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Human-AI Collaboration Readiness Across Generations: The Roles of Digital Skills, Growth Mindset, and Organizational Support

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ABSTRACT

Purpose: This study examines the simultaneous effects of digital skills, growth mindset, and organizational support on human-AI collaboration readiness among multigenerational academic workers, with generational cohort as a moderating variable.

Research Method: A sequential explanatory mixed-method design was employed. Quantitative data were collected from 280 academic workers at a public university in Indonesia using stratified random sampling and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The quantitative findings were further explored through semi-structured interviews with 12 key informants representing Generation X, Millennials, and Generation Z.

Results and Discussion: Organizational support emerged as the strongest and most consistent predictor of human-AI collaboration readiness across generations (β = 0.384; p < 0.001). Generational cohort significantly moderated the effects of digital skills (β = 0.110; p = 0.041) and growth mindset (β = 0.154; p = 0.004), with stronger effects among Generation Z workers. This pattern is identified as the "Generation Z Acceleration Effect." The model explained 62.4% of the variance in collaboration readiness.

Implications: The findings support generationally differentiated HR interventions for strengthening human-AI collaboration in higher education and contribute to SDGs 4, 8, and 9.

Originality: This study integrates individual capabilities, psychological orientation, organizational support, and generational differences into a unified model of human-AI collaboration readiness and introduces the Generation Z Acceleration Effect.

1) Introduction

The rapid proliferation of artificial intelligence (AI) has fundamentally transformed organizational work processes, making human-AI collaboration an increasingly important capability across sectors. Organizations are no longer merely considering whether AI should be adopted but are confronted with the challenge of preparing employees to work effectively alongside AI-based systems (Aggarwal, 2025; Ahmed, 2025). This challenge becomes particularly complex in multigenerational workplaces comprising Generation X, Millennials, and Generation Z, whose technological experiences, learning orientations, and patterns of technology adoption may differ substantially (Kanungo, 2025; Kerstetter, 2025). Inadequate readiness for human-AI collaboration may therefore create competency disparities, intergenerational tensions, productivity constraints, and barriers to organizational innovation (Simon et al., 2025).

This issue is particularly relevant to public universities, where AI is increasingly integrated into teaching, research, administration, and institutional decision-making (Goyal et al., 2025). Nevertheless, academic and administrative workers may demonstrate different levels of readiness to collaborate with AI. Digital skills represent an essential foundation because basic digital literacy alone may no longer be sufficient for effectively interacting with generative AI and other intelligent systems

(Priya, 2024). Growth mindset is also increasingly relevant because employees who perceive their abilities as developable may be more willing to learn, experiment with, and adapt to rapidly evolving technologies (Müller, 2025). At the institutional level, organizational support through training, technological infrastructure, managerial encouragement, and clear AI-related policies may further facilitate workforce readiness (Allen et al., 2025).

Recent studies have examined several dimensions associated with workforce digital transformation and AI adoption. Doargajudhur and Baboo (2024) investigated the implications of digital technologies for multigenerational workforces in post-pandemic environments, highlighting generational differences in technological adaptation. However, their study did not empirically examine whether generational differences moderate the determinants of AI-specific collaboration readiness. Putra (2024) and Yunita and Isnaini (2024) investigated digital leadership and organizational culture in the Indonesian context, demonstrating the importance of organizational factors in facilitating digital transformation. Nevertheless, these studies did not integrate growth mindset as an individual psychological capability associated with AI collaboration.

Related research has also emphasized digital competencies and perceptions of human–AI interaction. Andrei et al. (2024) examined perceptions of human–AI collaboration but did not explicitly incorporate multigenerational differences into the analytical model. Similarly, Cordella et al. (2023) identified digital skills gaps in the public sector, yet their analysis was not specifically directed toward human–AI collaboration readiness and did not examine generational cohort as a moderating mechanism. More recently, Zong et al. (2025) investigated human–AI interactions across broader contexts; however, the applicability of such findings to non-Western higher education institutions remains insufficiently understood.

These limitations reveal an important empirical and theoretical gap. Existing research remains fragmented across technological competence, psychological orientation, and organizational conditions, while limited attention has been given to their simultaneous effects on human–AI collaboration readiness. More importantly, generational differences have frequently been treated descriptively rather than examined as a moderating mechanism that may strengthen or weaken the relationships between individual and organizational determinants and AI collaboration readiness. Evidence from Indonesian public universities is particularly limited, despite their distinctive institutional structures, workforce diversity, and rapidly evolving digital transformation agenda.

