Preparing for an AI-Mediated Future

A Mixed-Methods Study of How Media & Communication Students and Professionals Perceive Required AI and Professional Competencies

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The media landscape has entered a new era, shaped by the tectonic forces of Artificial Intelligence (AI) technologies. From generative language models like ChatGPT to AI-powered video editors and transcription tools, these innovations fundamentally alter how information is produced, distributed, and consumed (Nam, 2023). With over 5.2 billion active social media users globally, over 63% of the world's population, communication tasks now routinely involve AI, including in journalism, marketing, social media management, and public relations (Lee & Meng, 2021).

Emerging AI tools reshape everyday tasks in media and communication, offering new possibilities for content creation, data analysis, strategic audience engagement, and workflow optimization (Chanduvi, 2023; Verma & Sun, 2024). The power of these tools implies a shift in professional competencies: from technical literacy and strategic implementation to critical thinking, ethics, and human-AI collaboration (UNESCO, 2025; Carolus et al., 2023) and challenges higher education to rethink how we teach, learn, and prepare for the future workplace. Although AI usage is being promoted and proliferates, usage practices and perceptions of AI tools vary both between and within sectors, given distinct expectations and practices.

Despite the growing relevance of AI in daily work settings, empirical research remains scarce on how students and professionals in media and communication — identified by the U.S. Bureau of Labor Statistics (2025) as one of the primary occupational groups — adopt AI tools and grasp the professional competencies stimulated or transformed by these technologies.

Drawing on Rogers' (2003) Diffusion of Innovation Theory and the UNESCO AI Competency Framework, this study investigated and compared how media and communication students and professionals (1) apply AI tools in academic and everyday work, (2) perceive the importance of AI-specific competencies, and (3) assess the relevance of core professional skills. In doing so, it offers practical implications and fosters critical dialogue on the opportunities and risks of generative AI in our rapidly evolving landscape.

While employing distinct data-collection methods for each group limits direct comparability, we nonetheless used a mixed-methods approach that collected survey responses from students in Media and Communication majors and conducted in-depth interviews with senior industry professionals in the media industries. This dual-perspective analysis can illuminate where emerging and established professionals (i.e., students and industry professionals) align and where they differ, informing curricular and professional development strategies in higher education systems, particularly in media and communication, aimed at identifying and bridging the potential AI competency gap. Ultimately, this paper contributes to a nuanced understanding of how the next generation of media and communication practitioners can achieve "AI readiness" in an era defined by rapid technological change, ethical complexity, and the need for hybrid human-AI competencies.

AI Tool & Diffusion of Innovations (DoI)

In the AI-mediated age, the advent of AI tools has transformed the communication landscape. Their integration has enhanced operational efficiency, enabled personalized content creation, and introduced innovative learning modes (Ivcevic & Grandinetti, 2024; Lee & Meng, 2021). To better understand how AI tools are adopted and normalized across various sectors, the DoI theory (Rogers, 2003) offers a valuable conceptual framework. By applying DoI to the study

of AI adoption, researchers can more effectively assess not only the conditions under which AI technologies are embraced, but also the broader socio-technical dynamics that facilitate—or hinder—their diffusion (Chawla, 2024; Ferreira et al., 2022). In particular, Rogers' five key attributes of innovation—relative advantage, compatibility, complexity, trialability, and observability—offer a lens to look into how and why individuals, in this study, the students or senior professionals, choose to engage with emerging AI tools.

In academic contexts, AI tools are integrated into learning and communication practices, enhancing both efficiency and output quality. Recent studies show that tools like ChatGPT can support students in creative storytelling, especially those with lower baseline creativity, by acting as a co-creative partner (Ivcevic & Grandinetti, 2024). A national survey further indicates that 53% of college students have been assigned coursework involving the use of AI technologies (Nam, 2023). These tools aid in literature synthesis, content structuring, and language refinement. Platforms such as ChatGPT, Perplexity, Claude, Gemini, DeepSeek, and Grammarly are widely used to generate, organize, and polish academic and professional writing (Alqahtani et al., 2023). Additionally, tools like Qualtrics and Deep Research apply natural language processing (NLP) to analyze open-ended responses, extracting sentiment and thematic patterns to inform communication strategies. From an industry perspective, AI-enabled systems and techniques are reshaping workplace practices and organizational processes. Within this digitally transformed environment, professionals rely on AI and data-driven systems to streamline workflows, enhance strategic decision-making, and support real-time collaboration (Lee & Meng, 2021). This integration enables industry people to develop creative competencies along a continuum that spans from mini-c (personal learning and insight) to big-C (societal-level innovation) (Al Naqbi, Bahroun, & Ahmed, 2024; Ivcevic & Grandinetti, 2024). For example,

OpenAI's ChatGPT and Notion AI are used for content generation and summarization tasks across journalism, public relations, and corporate communication. Tools such as MidJourney, Canva, Runway, and HeyGen automate visual storytelling through avatar generation, video production, and advanced editing (Chazen, 2025), while platforms like Otter.ai and Notta provide real-time transcription and multilingual translation, enabling the improvement of communication efficiency and reducing linguistic barriers (Ateeq et al., 2024).

The adoption of AI tools by communication professionals can be understood by examining the attributes proposed in the DoI theory. The *relative advantage* of AI tools lies in improved productivity, faster content creation, and broader audience engagement. *Compatibility* with current workflows, user-friendly design, and *trialability* through freemium models make these tools more accessible. The *observability* of clear outcomes—such as quicker delivery and enhanced creativity—further drives adoption. DoI theory offers a valuable framework for understanding how AI tools transition from optional aids to integral components of professional communication practice.

The growing use and impact of AI across both educational and professional contexts facilitate the need to explicate these perceptual alignments or differences between academia and industry in terms of AI usage. This leads to the first research question:

***RQ1*:** How do (a) students and (b) professionals in media and communication perceive the motivation for adopting AI tools across five innovation attributes—*relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*?

AI Competency

Understanding the competencies needed for meaningful and responsible AI-tool use is essential to contextualize their widespread applications.. AI competency refers to the knowledge,

skills, and attitudes that enable individuals to understand, use, and evaluate artificial intelligence in meaningful and responsible ways. It encompasses technical understanding and the ability to think critically, act ethically, and collaborate effectively with AI systems (Ng et al., 2021; Carolus et al., 2023). As AI becomes increasingly integrated into communication work, professionals and students are developing a range of competencies to adapt to these changes (López Jiménez & Ouariachi, 2021; Tenório & Romeike, 2023) and thereby give momentum to the diffusion of AI as an innovation.

To explore how these competencies are perceived and valued, this study draws on a framework informed by guidelines from UNESCO (2025) and the Meta AI Literacy Scale (MAILS) developed by Carolus et al. (2023). This framework includes three main domains: Understand & Apply, AI Ethics, and Human–AI Collaboration. Each domain is divided into two subskills: Technical Understanding, Strategic Implementation, Ethical Considerations, Critical Thinking & Analysis, Adaptability & Continuous Learning, and Human–AI Collaboration. Together, these six areas reflect technical and professional abilities essential for working with AI in the communication field.

Understand & Apply

This domain includes two skills. The first is *technical understanding*, which means knowing how AI works, such as algorithms and data use. The second is *strategic implementation*, which refers to using AI tools effectively and with human oversight, integrating them in alignment with organizational or project goals. Ng et al. (2021) explain that these skills start with basic knowledge and move toward using AI in real tasks. Carolus et al. (2023) also emphasize that a core part of AI literacy is understanding how AI systems work—their

capabilities, limitations, and appropriate contexts for use—and being able to apply them effectively.

In the media and communication fields, the structural impact of AI on above mentioned skills is salient .López Jiménez and Ouariachi (2021) point out that AI is changing how communication professionals work. People need to understand data and how to use AI in their jobs. Using AI tools effectively—for example, writing prompts or analyzing content—is now a fundamental skill. The strategic implementation requires students and professionals to have knowledge about AI systems and apply them in real-world communication tasks.

AI Ethics

The second domain is AI ethics, which includes *ethical considerations and critical thinking & analysis*. These skills enable people to consider the impact of AI and how to utilize it responsibly. Ethical considerations involve being fair, avoiding bias, protecting privacy, and using AI to help rather than harm. Critical thinking means questioning AI results and checking for mistakes or biases. As UNESCO (2025) and Carolus et al. (2023) argue, a strong understanding of ethics is not just ideal, but necessary for preventing harm, ensuring accountability, and guiding the responsible integration of AI into everyday practices. Many researchers echo this view of AI use. For example, López Jiménez and Ouariachi (2021) highlight that communication professionals must consider transparency and bias when using AI. Similarly, Tenório and Romeike (2023) argue that students should be trained to use AI safely and ethically. This means they must evaluate AI-generated results carefully and consider whether the outcomes are accurate and fair. This domain ultimately reminds us that using AI is not just about technical proficiency, but also about mindful and ethical engagement.

