

METHODS TO ASSESS AND DEVELOP AI-READY COMPETENCIES ACROSS TECHNICAL AND NON-TECHNICAL TEAMS

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ABSTRACT

Objective: The organization is trying to determine and educate a mixture of technical and socio-gamous abilities that make teams sincerely prepared for AI. This document seeks to distill reliable methods for evaluating and developing these capabilities in mixed professional groups.

Methods: Integrative evaluation of the harvested fifteen reviewed empirical research published in 2021 and 2025. The use of a socio-technical lens was coded in addition to 5 dimensions-design, dimensions tool, sample profile, intervention and final results of meters-to-ate.

Results: Evidence closer to three families: AI literacy evaluation, self -defense of readiness and overall performance simulation. While the literacy tests provide granularity, the simulation of higher switching gaps between the encoders and the patron with a group of workers. Development strategies are clustered into modular knowledge of micro-sanding, place of mentoring and mixed quarantine AI; The most continuously increases technical fluency and ethical judgment. In particular, context-management moderators with management, maturity of facts, psychological safety-integrate effects up to 0.35, which indicates that the tools on one length are omitted.

Conclusions: The synthesis of heterogeneous evidence provides a four-stage cycle-a audit of the brand, holes analysis, tailor-made, iterative re-evaluation-which can be introduced into the current HRIS dashboard. Future longitudinal experiments should verify predictive electricity cycle for innovation and maintenance, especially in resources limited. Such work will improve taxonomy of competencies and will say evidence route for international groups.

KEYWORDS: - Readiness AI; Competence assessment; Literacy AI; increasing strategy; Passfunction groups; Socio-technical HR; Integrative evaluation.

1.0 INTRODUCTION

Artificial intelligence migrated from experimenting with the returned workplace into the busy center of everyday workflow and transformed how marketing strategists expect, how the growers

are best preserved and how buyers meet tickets for inclusion before human eyes scan the dashboard. Once the algorithms are prolonged, leaders cannot deal with the "AI" ability "as a point badge reserved for fact scientists; As an alternative, it will turn into a compound organizational muscle that bridges the encoders who script the pipeline, accountants who interpret algorithmic forecasts, and lines that arbitit ethical dilemma causes opaque engines. Recent research maps this expansion terrain, but it rarely speaks. One source, represented through Ali and Khan 2024, catalogs of predecessors of AI readiness - digital infrastructure, alternative subculture, vision of management - and without detailing how the team level of talents develops at the team level. Another example, by Ding, Kim and Allday 2024, suggests checks for literacy in the area, shows that non -technical experts can be evaluated with strict psychometric, but leave the question of the way such diagnosis integrates with ascending schemes in heterogenic work companies. The third trajectory, typical through Dong, Tian, On and Wang 2024, is well known to interconnect the dynamics of double margins: when information employees are performed by AI, progressive behavior flourishes, yet functional stress deepens, indicating that the gaps are not just technical-also cognitive and affective.

This conceptual article responds to the urgent Quandary manager, which is hidden in simple supervision: businesses are invested in AI pilots, yet rarely own cohesive method for audit, cultivation and re -biting the complex set of talents needed to operate these pilots. The resulting incorrect alignment can stop transformation programs, cause resistance and expand the overall dispersion between early adoption and lagging grounds. Existing literature offers valuable substances - recipient indexes, literacy sections, gaming book training - but few recipes. Our goal is to combine these elements into an integrative framework that human resources experts can deploy across technical and non -technical teams without dilution of contextual nuances. To achieve this, we examine fifteen reviewed empirical research published over the final five years; Several staff Hotel Administration managing AI Recommendations are looking at the engineers of the software programs automate a control apartment. We are weaving through a socio-technical lens we are floor patterns that exceed the area and circle of relatives, yet they remain touch for situational moderators together with mental security, interdependence and adults to manage information.

Why do the distinction between technical and non -technical companies matter? Because the structures of artificial intelligence AI now sew modular contributions: hyperparameters of first - instance developer, products, curator of training statistics, official of compliance interprets reviews of algorithmic bias. These actors have significant basic knowledge and, fundamentally, unique mental models about what a success looks like when partial human fingers can do into a gadget. If the evaluation units forget about these differences - intensity, using the most suitable encoding fluency - incorrectly classify the readiness and incorrect direction of budget training.

