THE INFLUENCE OF AI LITERACY ON WORK READINESS AMONG UNIVERSITY STUDENTS

ORNUSA SUNNANANDA

MASTER OF BUSINESS ADMINISTRATION
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Lastly, the researcher truly hopes that this independent study will be useful for academics, organizations and individuals interested in human resource development and education. May this work inspire efforts to prepare and empower students to become capable and valuable contributors to Thailand's future.

Ornusa Sunnananda

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ABSTRACT

This study examined the influence of AI literacy on work readiness among university students in Thailand, with particular attention given to the roles of individual factors and university context (access to AI tools). A quantitative research design was employed, and data were collected from 364 fourth-year undergraduate students at Mae Fah Luang University using a structured online questionnaire. The key constructs AI literacy, university context, and work readiness were measured using five-point Likert scales, and the data were analyzed using descriptive statistics, Spearman's correlation, one-way ANOVA, and multiple regression analysis. The findings indicated that the overall levels of both AI literacy and work readiness were high. A strong positive relationship was found between AI literacy and work readiness, while significant differences in AI literacy were observed across selected individual factors, particularly frequency of AI tool usage, prior AI experience, and GPA. Furthermore, AI literacy was identified as a significant predictor of work readiness, whereas university context did not demonstrate a statistically significant direct effect when AI literacy was controlled for. These results suggest that AI literacy functions as a multidimensional competence encompassing cognitive, evaluative, and ethical dimensions that are essential for contemporary employability. The study highlights the importance of integrating AI literacy into higher education curricula through structured, experiential, and reflective learning opportunities to enhance student's readiness for AI-integrated workplaces.

Keywords: Work Readiness, AI Literacy, University Students, University Context, Digital Skills, Employability, Higher Education, Thailand

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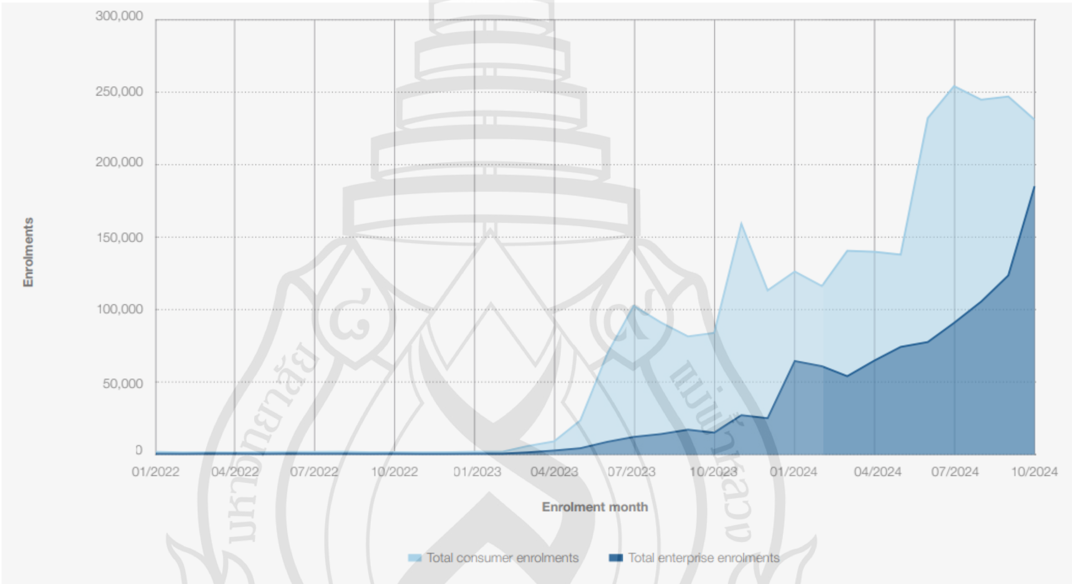
INTRODUCTION

1.1 Introduction and Background

Work readiness has been defined as an individual's ability to transition smoothly and successfully from an educational environment into the professional workplace (Caballero & Walker, 2010). Historical research has primarily focused on fundamental skills, such as communication, teamwork, responsibility, and adaptability (Caballero & Walker, 2010). Other studies have explored specialized skills, including technical competencies relevant to professional fields, problem-solving abilities, and lifelong learning, all of which significantly contribute to overall work readiness (Finch et al., 2013). These factors can be categorized into several dimensions (1) Personal characteristics, including emotional resilience, discipline, and responsibility; (2) Work competence, encompassing task management, decision-making capabilities, problem-solving, and time management; (3) Organizational acumen, involving an understanding of organizational structures and culture; and (4) Social intelligence, which includes communication skills, relationship-building, and teamwork. These dimensions have historically been essential for effective performance in the workplace.

In 21st century, particularly in the post-COVID era, research indicates that technological adaptability has emerged as a critical predictor of work readiness (Potgieter et al., 2023). The OECD (2022) also emphasizes digital competence and AI knowledge as integral components of “21st Century Skills.” This development has introduced a fifth dimension “technological and digital readiness”. Given that technology permeates every aspect of contemporary work, proficiency in digital technology and artificial intelligence (AI) has become a crucial new component of work readiness. Thus, the contemporary conceptualization and research of work readiness now include comprehensive digital skills, particularly proficiency in AI, aligning with the demands of the digital labor market (Potgieter et al., 2023).

Artificial intelligence (AI) has significantly transformed global economic systems, labor markets, and occupational practices (World Economic Forum, 2025). Organizations increasingly adopt AI to enhance efficiency, reduce costs, and innovate continuously, resulting in significant shifts in employment patterns and the skills demanded by labor markets (Zhang et al., 2023). AI technologies have not only replaced certain job roles but have also created new professional opportunities requiring advanced AI competencies. According to the Future of Jobs Report (World Economic Forum, 2025), AI and big data analytics skills are among the most in-demand competencies expected between 2025 and 2030.



Source Coursera (2025)

Figure 1.1 Demand for generative AI skills

AI literacy constitutes an essential component of work readiness in the 21st century, directly influencing employment opportunities, competitive advantage, and career advancement prospects for graduates. AI literacy involves: (1) fundamental knowledge of AI concepts; (2) proficiency in using AI tools and systems effectively; (3) critical analytical abilities to evaluate AI outcomes; and (4) awareness of ethical considerations and societal impacts associated with AI (Long & Magerko, 2020; Biagini, 2025). Research in Hong Kong demonstrated that graduates proficient in AI and digital technologies exhibit higher confidence levels when entering the labor market compared to those lacking these skills (Wut et al., 2025). Additionally, an intensive AI literacy curriculum trial across multiple university faculties found a notable improvement in students' understanding and confidence in using AI, significantly enhancing graduates' work capabilities and employability (Kong et al., 2021).

The National Institute of Educational Testing Service (National Institute of Educational Testing Service: NIETS, 2022) highlighted increased demand for graduates with strong AI and digital technology skills within Thai organizations. Mansoor et al. (2024) indicated that students' AI knowledge levels vary significantly across countries, influenced primarily by differences in curriculum structures and access to technological resources. Access to AI tools and digital resources at universities is thus a critical determinant of students' AI competencies and their work readiness levels (Williams & Park, 2023). Universities continuously investing in technological infrastructure and providing genuine AI usage opportunities tend to foster higher levels of AI literacy among students. Furthermore, individual differences, including academic discipline, gender, academic year, and technological experience, also affect students' AI capabilities and attitudes toward future employment (Ngampornchai & Adams, 2016). Several Asian countries, such as China, Singapore, and South Korea, have strategically incorporated AI literacy into foundational curricula as part of clearly defined national strategic plans (Yang et al., 2025). However, Thai university curricula still lack sufficient alignment with labor market demands regarding AI literacy integration, indicating a nascent stage of AI integration into educational programs (Srisawasdi & Panjaburee, 2022).

Although there are many studies about AI literacy and its relationship with work readiness, a significant research gap remains in the Thai context. Specifically, there has been no clear investigation into the impact of AI literacy on the work readiness of university students in Thailand, particularly when considering institutional factors and individual student characteristics.

Therefore, this study aims to analyze the impact of AI literacy on work readiness among university students in Thailand. The objectives include assessing students’ AI competencies, exploring the relationship between AI literacy and self-perceived work readiness, identifying institutional factors influencing AI literacy development, and examining individual student characteristics. The research findings aim to demonstrate the importance of AI literacy in enhancing graduates' employability, thereby informing curriculum development aligned with the digital era's workforce requirements.

1.2 Research Question

1.2.1 What is the current level of AI literacy among university students.

1.2.2 What is the relationship between AI literacy and work readiness among university students?

1.2.3 Are there significant differences in AI literacy across individual factors?

1.2.4 Do AI literacy effect to work readiness among university students?

1.3 Objective

1.3.1 To assess the level of AI literacy among university students.

1.3.2 To examine the relationship between AI literacy and work readiness in university student.

1.3.3 To examine differences in AI literacy across individual factors.

1.3.4 To investigate whether AI literacy significantly predicts work readiness among university students.

1.4 Hypothesis

1.4.1 The level of AI literacy among university students is high.

1.4.2 AI literacy is positively correlated with work readiness among university students.

1.4.3 There are significant differences in AI literacy based on individual factors.

1.4.4 AI literacy significantly predicts work readiness among university students.

1.5 Expected Benefits

1.5.1 The findings will offer valuable insights into how universities can enhance curricula by integrating AI literacy to better prepare students for the AI-driven workforce.