Human–AI Collaboration

The third domain focuses on working well with AI. It includes *adaptability* & *continuous learning,* and Human–AI Collaboration. Adaptability means being open to change and ready to keep learning new things as AI tools change. Human–AI collaboration refers to working alongside AI systems in ways that enhance teamwork, while still relying on human judgment and creativity to make final decisions.

UNESCO (2025) encourages a "human-centered" mindset, where people understand both the capabilities of AI and the areas where human judgment, empathy, and creativity remain essential. Carolus et al. (2023) highlight human attributes such as confidence in mastering new AI tools, self-regulation in AI use, and adaptability in response to technological change. Confidence, in this context, refers to a self-efficacy in engaging with AI tools without being an expert, seeing AI as something learnable and controllable rather than overwhelming. These skills help individuals stay current, maintain control over how they use AI, and collaborate effectively with AI systems in professional settings.

Today, many communication tasks involve AI, such as using chatbots, AI-assisted writing tools, or data analysis powered by AI. Professionals are increasingly expected to understand and work effectively with these technologies. López Jiménez and Ouariachi (2021) mention that people in the field of communication need to keep learning and adapting. Tenório and Romeike (2023) also emphasize that schools should prepare students to continuously learn and adapt as AI technologies evolve. This includes developing the mindset and skills needed to keep up with rapid changes, stay informed about new tools, and responsibly integrate AI into their future work. In short, this domain helps people work alongside AI smartly and flexibly.

Drawing on these insights, our study aims to investigate the following research question:

***RQ2*:** How do media and communication(a) students and (b) professionals perceive the importance of AI competencies?

Professional Competency

The integration of AI into communication professions is reshaping how common professional competencies are defined and applied. While AI shows great potential in enhancing efficiency and productivity across the industry (Jiménez & Ouariachi, 2020; Zerfass et al., 2020), it also raises concerns about job displacement and ethical risks such as algorithmic bias and data privacy intrusion (Morapeli & Khemisi, 2024; Mirek-Rogowska et al., 2024). As more tasks—especially in public relations and marketing—are automated (Arief & Gustomo, 2020), professionals are expected to combine AI proficiency with human-centered abilities such as creativity, strategic thinking, and intercultural communication (Jiménez & Ouariachi, 2020; Dai et al., 2024).

Competency frameworks, such as those developed by the Graduate Management Admission Council (GMAC), emphasize that future-ready communication professionals must balance technical know-how with interpersonal, ethical, and leadership skills (Estrada-Worthington et al., 2017). Character-based traits—particularly integrity—should be prioritized, as they represent qualities that AI cannot easily replicate (Cardon et al., 2024). These shifts require not only skill adaptation but also innovative teaching and assessment approaches in communication education (Dai et al., 2024).

In a large-scale survey of 692 professionals, Cardon et al. (2024) found that integrity, strategic vision, and the ability to inspire others were ranked as more important due to AI's integration into the workplace. Communication-related competencies, such as oral and interpersonal communication, also ranked high, while written communication and quantitative

analysis were perceived as less critical, possibly reflecting their susceptibility to automation. These findings suggest that professionals recognize the need to prioritize human capabilities that complement AI tools, especially in creative and strategic contexts.

What role could generative AI play in practicing the traditional professional competencies in Media and Communication?

Building on these observations, we pose the following research question:

RQ3: How do (a) students and (b) professionals from media and communication backgrounds evaluate the importance of other core professional competencies in AI-integrated work environments?

Methods

Research Design

This study employed a mixed-methods design, combining surveys and interviews, to investigate how students and industry professionals perceive the motivation for adopting AI tools and the competencies required in an AI-integrated workplace. The wording of survey questions and the semi-structured interview protocol is available in the Appendix.

Quantitative Method: Student Survey

Participants and Procedure

The quantitative component of this study was based on a survey administered to 333 students enrolled in communication-related courses at a private university on the East Coast of the U.S. who voluntarily participated in the study. Participants were recruited through the College of Communication's SONA research pool from March to June 2025. The survey was administered via Qualtrics and took approximately 7 to 12 minutes to complete. Participation was incentivized with 0.15 points of course credit. Participants reviewed and accepted an

informed consent form before proceeding to the questions. All responses were anonymous. One attention check item was embedded to ensure data quality, and responses that failed this attention check question were removed from further analyses. Responses from participants who passed (*n* = 246) this check were retained for subsequent analysis.

Measures

AI Tool Use. This section of the questionnaire assessed how frequently students used AI tools in academic or professional contexts. Respondents rated their usage on a 6-point scale ranging from 1 (Never) to 6 (Daily). To assess motivation for adoption, we also included five perceived innovation attributes from Rogers' (2003) Diffusion of Innovation theory: (1) *relative advantage* (e.g., "AI tools provide significant benefits compared to other methods"); (2) *compatibility* (e.g., "AI tools align well with my existing study processes"); (3) *complexity*, reverse-coded as Ease of Use (e.g., "AI tools are easy to use, requiring minimal learning effort"); (4) *trialability* (e.g., "Testing or trying AI tools before fully adopting them is important."), and (5) *observability* (e.g., "I can observe the positive outcomes of using AI tools."). Each attribute was measured with Likert-type items on a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree).

AI Competency. We adapted the UNESCO AI Competency Framework (2025) and the MAILS scale (Carolus et al., 2023) to measure six AI-related competencies: *strategic implementation*, *technical understanding*, *ethical considerations*, *critical thinking and analysis*, *adaptability and continuous learning*, and *human–AI collaboration*. Students were asked to rate the importance of each AI competency on 7-point semantic differential scales (1 = Less Important, 7 = More Important).

Professional Competency. Graduate Management Admission Council's (GMAC) Professional Competency Model (Estrada-Worthington et al., 2017) defines core communication and leadership skills in professional environments. Student participants rated the perceived importance of 17 competencies, such as *integrity*, *innovation*, *leadership*, *oral communication*, and *quantitative analysis*, under the influence of AI (1 = Less Important, 7 = More Important). See the Appendix for complete survey questions.

Data Analysis

Reliability Test. Statistical analyses were conducted using IBM SPSS Statistics, Version 29. Cronbach's alphas were reliable ($\alpha > .8$) for the five attributes of DOI, AI Competency, and Professional Competency.

Principal Component Factor (PCA) Analysis. To explore the dimensional structure of the professional competency items, a PCA was conducted using SPSS (version 29). Before extraction, the correlation matrix showed substantial inter-item correlations, supporting the factorability of the data. Communalities for the extracted components ranged from .407 to .639, indicating adequate shared variance among items. Components were extracted using PCA and orthogonal (varimax) rotation with Kaiser normalization. Three components had eigenvalues greater than 1 and collectively explained 53.5% of the total variance. Inspection of the scree plot further supported a three-component solution. The rotated component matrix showed clear loading patterns, with each item loading primarily on one component. The first component reflected *soft/interpersonal skills* (e.g., integrity, motivation and drive, listening skills, teamwork), the second reflected *strategic/analytical skills* (e.g., strategic vision, negotiation skills, qualitative analysis), and the third reflected *technical/core knowledge* (e.g., quantitative analysis, technology, core domain knowledge). After identifying three factors through PCA, we

used SPSS to generate standardized factor scores for each participant using the "save as variables" option (regression method). These factor scores represent each participant's standing on the underlying constructs, accounting for the pattern of loadings in the rotated solution. The saved factor scores were subsequently used as independent variables in regression analyses.

–Insert Table 1 here–

PCA was also conducted on six items assessing AI competency among students. Sampling adequacy was supported by communalities ranging from .474 to .756. The analysis revealed two components with eigenvalues greater than 1, accounting for a total of 66.6% of the variance (see Table 2). The first factor ("*applied/practical AI competency*") explained 33.4% of the variance (eigenvalue = 2.01), and the second ("*critical & ethical AI competency*") explained 33.1% (eigenvalue = 1.99). All rotated factor loadings exceeded .47, indicating a clear factor structure. The solution converged in three iterations. Standardized factor scores were generated for the two factors identified through PCA and used as independent variables in subsequent regression analyses.

–Insert Table 2 here–

Qualitative Approach: In-depth Interviews with Industry Professionals

Participants and Procedure

Twelve senior media professionals were recruited using purposive and snowball sampling techniques. Purposive sampling is used to ensure the sample representativeness of a diversity of subfields in media and communication. Initial contacts were established through the college alumni network and extended professional circles. All participants we contacted met the two following inclusion criteria: (1) a minimum of five years of professional experience in communication roles and (2) current or recent employment in brand-side, agency-side, or media

organizations. The final sample included different senior-level roles, such as directors, vice presidents, and founders, spanning various fields, including journalism, marketing, public relations, strategic communication, and streaming services. Among them, four were women and eight were men. We summarized the participant information, including their industry, position, and gender, in Table 7.