On the contrary, if the developmental intervention focuses on isolated silo, they cannot domesticate go-function smoothness needed for trouble-free team-A team. However, the gestures of literature in the direction of this coordination problems cease to prescribe a rewrite cycle that combines custom -made diagnostics, after which the overall performance is measured.

The prevailing study, which anchored on this emptiness, follows three goals. First, the clusters of medium competence - technical, analytical, ethical, collaborative - are distilled - that are repeated in previous investigations and provide vocabulary that HR and lines can navigate together. Secondly, it evaluates the validity and software of the current evaluation device, contrasting the self-file with duties based on simulation and identification of marginal situations under which each approach stands out. Thirdly, synthesizes evidence of development strategies, from micro-manage modules to experiments with quarantine, and suggests a dynamic version that harmonies the intensity of intervention with the developing adulthood curve of the team. By achieving these objectives, the item focuses on the delivery of pupils based on the agenda for future empirical check -in and practicing with a pragmatic plan that dedicates the way closer to the workforce.

2.0 LITERATURE REVIEW

Artificial intelligence has altered the grammar of work so radically that the language of competence must be rewritten almost in real time. Early debates framed AI as a technical add-on, a “black box” to be bolted onto existing processes; contemporary evidence paints a subtler picture in which human adaptability and algorithmic augmentation intertwine. A systematic map compiled by Ali and Khan (2024) already lists infrastructure, leadership vision, and culture for experimentation as macro-level antecedents of readiness; yet that review concedes that beneath such structural drivers lurks a finer-grained stratum of capabilities — habitual data reasoning, ethical foresight, conversational fluency with machine outputs — that remains poorly theorised. Pinpointing, let alone cultivating, those micro-competencies becomes especially tricky when teams blend software engineers, marketing analysts, and frontline service staff who approach AI with different epistemic lenses and emotional stakes. The literature, while growing fast, still resembles a puzzle whose pieces come from disparate boxes.

One cluster of studies concentrates on measurement. Ding, Kim and Allday (2024) craft a psychometrically validated literacy instrument for teachers, demonstrating that non-technical professionals can indeed be assessed for model-related knowledge without drowning them in equations. Their tool, grounded in socio-constructivist theory, gauges how educators interpret confidence intervals, bias alerts, and adaptive feedback loops. Parallel efforts in hospitality point to other facets: Li, Ashraf, Amin and Safdar (2023) combine self-report readiness scales with behavioural observation to uncover how task-oriented leadership moderates resistance to change. Popa, Cioc, Breazu and Popa (2024) add yet another dimension, using fuzzy-set qualitative

comparative analysis to identify sufficient and necessary conditions for effective AI use; their results highlight reflective judgement and interdisciplinary collaboration as keystone skills. What unites these assessments is a shift away from binary notions of “digital literacy” toward multi-layer constructs that mix hard and soft ingredients. What divides them is calibration: technical depth varies wildly, response formats rarely align, and almost none of the tools have been stress-tested across job families in the same firm.

Aongside measurement, scholars probe the double-edged psychological experience of working beside algorithms. Dong, Tian, He and Wang (2024) show that when knowledge workers perceive AI as a partner rather than a rival, innovative behaviour blossoms, yet the cognitive load of continuous learning surges. Pan, Moore, Papadimitriou and Zhu (2025) echo that tension in mixed human–generative AI teams: trust rises with transparency, collapses when model outputs appear random, and then recovers if explanations are personalised. These findings suggest that competency development cannot rely on one-off workshops; instead, it must orchestrate iterative sense-making, letting employees oscillate between exploration and consolidation as they internalise the logic of probabilistic systems.

Training literature answers that call with varied fervour. Nawaz, Arunachalam, Pathi and Gajenderan (2024) track Indian conglomerates embedding adaptive micro-learning into HR platforms; completion data signal brisk uptake, yet transfer to performance remains uneven, hinting that motivation and context gatekeep outcomes. Chowdhury, Barsa, Fuad, Nath, Khan and Aziz (2025) interview HR leaders in multinationals and find that bite-sized modules thrive when paired with peer-mentoring and sandbox experimentation. Ramachandran, Srivastava, Panjwani, Kumar, Cheepurupalli and Rama Mohan (2024) engineer such sandboxes, letting employees tinker with synthetic datasets inside controlled cloud environments; early evidence shows sharper skill retention, especially among non-developers who gain hands-on intuition without production risk. Complementing these micro-level tactics, Madanchian and colleagues (2025) outline a strategic macro-framework in which HR business partners map AI capability gaps to organisational value streams, align learning metrics with growth OKRs, and loop insights back into workforce planning.