1.5.2 This research finding will help to prepraration of graduates and the importance of AI-related skills early in students academic careers by data of identifying the link between AI literacy and work readiness.

1.5.3 The study will raise awareness among students, academic staff, and professionals about the importance of AI literacy and its role in shaping career readiness in an AI-ERA.

1.6 Limitation

1.6.1 Scope of Population

The research may be limited to students from a specific university, which could limit the generalizability of the findings to students in different educational systems.

1.6.2 Scope of Time

The study was developed and collected data of effects of AI literacy on work readiness in short term period, in the long-term the students may be gain more experience with AI technologies after graduation.

1.6.3 Changing Nature of AI

The field of AI is rapidly evolving. As AI technologies continue to advance, the findings of this research may become outdated.

1.7 Definition of Terms

1.7.1 Work Readiness

Work readiness in this study refers to the degree to which university students are prepared to enter and succeed in professional roles after graduation.

1.7.2 AI Literacy

AI literacy is defined as a university student's ability to understand core AI concepts, apply AI tools effectively, evaluate the outcomes of AI systems critically, and consider ethical social implications and attitudinal associated with AI technologies.

1.7.3 Unversity Context (Access to AI Tools)

This research explores how differences in access to such tools influence students' AI literacy and, in turn, their readiness for AI-integrated workplaces. University context (Access to AI tools) refers to the availability and usability of AI , technologies, digital platforms and technological Infrastructure provided by universities that support learning and practice of AI concepts.

1.8 Conceptual Framework

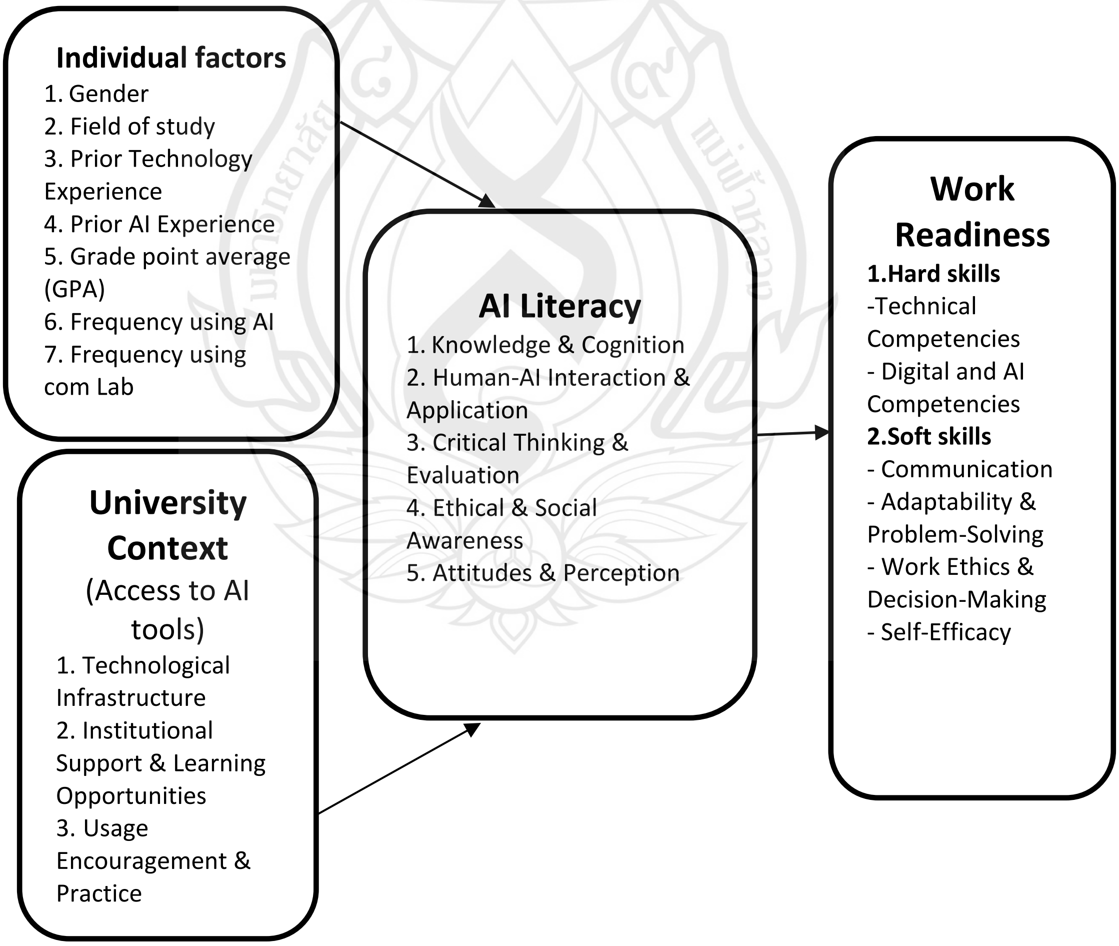


Figure 1.2 Conceptual framework

CHAPTER 2

LITERATURE REVIEW

2.1 Work Readiness

2.1.1 Definition and Conceptualization of Work Readiness

The concept of work readiness has been described in many ways by academics, although all definitions focus on the individual's preparedness for a seamless transition from college to working life. In 2010, Caballero and Walker defined work readiness as the level to which graduates have the necessary skills, knowledge, and traits needed to successfully transition to the workplace. Baumann et al. (2019) characterize it as the “readiness of new graduates for work in specialty practice,” highlighting clinical, relational, and organizational competence as essential indications. Alias et al. (2022) describe work readiness as a combined set of professional skills, work ethics, communication, collaboration, and self-confidence that empowers graduates to operate effectively in workplace environments.

Although numerous definitions across fields, the majority of studies believe that work readiness is a complex idea including three major elements. (1) Cognitive and Technical Competence including topic knowledge, problem-solving abilities, and analytical capabilities. (2) Intrapersonal and Interpersonal Skills include communication, collaboration, self-assurance, and self-efficacy (3) Contextual Adaptability - the capacity to adapt to workplace culture and organizational standards (Sultoni et al., 2023). These factors indicate that work readiness is not a permanent state but rather a dynamic developing process, developed by ongoing learning, experience, and reflection.

2.1.2 Theoretical Perspectives on Work Readiness

The concept of work readiness can be described from a variety of theoretical perspectives. According to Human Capital Theory, education and training are actions that improve an individual's revenue and productivity in the labor market (Nurlaela & Rasto, 2021). Universities are important in teaching students with the necessary knowledge and skills to enhance their employability and readiness for working life.

The Social Cognitive Career Theory (SCCT), which was presented by Lent et al. (2002), highlights the significance of self-efficacy, the belief that one has the ability of achieving achievement in the context of job preparation and performance. Nurlaela and Rasto (2021) observed that self-efficacy is a mediator in the relationship between work experience and students' readiness for employment. Alias et al. (2022) verified that confidence and motivation are significant predictors of students' perceived readiness.

Furthermore, Caballero et al. (2011) created the Work readiness Scale (WRS), a validated framework that measures the readiness of graduates in four distinct areas: (1) organizational acumen, (2) work competence, (3) social intelligence, and (4) personal work ethic. Malaysia and Indonesia are among several cultural contexts in which this framework has been fully used (Alias et al., 2022; Sultoni et al., 2023).

2.1.3 Empirical Findings on Factors Influencing Work Readiness

Empirical research has found multiple factors that influence students' readiness for work. Nurlaela and Rasto (2021) examined professional students in Indonesia and highlighted industry practice, home environment, and self-efficacy as key factors influencing work readiness. Their structural model explained more than 56% of the variance in readiness, indicating that experience learning and supportive environments are essential for professional readiness. Sultoni et al. (2023) used factor analysis on Indonesian university students, finding two primary dimensions: personal maturity and self-development, as well as experience and intelligence. Both highlight the significance of emotional stability, self-assurance, and exposure to real-world workplace circumstances. Alias et al. (2022) studied final-year students in Malaysia and identified teamwork, communication, and flexibility as the most important dimensions of readiness. However, they noted gender differences, male students exhibited greater self-confidence, and female students demonstrated superior interpersonal skills.

A systematic review written by Faiz (2024) merged results from 38 experiments and identified 13 principal impacting elements, such as learning motivation, industrial affiliation, creativity, interpersonal communication, family support, and practical training. The review determined that work readiness is not only a result of education but a growing competency developed via continuous experience and lifelong learning.