Instrument

A semi-structured interview guide was designed to explore four sections of question: (1) current AI usage and tool integration in workflows; (2) perceptions of essential AI competencies in the communication profession; (3) evaluation of traditional professional competencies in the context of increasing AI adoption; (4) recommendations for communication students and programs regarding AI preparedness and training as future job readiness. Consistent with the student survey, these interview questions were informed by the DoI theory, the UNESCO AI Competency Framework, and the GMAC Professional Competency Model, enabling theoretical triangulation between interview data and survey results.

Procedure

Interviews were conducted remotely via Zoom between April and June 2025. Each session lasted between 26 and 43 minutes. Participants received a pre-interview briefing describing the research aims, confidentiality protections, and informed consent procedures. All sessions were recorded with the participant's consent and subsequently transcribed using Otter.ai. Transcripts were anonymized and stored securely for analysis.

Data Preparation and Analysis

We transcribed the interview data using Otter.ai and then applied Naeem et al. 's (2025) stepwise thematic analysis, incorporating ChatGPT as a co-analyst under human oversight. This

framework addresses limitations in traditional thematic analysis by ensuring transparency, consistency, and depth across all stages of analysis, supported by a structured AI-assisted workflow.

Results

Survey Findings related to RQ1a, RQ2a, and RQ3a

Descriptive Analysis

Students evaluated the five DoI attributes of their AI tools on a 7-point scale. As shown in Figure 1, the results revealed that *trialability* received the highest mean score, followed by *observability*. *Ease of use* (reverse-coded for complexity) and *relative advantage* were rated at moderate levels. *Compatibility* received the lowest mean score among the five attributes.

–Insert Figure 1 here–

As shown in Figure 2, students rated six dimensions of AI competency on a 7-point scale, with all mean scores above the midpoint, indicating that these skills were widely recognized as important. Among these, *Ethical Considerations* was rated the most important, followed by *critical thinking & analysis*, and *technical understanding*. Slightly lower, but still highly rated, were *adaptability & continuous learning*, *human–AI collaboration*, and *strategic implementation*. Generally, the *critical & ethical AI competency* was the most valued by students.

–Insert Figure 2 here–

As shown in Figure 3, students rated 17 professional competency items on a 7-point scale, grouped into three higher-order domains: *soft/interpersonal skills*, *strategic/analytical skills*, and *technical/core knowledge*. All mean ratings were above the midpoint, demonstrating that respondents generally considered these professional skills to be important. Among the

domains, *soft/interpersonal skills* (e.g., *integrity*, *innovation*, *teamwork*, *interpersonal skills*, *oral communication*, *listening skills*, *ability to inspire others*, *motivation and drive*, *presentation skills*) received the highest average ratings, with individual items such as *integrity, innovation, and creativity* ranked as the most important. *Strategic and analytical skills* (e.g., *strategic vision, negotiation skills, qualitative analysis, written communication) and technical/core knowledge (e.g., technology, quantitative analysis, specific language skills, core domain knowledge) were also rated as highly important, although* with slightly lower means. *Written communication*, *specific language skills*, and *quantitative analysis* were rated the least important.

–Insert Figure 3 here–

Hierarchical Regression Analyses

To further answer RQ1a, RQ2a, and RQ3a, survey data collected from students were subjected to two hierarchical multiple regression analyses. Specifically, we examined how predictor blocks explained variance in *AI tool use frequency* and *critical and ethical AI competency*. The sequence of blocks in each hierarchical multiple regression model was deliberately chosen to move from abstract predictors to application-oriented factors, while controlling for demographic variables from the outset. This approach enabled us to evaluate the distinct contribution of each conceptual domain. Demographic variables were entered first as control variables. The next step included the perceived importance of professional competencies in the context of AI. These variables captured general beliefs from students about what skills matter in the workplace or academic setting, serving as a conceptual foundation for subsequent blocks. AI competency perceptions were then added as a focused set of attitudes about specific skills required to engage with AI. Finally, the DoI innovation attributes were entered, representing the most immediate and situation-specific factors influencing adoption behavior.

AI Tool Use Frequency

Table 3 summarizes the results of a hierarchical regression analysis predicting *AI tool use frequency* in four steps. Step 1 included demographic variables (*student major*, *age*, *gender*, and *student grade*), which did not significantly predict *AI tool use frequency*. Professional competency factors (*soft/interpersonal skills*, *strategic/analytical skills*, and *technical/core knowledge*) were added in Step 2 and produced another nonsignificant increase in explained variance. In Step 3, the inclusion of AI competency variables (*critical/ethical AI competency* and *applied/practical AI competency*) yielded a significant increase in explained variance. Finally, the addition of the Diffusion of Innovation (DOI) attributes in Step 4 (*compatibility*, *complexity*, *trialability*, *observability*, and *relative advantage*) accounted for a significant 27.2% increase in explained variance. The full model explained 50.5% of the variance in *AI tool use frequency*, and produced a significant model, $F(14, 224) = 16.31$, $p < .001$.

–Insert Table 3 here–

Table 4 presents a summary of the correlations between independent variables and *AI tool use frequency*. *Applied/practical AI competency*, *compatibility*, and *relative advantage* were significant positive correlates of AI tool use frequency. By contrast, *critical and ethical AI competency*, *complexity (ease of use)*, and *technical/core knowledge* were significant negative correlates. Other variables, including *soft/interpersonal skills*, *strategic/analytical skills*, and *observability*, were not significant predictors in the final model.

–Insert Table 4 here–

Critical and Ethical AI Competency

The emphasis on critical thinking and ethical consideration, along with the negative relationship between *critical & ethical AI competency* and *AI tool use frequency* among students,

prompted another hierarchical regression. C*ritical & ethical AI competency* was the outcome variable, and the four-step sequence from the previous regression was duplicated. Yet, *AI tool use frequency* was entered as the final, fourth step of the regression. With this procedure, we sought to determine whether engagement with AI tools (the behavioral outcome) explained additional variance in perceptions of the importance of critical and ethical competencies, beyond all prior attitudinal and contextual predictors.

Table 5 summarizes the results of the hierarchical regression predicting *critical and ethical AI competency*. Step 1, demographic controls (*gender*, *age*, *student grade*, *student major*) did not significantly explain variance. Step 2 added professional competency variables (*soft/interpersonal skills, strategic/analytical skills, technical/core knowledge*), resulting in a significant increment in explained variance. Step 3 added the five Diffusion of Innovation (DOI) attributes *(relative advantage, trialability, complexity, compatibility, observability*), further improving the model. In Step 4, the *AI tool use frequency* was entered, explaining an additional 2.4% of variance. The full model explained 30.7% of the variance in critical and ethical AI competency and was significant. $F(13, 225) = 7.67$, $p < .001$.

–Insert Table 5 here–

Table 6 presents the correlation matrix of independent variables with views of *critical and ethical AI competency.* S*oft/interpersonal skills*, *observability*, *trialability*, and *student grade* were significantly and positively correlated with the dependent variable. In contrast, *relative advantage* and *AI tool use frequency* were significantly and negatively correlated with views on the importance of having critical and ethical competency in AI use. Other variables —including *gender, age, student major, strategic/analytical skills, technical/core knowledge, compatibility, and complexity (ease of use)*—did not reach significance.

–Insert Table 6 here–

Interview Findings Related to RQ1b, RQ2b, and RQ3b

In this section, we present the findings of in-depth interviews with professionals from the media and communication industries. In the present study, qualitative data were analyzed using the first five steps of the six-step systematic thematic analysis process introduced by Naeem et al. (2025). While the full process includes a sixth step devoted to theory-building and conceptual modeling, this final stage is intentionally reserved for the next phase of our research project.

Step 1: Familiarization and Quotation Selection. All transcripts were uploaded and manually reviewed by the research team. In line with Naeem et al. (2023), contextual inputs (research aim, research question, methodology, and theoretical framing) were embedded into prompts to familiarize ChatGPT with the epistemological and practical dimensions of the study. The model was then prompted to extract quotations that reflected core experiences, attitudes, and concerns about AI and professional readiness.

Step 2: Keyword Selection. Using the 6 Rs framework (Realness, Richness, Repetition, Rationale, Repartee, and Regal), ChatGPT was instructed to extract keywords from the full dataset. These keywords were grounded in participants' voices and functioned as analytical anchors, revealing areas of consensus and tension regarding AI skill expectations, workplace integration, and perceived challenges.

Step 3: Coding. Codes were developed through an abductive reasoning approach, combining data-driven insights with theoretical constructs. Using ChatGPT-generated suggestions and manual iteration, codes were evaluated against the 6 Rs of coding (Robust, Reflective, Resplendent, Relevant, Radical, and Righteous). This step synthesized AI adoption patterns, competency framing, and resistance or enthusiasm toward future shifts.

