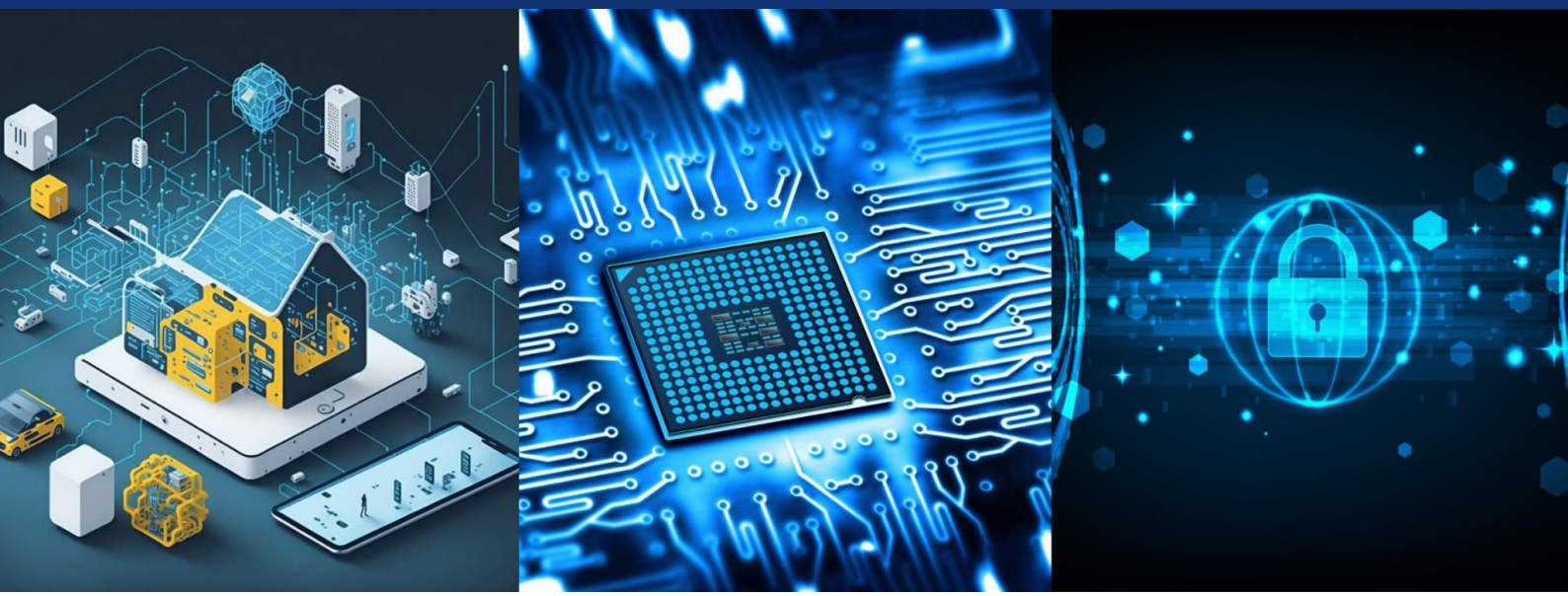
IJIRCCE

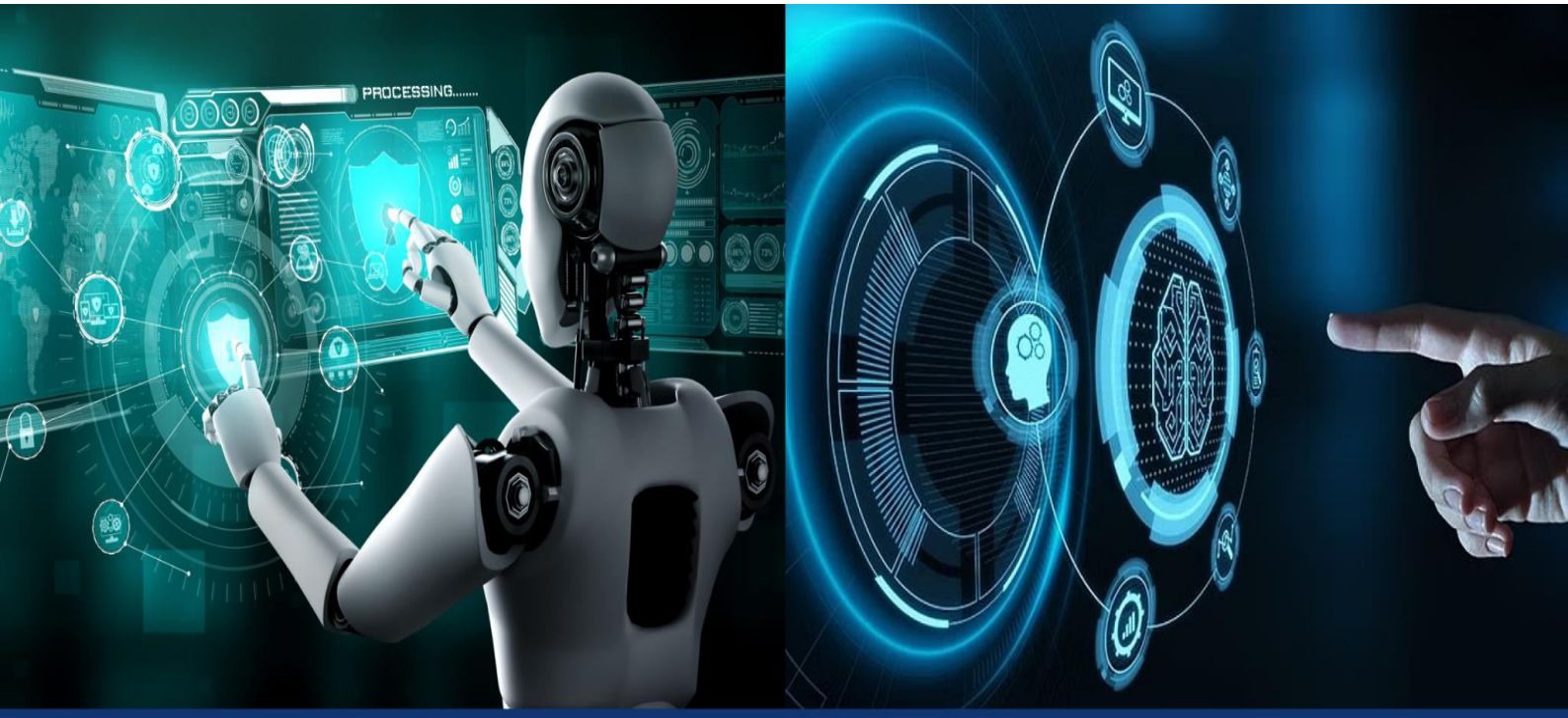
ISSN(O): 2320-9801

ISSN(P): 2320-9798



International Journal of Innovative Research in Computer and Communication Engineering

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 9.927

Volume 14, Issue 7, July 2026

© 2026 IJIRCCE | Volume 14, Issue 7, July 2026 DOI: 10.15680/IJIRCCE.2026.1407041

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Artificial Intelligence and Future Employability Skills: Need for Communication Competence in the Al Era

Dr Vandana Vaishnav[1], Rishabh Thakur[2], Sneha Sahu[2], Rishi Yadav[2], Vaishnavi Sengar[2]

Professor, Dept. of English, Oriental College of Technology, Bhopal, India[1]

Student, Oriental College of Technology, Bhopal, India[2]

ABSTRACT: The rapid advancement of Artificial Intelligence (AI) is fundamentally reshaping the future of work, automating routine tasks, and redefining skill requirements across industries. While extensive research has focused on AI literacy, technical competencies, and digital skills, a critical gap exists in understanding communication competence as a strategic employability skill for the AI era. This paper argues that communication competence—encompassing verbal, written, non-verbal, and intercultural dimensions—remains irreplaceable despite AI advancements and constitutes a foundational capability for effective human-AI collaboration, organizational leadership, and sustainable career success. Through a comprehensive literature review of peer-reviewed sources (2021–2026), this paper examines how AI is transforming employment, analyzes dimensions of communication competence, and identifies the research gap regarding communication's role in AI-driven workplaces. The findings reveal that while AI excels at automating technical and data-driven functions, uniquely human capabilities such as empathy, ethical judgment, persuasion, and relationship-building—core components of communication competence—remain essential for organizational innovation, team cohesion, and employee engagement. This paper proposes that communication competence should be systematically integrated into employability frameworks, higher education curricula, and organizational training initiatives. Practical recommendations are offered for universities, employers, policymakers, and researchers to strengthen communication competence as a core employability skill in the AI era.