Baumann et al. (2019) established a four-domain model of readiness in the nursing industry, encompassing personal, clinical, relational, and organizational dimensions. This model demonstrates that getting ready is specific to professions while embracing universal traits such as self-efficacy, competence, and environmental comprehension.

2.1.4 Relationship Between Work Readiness and Employability

While work readiness and employability are interconnected, they are separate concepts. Employability indicates the capacity to obtain and maintain employment, while work readiness focuses the ability to perform well from the beginning of employment (Potgieter et al., 2023). Employability can be regarded as an outcome of work readiness. Potgieter et al. (2023) discovered that students' perceived work readiness was a major predictor of employability competencies, including flexibility, communication, and teamwork. Podubinski et al. (2024) demonstrated that the COVID-19 pandemic transformed the aspects of preparation, resulting in the development of new abilities like as digital agility, distant collaboration, and adaptability that are now important in post-pandemic and hybrid work settings. These findings underscore that preparation encompasses not just technical aspects but also socio-emotional and contextual dimensions. It demonstrates the extent to which individuals adapt knowledge, skills, and attitudes to fulfill employment requirements.

2.2 Work Readiness in Digital Era

The global economy is rapidly changing due to digital technology, which has transformed the concept of worker readiness. This concept mainly related to the cognitive, interpersonal, and behavioral competencies that facilitated graduates' seamless transition from education to work. In the digital era, work readiness includes a wider range of competencies, including adaptability to new technologies, digital literacy, and effective interpersonal communication in technology-mediated environments (Potgieter et al., 2023; Gfrerer et al., 2020). The global shift towards automation, artificial intelligence, and virtual work environments has altered organizational expectations of its employees. Employees must possess technological proficiency, adaptability, innovation, and a continuous willingness to acquire new knowledge. The World Economic Forum (2023) states that by 2027, over fifty percent of the global workforce will require new skills to be competitive in the digital economy. This underscores the significance of integrating digital skills into work training from the outset.

Traditional definitions of work readiness, such those by Caballero and Walker (2010), which focused on the knowledge, skills, and attitudes needed for a smooth transition to the workplace, don't do a good job of capturing how complicated today's work environments are. Consequently, scholars such as Potgieter et al. (2023) have expanded the idea to include data-driven decision-making, virtual collaboration, and digital agility as essential components of work readiness. Gfrerer et al. (2020) expanded on the concept of “digital mindset alignment,” which denotes an individual’s ability to integrate technological thinking into their professional identity and practice. This evolution demonstrates that employment readiness is a dynamic, lifelong process requiring adaptation, technical proficiency, and ethical awareness. It is no longer fixed or limited to basic training.

Digital work readiness improves current frameworks such as the Work Readiness Scale (Caballero et al., 2011) by adding modern features that are relevant to the technology-driven world. These components include digital literacy and technological proficiency, the ability to employ, evaluate, and adapt digital tools for problem-solving and innovation (European Commission, 2020). Adaptive learning and resilience are essential, as digital preparedness requires continuous self-updating in -response to new technologies (Potgieter et al., 2023). Virtual cooperation has become a vital ability Podubinski et al. (2024) found that graduates who had worked with people from afar after the pandemic were more confident, better at communicating, and better at solving problems. The ethical and responsible use of technology has received considerable focus; Meesook et al. (2025) showed that students’ comprehension of AI ethics and data responsibility is an accurate measure of their overall work readiness, suggesting that digital competence must be grounded in moral awareness and ethical behavior.

Higher education schools are very important for developing these skills. Normal ways of teaching aren’t good enough to prepare students for Industry 4.0 and the soon-to-be-released Industry 5.0. To make students more employable in the digital world, universities need to include digital tools, project-based learning, and AI-driven systems in their courses. Potgieter et al. (2023) pointed out that schools that use digital work-integrated learning programs help students feel more confident about their future careers and get more involved in the real world. Alias et al. (2022) said that having access to well-equipped labs, online collaboration tools, and teachers who are good with technology makes students more ready for digital work settings. Meesook et al. (2025) found that Thai students who had access to AI tools like ChatGPT or Grammarly through their universities were more confident in their own abilities and ready to find work. Imjai et al. (2025) supported this finding by showing that learning modules with AI made students better at thinking ethically, coming up with new ideas, and feeling like they were employable. All of these results show that colleges are more than just places to learn. They are also digital ecosystems that connect what students learn in the classroom with how they can use technology.

In today's digital environment, being able to use AI has become an essential component of work readiness. According to Wut et al. (2025), AI literacy encompasses understanding, using, and analyzing AI systems while considering their impact on society and ethics. AI literacy entails not only knowing how to utilize technology successfully, but also understanding how humans and computers may coexist and collaborate well. Meesook et al. (2025) discovered that students who were more knowledgeable about AI, particularly in terms of ethics and real-world applications, were more likely to be prepared for work and confident in their capacity to transition to intelligent work systems. Imjai et al. (2025) also discovered that these students are stronger problem solvers and digital citizens, making them more valuable in data-driven enterprises. As a result, some experts have called this stage "Work Readiness 5.0," emphasizing how human empathy, creativity, and moral reasoning may collaborate with machine-based intelligence, data analytics, and automation. This holistic readiness approach views technology as a tool that can assist people in reaching their full potential rather than a replacement for human labor.

Finally, work readiness in the digital era extends beyond technical skills to include adaptability, ethics, and lifelong learning. Graduates are expected to blend human-centered soft skills (communication, teamwork, and empathy) with digital capabilities (AI literacy, data analytics, and online collaboration). Higher education institutions must reinvent courses, foster innovative learning environments, and encourage ethical digital citizenship. Finally, digital job preparedness is a mindset—one marked by adaptability, curiosity, and ongoing self-improvement in the face of rapid technological innovation.

2.3 AI Literacy

Artificial intelligence (AI) has emerged as one of the most revolutionary forces in education, industry, and society. As AI technologies have an increasing impact on how people learn, communicate, and work, it is critical for humans to understand how AI works and how to utilize it responsibly. AI literacy has thus developed as a new type of literacy required for managing the digital environment (Ng et al., 2021). AI literacy, like traditional literacies such as reading, writing, and arithmetic, teaches people how to interpret, apply, and assess the intelligent systems that define modern life. Scholars agree that AI literacy includes cognitive, ethical, and social qualities that allow individuals to interact with AI critically and responsibly (Grassini, 2024). Ng et al. (2021) described AI literacy as the ability to "know and understand, use and apply, evaluate and create, and act ethically" when using AI technologies. This conception, like Bloom's taxonomy, emphasizes cognitive knowledge, practical application, evaluative reasoning, and moral awareness. It acknowledges that people must not only use AI tools, but also understand their rationale, limitations, and societal repercussions. Similarly, Grassini (2024) defines AI literacy as an integrated framework that includes cognition, interaction, evaluation, and ethics, with the goal of developing competence and conscience in technology use.

The development of AI literacy has become critical to higher education's objective of producing future-ready graduates. According to Long and Magerko (2020), AI literacy helps learners comprehend how algorithms influence decision-making and develops "algorithmic awareness," which recognizes that human biases can be built in AI systems. From this standpoint, AI literacy serves both a technical and civic purpose, it enables people to participate ethically in AI-augmented societies while also contributing to innovation and responsible digital change.

Understanding and Reasoning basic AI concepts, principles, and procedures is the initial aspect of AI literacy. Ng et al. (2021) state that this involves understanding the workings of AI systems, including machine learning, neural networks, and natural language processing, as well as being conscious of both their advantages and -disadvantages. Learners should be able to understand data-driven decision-making, discern between what AI can and cannot accomplish, and acknowledge how human involvement shapes AI results. Conceptual thinking regarding automation and intelligence is another aspect of cognitive comprehension of AI. According to Grassini, 2024, the foundation of AI literacy is a conceptual framework that enables people to relate computational operations to human thought. Higher-order competences are built on this knowledge, which empowers users to evaluate AI-generated outputs critically rather than passively. In order for university students to maintain their status as active decision-makers rather than passive users, they must develop trust, confidence, and a healthy skepticism regarding technological outputs.

2.3.2 Human-AI Interaction & Application

Human-AI Interaction and Applications is the factor that concerned with the ability to apply AI knowledge in practical, human-centered scenarios. This includes understanding how to connect with AI systems and apply them to real-world challenges. Ng et al. (2021) and Lee et al. (2021) discovered that learners who engage in hands-on activities such as building simple machine-learning models or using AI platforms (e.g., image recognition, chatbots, or data visualization tools) exhibit stronger comprehension and confidence in applying AI to their academic and professional tasks. Human-AI interaction emphasizes collaboration over substitution, AI should enhance, not replace, human competence. As Grassini, 2024 implies, increasing fluency in human-AI interaction requires both operational skills (e.g., prompting and evaluating outputs) and a reflective awareness of AI's role in human creativity and decision-making. In the workplace, individuals with this competency may effectively integrate AI tools into their professional routines, from data analysis and content development to decision support and creativity.