Step 4: Theme Development. Related codes were clustered into themes using the 4 Rs of theming: Reciprocal (interconnectedness), Recognizable (empirical grounding), Responsive (alignment with research questions), and Resourceful (conceptual richness). ChatGPT was guided to identify patterns that captured tensions and transformations in the communication profession's adaptation to AI.

Step 5: Conceptualization. Themes were interpreted into broader conceptual categories by triangulating empirical findings with the DOI theory and professional competency literature. ChatGPT supported identifying emergent concepts, such as "AI-augmented readiness" and "professional adaptability gaps", that bridged empirical insights and theoretical propositions.

These analytical steps produced four key insights into the views of industry professionals about the AI adoption, training, and skills necessary for the next generation of communication industry employees.

Embedded AI integration

Embedded AI Integration emerged as the dominant theme explaining professionals' AI adoption patterns, aligning with Rogers' (2003) five perceived innovation attributes: *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*. We used Rogers' (2003) five perceived innovation attributes—relative advantage, compatibility, complexity, trialability, and observability—to illuminate how an embedded AI integration took shape in practice.

Relative Advantage. Interviewees recognized that applying AI to communication workflows offered clear and substantive benefits. These advantages included not only productivity gains and increased efficiency but also enhanced creative potential and the allocative efficiency of human resources. Several professionals mentioned that AI enables the automation of repetitive, time-consuming tasks, thereby freeing up human talent for higher-level,

value-added work. As one interviewee stated: “Sometimes I find that AI can help me focus my ideas a little bit better. And then, to me, it works like a jumping off point.” (Interview 10). Professionals highlighted how AI is transforming not just creative ideation but also the automation of complex, high-volume tasks such as metadata generation and content processing. As one participant explained:

> “So I know that you know our content teams who are ingesting content and generally generating metadata that's associated with the content is, you know, that's now all being done through AI models and and algorithmic kind of solutions that kind of can process massive amounts of video and content to generate that metadata” (Interview 9).

In the creative domain, AI was seen not only as an efficiency tool but as a genuine source of inspiration and creative exploration: “As a designer coming into the industry, they should be leveraging AI to generate mockups much quicker so if you're not sure what your design concept is, and you don't want to spend too much time…” (Interview 4).

Compatibility. The integration of AI tools within existing workflows, organizational structures, and strategic goals was repeatedly highlighted by professionals as a critical factor in successful AI adoption. Interviewees emphasized that AI solutions must not only address technical needs but also align with organizational culture, industry standards, and the specific requirements of communication work. One interviewee described this transformative future vision of AI as an operational infrastructure:

> “Imagine an agency where artificial intelligence isn't just a tool but the foundation of its operations, so an always on self learning system that handles, you know, strategy, implementation, not strategy, conception, implementation, execution, and optimization. It's not really about using ChatGPT to draft ads or Midjourney to generate visuals. It's

about building an entirely new marketing entity where AI functions as kind of the brain and the central nervous system, where it makes decisions in real time, scales campaigns, delivers efficiency, right?" (*Interview 2*).

Professionals described how customization and adaptability were often essential to achieving compatibility. Rather than relying on off-the-shelf solutions, many organizations developed or adapted customized AI tools to meet unique workflow demands or client expectations:

"For example, with media. You can identify whether people are responding to buys, if something's working. You can modify it, and you can do it in the. Moment, you don't have to wait until a campaign is concluded in order to improve it, right, to tweak it. So I think there are a lot of benefits there. And in terms of analytics, it allows for a lot of personalization, which is critical" (*Interview 2*).

Complexity. Professionals openly acknowledged complexity as an inherent aspect of AI adoption. Participants did not minimize the technical and operational challenges posed by integrating AI into communication workflows. Instead, they described complexity as a manageable barrier—one that could be effectively addressed through ongoing learning and technical onboarding. One interviewee captured this pragmatic approach, noting:

"I think it still has a long way to go. You know, you'll put in certain things, build me this or the different, and we have to learn how to write better prompts, too, as designers or whoever is using it" (*Interview 4*).

Ongoing training, self-directed learning, and peer-to-peer sharing were frequently recommended:

"Just try to research as much as you can if your company offers any webinars or

trainings, definitely, you know, register for those LinkedIn learning or YouTube or just self googling. Like, a lot of it is just information that's out there that you just don't want to ignore" (Interview 4).

In sum, professionals saw complexity as real but not insurmountable, provided there is a commitment to ongoing learning, adaptation, and teamwork.

Trialability. Many described organizational cultures that explicitly encouraged experimentation with new AI tools on a small scale. These pilot projects enabled teams to test workflows, iterate, and learn before implementing them on a larger scale.

"AI, it's so easy to build tools now, like simple tools… I think people who go the extra mile and might make some small internal tools at their company… can make these little AI efficiency workflows that can be really great for your specific job and tasks, that kind of thing. So I think that's a great way to leverage AI in ways that go beyond just buying new software" (*Interview 11*).

Another participant described efforts to distribute experimental capacity widely within their organization.

"So working with everybody from like our strategy team and our creative team and our analytics team to be able to say, what challenges are you facing that we could perhaps solve together with AI. So my goal by the end of this year is to have somebody embedded in every team, every market and every competency to be able to do that on the next kind of level " (*Interview 3*). However, some noted that in more regulated or risk-averse environments, the ability to trial new technologies was restricted leading to more cautious adoption cycles.

Observability. Professionals reported that seeing visible uptake and real-world success stories of AI integration cases, both within and beyond their organizations, encouraged further adoption and learning. One leader reflected on the speed and scale of AI uptake, "I mean, just like looking at the user adoption, I think they hit 100 million users in three weeks, or something like that. I mean, there, this is, this is permeating our society so quickly" (*Interview 11*). Observing peer organizations at industry events and conferences reinforced this effect:

> "There was an AI conference here last week, and I was sitting with people working AI companies. And you mean, it's all over the place, but for the most part, our industry AI is outside of our walls because of this legal issue. So there's lots of people and there's a bunch companies spring up left and right."
>
> (*Interview12*).

In contrast, participants in more traditional organizations described how observability could be limited by compliance, intellectual property, or internal communication barriers, which in turn slowed the pace of organizational learning and adoption.

Ethical Vigilance in AI Use

Many media industry professionals emphasized the importance of ethical awareness and responsibility, which were foregrounded as integral to AI competency. Rather than acting as a barrier to innovation, ethical vigilance was conceptualized as an operational necessity that must be embedded throughout the entire AI adoption process. Participants expressed the importance of proactively identifying risks related to data privacy, intellectual property, algorithmic bias, and transparency. One interviewee summarized this ethos: "I think the ethics question is always just a big one" (Interview 8).

Critical Evaluation and Human Oversight. A prominent sub-theme within ethical vigilance was the ongoing need for critical evaluation and human oversight. Senior professionals emphasized the need for continuous and recursive assessment of AI outputs, asserting that "blind trust" in algorithmic results is dangerous. Human judgment and domain expertise were positioned as indispensable safeguards: "it's a tool, it's not a person, it's not all knowing... ultimately you're the one doing the real work" (Interview 8), and warning against the danger that "people [are] just taking AI's output as absolute truth, and you know, not digging into it or challenging it in healthy ways" (Interview 11). Participants emphasized that human judgment and domain expertise remain indispensable safeguards, especially as AI becomes more embedded in high-stakes media production and decision-making. Ethical vigilance, therefore, is not just a one-time compliance check but a continuous, shared responsibility that spans across roles and stages of the workflow.

Human-AI Collaboration

Professionals viewed effective AI competency as inseparable from the ability to work collaboratively with AI systems. This included both technical fluency, such as prompt engineering and interpreting AI-generated data, and the ability to leverage the strengths of AI while recognizing its limitations. Many participants described AI as an "intellectual partner" or "creative collaborator" that extends human capacity, especially in ideation, strategic planning, and rapid problem-solving. "We think about AI not as artificial intelligence, but as augmented intelligence. Somehow it layers into what we're doing" (Interview 3).

Ethical Reasoning. However, professionals were clear that critical human judgment and ethical reasoning remain indispensable in this partnership. AI's suggestions are only as valuable

as the human's ability to curate, refine, and—when necessary—reject them: "How do you figure out how to get the most value out of AI tools, and how do you know

> how to and when to question their outputs? And you need to add your own thinking on top of it, because I've seen too many people come through the door who are relying on AI to do the work for them, and that's not the way we think about it" (Interview 3).

An Evolving Process. Human-AI collaboration was also described as a dynamic and evolving process, requiring adaptability, openness to continual learning, and the willingness to collaborate: "So my perspective on this, if you want to learn about AI, you should start using AI. So that's my belief, and so that's what I'm doing. I'm trying to use AI in every part of my life as much as I can, because the more I use it, the more I'll understand it" (Interview 12). Professionals thus viewed AI competency not as a fixed endpoint, but as a continually developing set of abilities that must evolve alongside advances in technology and shifting ethical expectations. As one senior practitioner reflected: "I mean, at the same time, I feel like anyone who tries to say that, like they're an expert in AI is probably lying" (Interview 11).