Accordingly, this study addresses the following research question: How do digital skills, growth mindset, and organizational support influence human–AI collaboration readiness, and to what extent does generational cohort moderate these relationships among academic workers in an Indonesian public university? The study aims to examine the simultaneous effects of digital skills, growth mindset, and organizational support on human–AI collaboration readiness and to determine whether these relationships differ across Generation X, Millennials, and Generation Z. The novelty of this study lies in developing and empirically validating the KESIAP-AI Model, which integrates technological competence, psychological adaptability, and organizational support within a unified multigenerational framework. Rather than merely comparing readiness levels across generations, the model conceptualizes generational cohort as a moderating mechanism, thereby providing a more nuanced explanation of how workforce characteristics shape human–AI collaboration readiness in a non-Western higher education context.

The remainder of this paper is organized as follows. The next section reviews the theoretical foundations and relevant literature and develops the research hypotheses. The subsequent section describes the research methodology, followed by the presentation and discussion of the empirical findings. The final section presents the theoretical and practical implications, research limitations, recommendations for future research, and conclusions.

2) Literature Review and Hypothesis Development

Human–AI collaboration readiness refers to workers' preparedness to interact effectively, adaptively, and responsibly with artificial intelligence in performing organizational tasks. The concept extends beyond technological proficiency by incorporating cognitive, psychological, behavioral, and organizational dimensions (Andrei et al., 2024). Allen et al. (2025) conceptualized readiness as a

multidimensional construct involving cognitive openness, technical competence, and institutional preparedness. In higher education, such readiness is reflected in employees' willingness and ability to integrate AI into teaching, research, and administrative activities while maintaining critical judgment and ethical awareness (Zong et al., 2025).

This study conceptualizes human–AI collaboration readiness through the interaction between individual capabilities and organizational conditions. Digital skills represent employees' technological capability to engage with AI, while growth mindset represents their psychological capacity to learn and adapt. Organizational support provides the institutional environment that enables these individual capabilities to be translated into effective AI collaboration. This perspective is consistent with Ahmed (2025), who argues that sustainable AI transformation requires both workforce capabilities and supportive institutional conditions. Accordingly, human–AI collaboration readiness is positioned as an outcome of technological competence, adaptive psychological orientation, and organizational enablement.

Digital skills constitute a fundamental individual capability for effective human–AI collaboration. Cordella et al. (2023) argue that digital skills extend beyond technical proficiency to include the cognitive ability to evaluate, select, and adapt digital technologies according to specific work requirements. Within higher education, these capabilities may include the use of learning management systems, data analytics applications, AI-assisted research platforms, generative AI, and digital administrative systems.

As AI technologies become increasingly sophisticated, basic digital literacy may no longer adequately prepare employees for AI-enabled work. Priya (2024) emphasizes the importance of adaptive digital competencies that enable workers to continuously navigate technological change. Similarly, Müller (2025) reports that institutions with comprehensive digital capability development demonstrate stronger AI adoption. Nevertheless, existing studies have predominantly examined digital skills in relation to technology adoption rather than employees' readiness to work collaboratively with AI. This distinction is important because human–AI collaboration requires not only the ability to operate technology but also the capacity to evaluate, communicate with, and critically utilize AI-generated outputs. Therefore, employees with stronger digital skills are expected to demonstrate greater readiness for human–AI collaboration.

H1: Digital skills have a positive and significant effect on human–AI collaboration readiness.

Growth mindset refers to individuals' belief that their abilities and competencies can be developed through learning, effort, and experience. Such an orientation is particularly relevant in AI-driven workplaces because technological capabilities and job requirements continue to evolve. Employees with a stronger growth mindset are more likely to perceive technological changes as learning opportunities rather than threats and consequently demonstrate greater willingness to experiment with emerging technologies. Kanungo (2025) identifies growth mindset as an important characteristic enabling employees to navigate technological transitions. Simon et al. (2025) further demonstrate that growth-oriented attitudes contribute to AI adoption, particularly among younger workers. Similarly, Doargajudhur and Baboo (2024) emphasize learning agility as an important workforce capability in technologically disrupted workplaces. However, the literature has paid limited attention to whether growth mindset directly contributes to readiness for sustained collaboration between humans and AI within higher education. Building on these findings, employees who perceive their capabilities as continuously developable should be more willing to learn AI applications, respond constructively to technological challenges, and adapt their work practices.