Furthermore, this dimension is directly related to work readiness. University students who learn how to apply AI to their studies, such as applying analytical AI tools in business, healthcare, or engineering, obtain transferable skills that improve employability and flexibility in AI-driven businesses.

2.3.3 Critical Thinking and Evaluation

Critical thinking is essential for AI literacy. The third dimension requires individuals to evaluate AI systems, examine their assumptions, and assess their reliability. Ng et al. (2021) assert that AI literacy includes the capacity to "evaluate and create" with AI, necessitating an understanding of algorithmic design, evaluation of data quality, and identification of potential biases. This evaluative ability differentiates shallow AI application from genuine literacy.

A thorough evaluation requires comprehension of the constraints of AI. Many users believe that AI decisions are unbiased or perfect; nevertheless, research shows that AI systems often reflect the biases and values of their creators (Hagendorff, 2020). Thus, fostering critical AI literacy empowers users to identify when algorithmic suggestions require examination or contextual understanding. Grassini, (2024) asserts that this evaluative perspective enhances ethical decision-making, especially in professional fields where AI outputs affect human wellbeing, like healthcare, education, and recruitment.

In educational settings, teaching AI literacy through inquiry-based learning and reflective discussion has shown improvement in students' analytical reasoning and skepticism towards automated results (Ng et al., 2021). Such pedagogies foster "AI thinking," enabling learners to not only employ AI but also reflect on its reasoning mechanisms.

2.3.4 Ethical and Social Awareness

Ethical and social awareness is a primary emphasis of contemporary AI literacy research. As AI technologies permeate daily life, understanding their societal implications such as data privacy, transparency, bias, and accountability has become imperative (Ng et al., 2021; Dignum, 2019). Ng et al. (2021) identified fairness, accountability, transparency, and ethics (FATE) as essential principles for individuals proficient in AI. Ethical awareness involves recognizing that AI systems lack impartiality; they are human-created tools that may perpetuate injustices if employed recklessly. Grassini (2024) posits that social awareness entails understanding the global and cultural ramifications of AI, notably about the impacts of automation on employment, surveillance, and digital inclusion.

University students must exhibit ethical and social awareness to employ AI tools such as text generators or data analyzers responsibly, thereby averting plagiarism, misinformation, and the misuse of personal data. Integrating AI ethics into curricula promotes critical reflection on human responsibility in technological progress. Meesook et al. (2025) demonstrated that students who developed ethical awareness with AI proficiency showed improved readiness for professional environments that emphasize ethics and internet citizenship.

2.3.5 Attitudes and Perception

This dimension of AI literacy concerns learners' perceptions, motivation, and emotional responses to AI. Beneficial traits for AI curiosity, openness to experimentation, and a desire for learning are crucial for engagement and continuous instruction. Conversely, worry or mistrust over AI can hinder acceptance and innovation. Grassini (2024) observed that attitudes about AI are shaped by prior exposure, confidence, and perceived control. Individuals who understand the constraints of AI generally exhibit balanced viewpoints, neither excessively trusting nor wholly skeptical of AI. Ng et al. (2021) identified a significant association between students' self-efficacy in applying AI and their inclination to apply it in problem-solving contexts. Promoting favorable perceptions of AI thus improves both education and employability. Students who perceive AI as a collaborative partner rather than a threat are more likely to employ AI tools to enhance their career readiness, creativity, and productivity. Promoting both constructive and analytical attitudes is therefore a primary goal of AI literacy education.

2.4 University Context (Access to AI Tools)

The importance of University in educating students for AI-driven careers has increased in recent years. Higher education institutions serve as not just academic learning centers but also digital ecosystems that offer access to technology, infrastructures, and possibilities for cultivating digital competence and AI literacy (Potgieter et al., 2023; Ng et al., 2021). The university environment, including its infrastructure, support systems, and technology culture, profoundly impacts students' acquisition and application of AI-related knowledge and abilities (Meesook et al., 2025). Thus, the university environment represents the institutional capacity to provide digital access, guidance, and assistance for the responsible incorporation of AI in education and career development. This section analyzes three fundamental attributes of the university environment for access to AI tools: technological infrastructure, institutional support and learning opportunities, and promotion and application of usage.

2.4.1 Technological Infrastructure

The technological infrastructure supports all digital learning and AI initiatives within universities. It concerns the availability, quality, and accessibility of digital tools, computing resources, and internet connectivity that enable students' effective interaction with AI technology (Alias et al., 2022). Potgieter et al. (2023) contend that a strong technical infrastructure is a vital determinant of students' digital preparedness and assurance in employing intelligent technologies. This encompasses access to high-speed internet, modern computer laboratories, licensed software, cloud-based AI platforms, and safe data management techniques. Research by Gfrerer et al. (2020) indicated that disparities in digital infrastructure create deficiencies in digital readiness among students. Individuals with limited access to reliable internet or advanced equipment sometimes have challenges in participating in technology-enhanced learning, resulting in reduced engagement and self-efficacy. Sultoni et al. (2023) found that inadequate technical resources impede students' experiential learning and diminish their perceived readiness for the workforce. These findings demonstrate that equitable access to technology is essential for academic and professional achievement in the age of artificial intelligence.

Thai universities' enhancement of technical infrastructure requires the supply of both physical and digital resources, including on-campus Wi-Fi, AI-assisted laboratories, and extensive subscriptions to programs such as ChatGPT, Grammarly, or Turnitin. Meesook et al. (2025) observed that students' AI literacy and digital confidence significantly improved when they employed AI applications via university accounts. Consequently, infrastructure extends beyond mere technology; it entails the creation of an inclusive, integrated, and sustainable digital ecosystem that promotes innovative learning.

2.4.2 Institutional Support and Learning Opportunities

In addition to infrastructure, institutional support and educational opportunities are crucial in promoting AI literacy and preparedness. This dimension includes regulations, professional development, and educational initiatives that enhance student involvement with AI technologies. Ng et al. (2021) assert that effective AI education necessitates the integration of AI subjects throughout curriculum, the provision of training workshops, and the development of faculty experience in digital pedagogy. This support guarantees that pupils are not merely passive consumers of technology but engaged learners proficient in critical and ethical AI utilization. Meesook et al. (2025) discovered that institutions providing organized AI workshops and project-based learning initiatives facilitated the concurrent development of practical skills and ethical consciousness in students. Likewise, Imjai et al. (2025) indicated that the incorporation of AI-based assignments into coursework improved students' problem-solving abilities and flexibility. These programs illustrate how institutional efforts convert into substantive learning opportunities for students to engage with AI tools effectively. Potgieter et al. (2023) established the notion of "digital employability programs," wherein colleges integrate career services with technological training to enhance students' preparedness for future employment.

In Thailand, numerous higher education institutions, like Mae Fah Luang University and Chulalongkorn University, have established AI innovation centers, digital learning hubs, and multidisciplinary courses that integrate data science, ethics, and entrepreneurship. These initiatives demonstrate that institutional assistance include not only technical training but also mentoring, career counseling, and ethical discussions related to AI. When colleges encourage AI literacy and digital inclusiveness, they cultivate environments that enable students to become adaptable and responsible workers.

2.4.3 Usage Encouragement and Practice

Universities characterize their support for the practical and ethical application of AI tools among students as use encouragement and practice. Promoting utilization transcends mere access; it entails fostering positive attitudes, motivation, and confidence to participate responsibly with AI systems (Grassini, 2024) .When educators and administrators actively advocate for AI applications in education, such as automated feedback, data visualization, or simulation exercises, students exhibit increased engagement and a greater propensity to incorporate AI into their academic and professional endeavors. Alias et al. (2022) determined that continuous support from instructors markedly affects students' confidence and preparedness to utilize emerging technology. Universities that acknowledge and encourage appropriate AI utilization through programs such as innovation challenges or capstone projects cultivate a culture of digital curiosity and autonomous learning. Wut et al. (2025) contended that mentoring and mentorship are essential in reducing issues such as plagiarism and excessive dependence on generative AI.

Therefore, incentives should be integrated into ethical frameworks and institutional norms to foster honesty. Interaction with AI fosters continuous professional preparedness. Gfrerer et al. (2020) noted that students who regularly engaged with AI platforms had increased digital confidence and enhanced problem-solving skills. Meesook et al. (2025) demonstrated that active engagement with AI in educational settings improved both technical and interpersonal skills, encompassing communication, collaboration, and creativity. Through systematic practice, students acquire knowledge regarding the use of AI, including appropriate contexts and reasons, so augmenting human-AI collaboration as a real professional competency.

In summary University context especially access to AI tools constitutes the institutional foundation of AI literacy and digital work preparedness. Technological infrastructure establishes the essential base institutional support and educational opportunities formulate organized avenues for advancement; and the promotion of usage and practice fosters motivation and ethical consciousness. The three components are interdependent: without sufficient infrastructure, learning opportunities cannot thrive, and without motivation, tools stay remain utilized.