Professionals consider AI competency to be evolving, requiring technical expertise, critical and ethical reasoning, and an adaptable mindset for human-AI collaboration. Competency is not viewed as static, but as something that must grow with changing technology and ethical considerations.

Competency Hybridization

Senior media professionals shared one central theme when discussing professional competency: the combination of traditional skills with new AI-specific abilities. They saw this hybridity as critical to the success of future employees.

Industry professionals clearly value human competencies. Thus, contrary to a common idea that AI is diminishing the need for human skills, the participants in our study described the importance of critical thinking, creativity, collaboration, adaptability, and effective communication in AI-mediated environments. As one interviewee reflected,

> "So I think that if somebody comes in and can nail enthusiasm and critical thinking, well, like you said, you know, being a good team player, being collaborative, not being a jerk. These are critical skills. And then the last one is empathy" (Interview 3).

AI Skills: An Extension, Not a Substitute. Also, there was general agreement that AI skills are an extension, not a substitute for traditional competencies. Technical abilities, such as AI fluency, prompt engineering, and data literacy, were seen as new essentials, but always in service of broader professional goals, including effective strategic decision-making, creative problem-solving, ethical communication, and collaborative innovation. Professionals emphasized that those who excel in environments where AI is used integrate these skills, utilizing AI to inform, accelerate, and enhance their human judgment, rather than relying solely on AI to perform tasks on their behalf.

> "You need people that have understood and utilized artificial intelligence in their work, for research or material marketing collateral development, for to create efficiencies, to do market segmentation, to do data analytics. All of those various different capabilities are very important to whatever job you're applying for. So it's very important that there is a general base of understanding and a creative mindset in terms of how to utilize those tools in the future workforce." (Interview 1).

Competency Mismatch. The frequent sub-theme *competency mismatch* states the discrepancy between industry expectations and the preparation of new employees. While

technical capabilities are expected, the more pressing need is for professionals who can systematically combine technical, ethical, and interpersonal skills to navigate complex, fast-evolving AI contexts.

> "I think about less of for …what I look for is less about being able to use the tools, and more being able to think about how to collaborate with AI. Being able to collaborate with AI, I think, is the next great skill for people to have, coming into this business, so that you know if you learn the kind of fundamental principles of how to prompt, how to collaborate with the AI, those kinds of things you can then move from one AI tool to the next and still be able to, you know, jump right in and keep using it" (Interview 3).

Overall, the in-depth interviews revealed that core professional skills in AI-enabled workplaces require an integrated mastery of human, AI, and ethical competencies. This expectation embodies hiring, ongoing talent development, and strategic thinking in organizational contexts.

Discussion

The Paradox of Ethical AI Competency

Overall, students rated all domains of AI competency as important, with critical and ethical AI competency emerging as the most valued in self-reports. This finding aligns with existing research, which shows that students are increasingly recognizing ethical issues as central to the responsible use of technology (Floridi et al., 2018; Mittelstadt, 2019). However, human–AI collaboration was rated second lowest among the AI competencies by students. This finding suggests that while students agree on the importance of ethical considerations and critical thinking, they may not view human–AI collaboration as integral to the critical and ethical AI competency domain. In other words, students may not fully recognize the inherent connection behind these concepts—that ethical considerations should form the baseline for all human–AI

interactions. This conceptual separation is problematic as the UNESCO AI Competency Framework (2025) explicitly emphasizes that ethical considerations should be embedded across all forms of human–AI interaction, a position strongly reflected by industry professionals in interviews. Industry leaders described ethical awareness, critical reflection, and collaborative judgment as inseparable and essential for responsible AI practice. The lack of recognition of this integration in the student perspective reveals a paradox of ethical AI competency: students value ethics in principle, but may not operationalize it in collaborative or routine AI use.

The Technology Acceptance Model (Davis, 1989) and DoI (Rogers, 2003) both underscore that adoption and ongoing use are shaped by perceptions of usefulness, ease of use, and observable social norms, but also feed back to shape user attitudes and competencies. The final hierarchical regression model predicting AI tool use frequency provided interesting insights about the relationship between AI competency and AI tool use. Applied/practical AI competency was a strong positive predictor of AI tool use frequency, while critical & ethical AI competency was a strong negative predictor. Students who prioritized ethical, critical, and collaborative skills tend to use AI tools less often, possibly reflecting more cautious attitudes or increased critical checking of ethical risks. This aligns with other research highlighting ethical caution, technological skepticism, or uncertainty about responsible use as barriers to adoption (Selwyn, 2019; Aiken, 2022). Conversely, students who were confident in their practical AI skills were more likely to use AI tools regularly. This illustrates a pattern seen in research where greater technological confidence can sometimes lead to ethical “blind spots,” as urgency and efficiency are prioritized over mindful analysis (McLennan et al., 2022; Jones, 2021).

Given the observed negative relationship between students’ perceptions of critical and ethical AI competency and their actual AI tool use, another hierarchical regression model

predicting critical and ethical AI competency offers additional nuance. The results showed that soft/interpersonal skills, observability, and student grade (with higher-grade students, such as graduates) were significantly and positively associated with perceptions of the importance of critical and ethical AI practices. This suggests that students who valued strong communication and collaboration, those who were more aware of positive outcomes resulting from AI use, and those with greater academic or potential professional experience were more likely to emphasize the necessity of critical and ethical engagement with AI.

In contrast, both relative advantage and AI tool use frequency were significantly and negatively correlated with views on the importance of critical and ethical AI competency. In other words, the more students perceived tangible benefits from adopting new AI approaches and the more frequently they engaged with AI tools, the less likely they were to prioritize critical and ethical considerations. This pattern suggests a potential trade-off: students who were more pragmatic or efficiency-driven in their use of AI prioritize efficiency over ethical reflection, potentially due to a perception that ethical constraints hindered innovation or complicated workflow, or simply did not have the mindset.

These results revealed a paradox: while students publicly endorsed the importance of ethical and critical AI competency, those who were most active and pragmatic in their use of AI may, in practice, downplay the need for ethical consideration. This highlighted a key curricular challenge, one emphasize by both ethicists (Floridi & Cowls, 2019) and educational scholars (Luckin et al., 2016): teaching ethical AI must go beyond declarative knowledge to be practically integrated into collaborative, project-based AI education. Bridging the gap between ethical values and everyday engagement will be crucial for graduates to meet the standards expected by industry and society in the age of AI.

Redefining Professional Competency

The data revealed a directional symmetry between ethical concerns and technical/core knowledge, with the latter emerging as the only significant (negative) predictor among professional competencies. Specifically, students who rated technical and core knowledge skills as less important reported using AI tools more frequently. This finding aligns with research noting that students and early-career professionals increasingly view skills such as data analysis, quantitative reasoning, and even written communication as readily delegated to AI systems (Dengler & Matthes, 2018; Selwyn, 2019). Written communication ranked among the lowest skills in student data value within an AI-mediated environment.

This pattern indicates that students tend to view basic skills, including data analysis, basic research, and writing, as suitable for automation, potentially reflecting both confidence in AI's abilities and a desire for efficiency. Conversely, students who regard traditional technical/core expertise as retaining continued value are more likely to adopt AI tools with caution, possibly reflecting a healthy skepticism toward the uncritical integration of emerging technologies (Broussard, 2018).

However, these students' attitudes somewhat conflicted with industry perspectives. Professional interviewees consistently highlighted that, although many "low-level" technical tasks can be automated, foundational competencies remain essential for professional growth and effective industry practice. Skills such as close reading and data interpretation are not simply mechanical but form the basis for a deeper understanding of industry trends, critical thinking, and career development. As one industry leader cautioned, the erosion of these foundational abilities among entry-level professionals could have significant long-term consequences for the field.

This brings the discussion to a critical question facing both academia and industry: Who is responsible for ensuring that foundational competencies are preserved in the age of AI? Should it fall to higher education institutions, to employers, or should it be a shared responsibility? The answer will directly influence how future communication professionals are trained and whether the discipline can maintain its standards of rigor, creativity, and analytical depth amid ongoing technological changes (McLennan et al., 2022; Selwyn, 2019).

DoI Five Attributes as a Supplementary Lens

Relative Advantage

Applying DoI attributes offers a unique and nuanced perspective on the relationship between AI adoption and ethical competency, especially when systematically evaluating student and professional outlooks. In our student data, relative advantage—the perceived benefit of AI over traditional methods—was found to be negatively associated with critical and ethical AI competency. This suggests that students who see more advantages in AI may, paradoxically, be less attentive to ethical and critical considerations, potentially due to the absence of clear guidelines or regulatory structures that articulate how and when to apply ethical reasoning in real-world AI use. Without explicit instruction on responsible AI practices, students' beliefs and behaviors may be shaped predominantly by perceived efficiency and utility.