H2: Growth mindset has a positive and significant effect on human–AI collaboration readiness.

Individual capabilities alone may be insufficient to generate effective human–AI collaboration when organizations fail to provide appropriate resources and institutional conditions. Organizational support in the context of AI transformation encompasses technological infrastructure, training opportunities, leadership commitment, organizational policies, technical assistance, and an institutional culture that encourages responsible experimentation with emerging technologies.

Putra (2024) argues that adequate resources, leadership commitment, and clear institutional policies are prerequisite conditions for successful digital transformation in academic institutions. Yunita and Isnaini (2024) similarly demonstrate that digital leadership and organizational culture contribute to employees' readiness for technological change. Furthermore, Andrei et al. (2024) indicate that perceived organizational support facilitates employees' engagement with AI technologies. These findings suggest that employees are more likely to develop confidence and willingness to collaborate with AI when their institutions provide adequate technological and managerial support. However, organizational support has rarely been integrated with digital skills and psychological adaptability within a unified model of human–AI collaboration readiness.

H3: Organizational support has a positive and significant effect on human–AI collaboration readiness.

3) Research Design and Methodology

This research is explanatory in nature with a primary quantitative approach. This was further supplemented by the use of qualitative semi-structured interviews. The outcome of this was to clarify and enrich the interpretation of the data. The study took place for a period of one year at Universitas Sulawesi Barat, from January to December 2026.

The entire population involved all the 1200 lecturers and educational staff of Universitas Sulawesi Barat. Based on the recommendation of Hair et al. (2022) for PLS-SEM, where a minimum sample of ten times the number of formative indicators or 150-300 respondent should be used, a sample of 280 respondents was drawn from the population using stratified random sampling based on generational proportion: Generation X (25%, n=70); Millennials (50%, n=140); Generation Z (25%, n=70).

The researchers adapted a structured questionnaire with a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree) from the previous literature. Digital Skills (X1) was measured through six indicators, namely; data literate, digital communication, digital security, technical problem-solving, AI tools adaptation and digital ethics. These constructs were adapted from Priya (2024) & Cordella et al. (2023). According to Müller (2025), participants' growth mindset (X2) was operationalized with 5 indicators consisting of belief in learning, resilience to failure, feedback seeking, challenges as opportunity, and self-development orientation. Adapted from Allen et al. (2025) and Yunita and Isnaini (2024), Organizational Support (X3) has six indicators comprising supervisor support, AI training, technological infrastructure, recognition of digital initiatives, AI policy clarity, and peer support. The measurement of Human-AI Collaboration Readiness (Y) was ascertained through five indicators involving technical readiness, trust in AI output, capability to supervise AI, reallocation/role flexibility and perceived value-added by AI (Aggarwal, 2025; Ahmed, 2025; Andrei et al. 2024) in this study. To investigate moderation effects, multigenerational cohort (M) was initially conceptualised as a categorical variable (Gen Z = 1; Millennials = 2; Gen X = 3) and subsequently dummy coded, with Generation X as the baseline category (Kanungo, 2025; Simon et al., 2025).

QR Codes were added to other offline printed materials (e.g. brochures). Semi-structured interviews supported the quantitative findings with 12 key informants, representative of all generational cohorts and functional roles. The data analysis had been conducted with the help of Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0. The process of analysis included the evaluation of the outer model (converging validity: AVE > 0.50, outer loadings > 0.70; discrimination validity: Fornell-Larcker criterion and HTMT < 0.90; the reliability of Composite Reliability > 0.70, and Cronbach Alpha > 0.70) and the inner model (the coefficient of determination R^2, predictive relevance Q^2, and the bootstrapping of 5,000 subsamples path coefficients and tests of moderation through the product indicator approach).

4) Results and Discussion

a) Results

Out of the 280 respondents, 52% of them were female and 48% were male. The distribution of educational backgrounds included Bachelor's (35%), Master's (45%), and Doctoral (20%). In terms of designation 60% were lecturers 40% were educational employees. Based on the descriptive statistics from Table 1, all x-variables had a positive perception meaning the respondents viewed the items

positively. The highest mean score of 5.82 in X3 Organizational Support and the largest standard deviation of 1.02 in X2 Growth Mindset signify that respondents perceived these criteria positively.