2.5 Related AI Literacy and Work Readiness

The increasing use of artificial intelligence (AI) across sectors has transformed the criteria for workforce preparedness in the 21st century. As automation, data analytics, and intelligent systems integrate into professional environments, companies increasingly anticipate that graduates will possess both human and technological skills. In this transformation, AI literacy the capacity to comprehend, utilize, and critically assess AI responsibly has become a crucial determinant of work readiness, defined as - graduates' ability to transition seamlessly from education to productive employment, armed with the requisite knowledge, skills, and attitudes for complex professional settings (Caballero & Walker, 2010; Ng et al., 2021; Potgieter et al., 2023). AI literacy serves as a conduit between education and employment, equipping individuals to navigate algorithmic decision-making, automation, and human-machine collaboration that increasingly characterize contemporary workplaces.

Researchers have noted that the connection between AI literacy and employment preparedness is both theoretical and empirical. This concept is consistent with Human Capital Theory, which perceives education as an investment that enhances productivity and employability, and Social Cognitive Career Theory, which emphasizes self-efficacy as the cornerstone of career readiness (Lent et al., 2002; Nurlaela & Rasto, 2021). From a human capital perspective, attaining AI literacy enhances digital proficiency and cognitive capacity, hence increasing individuals' market value and adaptability in rapidly evolving labor marketplaces. Through a social-cognitive perspective, the proficiency in AI technologies enhances self-assurance and motivation, resulting in increased adaptability and professional involvement. From both viewpoints, AI literacy enhances psychological and behavioral preparedness by cultivating an active, self-directed learning orientation crucial for enduring work achievement.

The multifaceted nature of AI literacy reflects that of work readiness, creating an innately synergistic relationship between both of them. Ng et al. (2021) characterized AI literacy as encompassing cognitive, technical, evaluative, ethical, and attitudinal dimensions, which align well with the cognitive, technical, interpersonal, and ethical facets of job preparedness (Alias et al., 2022; Sultoni et al., 2023). The knowledge and cognition component of AI literacy establishes the intellectual basis for analytical reasoning and problem-solving, fostering cognitive preparedness. The human–AI interaction and application dimension cultivates practical skills and assurance with technology tools, reflecting readiness in the workplace. The critical thinking and evaluation aspect enhances judgment and reflective decision-making—essential traits of professional maturity while ethical and social awareness directly correlates with moral responsibility and integrity. Ultimately, attitudes and perceptions influence motivation, resilience, and receptiveness to innovation, all crucial for maintaining employability in rapidly changing industries. Consequently, the abilities cultivated through AI literacy together foster the comprehensive skill set essential for employment readiness in the digital economy. Empirical studies frequently validate this theoretical connection. Meesook et al. (2025) discovered a significant correlation ($r = .64$, $p < .001$) between Thai undergraduates' overall AI literacy and their work-readiness levels, suggesting that students with higher scores in AI ethical awareness and practical application demonstrated enhanced confidence, teamwork, and problem-solving skills. Wut et al. (2025) similarly noted that university students possessing strong AI -literacy exhibited greater self-efficacy and perceived employability, indicating that -comprehension and engagement with AI improve preparedness for uncertain professional environments. In Malaysia, Alias et al. (2022) demonstrated that communication, flexibility, and teamwork crucial results of experiential engagement with digital tools were the most significant dimensions of work preparation among final-year students. These findings collectively suggest that AI literacy serves as both a cognitive asset and a behavioral impetus for enhancing professional competence.

Several particular mechanisms explain how AI literacy enhances readiness. The cognitive comprehension of AI enhances analytical and problem-solving skills. Students who understand how algorithms manipulate data are more adept at critically analyzing digital information and employing evidence-based reasoning in decision-making (Grassini, 2024). Such cognitive agility is more crucial as workplaces rely on data-driven insights. Secondly, the capacity to engage with AI technologies cultivates practical proficiency. Utilization of tools like predictive analytics, generative writing platforms, or intelligent tutoring systems enhances technical proficiency and self-efficacy, enabling graduates to apply these abilities to practical situations (Potgieter et al., 2023). Third, AI literacy fosters evaluative judgment; learners who scrutinize AI outputs cultivate professional skepticism, so safeguarding companies from excessive dependence on automation (Hagendorff, 2020). Fourth, ethical and social awareness cultivated by AI education supports professional ethics and digital citizenship. Comprehending fairness, transparency, and accountability enables graduates to address ethical challenges concerning data privacy and algorithmic bias (Dignum, 2019; Ng et al., 2021). Overall, positive views of AI stimulate curiosity and continuous learning characteristics that maintain employable in unstable labor markets.

2.6 Related Individual Factors of AI Literacy and Work Readiness

2.6.1 Gender

Gender has frequently been examined as an important factor influencing individuals' learning behaviors, technological engagement, and perceptions of career readiness. In the context of digital competence and emerging technologies, gender differences have often been associated with variations in confidence, self-efficacy, and patterns of technology use. From a social cognitive perspective, learning outcomes and behavioral intentions are shaped not only by cognitive ability but also by individuals' beliefs about their own capabilities, commonly referred to as self-efficacy (Bandura, 1997). These beliefs are influenced by prior experiences, socialization processes, and cultural expectations, which may differ across genders.In recent studies, gender has been found to play a role in shaping digital learning engagement and technology-related confidence. It has been suggested that male and female students may differ in their levels of technological self-efficacy, perceived usefulness of digital tools, and willingness to experiment with new technologies (Ngampornchai & Adams, 2016). Such differences may indirectly influence AI literacy, as students who perceive themselves as more competent in digital environments are more likely to explore, apply, and critically engage with AI-based systems.

With regard to work readiness, gender has also been associated with differences in perceived employability skills, career confidence, and professional identity formation. Alias et al. (2022) reported that male and female students tended to demonstrate strengths in different dimensions of work readiness, such as self-confidence, communication skills, and teamwork. These variations have been attributed to social and cultural norms that shape expectations about professional behavior and career roles. As work readiness is a multidimensional construct encompassing technical competence, interpersonal skills, and self-efficacy (Caballero et al., 2011), gender-related differences in any of these domains may influence overall readiness for employment.In the digital era, the relevance of gender has become more complex. While technological access has become more widespread, differences in how technologies are used and perceived may still persist. Potgieter et al. (2023) suggested that students' adaptability to digital work environments is shaped by both personal and contextual factors, including prior exposure to technology and confidence in digital skills. These factors may interact with gender, thereby influencing both AI literacy and perceived work readiness.

2.6.2 Field of Study (School/Major)

Field of study has been widely recognized as an important factor influencing students' learning experiences, skill development, and career preparedness. Different academic disciplines are characterized by distinct curricular structures, pedagogical approaches, and degrees of exposure to digital tools and emerging technologies. As a result, students from different fields of study may develop varying levels of AI literacy and work readiness.From a theoretical perspective, experiential learning theory suggests that knowledge and skills are constructed through direct experience, reflection, and application (Kolb, 1984). This implies that students who are frequently exposed to technology-rich learning environments are more likely to develop higher levels of digital competence. In technology-oriented or applied disciplines, such as business, engineering, and digital sciences, learning activities are often designed to include data analysis, software utilization, and problem-based projects. Such learning environments may facilitate greater familiarity with AI tools and promote the development of AI-related competencies.

Empirical studies have shown that students' disciplinary backgrounds significantly influence their patterns of technology use and digital skill development. Ngampornchai and Adams (2016) found that students from science and technology-related fields demonstrated higher levels of digital engagement and confidence compared to those from humanities and social sciences. These differences were attributed to the nature of coursework, which often requires the use of digital platforms, data processing tools, and computational thinking. Similar findings were reported by Potgieter et al. (2023), who observed that students enrolled in practice-oriented and technology-intensive programs tended to report stronger digital adaptability and higher perceived readiness for modern workplaces.

With respect to work readiness, field of study has also been associated with differences in professional identity formation, employability skills, and career expectations. Alias et al. (2022) suggested that students' perceptions of readiness for employment are shaped by the extent to which their academic programs emphasize real-world applications, teamwork, and industry-relevant competencies. Disciplines that incorporate internships, project-based learning, and industry collaborations may better prepare students for professional environments by fostering both technical competence and soft skills.In the context of AI literacy, disciplinary differences may be particularly salient. Programs that integrate data-driven decision-making, automation, or digital analytics into their curricula are more likely to provide students with opportunities to interact with AI systems. Through repeated exposure and guided practice, students may develop not only operational skills but also critical and ethical awareness of AI technologies. Conversely, students from fields with limited technological integration may have fewer opportunities to develop such competencies, which may result in lower levels of AI literacy.

2.6.3 Academic Performance (GPA)

Academic performance, commonly measured by grade point average (GPA), has been widely used as an indicator of students' cognitive ability, learning engagement, and self-regulated learning capacity. From a theoretical perspective, academic achievement has been closely associated with metacognitive skills, motivation, and persistence, which are essential for lifelong learning and professional adaptability (Zimmerman, 2002). These attributes are particularly relevant in technology-driven environments, where continuous learning and self-directed skill development are increasingly required. In the context of digital competence, students with higher academic performance have often been found to demonstrate stronger self-regulation, goal-setting behaviors, and problem-solving abilities (Broadbent & Poon, 2015). Such characteristics may facilitate the acquisition of AI-related knowledge, as learning about AI systems requires not only technical understanding but also the ability to critically evaluate outputs and reflect on their limitations.