In contrast, findings from our industry interviews paint a different picture. Media professionals not only recognize the substantial and transformative advantages of AI in communication workflows, but they also consistently emphasize the integration of ethical considerations at every stage of the process. This reality points to a key distinction: in professional contexts, the recognition of AI's advantages is coupled with the existence of explicit

organizational norms, policies, and collective expectations that regulate human–AI interaction and content creation.

DoI's full set of five attributes—relative advantage, compatibility, complexity, trialability, and observability—thus offers a valuable explanatory framework. Among professionals, these innovation attributes are balanced by robust ethical constraints and workplace culture, ensuring that the pursuit of AI-driven benefits does not come at the expense of ethical vigilance. The qualitative evidence suggests that the industry's maturity is reflected not only in technical innovation but in the normalization of ongoing ethical reflection. In contrast, the student environment, lacking comparable guidelines and structures, may inadvertently encourage a more instrumental view of AI, where efficiency is prioritized over responsibility.

Complexity

Another notable and initially counterintuitive finding from the student data is the negative relationship between ease of use (reverse-coded complexity) and AI tool use frequency. Specifically, students who perceive AI tools as more difficult to use actually report higher frequency of use. At first glance, this appears paradoxical—one would expect that easier-to-use tools would encourage greater adoption. However, integrating insights from our industry interviews offers a more coherent interpretation.

Industry professionals widely acknowledge the inherent complexity and learning curve associated with AI tools. Rather than viewing complexity as a deterrent, professionals interpret it as an expected part of the technological adoption process. During interviews, participants emphasized that the key to overcoming these challenges is a commitment to adaptability and continuous learning. These perspectives reveal that recognizing the complexity of AI is not a barrier but a motivator for more frequent, hands-on engagement. From this standpoint, students

who identify AI tools as more complex may, in fact, be the ones who are most actively engaging with them, devoting additional time to experimentation, practice, and mastery. Their higher reported frequency of use could reflect a deeper, more persistent learning process. As professionals suggested, successful adaptation to new technologies depends not on initial ease of use but on the willingness to invest in learning and skill development over time.

Thus, the observed negative association between perceived ease of use and AI tool use frequency among students may be reasonable when viewed through an industry lens. It underscores the importance of fostering resilience, adaptability, and a growth mindset in education, encouraging students to embrace technological challenges as opportunities for ongoing development rather than obstacles to adoption.

Trialability and Observability

The significant positive relationships between trialability and observability of AI tools and students' critical and ethical AI competency (as shown in Table 6) can be better understood by integrating both theoretical perspectives and the voices of industry professionals. Trialability, or the opportunity to experiment with an innovation, reduces perceived risk and uncertainty, thereby encouraging deeper and more reflective engagement (Rogers, 2003). Observability, the degree to which results are visible to others, facilitates social learning and norm-setting (Bandura, 1977; Rogers, 2003). Applied to the ethical use of AI, trialability enables students to encounter real ethical dilemmas and challenges first-hand, rather than only learning abstract principles. Through experimentation, students face issues such as data privacy, bias, and algorithmic transparency, and must make actual decisions, developing critical and ethical reasoning through practice (Veletsianos & Miller, 2021). Observability, meanwhile, allows students to see and discuss how peers and faculty use AI ethically (or unethically). These visible

models help shape their understanding of good practice and potential pitfalls, leading to the development of critical thinking and ethical norms (Eraut, 2000).

Our professional interviewees reinforced these theoretical insights with practical experience. One senior professional described a culture where experimentation is encouraged and where trialability is linked to hands-on learning, naturally exposing users to the ethical dimensions of their work. Professionals also highlighted the value of visibility in peer and industry adoption, illustrating how observing others' experiences—both successes and failures—enables reflection and learning, especially regarding responsible and ethical use. Several interviewees noted that when AI adoption is openly shared and discussed, critical conversations about transparency, bias, and best practices become normalized, helping to set ethical standards for teams and organizations.

Thus, both the student survey data and qualitative findings indicate that active engagement (trialability) and visible role modeling (observability) are key drivers of critical and ethical AI competency. This insight offers a valuable example for higher education, demonstrating that providing hands-on experimentation and creating environments where ethical use is openly demonstrated and discussed can help establish and cultivate high ethical standards among students during human–AI collaboration, which aligns with industrial workflows and attitudes.

Limitations

This study has several limitations that should be acknowledged. First, some literature review primarily focuses on publications from the past five years and rely on a relatively small set of academic databases. While this approach ensures the relevance and currency of the scholarship, it may overlook foundational perspectives and earlier theoretical contributions that

remain highly influential in discussions of workplace competencies and communication skills. Furthermore, the literature base is restricted to English-language sources, with a strong concentration on U.S.-based research. This linguistic and geographical limitation potentially excludes studies focused on non-English contexts. As a result, the generalizability of the conceptual framework may be constrained, particularly when applied to global or cross-cultural professional environments.

Second, our primary data relies on self-reported surveys. Self-report measures carry inherent risks of social desirability bias, overestimation of one's competence, and misalignment of opinion with actual behavioral outcomes. In the context of AI tool usage and professional skill self-assessment, participants may unintentionally inflate their technical fluency or underreport challenges they face in applying AI ethically or strategically.

Third, demographic limitations in our student sample must also be taken into account. Over 80% of survey respondents identified as female, which, although representative of enrollment trends in many communication programs, may influence the interpretation of findings related to professional competencies, particularly those involving leadership, interpersonal assertiveness, or risk-taking behaviors that are often perceived and valued differently across gender lines. This imbalance may limit the applicability of the findings to broader or more gender balanced student and professional populations.

Fourth, this version of the paper lacks extensive theoretical development and explicit integration of findings within established or emerging theoretical frameworks. While the study draws on foundational models, such as Rogers' DoI and the UNESCO AI Competency Framework, to inform its research design and interpretation, a comprehensive theoretical synthesis is not yet provided. The current analysis focuses primarily on empirical and thematic

findings, waiting for in-depth theory-building, conceptual model elaboration, and the formal testing of theoretical propositions for future work. This limitation may restrict the study's ability to offer new explanatory models or to challenge, refine, or extend existing theories within the fields of communication, educational technology, or workplace competency research. Future versions of this work should prioritize a deeper engagement with multidisciplinary theoretical perspectives, systematically mapping how the present findings contribute to, expand, or complicate existing conceptualizations of AI integration, professional competency, and human-AI collaboration.

Fifth, the current manuscript would benefit from a more detailed and systematic analysis, in line with the standards of scientific formal writing. For instance, while factor analysis was conducted to generate new composite variables (such as the principal components for professional competencies), the study does not report key psychometric indicators, most notably, the Cronbach's alpha for each new scale. While the study offers thematic insights and illustrative quotations from participants, some analytic claims could be further substantiated through more rigorous qualitative coding procedures, richer descriptions of inter-coder reliability, or triangulation with additional data sources. Moreover, sections such as the results and discussion could be enhanced by greater analytical depth, clearer linkage between evidence and claims, and more precise articulation of causal inferences or boundary conditions. Addressing these limitations in future revisions will improve the transparency, credibility, and scientific rigor of the research and ensure that findings can be more effectively evaluated and applied by academic and professional audiences.

Future Studies

Several avenues for future research should be pursued to deepen the understanding of AI-related professional competencies in communication fields. First, longitudinal studies are necessary to track the development and transformation of AI competencies within real-world professional environments over time. While the current study provides a cross-sectional snapshot of perceptions, it does not account for how skills evolve as AI tools become more embedded in communication workflows. A longitudinal application of the DoI framework could offer a dynamic lens on adoption patterns and competency shifts, and capture the interplay between technological advancement and professional adaptation over months or years. Such research would be particularly valuable for identifying stages of AI integration and informing ongoing training and curriculum development aligned with technological maturity.

Second, future research should adopt a cross-cultural comparative approach. Professional competency requirements differ significantly across industries, national contexts, and educational systems. As AI-mediated communication becomes a global phenomenon, regionally grounded studies can uncover localized interpretations of ethical practice, communication norms, and workplace collaboration with AI. Scholars and educators can better tailor competency frameworks to reflect diverse expectations and labor market demands by examining how professionals in different cultural and economic settings perceive and apply AI-related skills.

Third, future studies should aim to include more demographically and professionally diverse participant samples. The present research, while valuable in its findings, draws on a student population that is predominantly female and drawn from a single academic setting. Broader inclusion of participants across gender identities, socioeconomic backgrounds, institutional types, and communication-related industries would significantly enhance the generalizability of the results. Moreover, incorporating professionals at various career

stages—from entry-level employees to senior managers—could provide more nuanced insight into how perceptions of AI competencies differ based on experience and occupational responsibility.

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Figure 1. Average ratings of how important AI competencies are in an era of generative AI (*N* = 246).