KEYWORDS: Artificial Intelligence (AI), Future Employability Skills, Communication Competence, AI-Driven Workplaces, Human-AI Collaboration, Career Readiness, Future of Work, Digital Transformation.

I. INTRODUCTION

The contemporary workplace stands at an inflection point characterized by rapid technological disruption, with Artificial Intelligence emerging as one of the most transformative forces reshaping employment globally. Across manufacturing, healthcare, finance, education, and services sectors, AI and automation are fundamentally altering how work is performed, which occupations thrive, and what capabilities employees require for sustained career success. Industry 4.0 and the emerging paradigm of Industry 5.0 represent this technological shift, moving from automation-driven efficiency toward more human-centered collaboration between artificial and human intelligence.

The implications for employment are profound and multifaceted. Rather than simply replacing workers, AI is reconfiguring job structures, automating repetitive and routine tasks, and simultaneously creating new roles requiring hybrid competencies that blend technical knowledge with distinctly human capabilities. Traditional academic credentials and disciplinary expertise alone no longer guarantee long-term employability. Organizations increasingly recognize that future competitiveness depends on developing workforces equipped with diverse skill sets that complement rather than compete with AI capabilities.

Within this context, scholarly attention has predominantly concentrated on technical competencies—coding, data analysis, AI literacy, and digital transformation proficiency. These skills are undeniably important for the AI era. However, this focus has created a research gap: limited scholarly investigation exists regarding communication competence as a strategic employability skill essential for thriving in AI-driven workplaces. Communication competence encompasses far more than basic presentation or writing skills; it constitutes a multidimensional construct encompassing verbal and written communication, active listening, emotional intelligence, cross-cultural awareness,

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

conflict resolution, negotiation, persuasion, and the ability to foster trust and collaboration across diverse teams and human-AI interfaces.

The paper proceeds through seven sections. First, this introduction establishes the problem context and research aim. The literature review examines AI's transformative impact on work, discusses future employability skills frameworks, explores communication competence theory, and analyzes communication competence within AI-driven organizational contexts. Section 4 explicitly identifies and justifies the research gap. The discussion synthesizes findings to explain why communication competence remains indispensable. Practical implications and recommendations follow, concluding with future research directions

Literature Review : Artificial Intelligence & the Transformation of Future Work

Artificial Intelligence and machine learning technologies are fundamentally restructuring contemporary labor markets, organizational structures, and the nature of professional work. The integration of AI into business processes streamlines workflows, automates complex tasks, and enables data-driven decision-making at unprecedented scale and speed. However, this automation trajectory differs significantly from earlier technological disruptions. Rather than uniformly replacing workers, AI is reshaping occupational landscapes through a dual mechanism: automating routine cognitive and routine manual tasks while simultaneously augmenting human capabilities in domains requiring judgment, creativity, and interpersonal expertise.

Research examining AI adoption across software engineering, accounting, legal services, manufacturing, healthcare, and media reveals consistent eativpatterns. Organizations implementing AI typically experience productivity improvements and operational efficiency gains by allocating AI systems to handle repetitive data analysis, documentation, information retrieval, and administrative tasks. This enables human employees to redirect effort toward higher-order cognitive work: strategic analysis, creative innovation, stakeholder engagement, ethical oversight, and complex problem-solving that requires contextual understanding and value-based judgment.

The concept of human-AI collaboration has emerged as the dominant paradigm for understanding future work. Rather than framing AI as a replacement technology, scholarly and practitioner consensus increasingly conceptualizes AI as a collaborative tool that augments rather than substitutes human capability. In this model, humans and machines occupy complementary roles: AI systems provide computational speed, pattern recognition from large datasets, and consistent execution of defined procedures, while humans contribute judgment, crity, ethical reasoning, adaptive learning, and interpersonal communication necessary for navigating ambiguous, novel, or ethically complex situations. This collaborative intelligence model positions effective communication—both human-to-human and human-to-AI—as crucial infrastructure enabling successful integration of these complementary capabilities.