Empirical evidence has indicated that academic performance may be associated with differences in students' readiness for employment. Sultoni et al. (2023) reported that students with stronger academic engagement tended to show higher levels of perceived readiness, particularly in dimensions related to self-efficacy, adaptability, and responsibility. Similarly, Alias et al. (2022) found that academic achievement was indirectly related to work readiness through its influence on confidence, communication skills, and learning motivation. These findings suggest that GPA may reflect not only content mastery but also broader learning dispositions that support professional development. In relation to AI literacy, higher academic performance may facilitate deeper conceptual understanding of complex technological systems, such as algorithmic reasoning, data-driven decision-making, and system limitations. Grassini (2024) emphasized that critical and reflective thinking is a central component of AI literacy, and such thinking is often cultivated through sustained academic engagement.

However, it has also been suggested that academic performance alone may not fully capture students' readiness for digital work environments. Potgieter et al. (2023) argued that employability and work readiness are multidimensional constructs that extend beyond academic knowledge to include interpersonal skills, adaptability, and emotional resilience. Consequently, a high GPA does not necessarily guarantee high work readiness, particularly in contexts where practical experience and social competence are emphasized. Based on these perspectives, GPA is considered a relevant but not deterministic individual factor influencing both AI literacy and work readiness. Examining differences across GPA levels therefore allows for a more nuanced understanding of how academic achievement interacts with cognitive, motivational, and behavioral dimensions of preparedness for AI-integrated workplaces.

2.6.4 Computer Skill Level and Digital Competence

Computer skill level, often conceptualized as a component of digital competence, has been widely recognized as a crucial factor influencing individuals' engagement with technology, learning processes, and adaptability to modern work environments. Digital competence has been defined as the ability to use digital technologies effectively, critically, and responsibly for learning and professional purposes (European Commission, 2020). From a theoretical perspective, self-efficacy theory suggests that individuals who perceive themselves as competent in using digital tools are more likely to adopt new technologies, engage in exploratory learning, and persist in solving complex problems (Bandura, 1997). This implies that students with higher computer skill levels may be more inclined to interact with AI systems, experiment with their applications, and develop deeper forms of AI literacy.

Empirical studies have consistently shown that digital competence is associated with higher learning engagement and more effective self-regulated learning behaviors. Broadbent and Poon (2015) reported that students with stronger digital skills tended to demonstrate better planning, monitoring, and reflective strategies, which are essential for mastering complex and evolving technologies. Similarly, Gfrerer et al. (2020) found that students' digital preparedness significantly influenced their confidence and participation in technology-mediated learning environments. As AI literacy involves not only the use of tools but also the critical evaluation of outputs and awareness of limitations (Ng et al., 2021), a higher level of computer skill may facilitate more meaningful and reflective engagement with AI systems.

In terms of work readiness, computer skill level has been identified as a foundational component of employability in the digital era. Potgieter et al. (2023) emphasized that digital adaptability has become a core dimension of modern work readiness, as employees are increasingly expected to collaborate virtually, use intelligent systems, and continuously update their technological knowledge. However, it has also been noted that operational proficiency alone is insufficient to guarantee overall readiness for work. Professional preparedness requires the integration of technical skills with interpersonal competencies, ethical awareness, and contextual understanding (Caballero et al., 2011; Ng et al., 2021). Therefore, computer skill level is considered an important, but not exclusive, individual factor influencing both AI literacy and work readiness.

2.6.5 AI Experience and Frequency of AI Use

Prior experience with AI technologies and the frequency of AI use have been increasingly recognized as important factors shaping individuals' technological competence, confidence, and learning engagement. From a learning perspective, experiential learning theory posits that knowledge is constructed through direct interaction with tools, reflection on outcomes, and iterative application (Kolb, 1984). This suggests that students who frequently interact with AI systems may develop stronger conceptual understanding, operational fluency, and critical awareness of such technologies. As AI literacy involves not only knowing how to use tools but also understanding their limitations and societal implications, repeated exposure may play a crucial role in fostering deeper forms of literacy (Ng et al., 2021).

Empirical research has shown that familiarity with digital tools is strongly associated with perceived competence and self-efficacy. Students who regularly use AI-based applications tend to report higher confidence in navigating digital environments and a greater willingness to experiment with new technologies (Wut et al., 2025). Similarly, Meesook et al. (2025) found that students who had more frequent exposure to AI tools through academic tasks demonstrated stronger ethical awareness, problem-solving abilities, and perceived employability. These findings indicate that experience and usage frequency do not merely enhance technical skills but also contribute to reflective and evaluative dimensions of AI literacy.

In relation to work readiness, frequent interaction with AI systems may support the development of transferable competencies that are essential for modern workplaces. Potgieter et al. (2023) argued that adaptability, digital confidence, and continuous learning orientation are central to contemporary employability. Students who engage with AI tools on a regular basis may therefore feel more prepared to enter AI-integrated work environments, as they become accustomed to learning new systems and responding to technological change. However, it has also been emphasized that experience alone does not guarantee full work readiness. Without guided reflection and ethical awareness, frequent use may lead to superficial engagement rather than meaningful competence (Ng et al., 2021). Consequently, AI experience and frequency of use are regarded as important, but not deterministic, factors influencing both AI literacy and work readiness.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Population and Sample

3.1.1 Target Population

The target population for this study includes fourth-year undergraduate students at Mae Fah Luang University in the academic year 2025. This group was selected because final-year students are in the transition phase from academic study to the labor market, making them appropriate for examining issues related to work readiness and AI literacy. Data from Registrar Division Mae Fah luang university, the total population was estimated approximately 4,000 students. This population was considered appropriate for the present study as final-year students are more likely to have been exposed to various learning experiences, including digital tools, AI-related technologies, and work-integrated learning activities, which are essential for examining perceived work readiness and AI literacy.

3.1.2 Sample Size

The sample size for this study was determined using Yamane’s (1967) formula, which is commonly applied in social science research to estimate an appropriate sample size from a finite population.

The formula is expressed as follows :

$$\boldsymbol{n} = \frac{\boldsymbol{N}}{\mathbf{1} + \boldsymbol{N}(\boldsymbol{e})^{\mathbf{2}}}$$

$\boldsymbol{n}$ = required sample size

$\boldsymbol{N}$ = population size

$\boldsymbol{e}$ = margin of error

In this study, the total population (N) was approximately 4,000 fourth-year students at Mae Fah Luang University. The margin of error (e) was set at 0.05, corresponding to a 95% confidence level.

Calculation the sample size :

$$\boldsymbol{n} = \frac{\mathbf{4000}}{\mathbf{1 + 4000(0.05)^2}}$$

$$\boldsymbol{n} = \frac{\mathbf{4000}}{\mathbf{1 + 4000(0.0025)}}$$

$$\boldsymbol{n} = \frac{\mathbf{4000}}{\mathbf{1 + 10}}$$

$$\boldsymbol{n} = \frac{\mathbf{4000}}{\mathbf{11}} \approx \mathbf{363.6}$$

Therefore, the minimum required sample size was approximately 364 students. This number was considered sufficient to represent the population and to ensure the statistical reliability of the findings.

3.1.3 Sampling Method

This study employed a snowball sampling method. Fourth-year students at Mae Fah Luang University were invited to participate through online communication channels, including social media platforms, university networks, and student groups. This approach allowed the researcher to efficiently reach a large number of potential respondents within a limited period.

3.2 Research Instrument

3.2.1 Research Instrument Method

3.2.1.1 Relevant articles and research studies are reviewed to serve as guidelines for developing the questionnaire.

3.2.1.2 Scope of questions are created by organized into three clear sections aligned with research objectives and hypotheses

3.2.1.3 A draft version of questionnaire is created.

3.2.1.4 The drafted questionnaire is submitted to the advisor for verification and validation.

3.2.1.5 Revisions are made to the questionnaire based on the advisor's feedback.

3.2.1.6 The revised questionnaire is submitted to three experts for content validity assessment. The Index of Item-Objective Congruence (IOC) will be calculated to ensure content validity.

3.2.1.7 After expert validation, a pilot study will be conducted with a small sample group Reliability of the questionnaire items will be assessed using Cronbach's alpha, ensuring a reliability coefficient above the accepted threshold of 0.8

3.2.2 Data Collection Form

A questionaire was separated in 4 part

3.2.2.1 The demographic information such as gender, year of study was required.

3.2.2.2 University context (Access to AI tools) measures the level of access to AI-based platforms and tools provided by the university, such as Frequency of AI tool usage in coursework, Availability of AI workshops/training and Confidence in navigating AI platforms. These items were adapted from previous studies exploring institutional access and technology integration (Williams & Park, 2023; Garcia & Nelson, 2022).