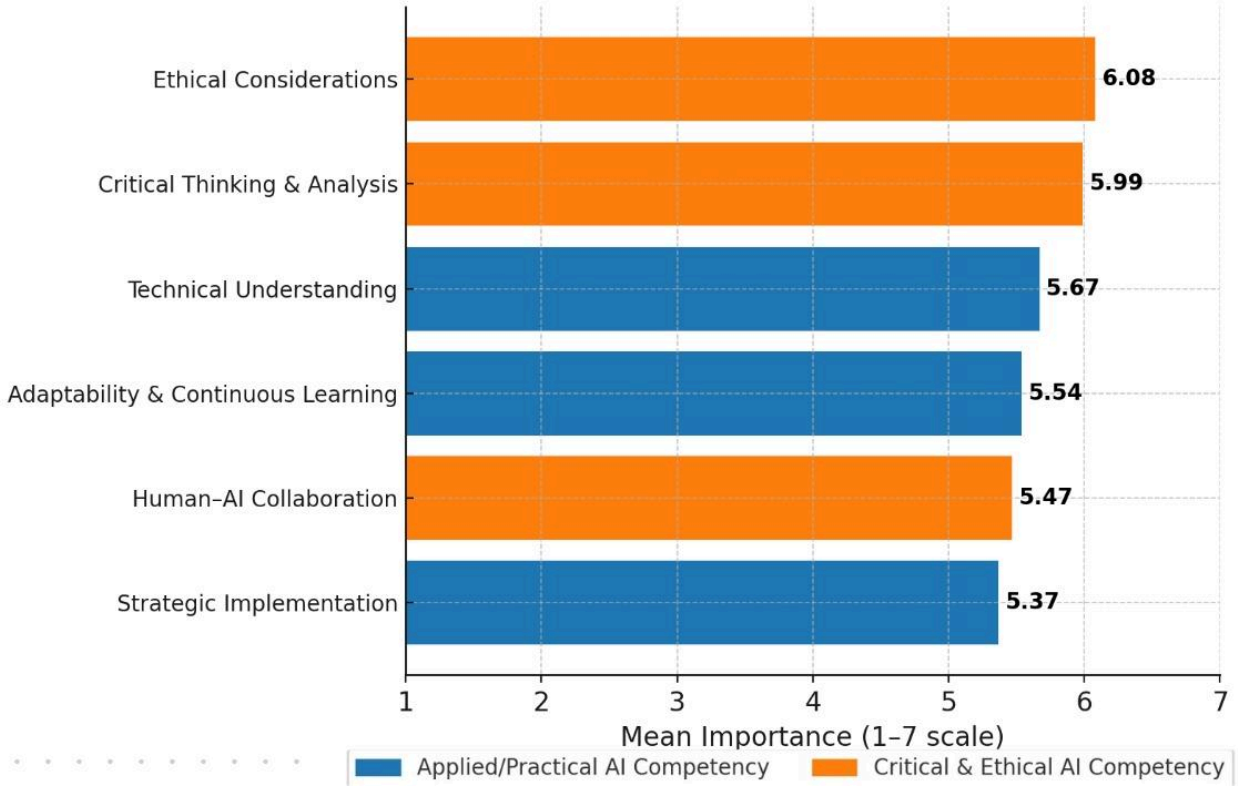

Figure 2. Average ratings of how important professional competencies are in an era of generative AI ($N = 246$).

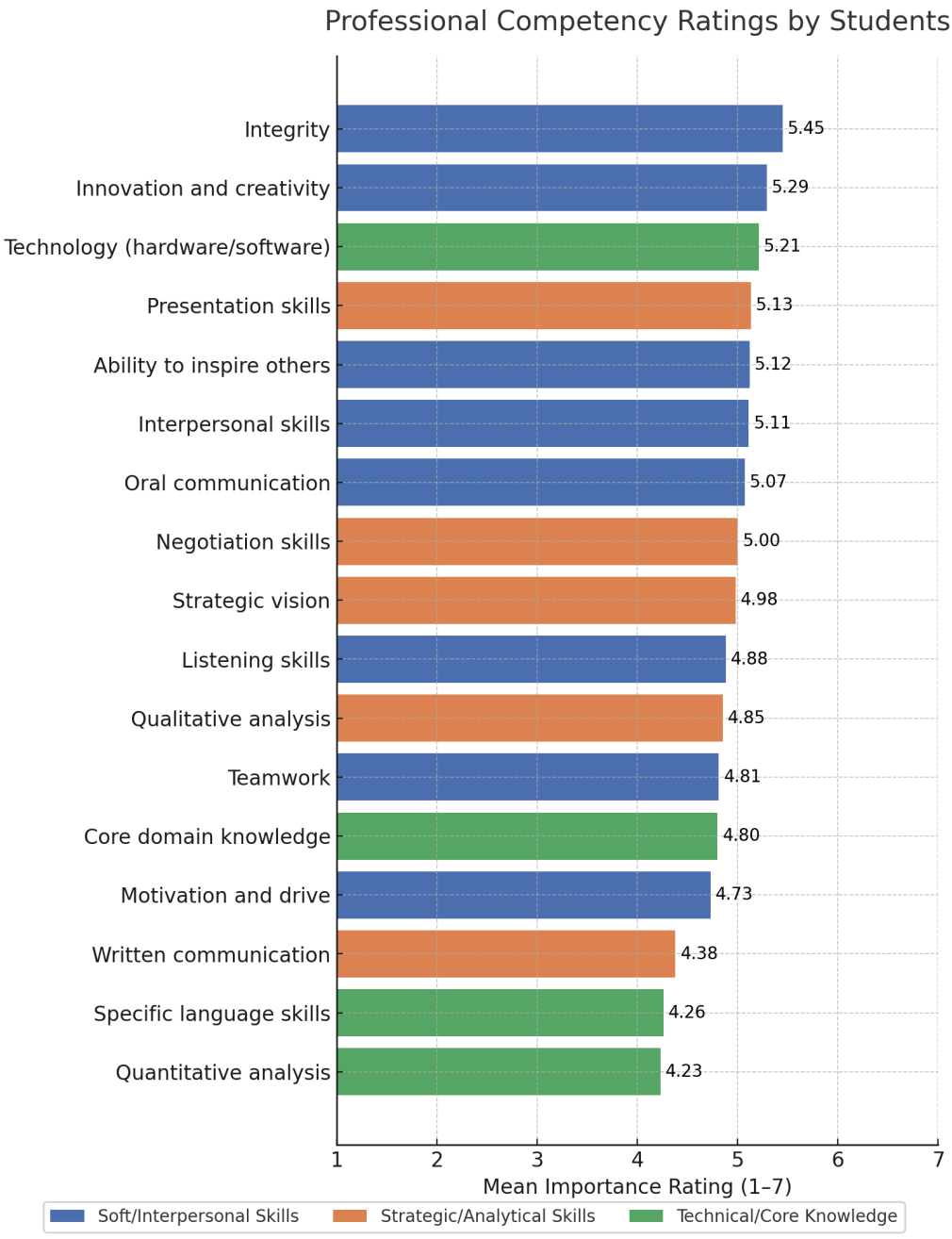

Table 1.

Factor Analysis for Professional Competencies

Variables	Loadings			Communality
	Factor 1	Factor 2	Factor3	
Integrity	**.653**	.331	.075	.542
Strategic vision	.123	**.666**	.172	.489
Ability to inspire others	**.699**	.174	–.187	.519
Motivation and drive	**.761**	.088	.231	.639
Innovation and creativity	**.680**	.141	.283	.563
Oral communication	**.533**	.330	.170	.564
Interpersonal skills	**.719**	.331	–.076	.628
Listening skills	**.553**	.568	.102	.639
Negotiation skills	.392	**.661**	.366	.591
Teamwork	**.623**	.294	.066	.479
Presentation skills	.425	**.492**	.115	.436
Written communication	.296	**.605**	.729	.623
Qualitative analysis	.040	**.598**	.341	.476
Quantitative analysis	–.214	.052	**.766**	.634
Specific language skills	–.235	.052	**.649**	.479
Technology (hardware/software)	–.422	.192	**.411**	.384
Core domain knowledge	.162	.254	**.562**	.407
Eigenvalue	4.20	2.80	2.00	
Percentage of Variance	24. 68	15.06	13.74	

Table 2.

Factor Analysis for AI Competencies

Variables	Loadings		Communality
	Factor 1	Factor 2	
Strategic Implementation	**.856**	.107	.745
Adaptability and Continuous Learning	**.849**	.186	.756
Technical Understanding	**.628**	.476	.621
Critical Thinking and Analysis	.190	**.782**	.647
Human–AI Collaboration	.341	**.598**	.474
Ethical Considerations	.068	**.864**	.751
Eigenvalue	2.01	1.99	
Percentage of Variance	33.44	33.12	

Table 3.