Table 1. Descriptive Statistics of Research Variables

Variable	Min	Max	Mean	Std. Dev
Digital Skills (X1)	2.33	7.00	5.41	0.95
Growth Mindset (X2)	1.80	7.00	5.22	1.02
Organizational Support (X3)	2.50	7.00	5.82	0.88
Human-AI Collaboration Readiness (Y)	2.40	7.00	5.64	0.91

***Source**: Primary data processed (2026)*

When intergenerational cohort was analyzed, Gen Z had slightly higher mean scores in Digital Skills (5.58) and Growth Mindset (5.41) as compared to Millennials (5.38; 5.19) and Gen X (5.29; 5.08). Organizational Support, however, was perceived relatively uniformly across all generations (Gen X: 5.79 Millennials: 5.83 Gen Z: 5.84).

Evaluating the measurement model

All the constructs met the convergent validity criteria which had outer loading that ranged from 0.754 to 0.882 (above the limit of 0.70), AVE value that varied between 0.679 and 0.726 (above the limit of 0.50), Composite Reliability that had between values 0.924 and 0.929 as well as Cronbach's Alpha that varied between values 0.897 and 0.908 which can be seen in Table 2.

Table 2. Convergent Validity and Construct Reliability

Construct	Indicators	Outer Loadings	AVE	CR	Alpha
Digital Skills (X1)	X1.1 – X1.6	0.757 – 0.868	0.684	0.928	0.908
Growth Mindset (X2)	X2.1 – X2.5	0.815 – 0.882	0.726	0.929	0.906
Organizational Support (X3)	X3.1 – X3.6	0.754 – 0.872	0.679	0.927	0.905
Human-AI Collaboration Readiness (Y)	Y1.1 – Y1.5	0.804 – 0.878	0.708	0.924	0.897

***Source**: SmartPLS 4.0 output (2026)*

Discriminant validity was confirmed by observing the Fornell-Larcker criterion (Table 3) where the square root of the AVE of each construct (diagonal values) was greater than the correlations of the construct with every other construct. All the construct pairs HTMT values were less than the conservative threshold 0.90.

Table 3. Discriminant Validity: Fornell-Larcker Criterion

Construct	X1	X2	X3	Y
Digital Skills (X1)	**0.827**			
Growth Mindset (X2)	0.618	**0.852**		
Organizational Support (X3)	0.545	0.504	**0.824**	
Human-AI Collaboration Readiness (Y)	0.663	0.617	0.660	**0.841**

Note: Diagonal values represent √AVE
***Source**: SmartPLS 4.0 output (2026)*

Evaluation of the structural model.

The predictive power of the structural model was strong. The R^2 for Human-AI Collaboration Readiness (Y) was 0.624, meaning Digital Skills, Growth Mindset, and Organizational Support taken together explain 62.4% of the variance in readiness. The predictive relevance value (Q^2) of 0.413 confirmed a strong predictive ability of the model.

Testing of Direct Effects Hypothesis.

According to the bootstrapping results (5,000 subsamples) in Table 4, all direct hypotheses tested were accepted at the $p < 0.001$ significance level.

Table 4. Direct Effects Hypothesis Testing Results

Hypothesis	Path	β	t-Statistic	P-Value	Decision
H1	Digital Skills → Human-AI Collaboration Readiness	0.346	5.812	0.000	Accepted
H2	Growth Mindset → Human-AI Collaboration Readiness	0.277	4.399	0.000	Accepted
H3	Organizational Support → Human-AI Collaboration Readiness	0.384	6.154	0.000	Accepted

Source: *SmartPLS 4.0 bootstrapping output (2026)*

The strongest predictor was Organizational Support (β=0.384), followed by Digital Skills (β=0.346) and Growth Mindset (β=0.277). Figure 1 illustrates the complete structural model with path coefficients for the "KESIAP-AI" model and its R^2 values.