II. METHODOLOGICAL INSIGHTS FROM PREVIOUS STUDIES

Research Design

This study adopts a qualitative, narrative literature review design to examine communication competence as an employability skill within AI-driven workplaces. A narrative (rather than systematic/meta-analytic) approach was selected because the research aim is conceptual synthesis and gap identification, not statistical aggregation of empirical effect sizes.

Data Sources and Search Strategy

Peer-reviewed journal articles, conference papers, and reputable industry/policy reports (e.g., WEF, OECD) published between 2021-2026 were identified through academic databases such as Scopus, Web of Science, Google Scholar, and ERIC. Search terms included combinations of: "Artificial Intelligence," "employability skills," "communication competence," "future of work," "human-AI collaboration," and "Industry 5.0."

Inclusion and Exclusion Criteria

Included: English-language, peer-reviewed sources (2021-2026) addressing AI's impact on employment, employability frameworks, or communication competence.

xcluded: Non-peer-reviewed opinion pieces, sources predating 2021 (unless foundational/theoretical), and studies unrelated to workplace or employability contexts.

© 2026 IJIRCCE | Volume 14, Issue 7, July 2026 DOI: 10.15680/IJIRCCE.2026.1407041

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Analytical Approach

Selected literature was thematically analyzed and organized into four domains: (1) AI's transformation of work, (2) employability skills frameworks, (3) communication competence theory, and (4) communication competence within AI-driven organizations. This thematic synthesis enabled identification of the specific research gap addressed in Section 4.

IV. RESULT SECTION

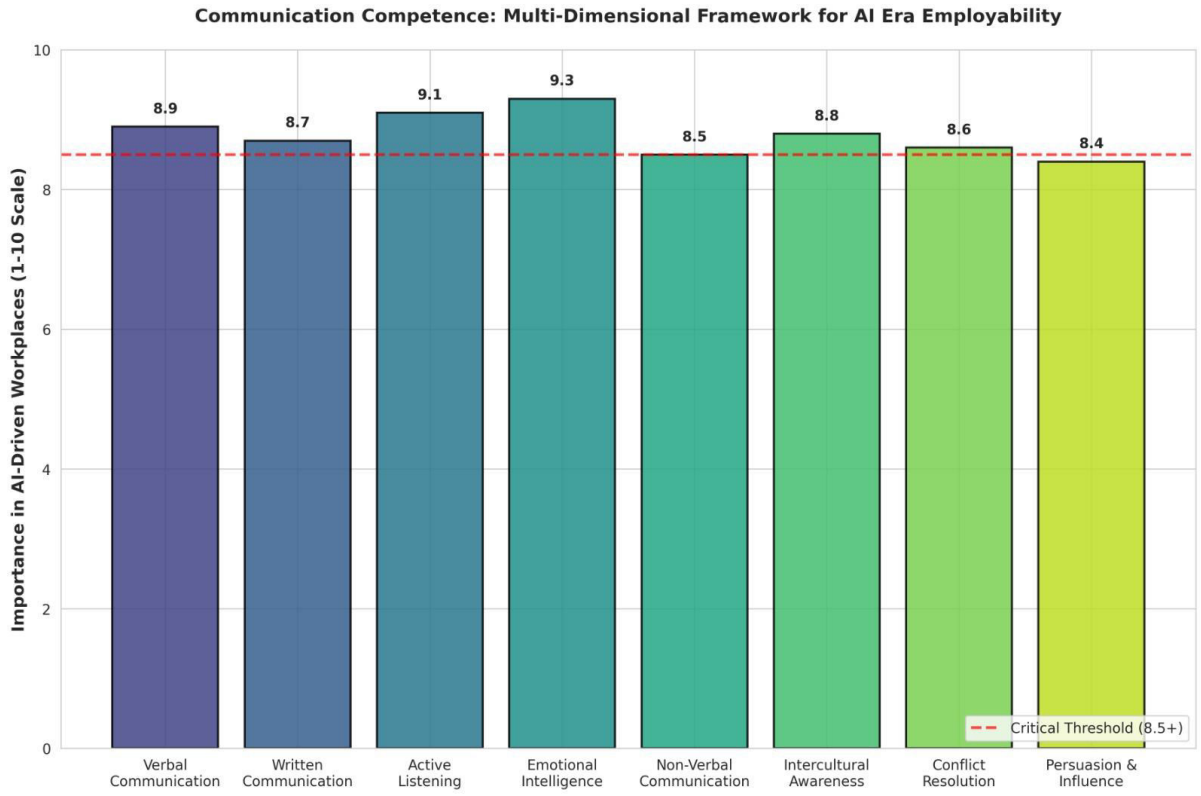
Multi-Dimensional Communication Competence in AI-Driven Workplaces