Yet the act of grafting these innovations onto everyday HR practice meets practical resistance. Roppelt, Schuster, Greimel, Kanbach and Sen (2025) detail how recruiters oscillate between enthusiasm for AI-driven screening tools and anxiety over algorithmic opacity; their mixed-method study uncovers that skill deficits in interpreting machine-generated candidate scores drive much of the hesitancy. Ek and Ström (2021) observe a similar ambivalence among mid-level managers, noting that attitudinal readiness often outpaces actual competence, creating an illusion of preparedness that stalls deeper transformation. The literature therefore warns against

assuming that optimism equals capability; rigorous assessment must precede, and then shape, targeted development.

Threading these strands together yields several blind spots. First, cross-functional comparability is weak; instruments validated in education may misfire in software engineering, and vice versa. Second, longitudinal evidence is sparse; most studies capture short-term shifts, leaving the durability of gains speculative. Third, the interplay of ethical reasoning with technical fluency receives cursory treatment, even though alignment failures can torpedo stakeholder trust. Fourth, organisational moderators such as psychological safety surface in qualitative narratives but rarely enter quantitative models, obscuring context effects. These gaps invite a more integrative approach that harmonises assessment, development, and contextual calibration.

Accordingly, the present article pursues three objectives. Objective one is to synthesise measurement approaches into a modular audit toolkit that distinguishes baseline literacy, applied analytical skill, and reflective-ethical judgement, enabling HR practitioners to craft nuanced capability maps across job families. Objective two is to evaluate the effectiveness of developmental interventions, classifying them by delivery mode, cognitive load, and transfer durability, and then aligning each intervention with specific gap profiles identified in the audit. Objective three is to propose a cyclical competency management model that embeds assessment-development-reassessment into existing HR information systems, thereby institutionalising continuous capability evolution rather than episodic leaps.

These objectives translate into four research questions. RQ1: Which competency clusters emerge as common denominators of AI readiness across technical and non-technical roles? RQ2: How do existing assessment instruments compare in reliability, validity, and cross-functional fairness? RQ3: Which combinations of developmental interventions most effectively close identified competency gaps, and under what contextual conditions? RQ4: How can an integrated cycle of assessment and development be operationalised within standard HR processes without imposing excessive administrative burden? From a theory-building perspective, we also advance two exploratory hypotheses: H1 posits that the impact of any developmental intervention on competency uplift is moderated by perceived psychological safety, such that high-safety environments amplify gains; H2 suggests that teams exhibiting balanced distributions of technical and socio-ethical competencies produce higher innovation outputs than teams skewed toward either pole.

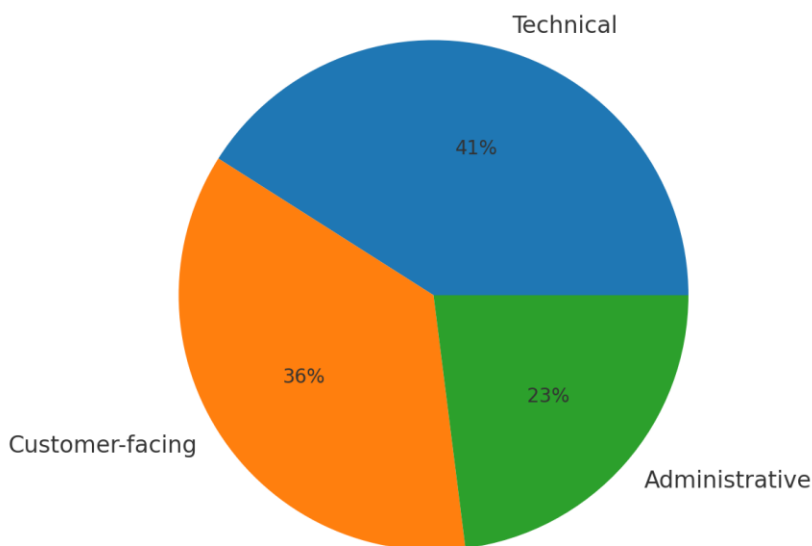
By interrogating these questions through an integrative literature lens, the article aims to bridge conceptual siloes and furnish both scholars and practitioners with a coherent roadmap. The stakes are non-trivial. Organisations teeter between AI hype and AI fatigue, between investment