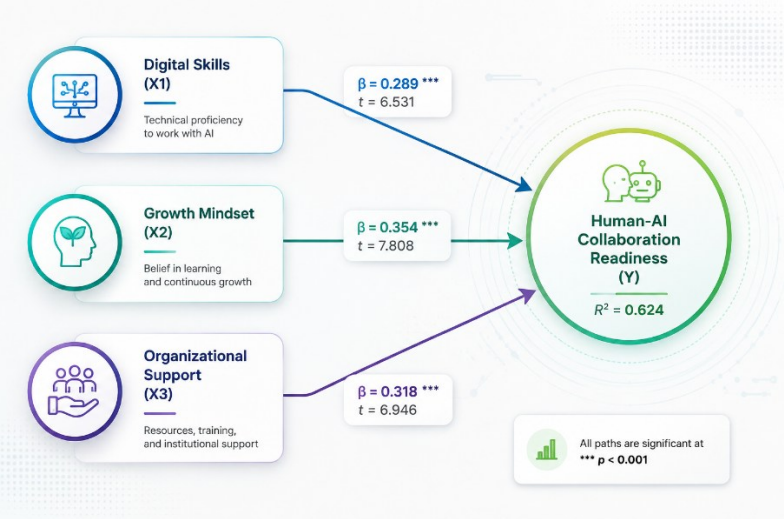

Figure 1. The "KESIAP-AI" Structural Model with Path Coefficients and R^2
Source: *SmartPLS 4.0 bootstrapping output (2026)*

Influence of Multiple Generations on Cohorts.

Dummy variables were used for moderation analysis, with Generation X as the reference group. According to information in Table 5, there are two relationships that were significantly moderated due to differences between generations.

Table 5. Moderation Effects Testing Results

Interaction Path	B	t-Statistic	P-Value	Conclusion
Digital Skills × Gen Z → Y	0.110	2.051	0.041	Significant (Strengthened)
Digital Skills × Millennial → Y	0.002	0.030	0.976	Not Significant
Growth Mindset × Gen Z → Y	0.154	2.897	0.004	Significant (Strengthened)
Growth Mindset × Millennial → Y	0.085	1.351	0.177	Not Significant
Organizational Support × Gen Z → Y	-0.003	0.052	0.959	Not Significant
Organizational Support × Millennial → Y	-0.109	1.687	0.092	Not Significant

Source: *SmartPLS 4.0 bootstrapping output (2026)*

The Digital Skills × Gen Z interaction effect (β=0.110, p=0.041) was positive, indicating that the effect of Digital Skills on Human-AI Collaboration Readiness is stronger for Generation Z than for

Generation X. Similarly, the Growth Mindset × Gen Z interaction effect (β=0.154, p=0.004) showed that the effect of Growth Mindset is stronger for Generation Z. Further, the Millennial group did not moderate any of the relationships significantly. Overall, the effect of Organizational Support on Human-AI Collaboration Readiness was not moderated by generation indicating its significance across all generations.

Figure 2. Generational Moderation of Growth Mindset and Human–AI Collaboration Readiness
***Source**: SmartPLS 4.0 bootstrapping output (2026)*

Analysis of the Findings: The Moderating Role of Generation in the Relationship between Growth Mindset and Human-AI Collaboration Readiness:

By conducting 12 semi-structured interviews of key informants this study has reinforced as well as contextualized the findings of the analysis. A Gen X admin head said it best about institutional. To contextualize and enrich the quantitative findings, semi-structured interviews were conducted with 12 key informants representing generational cohorts and diverse functional roles. The qualitative data provided nuanced interpretations of the moderation effects observed in the structural model. A Generation X administrative head articulated the importance of institutional structure, stating: "I didn't grow up with this tech but if the university is serious about structured training with clear SOPs (not half-day workshops), I am fully ready."

A Millennial academic emphasized the role of peer validation and institutional endorsement: "I already use AI for research but at times have doubts if there is official campus support about which tools are recommended and colleagues to discuss with, that's reassuring."

A Generation Z library staff member underscored the motivational significance of autonomy and challenge: "I feel ready because I am used to digital tools. But what drives me is being given challenges to explore AI and not just routine tasks. That's where my skills grow and can be put to use."

Thematic analysis of interview data revealed three dominant patterns corresponding to generational preferences: (1) policy reassurance and structured guidance for Generation X, emphasizing formal training programs, clear standard operating procedures, and dedicated technical support; (2) learning community and collaborative validation for Millennials, highlighting the need for peer networks, communities of practice, and institutional recognition mechanisms; and (3) autonomous exploration and challenging opportunities for Generation Z, focusing on project-based assignments, hackathons, and opportunities to engage with cutting-edge AI applications. These qualitative themes substantiate the statistical moderation findings and provide actionable insights for differentiated HR interventions.

b) **Discussion**

This research makes several key contributions to the human-AI collaboration literature and the management of the multigenerational workforce. The results offer strong evidence for a model that explains how individual competencies, psychological orientation, and organizational context are

influenced by generational identity, thus influencing the readiness to collaborate with artificial intelligence.