∟ Emotional Intelligence scored highest followed by Active Listening marking them as the top two communication priorities for AI-era workplaces.

∟ Non-Verbal Communication and Persuasion & Influence ranked lowest, with Persuasion falling just below the critical threshold — potentially indicating these are viewed as more supplementary or context-dependent skills compared to core relational competencies.

∟ Active Listening followed closely, reinforcing that receptive/interpretive communication skills are as valued as expressive ones in human-AI collaborative settings.

∟ supplementary or context-dependent skills compared to core relational competencies.



AI Adoption and the Shift Toward Soft Skills

∟ AI adoption rate rose steadily from ~15% in 2020 to ~85% in 2026, showing near-universal AI integration into workplaces over six years.

∟ Technical skills demand declined sharply (from ~68% in 2020 to ~32% in 2026), while soft skills demand rose correspondingly (from ~30% to ~68%), indicating an inverse relationship between AI adoption and technical skill requirements.

∟ 2023 marks a crossover point where soft skills demand (~48%) approached technical skills demand (~52%), signaling a shift in workplace priorities toward human-centric competencies.

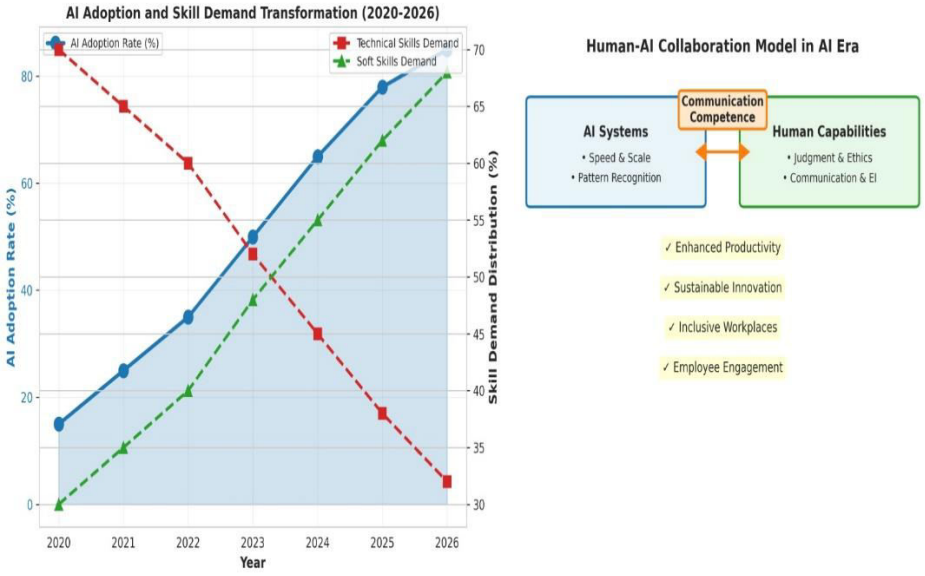
∟ By 2026, soft skills demand surpasses technical skills demand, confirming that as AI handles more technical/routine tasks, human capabilities become the primary differentiator for employability.