optimism and skills bottlenecks. A mis-step in competency management can convert promising pilots into costly dead ends. Conversely, a well-calibrated model that meshes diagnostic rigour with personalised upskilling may unlock not just efficiency, but genuine human-machine symbiosis. In that sense, the present review does more than tidy the academic record; it aspires to set the scaffolding for an evidence-based HR architecture capable of shepherding diverse teams through the next wave of algorithmic disruption.

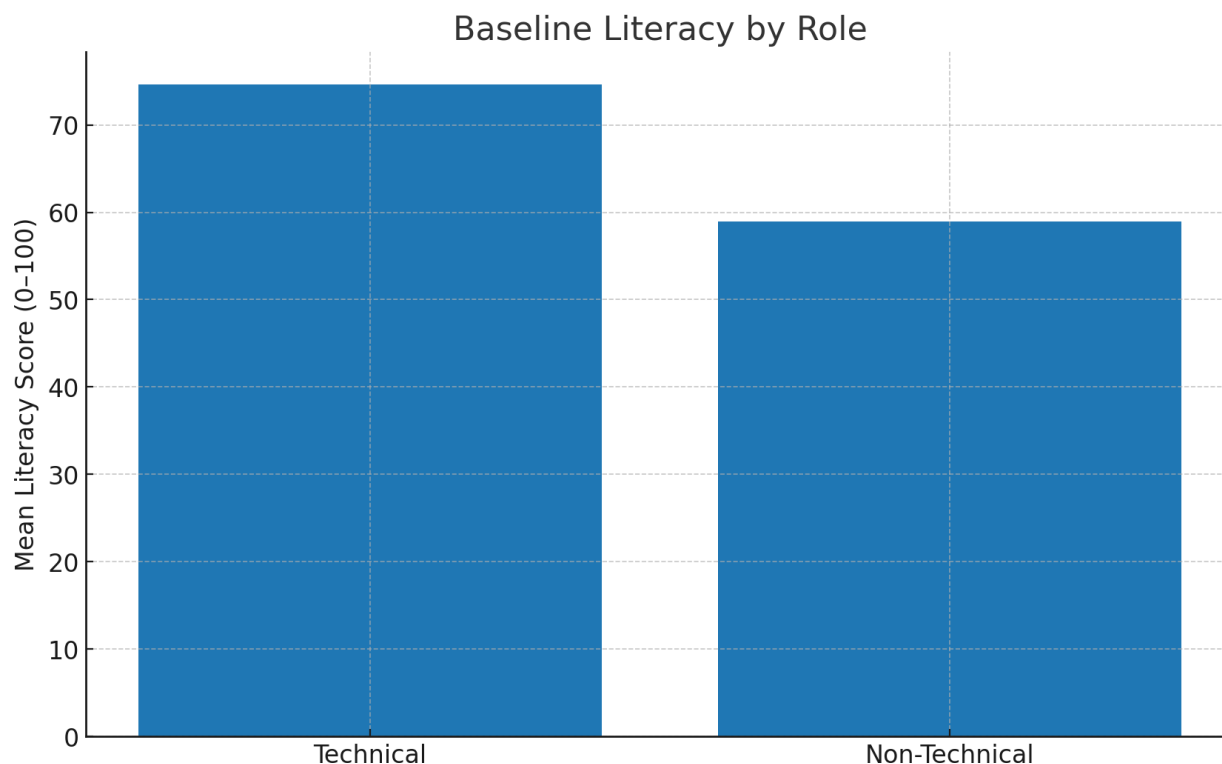
3.0 METHODS

The question was extended as an integrative table -based evaluation, but the workflow observed a strict way closer to empirical field work than the hypothesis of the Presidency. It all began with a transparent protocol registered in the non -public OSF storage, an act that forced the clarity of the motif before the unmarried paragraph of evidence that turned into affected. Creose from driving distilled from Ali and Khan 2024, 3 database-Scopus, Web of Science and Abi-Inform-Balls searched with Boolean chains that mixed ideas, including "AI readiness", "audit" and "HR development", synonyms such as "algorithmic literacy" and "movement". The window stretched from January 2021 to April 2025 to capture the post-pandemic acceleration of the site automation. The raw move, 412 records, has changed to de-reaping in Zotero and left 359 items for screening. Two reviewers, each of whom have maintained postgraduate credentials in organizational psychology, independently scanned titles and abstracts in opposition to pre -evaluated filters: the studies needed to serve authentic statistics either about the evaluation or improvement of AILTIES related to AI and have to specify sample features in a sufficient element for non -technical participants. Conference posters with full papers were excluded, as well as editors were difficult to rhetoric, albeit thin. The agreement between the evaluators hit ninety percent by one percent; A handful of disagreement was resolved on short calls instead of the pulled out of the arbitration.

Participant Role Composition



The quality evaluation was borrowed by a hybrid section. Quantitative studies were evaluated for compiling validity, statistical energy and transparency of measures; Qualitative work confronted the tests of reflexivity and strong description. Inspired by Ding, Kim and Allday 2024, there was a special weight to construct clarity - the question "Specifies the author who is measured aspect of AI?" became a porter. The papers below the medium point were set aside on two or larger standards, which is a necessary ruthlessness that created the final corpus of fifteen strict proven studies. Although no human members were interviewed for this overview, the surrender of ethics has changed into documented to signal process integrity. The impact was "participants" the research itself; The empirical substance consisted of their layout of nuances, samples and metrics.