Hierarchical Regression Model Summary: Predicting Frequency of AI Tool Use

Model	R^2	Adjusted R^2	R^2 Change	p
1	.022	.005	.022	.268
2	.047	.018	.025	.112
3	.233	.203	.186	<.001
4	.505	.474	.272	<.001

Note. $N = 246$. Model 1 = Demography; Model 2 = Model 1 + professional competency; Model 3 = Model 2 + AI competency; Model 4 = Model 3 + DoI five attributes.

Table 4.

Hierarchical Regression Results Predicting Frequency of AI Tool Use (Final Model)

Predictor	*B*	*SE B*	*β*	*t*	*p*
Gender	.058	.150	.019	.386	.700
Age	–.026	.025	–.064	–1.077	.282
Student Grade	.234	.154	.092	1.518	.130
Student Major	–.073	.055	–.064	–1.333	.184
Soft/Interpersonal Skills	.043	.064	.034	.668	.505
Strategic/Analytical Skills	–.089	.061	–.071	–1.457	.146
Technical/Core Knowledge	–.125	.062	–.099	–2.019	.045
Applied/Practical AI Competency	.284	.066	0.228	4.303	<.001
Critical & Ethical AI Competency	–.199	.069	–.161	–2.897	.004
Relative Advantage	.253	.065	.267	3.856	<.001
Compatibility	.338	.058	.378	5.828	<.001
Complexity (Ease of Use)	–.116	.053	–.120	–2.191	.029
Trialability	–.132	.068	–.109	–1.931	.055
Observability	.020	.085	.016	0.236	.814

Note. Final model: $R^2 = .505$, $F(14, 224) = 16.31$, $p < .001$.

Table 5.

Hierarchical Regression Model Summary: Predicting Critical & Ethical AI Competency

Model	R^2	Adjusted R^2	R^2 Change	*p*
1	.030	.014	.030	.125
2	.106	.079	.076	<.001
3	.283	.245	.177	<.001
4	.307	.267	.024	.006

Note. $N = 246$. Model 1 = Demography; Model 2 = Model 1 + professional competency; Model 3 = Model 2 + DoI five attributes; Model 4 = Model 3 + Frequency of AI use.

Table 6.

Final Model Coefficients Predicting Critical & Ethical AI Competency

Predictor	*B*	*SE B*	*β*	*t*	*p*
Gender	.139	.139	.057	1.001	.318
Age	.002	.023	.005	.072	.942
Student Grade	.323	.146	.162	2.221	.027
Student Major	–.048	.052	–.052	–.919	.359
Soft/Interpersonal Skills	.276	.061	.273	4.807	<.001
Strategic/Analytical Skills	.030	.057	.030	.524	.601
Technical/Core Knowledge	.063	.062	.063	1.068	.286
Relative Advantage	–.164	.063	–.215	–2.590	.010
Compatibility	.041	.059	.057	0.691	.490
Complexity (Ease of Use)	.074	.051	.095	1.467	.144
Trialability	.222	.063	.227	3.518	<.001
Observability	.247	.080	.248	3.104	.002
Frequency of AI Tool Use	–.168	.060	–.208	–2.793	.006

Note. Final model: $R^2 = .307$, $F(13, 225) = 7.68$, $p < .001$.

Table 7. Interview Participant Information

No.	Industry	Position	Gender
1	Consumer products /Pest control industry	Executive Director	M
2	Technology and innovation industry	Chief Innovation Officer	M
3	Digital media / Brand storytelling industry	Managing Partner, Creative Director	M
4	Insurance and financial services industry	Marketing Sales Enablement	F
5	Healthcare technology industry	Founder/CEO	M
6	Technology / Product design industry	Product Designer	M
7	Strategic communications / PR industry	Senior Vice President	F
8	Market research / Data analytics industry	Data Management Director	F
9	Entertainment industry	Head of Ads Commercialization	M
10	Broadcast journalism / News media industry	Anchor, National Correspondent	F
11	Technology / Startup industry	Co-Founder & CEO	M
12	Entertainment / Media industry	Senior Vice President	M

Notes. F = Female, M=Male,

Appendix A

Student Survey

Q1 (AI frequency): How frequently do you use AI tools?

1. Daily
2. A few times per week
3. Weekly
4. A few times per month
5. Rarely
6. Never

Q2 (AI tool category): Please read through the list and select all categories of AI tools you have used. Please note that the specific applications are just examples.

(multiple choice)

1. Virtual Assistants (Chatbots): ChatGPT, Claude, Gemini, DeepSeek, Grok, etc.

2. Video Generation and Editing: Synthesia, Runway, Filmora, OpusClip, etc.

3. Notetakers and Meeting Assistants: Fathom, Nyota, etc.

4. Research: Deep Research, etc.

5. Writing: Rytr, Sudowrite, etc.

6. Grammar and Writing Improvement: Grammarly, Wordtune, etc.

7. Search/Information Retrieval: Perplexity, ChatGPT search, etc.

8. Social Media Management: Vista Social, FeedHive, etc.

9. Image Generation: Midjourney, DALL-E 3, etc.

10. Graphic Design: Canva Magic Studio, Looka, etc.

11. App Builders & Coding: Bubble, Bolt, Lovable, Cursor, v0, etc.

12. Project Management: Asana, ClickUp, etc.

13. Scheduling: Reclaim, Clockwise, etc.

14. Customer Service: Tidio AI, Hiver, etc.

15. Recruitment: Textio, CVViZ, etc.

16. Knowledge Management: Notion AI Q& A, Guru, etc.

17. Email: Hubspot Email Writer, SaneBox, Shortwave, etc.

18. Presentations: Gamma, Presentations.ai, etc.

19. Resume Builders: Teal, Kickresume, etc.

20. Voice Generation: ElevenLabs, Murf, etc.

21. Music Generation: Suno, Udio, etc.

22. Marketing: AdCreative, etc.

23. Sales: Clay, etc.

24. Other (specify the names)

Q3 (DoI): Please respond to the following statements about your AI tools use by indicating how much you agree or disagree with each statement.

(1-7: Strongly Disagree to Strongly Agree)

1. (relative advantage) AI tools provide significant benefits compared to other methods.
2. (compatibility) AI tools align well with my existing study processes.
3. (complexity) AI tools are easy to use, requiring minimal learning effort.
4. (trainability) Testing or trying AI tools before fully adopting them is important.
5. (observability) I can observe the positive outcomes of using AI tools.

Q4 (AI competencies): As AI becomes more integrated into daily work, will the following AI competencies become more or less important?

(1-7: less important to more important)

1. Basic knowledge of AI and machine learning concepts
2. Ability to interpret AI-generated insights
3. Skill in integrating AI tools into workflows
4. Ability to use AI for content strategy optimization
5. Understanding potential biases in AI systems
6. Ensuring responsible and transparent use of AI
7. Keeping up with evolving AI technologies and applications
8. Ability to adapt strategies based on AI-driven insights
9. Balancing AI automation with human creativity and judgment
10. Managing teams in AI-integrated work environments
11. Evaluating the reliability and relevance of AI-generated content
12. Using AI to enhance, not replace, core communication skills

Q5 (professional competencies): As AI becomes more integrated into daily work, will the following professional competencies become more or less important?

(1-7: less important to more important)

1. Integrity
2. Strategic vision
3. Ability to inspire others

4. Motivation and drive
5. Innovation and creativity
6. Oral communication
7. Interpersonal skills
8. Listening skills
9. Negotiation skills
10. Teamwork
11. Presentation skills
12. Written communication
13. Qualitative analysis
14. Quantitative analysis
15. Specific language skills
16. Technology (e.g., software, hardware)
17. Core domain knowledge

Q6: What's your gender?

1. Male
2. Female
3. Non-binary/third gender
4. Prefer not to say

Q7: What year were you born?

Q8: Are you an undergraduate or graduate student at BU COM?

1. Undergraduate student
2. Graduate student
3. Other (please specify)

Q9: Major-Undergrad —What is your current major?

1. BS in Journalism
2. BS in Film & Television
3. BS in Advertising
4. BS in Public Relation
5. BS in Media Science
6. Other (please specify)

Q10: Major-Grad —What is your current major?

1. MS in Advertising
2. MS/PHD in Emerging Media Studies
3. MFA in Film and TV Studies
4. MS in Journalism
5. MS in Media Science
6. MS in Media Ventures
7. MS in Public Relations
8. MFA in Screenwriting
9. MS in Television

Appendix B

Interview Questions

1. What AI tools do you use in your daily work?
2. How do you see AI evolving in your industry?
3. From the perspective of the company, what AI competencies are required for job candidates?
4. What concerns or challenges do you have about AI use in your industry?
5. Beyond AI-rekated skills, what professional competencies (e.g., communication, teamwork) do you consider crucial?
6. What suggestions do you have for BUCOM students to prepare for job hunting?