3.2.2.3 Work readiness assesses students' perceived readiness for professional employment. Items are based on the Work Readiness Scale (WRS) developed by Caballero et al. (2011), including Communication skills, Teamwork collaboration , Adaptability and self-management Understanding of workplace norms.

3.2.2.4 AI literacy evaluates students' literacy in AI, following frameworks developed by Long & Magerko (2020) and Zhao et al. (2022).

In section 2, 3 and 4 include questions formatted on a five-point Likert scale.

Strongly agree	5
Agree	4
Doubt	3
Disagree	2
Strongly disagree	1

3.3 Data Collection Method

This study utilizes a quantitative research method, collecting data through an online questionnaire. The questionnaire was created using Google Forms, measured using a Likert scale and shared via a link and QR code with students at Mae Fah Luang University. The online data collection method was chosen due to its convenience, accessibility, and ability to reach a large number of respondents within a limited time frame. Additionally, this method allowed participants to complete the questionnaire at their own convenience, thereby increasing the response rate.

3.3.1 Primary Data

Primary data was collected using an online questionnaire from a target population. The collected data included demographic information, factors affecting work readiness, Access to AI tools and AI literacy, measured using a Likert scale.

3.3.2 Secondary Data

Secondary data refers to information that has been previously collected, analyzed, and published by other researchers or institutions. According to Johnson (2014), secondary data plays a crucial role in enriching primary research by offering context, supporting evidence, and theoretical frameworks. In this study, secondary data is used to support the development of research instruments, validate findings, and situate the study within the broader academic discourse. The secondary data sources used in this research include 1) Peer-reviewed academic journals, particularly those related to AI literacy, work readiness, employability, and educational technology (e.g., Higher Education Research & Development, Computers & Education). 2)Books and scholarly monographs, especially those providing foundational theories in educational measurement, workforce development, and digital competencies. 3) Government and institutional reports, such as those from the Ministry of Higher Education in Thailand, World Economic Forum. 4) Online academic databases, including Scopus, Web of Science, and Google Scholar, which serve as the main repositories for accessing high-quality, peer-reviewed literature.

3.4 Data Analysis

3.4.1 Descriptive analysis for explain demographic data of participants and the current level of AI literacy and work readiness among university students.

3.4.2 Spearman's Rho correlation coefficient was used to assess correlation between AI literacy and work readiness.

3.4.3 One way analysis (ANOVA) employed to examine differences in AI literacy and work readiness across demographic variables.

3.4.4 Multiple regression analysis was conducted to identify the predictive effects of AI literacy and other related factors on student's work readiness.

CHAPTER 4

RESULT

4.1 Demographic Data

In this section, the demographic characteristics of the respondents who participated in the study are presented. At Mae Fah Luang University, a total of 364 valid responses were collected from fourth-year students. Demographic variables that were assessed included gender, school major, GPA, computer skill level, frequency of AI use, and prior AI experience.

4.1.1 Gender Distribution

Table 4.1 presents the gender distribution of respondents. Among the 364 participants, 265 (72.8%) were female, 94 (25.8%) were male, and 5 (1.4%) identified as other genders.

Table 4.1 Gender distribution

Gender	n (total = 364)	Percentage
Male	94	25.8
Female	265	72.8
others	5	1.4
Total	**364**	**100.00**

4.1.2 Distribution of Schools

The distribution of respondents by their school majority of the 364 participants were from the School of Management (50.3%), School of Health Science (20.1%) and the School of Applied Digital Technology (8.5%) following in that order.

Table 4.2 School distribution

School	n (total = 364)	Percentage
School of Management	183	50.3
School of Agro-Industry	10	2.7
School of Cosmetic Science	4	1.1
School of Health Science	73	20.1
School of Applied Digital Technology	31	8.5
School of Integrative Medicine	8	2.2
School of Law	21	5.8
School of Liberal Arts	7	1.9
School of Nursing	7	1.9
School of Science	5	1.4
School of Sinology	14	3.8
School of Dentistry	1	0.3
Total	**364**	**100.00**

4.1.3 Grade Point Average (GPA) Distribution

Table 4.3 illustrates the distribution of respondents by their Grade Point Average (GPA) in accordance with statistical distribution. The majority of students had a GPA between 3.01 and 3.50 (36.5%), with 29.7% falling within the 2.51–3.00 range and 18.7% within the 3.51–4.00 range. A GPA below 2.00 was observed in only a small number of respondents (1.1%).

Table 4.3 Grade point average (GPA) distribution

GPA	n (total = 364)	Percentage
below 2.00	4	1.1
2.01-2.50	51	14.0
2.51-3.00	108	29.7
3.01-3.50	133	36.5
3.51-4.00	68	18.7
Total	**364**	**100.00**

4.1.4 Computer Skill Level

The statistical distribution presented in Table 4.4 illustrates the allocation of respondents based on their self-evaluated computer proficiency. The majority of students assessed their skills as intermediate (64.0%), followed by advanced (21.2%), with 11.0% categorizing themselves as beginners and 3.8% as experts.

Table 4.4 Computer skill level of respondents

Computer Skill Level	n (total = 364)	Percentage
Beginner	40	11.0
Intermediate	233	64.0
Advance	77	21.2
Expert	14	3.8
Total	**364**	**100.00**

4.1.5 Frequency of Using Computer Laboratory at University

Table 4.5 illustrates the frequency with which respondents utilized the university's computer laboratories. The computer laboratories were never used by 32.7% of respondents, while the largest group, 36.3%, reported using them less than once per month. Only 4.9% of individuals visited the laboratories more than three times per week, while approximately 14.0% utilized them one to three times per month.

Table 4.5 Frequency of using computer laboratory at university

Frequency of using Computer Laboratory at University	n (total = 364)	Percentage
Never	119	32.7
Less than once per month	132	36.3
1-3 times per month	51	14.0
1-2 times per week	44	12.1
More than 3 times per week	18	4.9
Total	**364**	**100.00**

4.1.6 Frequency of Using AI Tools

The frequency of AI tool usage among respondents is present in Table 4.6. The findings indicate that the majority of students (65.9%) reported using AI tools more than three times per week, while 17.0% reported using them one to two times per week and 10.2% reported using them up to three times per month. A mere 2.5% of students reported that they had never employed artificial intelligence (AI) instruments.

Table 4.6 Frequency of using AI tools

Frequency of Using AI	n (total = 364)	Percentage
Never	9	2.5
Less than once per month	16	4.4
1-3 times per month	37	10.2
1-2 times per week	62	17.0
More than 3 times per week	240	65.9
Total	**364**	**100.00**

4.1.7 AI Experience

The respondents' prior experiences with artificial intelligence (AI) are illustrated in Table 4.7. The findings indicate that the majority of students (42.3%) developed a fundamental understanding of AI through their university curriculum, while 33.0% acquired knowledge about AI through self-learning or online courses. Only 3.6% of respondents reported obtaining advanced training or certifications, while a smaller percentage attained experience through internships or work placements (6.9%). In the meantime, 14.3% of respondents reported that they had no prior experience with AI.

Table 4.7 AI experience

AI experience	n (total = 364)	Percentage
No prior experience	52	14.3
Self-learning/online courses	120	33.0
Basic exposure through curriculum	154	42.3
Internship/work experience	25	6.9
Advanced training/certification	13	3.6
Total	**364**	**100.00**

4.2 University Context (Access to AI Tools), AI Literacy, and Work Readiness

The objective of this analysis is to provide a comprehensive description of the overall level of each construct and its sub-dimensions, as determined by the mean (M) and standard deviation (SD) values derived from the respondents' perceptions. The mean scores are interpreted according to the five-point Likert scale, with Low being 1.00–2.33, Moderate being 2.34–3.66, and High being 3.67–5.00 (Caballero et al., 2011; Long & Magerko, 2020).

4.2.1 University Context (Access to AI Tools)

The mean and standard deviation of the university context variable, which assesses students' access to AI tools and related institutional support, are provided in Table 4.8. The respondents'access to AI tools was moderate-to-high, as evidenced by the aggregate mean score of 3.82 (SD = 0.73). The mean of Usage Encouragement & Practice was the highest among the three sub-dimensions (M = 4.03, SD = 0.56), indicating that universities and instructors actively encourage students to incorporate AI tools into their academic work. This is succeeded by Technological Infrastructure (M = 3.77, SD = 0.83), which indicates that internet access and software updates for AI applications are relatively adequate. The mean of the sub-dimension Institutional Support & Learning Opportunities was marginally lower (M = 3.73, SD = 0.85).