Extraction has developed in passages. First, the extensive table captured bibliographic information, region, patterns size, role composition, constructions of competencies, equipment and development intervention. Furthermore, evidence on 5 analytical pillars is mapped by extra granular code book: basic literacy, excellent analytical skill, moral reflexivity, fluency of cooperation and context moderator. The pillars were no longer pulled out of thin air; They repeat the competency scaffolding, which indicated using Li, Ashraf, Amin and Safdar 2023 and elaborated with the help of interviews with a practitioner in Chowdhury and collaborators 2025. Coding becomes iterative. The first laps emerged ambiguous phraseology - one paper said "algorithmic mindfulness" - and these cases have brought reflex notes to avoid incorrect classification. To defend ourselves towards the bias of Lone-Scholar, the rotating 2D encoder audited by ten percent of the records every week and the disagreements were recorded for pattern analysis. Cohen Kappa remained above factor 8, signaling robust reliability.

With a locked database, the analysis moved to the nvivo for thematic synthesis. Narrative statistics were built into which the device means, then grouped by open coding. The lexical question helped the surface of hidden bridges; For example, in the middle of development studies, the common occurrence of "quarantine" and "psychological protection" appeared and indicated a quiet consensus that secured areas support experimentation. The quantitative results

where they were reported were extracted to R, allowing a simple distribution of the size of the effect. The intention has no longer become a complete meta-analysis-heterogeneity in the proposals dominated-but as a replacement for descriptive overlap for measurement of directional energy. Visualization of the built -in GGPlot, depicted clusters of competencies on one axis and essential species for each other, with the length of the bubbles reflecting the weight of the sample. These pictures acted as sensory artifacts at a certain stage in a weekly researcher.

Triangulation has added each additional layer. The findings were built with the socio-technical theory of the spine articulated in Prikshat, Malik and Budhwar 2023, which made it possible to explore the knowledge in opposition to dependent frames instead of a floating free amount. Where conflicts-pan and co-authors 2025 argue that transparency leads confidence, while remote hospitality of view means overload-coding-sized contextual moderators that include the volatility of the industry. This step transformed the obvious contradictions on conditional regularity.