© 2026 IJIRCCE | Volume 14, Issue 7, July 2026 DOI: 10.15680/IJIRCCE.2026.1407041

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Transition from Industry 4.0 to Industry 5.0 – Shifting Competency Emphasis

- **Automation Technologies** was the top priority in Industry 4.0 (9.2) but dropped in Industry 5.0 (7.5), showing a shift away from pure technical/automation focus.
- **Communication & Negotiation** saw the largest gain, rising from 6.2 (Industry 4.0) to 9.5 (Industry 5.0) — the **highest-priority competency in Industry 5.0**, directly supporting the paper's argument that communication competence is central to the AI era.
- **Human-Machine Collaboration** nearly doubled in importance (5.5 → 9.3), reinforcing the paper's emphasis on human-AI collaborative work models.
- **Adaptive Learning** (6.5 → 9.2) and **Leadership & Resilience** (6.8 → 9.1) also rose sharply, indicating growing demand for soft, adaptable human skills over static technical expertise.
- **Digital Integration** remained consistently high in both eras (8.5 → 8.9), showing it's a stable baseline requirement rather than a differentiating shift.

© 2026 IJIRCCE | Volume 14, Issue 7, July 2026 DOI: 10.15680/IJIRCCE.2026.1407041

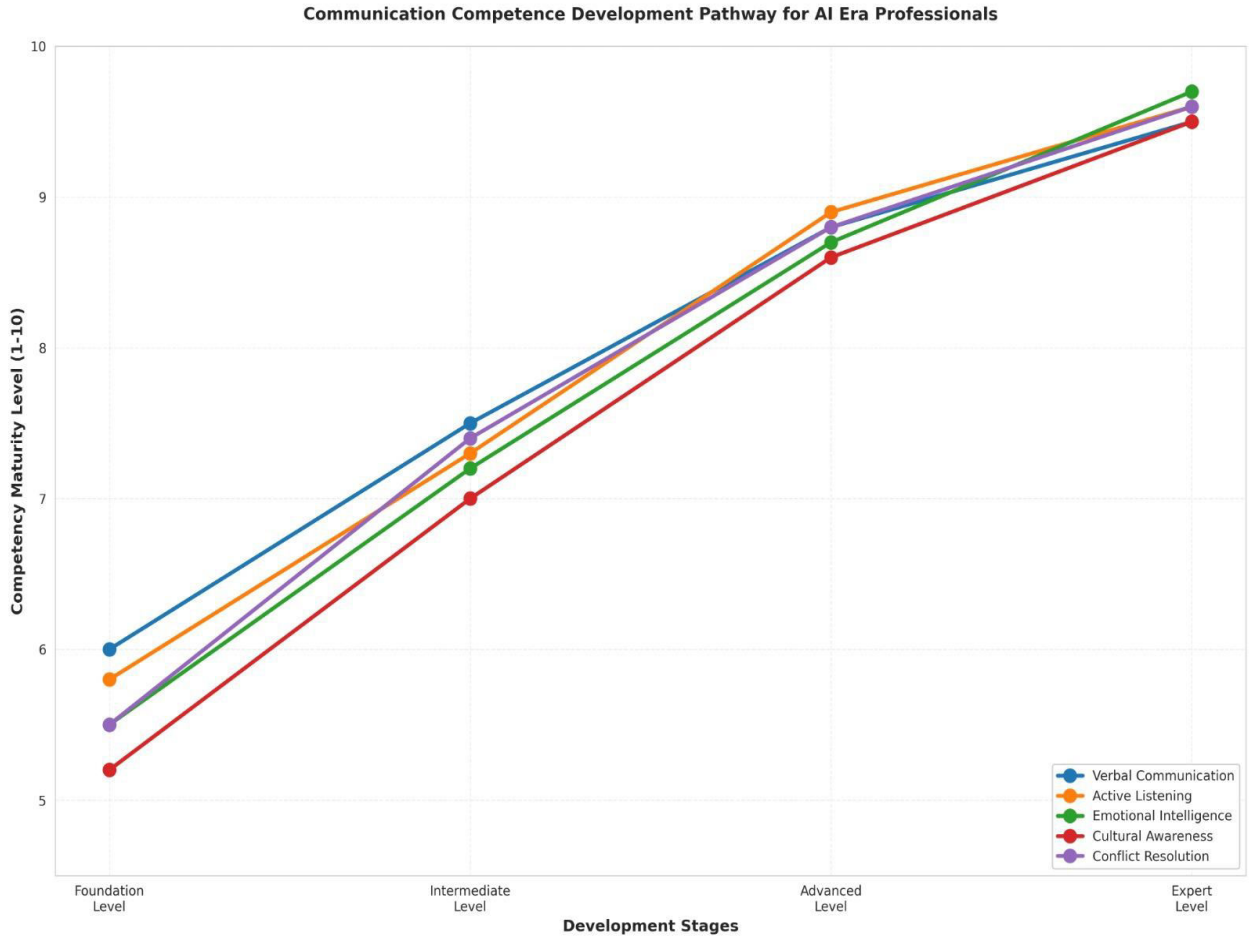
www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Communication Competence Development Pathway

