology-based training increased participation in women's empowerment, LGBTQIA+ inclusion, and veteran support programs while driving measurable improvements in both knowledge and behavior.

Sustained effectiveness requires continuous feedback, iterative improvement, and rigorous impact measurement. Organizations approaching inclusion education as an evolving process—not a one-time event—more successfully build cultures balancing global values with local contexts. ICT serves as a transformational catalyst, empowering organizations to create learning environments valuing every individual.

However, digital access barriers, language limitations, and culturally inappropriate content can severely limit program impact, especially for distributed teams. Realizing full potential demands ongoing organizational commitment to inclusive, culturally responsive, human-centered learning environments that empower all employees regardless of gender, background, or identity.

Acknowledgments

The authors wish to acknowledge the senior leadership at Amity University Rajasthan for their support, as well as the multinational corporation representatives who contributed through focus group participation and survey responses. Appreciation is extended to all individuals who facilitated the successful completion of this research.

Ethical considerations

This research adhered to established ethical standards throughout the investigation. The survey instrument was developed with careful attention to participant sensitivity, deliberately excluding intrusive or potentially harmful inquiries. All procedures complied with institutional ethical protocols to safeguard participant dignity and research integrity.

Declaration of interest

The authors report no competing interests related to this research.

Funding

This study was conducted without external financial support.

References

1. Abdullah-Al-Mamun, M., & Rahman, M. S. (2020). Systematic literature review of e-learning capabilities to enhance organizational learning. *Information Systems Frontiers*, 24, 619–635. <https://doi.org/10.1007/s10796-020-10097-2>
2. Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal design for learning (UDL): A content analysis of peer-reviewed journal papers from 2012 to 2015. *Journal of the Scholarship of Teaching and Learning*, 16(3), 39–56. <https://doi.org/10.14434/josotl.v16i3.19295>
3. Al-Fraihat, D., Joy, M., & Sinclair, J. (2019). *Information technology and organizational learning interplay: A survey*. ResearchGate. <https://www.researchgate.net/publication/336599978>
4. Allen, I. E., & Seaman, J. (2017). *Digital learning compass: Distance education enrollment report 2017*. Babson Survey Research Group. <https://www.onlinelearningsurvey.com/reports/digital-learningcompassenrollment2017.pdf>
5. Ashkali, T., & Groeneveld, S. (2015). Diversity management in public organizations and its effect on employees' affective commitment: The role of transformational leadership and the inclusiveness of the organizational culture. *Review of Public Personnel Administration*, 35(2), 146–168. <https://doi.org/10.1177/0734371X13511088>
6. Barak, M. (2017). Closing the gender gap in science and technology: Promoting STEM education for girls. *Technology, Knowledge and Learning*, 22(3), 233–242. <https://doi.org/10.1007/s10758-017-9322-6>
7. Brown, S. D., & Lent, R. W. (Eds.). (2019). *Career development and counseling: Putting theory and research to work* (3rd ed.). Wiley.
8. Chen, C. Y. (2017). ICT-enhanced learning in developing countries: Perspectives of students in a university in Tanzania. *Australasian Journal of Educational Technology*, 33(1), 42–56. <https://doi.org/10.14742/ajet.2913>
9. Chin, J. L., Trimble, J. E., & Garcia, J. E. (Eds.). (2017). *Global and culturally diverse leaders and leadership: New dimensions and challenges for business, education and society*. Emerald Publishing.
10. Clark, R. C., & Mayer, R. E. (2016). *E-learning and the science of instruction: Proven guidelines for*