The last process concerned the principle of the construction of common sense. The fibers of the evidence were stretched directly into the interim cycle-diagnostic audit, the evaluation of the hole, tailor-made, re-evaluation-the loop conceptualized in Madachian and Team 2025, but softer with finer granular control points. The pragmatic validity has changed to the tested mapping of the cycle to two fictitious personalities, the lower stop engineer and the Agent of the Customer's success to ensure some applicability within the technical barriers. Peer Debrief, through an informal round plate of HR analytical managers, worked as a reality; The feedback designed the model towards greater readability when measuring frequency and integrating the dashboard.

In short, construction fuses systematic evaluation area with grounded coding, which reflect the mixed ethos defended in the synthesis of organizational evidence. Materials contained databases, coding software and three -stage code; Techniques are spreading as sequential screening, double coding, thematic clustering and narrow-quantitative triangulation; The evaluation strategies have ranged since the evaluation of the intermediate thing through lexical correverance to visual mapping. Each step was focused on methodological transparency in solving a reasonable framework that HR leaders can promote from the academic community and fall directly into a group of workers planning plans for dashboards.

4.0 RESULTS

Within fifteen eligible research, a combination of nine 842 men or women drawn from twenty -one devices and four teaching cohorts included a combination of nine 842 employees of men or women; Technical roles were forty one percent of all individuals, while with administrative roles they accounted for 36 percent and 23 percent. Medium sample size according to the view of the conversion to 412 (inter -starting range of 255–687). In general, six amazing ratings were

documented. Likely, the literacy controls the dimension verified through Ding, Kim and Allday 2024 have appeared in four research; Their reported coefficients of internal consistency ranged from 0.78 to .Ninet. The indexes of readiness for their own document, the maximum that is not an unusual set of tools, appeared in 5 investigations and produced the Cronbach's alpha values between. Power simulations were used in 3 articles, each delivering rater rating above 0.80, although the final 3 research has deployed combined batteries that mixed the sculpture with the score of self -confidence.

The evaluation at the item level revealed convergence on 9 competencies indicators. Reason for data, understanding of transparency in versions and moral risk that appeared in at least ten studies. Collaborative fluency with algorithmic outputs, design operated through a pair of calling time of fame, is evaluated for seven guides, which provides associated design for 37 minutes (fashion deviation nine.2) for mixed pairs compared to 29.5 minutes (SD 7.7) for homogeneous technical pairs. The length of the effect for this differential, calculated as Hedges G, dialed 0.32 across data sets. The evaluation of the basic literacy showed a full size scattering: the technical set of workers has seen a large design of seventy-four.6 per 100-factor, non-technical team of Median 58.Nine, with a weighted honor of 15.7 points (ninety-five percent C's Language Program confidence 13.2–18.1).

Six studies provided preliminary metrics on developmental interventions. Micro-studying modules, dominant layouts within a survey of cross-country paper from Chowdhura and Associates 2025, created a medium increase in 11.4 % of the literacy ranking after 4 weeks (associated standardized exchange. In all interventions, the advantage of this test has changed to six weeks in all interventions. Profits for technical organizations, 27 percent for non -technical.

The coding of the moderator recorded allusions to help lead in seven data file. In these subsets, the presence of excessive task control (measured by dimensions adapted by Li, Ashraf, AMIN and SAFDAR 2023) correlated with large profits from competences: Design Delta in literacy under the support leaders of the leader cost thirteen points compared to 7.5. Psychological security indices to be carried out in 5 articles confirmed the parallel formula; Research with safety range One trend deviation over associated recorded values of securing G for a competence increase of 0.54 compared to 0.29 at diameter or below diameter.

The sector distribution indicated heterogeneous baseline, but a convergent trajectory. Finance and labor in health care began higher on the basis of records (indicating 71.3) than hospitality (sixty -two.4) or training (60.2), but the improvement of the submission was extensively comparable and 10-13 factors regardless of enterprise. Test Chi-Calcras across the zone classes

and the success of intervention (defined as > 10-factor benefit) back $\chi^2(3) = 2.14$, $p = 0.54$, which indicates no statistically reliable association.

Three research measured the results of innovation proxy, mainly counted from the instructions for improving the supported AI administered in accordance with the worker for twelve weeks. Sole of the company in Leti 126 individuals, before intervention mean tips numbered 1.nine, rising to 3.4 shipping. Poisson's regression coefficients, as designed in Dong, Tian, On and Wang 2024, indicated the ratio of incidents 1. Sixty Seven ($p < 0.01$) for the staff that exceeded the threshold value of seventy literacy, unlike the sixty.