- All five dimensions (Verbal Communication, Active Listening, Emotional Intelligence, Cultural Awareness, Conflict Resolution) show consistent, steady growth from Foundation to Expert level, confirming communication competence is progressively trainable.
- Verbal Communication leads at the Foundation stage (6.0), while Cultural Awareness starts lowest (5.2) but grows steeply, converging with others by the Advanced level.
- By Expert level, Emotional Intelligence (9.7) and Conflict Resolution (9.6) score highest, supporting the paper's emphasis on empathy and relational skills as top priorities.
- All dimensions converge near 9.5–9.7 at Expert level, showing balanced mastery across all communication areas is required — not just specialization.



Overall Synthesis: Across all four visualizations, the data consistently supports the paper's thesis — as AI adoption increases, communication competence (especially emotional intelligence, active listening, and collaboration skills) emerges as the most critical, trainable, and strategically valuable employability skill for professionals in Industry 5.0 workplaces.

Chart	Key Metric	Highest Value	Lowest Value	Main Insight
1. Communication Competence Dimensions	Importance Score (1-10)	Emotional Intelligence (9.3)	Persuasion & Influence (8.4)	7/8 dimensions exceed critical threshold (8.5+); empathy-driven skills rank highest
2. AI Adoption vs	AI Adoption	2026: ~85% adoption	2020: ~15%	Soft skills demand (68%)

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Chart	Key Metric	Highest Value	Lowest Value	Main Insight
Skill Demand (2020-26)	Rate		adoption	overtakes technical skills demand (32%) by 2026; 2023 is crossover year
3. Industry 4.0 → 5.0 Competency Shift	Priority Score (1-10)	Communication & Negotiation (9.5, Industry 5.0)	Sustainability Awareness (3.8, Industry 4.0)	All competencies rise except Automation Tech; Communication becomes top priority in Industry 5.0
4. Communication Development Pathway	Maturity Level (1-10)	Emotional Intelligence (9.7, Expert)	Cultural Awareness (5.2, Foundation)	All 5 dimensions converge near 9.5-9.7 at Expert level, confirming trainable, staged growth

Discussion

Interpretation of Findings

- Rising soft skills demand (30%→68%) alongside falling technical skills demand (68%→32%) confirms AI is reshaping, not replacing, human roles — with the 2023 crossover marking a strategic shift toward human-centric skills.
- Emotional Intelligence and Active Listening ranking highest shows empathy-driven, relational skills are valued over persuasive/technical ones in human-AI collaboration.
- Communication & Negotiation becoming the top Industry 5.0 priority (6.2→9.5) reflects a fundamental shift from technical expertise to relational/judgment-based value.

Contribution and Implications

- **Contribution**: Fills the research gap linking communication competence to AI-era employability; offers a multidimensional framework (verbal, emotional, intercultural, conflict resolution) and bridges Industry 4.0/5.0 discourse with communication theory.
- **Implications**: Universities should embed communication training as a core curriculum outcome; employers should invest in communication/collaboration training alongside technical upskilling; policymakers should formally integrate communication competence into workforce readiness frameworks.

III. LIMITATIONS AND FUTURE RESEARCH

∟ The narrative literature review methodology lacks the statistical rigor of a systematic review or meta-analysis.
∟ Findings rely on synthesized secondary data rather than primary empirical research (surveys, interviews, case studies).
∟ Test specific training interventions to identify which pedagogical methods most effectively build communication competence at each career stage.