Organizational Support is the universal base.

The finding for Organizational Support being the strongest predictor ((ß=0.384)) whose effect is not moderated by the generational difference offers a strong empirical support for Social Exchange Theory (Allen et al., 2025) from the new context of human-AI collaboration. In the formal contexts offered by higher education institutions, organizational support (e.g., provision of AI training, clear policies, modern technological infrastructure, supportive management) is considered a must have for readiness across all generations. The study extends the findings of Cordella et al. (2023), who highlight the digital skills gaps within the public sector, as they had not empirically proved the primacy of the organizational support mechanism.

The implication is clear: an organization should invest in these supportive AI ecosystems as that leverage point for workforce readiness. Organizational support enhancement will most universally raise readiness, which is not the case for digital skills and growth mindset for which differing approaches may require to be taken generationally. According to Ferreira et al. (2025), this finding directly contributes to SDG 8 (Decent Work and Economic Growth) through the creation of adaptive, inclusive work environments and to SDG 9 (Industry, Innovation and Infrastructure) through the provision of enabling technological infrastructure.

Effect of the Generation Z

This study reports a novel finding which can be termed as Generation Z Acceleration Effect. The strong positive moderating effect on Digital Skills–Readiness (ß=0.110, $p<0.05$) and Growth Mindset–Readiness (ß=0.154, $p<0.01$) relationships specifically for Generation Z suggests that this cohort will exhibit a greater degree of readiness than Generation X in response to investments in skill development and mindset creation. This could be because Generation Z are true digital natives who possess high self-development expectations (Kanungo, 2025; Kerstetter, 2025). For Generation Z, opportunity to co-create with AI is not about having access to the tool but an opportunity for growth and challenge. An AI-ready generation, they are accelerated appropriately, they become digital natives with a growth mindset and are better prepared. This finding expands the UTAUT framework by indicating that the relationship between facilitating conditions and behavioral intention relies on generational psychological characteristics (Andrei et al., 2024).

On the other hand, for Generation X, while digital capabilities and growth mindset have a positive impact, their impact is weaker. According to previous studies, Generation X might suffer from more technostress and prefer stability over explorative learning according to Doargajudhur and Baboo (2024). This cohort depends relatively more on structured organizational support that is, on clearly defined policies that help them step by step and a helpdesk service dedicated to providing assistance.

Consequences for Success of SDGs

The empirical findings of this study provide concrete, data-driven foundations for SDG contributions. The validated KESIAP-AI model, explaining 62.4% of variance in collaboration readiness, offers measurable benchmarks for institutional capacity building. Specifically, the finding that organizational support exerts the strongest universal effect (ß=0.384, $p<0.001$) suggests that investments in AI infrastructure, clear policies, and training programs directly address SDG 9 targets by building resilient technological infrastructure and fostering innovation ecosystems. The differentiated interventions proposed in Table 6 operationalize SDG 4 by enhancing educator competencies and pedagogical quality through generationally-appropriate AI training. Simultaneously, the Generationally Intelligent HRM Framework contributes to SDG 8 by creating adaptive, dignified work environments that leverage generational diversity as a strategic asset rather than a barrier a finding directly supported by the moderation analysis showing differential pathway effectiveness across generations.

Through the study, higher education institutions can measure their efforts while contributing to various sustainable development goals. Concerning SDG 4 (Quality Education), the validated model

indicates that improving ready educators and staff to work with AI will enhance the quality of human capital in educational institutions and will affect graduates' quality. Regarding SDG 8, the evidence-based interventions in the "Generationally Intelligent HRM Framework" derived in this study (Table 6) will help create adaptive, dignified work in the era of AI. Policy and infrastructure recommendations emanating from the findings promote innovation within campus' ecosystems as per SDG 9 (Goyal et al., 2025).