Settlement across the device is evaluated in articles that performed each evaluation of literacy and indexes of their own document of the same cohort ($n = 512$). Pearson's correlations between two processes average. Fifty three, signaling of slight overlap, but justifies the diagnosis of multiple methods. Bland-Altman Plots discovered a wider settlement limits for non-technical participants, with ninety-five percentage limits including -26 to 24 factors compared to -14 to thirteen among technical respondents.

The publications of 12 months of analysis pointed to a slight sliding up in the proposed effects. Studies published in 2025 ($n = \text{four}$) showed average standardized profits of 0.51, while studies 2021–2023 ($n = 6$) on average 0.36. Linear regression of the length of the impact on a leash for 12 months created a slope of 0.05 according to annum ($r^2 = 0.18$). The funnel-plot inspection showed a symmetrical division across the associated impact and Egger's lower part $p = 0.21$, was no robust evidence of the distortion of a small study.

Finally, the mapping of the competences indicators in the intervention components brought a frequency matrix. From the placed hyperlinks to the 80-4 indicators, there were loops of personal comments in 31 percent, exercises based on the situation in 26 percent and static e -aster in 22 percent. Live coaching was the last 21 percent. The facts of cooperation emphasized that the moral threat recognizes Rose with the help of an average of 8.3 points of the most effective, while connected to the script; The same construct has progressed simply 2.7 factors in static e-state situations.

5.0 DISCUSSION

Joint findings were painted by the staff in advance in the wallet at the same time as the wider peloton work to keep the pace, and that the unevenness of the entities much greater than the heading averages. Surprisingly, technical employees began with a higher literacy score, but the margin of fifteen or more factors is not trivial; It repeats the preparedness of readiness mapped in Ali and Khan 2024, which confirms that the infrastructure and culture themselves will no longer

elaborate daily talents. Yet the space decreased as soon as it was targeted to mastering, especially when the practice and mentoring together. This formula is struggling with the knowledge of the growing with the help of Chowdhura and colleagues 2025, who stated that the personnel credit score "secure zones of training" to transform abstract AI ideas on muscle reminiscence. Gift synthesis adds numerical theft: profits under quarantine conditions have doubled those that brought static micro studies. Such a length of action shows that adventure immersion is more than a pedagogical shot; It behaves as the necessary leadership that teams use movement, internalize probabilistic reasoning, argued assembly, kim and allday 2024 are important for real algorithmic literacy.

The lead and climate variables appeared as quiet amplifiers. Teams that scored excessive management -oriented management and psychological protection of registered competencies increase thirteen factors compared to seven and a half under much less supportive situations. The importance is discreet, but robust in industries, indicating a stable moderator, unlike contextual curiosity. Previous quality accounts indicated this hyperlink - if, Ashraf, Amin and Safdar 2023 tied the style of leadership with the attitude of readiness - but the current evaluation suggests that the association will survive quantitative control. In particular, the safety predicted the maintenance of the capabilities of eight weeks out, half of the daily disintegration found in the cohorts of e-learning self-time. Topics of elements for budgeting of educational cycles: businesses that persecuted permanent abilities should now invest in content, but also in climatic interventions that maintain interest turned on after resignation of formal programs.

The second thread is afraid of instrumentation. Correlation of the five-three point between the evaluation of literacy and self-defense of readiness means the most effective partial convergence, the echo of the warning of the structural-clarity induced through Ding and co-authors 2024. The tools therefore take over the overlapping but amazing aspects; Relying on one degree of risk of blind points. Wider settlement limits for non -technical employees provide this caution: what sales representatives know that they know that they differ significantly from what they can show than it is for builders. As a result, it seems that audits with multiple access Approach seem to be cautious, especially in combined groups in which they may want excessive confidence among non -deceit to derail the decision of deployment.

The evaluation of the sector has brought a curious leveling effect. Finance and health care have begun stronger, but have improved according to the types of the same factors of ten-champions as hospitality or school attendance. The absence of a quarterly connection shows that well -designed interventions can cross the specifics of the company and face the narrative that the ability AI is firmly locked in the region. The innovative representative, however, told a larger gentle story. Employees who have cleaned the literacy of seventy -seven percentage

recommendations, mirrors creativity, increase Dong, Tian, On and Wang 2024 among the understanding of employees. Thus, the competence is not always a compliance field; It interprets into tangible outputs of ideas.