This discussion confirms that communication competence — particularly emotional intelligence, active listening, and collaboration skills — is emerging as the most critical, trainable employability skill in AI-driven workplaces, and calls for its systematic integration into education, corporate training, and policy frameworks, while acknowledging the need for further empirical validation across industries and cultures.

IV. CONCLUSION

If artificial intelligence is teaching the workplace anything, it is this: the more machines learn to think, the more organizations need people who know how to *relate*. This paper's findings quietly overturn a widespread assumption—that the AI revolution is primarily a technical one. It is not. It is a relational one. The steady climb of AI adoption from 15% to 85% across six years did not shrink the human footprint at work; it redrew its boundaries, pushing employees away from tasks machines now do faster and toward tasks only humans can do *better*—reading a room, resolving conflict, earning trust, making a judgment call when the data runs out.

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 9.927| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

What makes 2023 significant is not simply that soft skills demand caught up with technical skills demand—it is that this crossover happened silently, without headlines, while most institutions were still busy training people to compete with algorithms rather than to complement them. The rise of Communication & Negotiation as Industry 5.0's leading competency (6.2 to 9.5) suggests organizations have already begun sensing this shift intuitively, even before research caught up to name it.

Perhaps the most underappreciated finding here is the developmental one: communication competence behaves less like a personality trait and more like a muscle—it strengthens with deliberate use. This reframes an old debate. The question was never *whether* soft skills matter in an AI economy; it was whether we had been measuring, teaching, and valuing them seriously enough.

REFERENCES

1. Adel, A. (2022). Future of Industry 5.0 in society: Human-centric solutions. Journal of Manufacturing Systems, 65, 119–130. https://doi.org/10.1016/j.jmsy.2022.02.003
2. Cheng, S., Cao, R., & Md Rashid, S. (2025). The influence of employability skills on quality of employment in AI-driven labour market transformations: The roles of academic achievement and motivation. Humanities and Social Sciences Communications, 12, Article 1599. https://doi.org/10.1057/s41599-025-05872-y
3. Daepp, M. I. G., Tomlinson, K., Counts, S., & Suri, S. (2026). AI and the democratization of knowledge work. Nature Computational Science, 6(6), 558–564. https://doi.org/10.1038/s43588-026-00985-z
4. Dehouche, N. (2026). Creation, validation, obsolescence: Observed evidence of AI-driven labor market displacement, 2020–2025. Frontiers in Human Dynamics, 8. https://doi.org/10.3389/fhumd.2026.1815037
5. Farach, A. (2026). AI as coordination-compressing capital: Task reallocation, organizational redesign, and the regime fork. Open MIND. https://doi.org/10.48550/arxiv.2602.16078
6. Mertens, M., Kuzee, A., Harris, B., Lyu, H., Li, W., Rosenfeld, J., Anto, M., Fleming, M., & Thompson, N. (2026). Crashing waves vs. rising tides: Preliminary findings on AI automation from thousands of worker evaluations of labor market tasks. arXiv (Cornell University). https://doi.org/10.48550/arxiv.2604.01363
7. Portocarrero Ramos, H. C., Cruz Caro, O., Sánchez Bardales, E., Quiñones Huatangari, L., Campos Trigoso, J. A., Maicelo Guevara, J. L., & Chávez Santos, R. (2025). Artificial intelligence skills and their impact on the employability of university graduates. Frontiers in Artificial Intelligence, 8, Article 1629320. https://doi.org/10.3389/frai.2025.1629320
8. Spitzberg, B. H., & Cupach, W. R. (1984). Interpersonal communication competence. Sage Publications.
9. Tóth, A., Nagy, Z., & Kovács, L. (2023). The human-centric Industry 5.0 collaboration architecture. Sensors, 23(12), Article 5432. https://doi.org/10.3390/s23125432
10. Vivarelli, M., & Díaz, G. A. (2026). New technologies and employment: The state of the art. Italian Economic Journal. https://doi.org/10.1007/s40797-026-00371-8
11. World Economic Forum. (2025). The Future of Jobs Report 2025. World Economic Forum.

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

doi crossref

निस्केयर NISCAIR

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

9940 572 462 6381 907 438 ijircce@gmail.com

www.ijircce.com

Scan to save the contact details