Table 6. Generationally Differentiated HRM Intervention Matrix

Generation	Key Characteristics	Recommended Intervention	Concrete Example
Gen X	Stability-oriented, requires clear guidance, potential technostress	Structured and intensive support: formal training programs, detailed SOPs, dedicated AI helpdesk, one-on-one mentoring	"AI Reverse Mentorship Program" (Gen Z mentoring Gen X on AI tools)
Millennials	Collaborative, requires social validation, pragmatic	Community and validation: AI Communities of Practice, collaborative AI projects, peer recognition mechanisms	"AI Collaborative Project Award" with cross-functional teams
Gen Z	Autonomous, challenge-driven, highly adaptive, growth-oriented	Challenge and exploration: AI hackathons, micro-credentials, project-based assignments with cutting-edge AI tools	"Campus AI Challenge: Solving Real Campus Problems Using AI"

***Source**: Developed from research findings (2026)*

Contributions and Limitations of Theory

The theoretical contributions of this study extend beyond mere empirical confirmation to offer novel conceptual insights. First, by integrating Social Exchange Theory (Allen et al., 2025) with the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, this research demonstrates that human-AI collaboration readiness is not solely determined by technological factors but is fundamentally shaped by reciprocal organizational-individual exchanges. The finding that organizational support uniformly predicts readiness across generations suggests that institutional investments generate returns through enhanced workforce engagement a principle consistent with social exchange mechanisms. Second, the identification of the "Generation Z Acceleration Effect" enriches generational theory by moving beyond simplistic cohort stereotypes to identify differential responsiveness to developmental interventions. This finding implies that Generation Z workers, characterized by digital nativity and growth orientation, exhibit higher marginal returns from skill development investments compared to older cohorts. Third, the validated KESIAP-AI Model provides an empirically grounded framework that bridges micro-level psychological constructs (growth mindset) with meso-level organizational factors (support) and macro-level demographic characteristics (generation), offering a holistic perspective on AI readiness that has been conspicuously absent in prior literature.

This study contributes to the literature in three main ways. To begin, this work clarifies the application of the Social Exchange Theory and the UTAUT model in the field of human-AI collaboration by demonstrating the role of psychological variables (growth mindset) along with contextual variables (organizational support), and demographic characteristics (generation) in shaping readiness. This research contributes to the literature in two important ways. First, it offers an empirically tested theory as a foundation for depicting an evolving model of human-AI collaboration in a rich educational setting. In addition, it presents the notion of the "Generation Z Acceleration Effect," which elaborates on the idea of generational moderation beyond simplistic generational stereotypes.

Nonetheless, several limitations must be noted. Due to the fact that the research was conducted in one institution, applicability was limited. Although the study's objective is undoubtedly explanatory (not predictive), a cross-sectional design does not enable us to characterize the causal dynamics of the situation over time. Further studies should broaden the model across various institutions and sectors, utilize longitudinal designs and create the AI Readiness Index instrument whose foundations have been established in this research.

5) Conclusion

This study provides robust empirical evidence that human-AI collaboration readiness among the multigenerational higher education workforce is jointly determined by digital skills, growth mindset, and organizational support, with generational identity moderating specific pathways. Organizational support emerged as the strongest and most universal predictor (ß=0.384, p<0.001), irrespective of generation, establishing it as the foundational condition for AI readiness. While digital skills and growth mindset positively influence readiness across all cohorts, their effects are significantly amplified for Generation Z a phenomenon we term the "Generation Z Acceleration Effect" (digital skills: ß=0.110, p=0.041; growth mindset: ß=0.154, p=0.004) indicating that developmental investments yield highest returns for this cohort.

The validated "KESIAP-AI" Model, explaining 62.4% of the variance in collaboration readiness, offers higher education administrators a theoretically grounded and empirically tested framework for designing generationally intelligent HR interventions. The differentiated intervention matrix presented herein provides concrete actions aligned with SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure). We recommend that institutions move beyond a one-size-fits-all approach to AI readiness by implementing evidence based, generationally-sensitive strategies that view generational differences not as barriers but as strategic assets for navigating technological transformation. Future research should extend this model across diverse institutional and sectoral contexts, employ longitudinal designs to establish causal dynamics, and develop the AI Readiness Index instrument whose foundations are established in this study.

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Statement on the Use of Generative Artificial Intelligence (AI)

During the preparation of this manuscript, the authors used **ChatGPT (OpenAI) and Grammarly** solely to support language editing, grammar correction, clarity, and readability. All AI-assisted content was critically reviewed, revised, and validated by the authors. These tools were not used as authors or as substitutes for scientific judgment, data analysis, interpretation of findings, or the formulation of conclusions. The authors take full responsibility for the accuracy, originality, integrity, and final content of the manuscript. This disclosure complies with the journal's Policy on the Use of Generative Artificial Intelligence (GenAI).

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