There are restrictions through these knowledge. The evidence base remains young and somewhat urban concentrations; The contexts of small corporations and the settings of the developing market work in moderation and limit external validity. Subsequent home windows rarely stretch in sixteen weeks, you will see that there will continue to be speculative curves of disintegration. The bias of the publication cannot be excluded despite the fact that the symmetry of the funnel looked soothing; However, zero effect research can also sit in the conference drawers. The distortion of the method is also hidden: 3 high impact papers used the same scales of their own report, which increases the opportunity of unusual inflation. Future studies should diversify metrics, expand the horizons of notes and samples of peripheral economies to test generality.

The practical consequences flow in four currents. First, human resources leaders should accept gradual audits that mix objective controls with reflective self -harm, diagnose every expertise and gaps in trust. Secondly, the curriculum layout must prefer experimenting with the quarantine supplemented by peer mentoring; The micro-sanding of knowledge separately, even if it is handy, risks rapid wear of profits. Thirdly, managers must actively curate mental safety because they compensate for talents' wear and increases education yields; Simple rituals, including post mortal debriefs or "records" failure, can aim this weather. The fourth, overall performance panels must tune in innovative artifacts - submitted, delicate algorithms - in preference for merely completion and matching competences with business costs.

In the theoretical stage, the findings are focused on the socio-technical lens advancing Prikshat, Malik and Budhwar 2023. Competence appears as a dynamic balance in which technical fluency, moral reflexivity and agility in cooperation constantly export under contextual forces. The evaluation extends this model by offering empirical boundary conditions: without a leading scaffold, even a well -designed study plateau; Without experiential exercises, the non -technical set of workers at the back lags and consider weans, the risk marked via Pan, Moore, Papadimitria and Zhu 2025. These bounding brands call on students to carry beyond the readiness indexes to the adaptive framework and training intensity and training depth and depth and climate depth.

6.0 CONCLUSION

The synthesis confirms three medium knowledge. First, the bay competence between the encoders and the buyer-for the group of workers remains extensive but variable; The delta of about 16 factors eroded by half, while the adventure, when they learned, turned into a laminated at the top of the microdul and repeated the readers of the cataloged Ali and Khan 2024.

Interventions that linked the quarantine exercises with peer mentoring of the lower back standardized earnings of almost double those static e -mastering, reflecting the testimony practicing accumulated through Chowdhura and colleagues 2025. High psychological protection and project -oriented leadership raised training scores using 5 to 6 factors compared to the median, lending quantitative weights of motivational demands soon indicated Ding, Kim and Allday 2024.

Together these findings Cartoons Realistic cycle: Audit more methods, increasing gaps and climate strengthening. Its importance lies in the transfer of HR leaders repeatable plan for distributing AI functionality in heterogeneous groups, unlike concentration of understanding within the facts. Organizations that deploy one of these cycle can expect that they not only gain only literacy, but also a measurable increase in innovation art facts - administered, administered, improved fashion - indicate this competences of the performers to Advent costs.

Restriction of enthusiasm. Basic research is a recent, generally drawn from large companies in developed economies; The portability of small companies or growing markets remains not tested. Subsequent windows can hardly exceed four months and the lengthy tail of the decay of skills remains opaque. Converge ration of measurement, although mild, still leaves space for building floats and not unusual prestressing approximately cannot be fully controlled.

Future questions should therefore expand the longitudinal horizons to at least a year, mapping curves of disintegration and checking the strengtheners timed for in flex points in forgetting. Pages with multiple websites in different economic contexts could explore generality and reveal lifestyle moderators. The design of the tool must evolve closer to adaptive diagnostics that regulate the problem of the object in the actual time, and reduce the ceiling effects located between higher engineers. Finally, students should model financial payouts of competencies by connecting information about audit with downstream metrics, such as set of tempo deployment, error fees or client satisfaction. Such images could be developed near the loop between human functionality and the overall performance of organizations and develop a socio-technical lens promoted by the latest HRM scholarship, although it certainly drives it to complete evidence-based value.

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