- consumers and designers of multimedia learning (4th ed.). Wiley.
11. Colgan, F. (2011). Equality, diversity and corporate responsibility: Sexual orientation and diversity management in the UK private sector. *Equality, Diversity and Inclusion: An International Journal*, 30(8), 719–734. <https://doi.org/10.1108/02610151111183225>
 12. Cook, A., & Glass, C. (2014). Women and top leadership positions: Towards an institutional analysis. *Gender, Work & Organization*, 21(1), 91–103. <https://doi.org/10.1111/gwao.12018>
 13. Cox, T. H., & Blake, S. (1991). Managing cultural diversity: Implications for organizational competitiveness. *Academy of Management Perspectives*, 5(3), 45–56. <https://doi.org/10.5465/ame.1991.4274465>
 14. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
 15. De Janasz, S. C., Sullivan, S. E., & Whiting, V. (2003). Mentor networks and career success: Lessons for turbulent times. *Academy of Management Executive*, 17(4), 78–91. <https://doi.org/10.5465/ame.2003.11851850>
 16. DiMaggio, P., & Hargittai, E. (2001). *From the 'digital divide' to 'digital inequality': Studying internet use as penetration increases* (Working Paper No. 15). Princeton University Center for Arts and Cultural Policy Studies. https://culturalpolicy.princeton.edu/sites/g/files/toruqf19566/files/media/working_paper_15_-_dimaggio_hargittai.pdf
 17. Ferdig, R. E. (2007). Examining social software in teacher education. *Journal of Technology and Teacher Education*, 15(1), 5–10. <https://www.learntechlib.org/primary/p/21847/>
 18. Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerization? *Technological Forecasting and Social Change*, 114, 254–280. <https://doi.org/10.1016/j.techfore.2016.08.019>
 19. Green, M. F. (2015). *Global citizenship: What are we talking about and why does it matter?* NAFSA: Association of International Educators. <https://www.nafsa.org/sites/default/files/media/document/global-citizenship.pdf>
 20. Herring, C. (2009). Does diversity pay? Race, gender, and the business case for diversity. *American Sociological Review*, 74(2), 208–224. <https://doi.org/10.1177/000312240907400203>
 21. Hill, C., Corbett, C., & St. Rose, A. (2010). *Why so few? Women in science, technology, engineering, and mathematics*. American Association of University Women. <https://www.aauw.org/resources/research/the-stem-gap/>
 22. Hunt, V., Layton, D., & Prince, S. (2015). *Why diversity matters*. McKinsey & Company. <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/why-diversity-matters>
 23. Kellner, D. (2004). Technological transformation, multiple literacies, and the re-visioning of education. *E-Learning and Digital Media*, 1(1), 9–37. <https://doi.org/10.2304/elea.2004.1.1.9>
 24. Kiran, D. R., & Mallick, S. (2020). *Women's participation in ICT sector: An empirical analysis*. Springer. <https://doi.org/10.1007/978-981-15-1213-5>
 25. Knox, J., & Wang, Z. (2020). The role of artificial intelligence in inclusive digital learning: Challenges and opportunities. *British Journal of Educational Technology*, 51(6), 1665–1679. <https://doi.org/10.1111/bjet.13031>
 26. Kumar, S., & Wideman, M. (2014). Accessible learning for all: Exploring challenges and opportunities. *Journal of Research in Innovative Teaching*, 7(1), 1–14. <https://www.nu.edu/wp-content/uploads/2017/01/V7-N1-Kumar-Wideman.pdf>
 27. Liff, S., & Cameron, I. (1997). Changing equality cultures to move beyond 'women's problems'. *Gender, Work & Organization*, 4(1), 35–46. <https://doi.org/10.1111/1468-0432.00022>
 28. Lockwood, N. R. (2005). *Workplace diversity: Leveraging the power of difference for competitive advantage*. Society for Human Resource Management Research Quarterly. <https://www.shrm.org/resourcesandtools/hr-topics/behavioral-competencies/global-and-cultural-effectiveness/pages/workplacediversity.aspx>
 29. Mahanta, N., Prasaad, K. S., Sheeja, M. S., & Pattanayak, S. (2022). Impact of COVID-19 on blended learning culture for media education in UAE. In *2022 Advances in Science and Engineering Technology International Conferences (ASET)* (pp. 1–5). IEEE. <https://doi.org/10.1109/ASET53988.2022.9734858>

30. McDonald, P. (2012). Workplace sexual harassment 30 years on: A review of the literature. *International Journal of Management Reviews*, 14(1), 1–17. <https://doi.org/10.1111/j.1468-2370.2011.00300.x>
31. Mor Barak, M. E. (2017). *Managing diversity: Toward a globally inclusive workplace* (4th ed.). SAGE Publications.
32. National Council of Educational Research and Training. (2023). Empowering women through ICT: A study. *Indian Journal of Educational Technology*. <https://journals.ncert.gov.in/IJET/article/view/457>
33. Organisation for Economic Co-operation and Development. (2019). *Trends shaping education 2019*. OECD Publishing. https://doi.org/10.1787/trends_edu-2019-en
34. Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest*, 13(2), 74–101. <https://doi.org/10.1177/1529100612436661>
35. Sambasivan, M., & Das, R. (2021). *For better or for worse? A framework for critical analysis of ICT4D for women* [Preprint]. arXiv. <https://arxiv.org/abs/2108.09947>
36. Singh, A., & Gupta, M. (2021). Women empowerment through ICT. In A. Sharma & P. Blessinger (Eds.), *Innovations in digital learning and teaching* (pp. 145–162). Emerald Publishing. <https://doi.org/10.1108/S2055-364120210000027010>