Table 4.8 Descriptive data of university context (access to AI tools)

	Min	Max	Mean	SD	n
Access to Ai tools	1.00	5.00	3.82	0.73	364
Technological Infrastructure	1.00	5.00	3.77	0.83	364
1. University provides reliable internet access for AI tools usage.	1.00	5.00	3.97	0.95	364
2. Computer laboratories at university have updated software for AI applications.	1.00	5.00	3.81	0.95	364
3. I have access to licensed AI software or tools through a university-provided account.(e.g. Quillbot)	1.00	5.00	3.55	1.26	364
Institutional Support & Learning Opportunities	1.00	5.00	3.73	0.85	364
4. University offers workshops or training sessions on AI tools.	1.00	5.00	3.61	1.04	364

Table 4.8 (continued)

	Min	Max	Mean	SD	n
5. Faculty members are knowledgeable about AI and can provide guidance	1.00	5.00	3.65	1.02	364
6. University integrates AI usage into courses or project-based learning.	1.00	5.00	4.00	0.71	364
Usage Encouragement & Practice	1.00	5.00	4.03	0.56	364
7.University or instructors encourage appropriate AI use in academic work.	1.00	5.00	3.94	0.98	364
8.I have used AI tools in completing assignments, reports, or projects.	1.00	5.00	4.12	0.95	364

4.2.2 AI Literacy Variable

The mean and standard deviation of the AI Literacy variable, which is indicative of students' attitudes, skills, and knowledge regarding AI, are presented in Table 4.9. The students exhibited a high level of AI literacy, as evidenced by the aggregate mean score of 4.03 (SD = 0.65). The AI Ethical Awareness dimension exhibited the highest mean score (M = 4.20, SD = 0.58), followed by AI Attitudes and Perception (M = 4.08, SD = 0.61) and AI Practical Application (M = 4.01, SD = 0.64) among the five dimensions. The mean score in AI Conceptual Knowledge was the lowest (M = 3.79, SD = 0.72); however, it was still considered high.

Table 4.9 Descriptive data of AI literacy by dimension

	Min	Max	Mean	SD	n	Level
AI Literacy	1.00	5.00	4.03	.65	364	High
AI Conceptual Knowledge	1.00	5.00	3.79	.78	364	High
AI Practical Application	1.00	5.00	4.01	.76	364	High
AI Critical Evaluation	1.00	5.00	3.97	.72	364	High
AI Ethical Awareness	1.00	5.00	4.20	.78	364	High
AI Attitudes & Perception	1.00	5.00	4.08	.75	364	High

Note Interpretation adapted from Caballero et al. (2011) for work readiness and Long and Magerko (2020) for AI literacy frameworks low (1.00–2.33) moderate (2.34–3.66) high (3.67–5.00)

4.2.3 Work Readiness

The mean and standard deviation of Work Readiness are presented in Table 4.10 which indicates the extent to which students are prepared to implement their skills in professional settings and enter the workforce. The respondents demonstrated a high level of work readiness, as evidenced by their aggregate mean score of 4.04 (SD = 0.64). Communication and Teamwork were the most highly rated dimensions (M = 4.15, SD = 0.59), indicating that students regard their interpersonal and collaborative skills as robust. This was closely followed by Personal and Interpersonal Skills (M = 4.09, SD = 0.62) and Self-Management and Responsibility (M = 4.12, SD = 0.61). Professional and Technical Competence exhibited the lowest mean (M = 3.88, SD = 0.71), despite remaining within the high-level range.

Table 4.10 Descriptive data of work readiness

	Min	**Max**	**Mean**	**SD**	**n**	**Level**
Work Readiness	1.00	5.00	4.02	0.65	364	High
Hard skills	1.00	5.00	3.91	0.67	364	High
Technical Competencies	1.00	5.00	3.97	0.70	364	High
Digital and AI Competencies	1.00	5.00	3.86	0.71	364	High
Soft Skills	1.00	5.00	4.08	0.67	364	High
Communication skills	1.00	5.00	4.00	0.71	364	High
Adaptability and Problem-Solving skills	1.00	5.00	4.07	0.73	364	High
Work ethics, Critical and decision making	1.00	5.00	4.18	0.70	364	High
Self efficacy	1.00	5.00	4.06	0.74	364	High

Note The interpretation of mean scores for work readiness was based on Caballero, Walker, & Fuller-Tyszkiewicz (2011). low (1.00–2.33) moderate (2.34–3.66) high (3.67–5.00)

4.3 Correlation Between Work Readiness and Related Variables

This section investigates the connections between the three primary variables of the investigation: AI Literacy, University Context (Access to AI Tools), and Work Readiness. The intensity and direction of the relationships between the variables were determined using Spearman's Rho correlation coefficient (r). A positive correlation suggests that the increase of one variable is accompanied by an increase in the other.

The results of the Spearman's Rho correlation analysis between Work Readiness and other study variables are presented in Table 1. The findings indicate that pupils who possess a higher level of AI literacy are more likely to report a higher -level of readiness for employment (r =.824, p <.01). The University Context (Access to AI Tools) also exhibits a strong positive correlation (r =.500, p <.01), indicating that supportive technological environments contribute to increased levels of work preparedness. The frequency of AI use (r =.134, p <.05) and computer skill level (r =.185, p <.01) exhibit weak but significant positive relationships, suggesting that frequent technology engagement may marginally enhance readiness.

In this sample, there were no significant correlations observed for AI Experience, GPA, School, Frequency of Computer Lab Use, or Gender. Consequently, it is implied that these factors do not directly influence perceived work preparedness.

Table 4.11 Correlation between work readiness and related variables

	Spearman's Rho	**Sig. (2-tailed)**	**n**	**Relationship**
1. AI Literacy	.824**	.000	364	Very Strong
2. University Context	.500**	.000	364	Strong
3. Computer Skill Level	.185**	.000	364	Very weak
4. Frequency of Using AI	.134*	.010	364	Very weak
5. AI experience	.044	.401	364	-
6. GPA	.031	.561	364	-

Table 4.11 (continued)

	Spearman's Rho	Sig. (2-tailed)	n	Relationship
7. School	.012	.814	364	-
8. Frequency of using Computer Laboratory at University	-.023	.668	364	-
9. Gender	-.053	.313	364	-

Note *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.4 Differences in AI Literacy and Work Readiness Across Individual Factors

This section presents the results of the one-way analysis of variance (ANOVA) examining whether there were statistically significant differences in students' levels of AI literacy across selected individual factors, including gender, school, GPA, computer skill level, frequency of computer laboratory use, frequency of AI tool usage, and prior AI experience. The level of statistical significance was set at .05.

4.4.1 Differences in AI Literacy across Individual Factors

The results indicated that there was no statistically significant difference in AI literacy based on gender, $F(2, 361) = 0.459$, $p = .633$, or school, $F(11, 352) = 1.366$, $p = .187$. Similarly, no significant difference in AI literacy was found across different levels of computer skill, $F(3, 360) = 2.524$, $p = .057$, or frequency of using the university computer laboratory, $F(4, 359) = 0.908$, $p = .459$.

In contrast, statistically significant differences in AI literacy were observed across groups with different frequencies of AI tool usage, $F(4, 359) = 7.876$, $p < .001$. In addition, a significant difference in AI literacy was found across levels of prior AI experience, $F(4, 359) = 7.876$, $p < .001$. Furthermore, AI literacy also differed significantly across GPA groups, $F(4, 359) = 2.685$, $p = .031$. The detailed ANOVA results for each individual factor are presented in table.

Table 4.12 Differences in AI literacy across individual factors

ANOVA						
AI literacy		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Gender	Between Groups	0.385	2	00.193	0.459	0.633
	Within Groups	151.572	361	0.420		
	Total	**151.975**	**363**			
School	Between Groups	6.219	11	0.565	1.366	0.187
	Within Groups	145.738	352	0.414		
	Total	**151.957**	**363**			
GPA	Between Groups	4.414	4	1.103	2.685	0.031*
	Within Groups	147.543	359	0.411		
	Total	**151.957**	**363**			
Computer skill	Between Groups	3.130	3	1.043	2.524	0.057
	Within Groups	148.827	360	0.413		
	Total	**151.875**	**363**			
Frequency using Com Lab	Between Groups	1.523	4	0.381	0.908	0.459
	Within Groups	150.435	359	0.419		
	Total	**151.875**	**363**			
Frequency using AI	Between Groups	12.259	4	3.065	7.876	0.00**
	Within Groups	139.698	359	0.389		
	Total	**151.957**	**363**			
AI experience	Between Groups	**12.259**	4	3.065	7.876	0.00**
	Within Groups	139.698	359	0.389		
	Total	**151.957**	**363**			

Note *Significant at the 0.05 level

**Significant at the 0.01 level

4.5 Regression Analysis of Factor Influencing Work Readiness

Multiple regression analysis was conducted to examine the factors influencing students' work readiness. Based on the conceptual framework of the study, AI literacy and university context (access to AI tools) were entered into the model as independent variables, while work readiness was treated as the dependent variable.

4.5.1 Model Summary

The results of the regression analysis indicated that the model demonstrated strong predictive power. As shown in Table X, the multiple correlation coefficient (R) was .883, and the coefficient of determination (R^2) was .695. This indicates that approximately 69.5% of the variance in students' work readiness could be explained by the independent variables included in the model. The adjusted R^2 value was .693, suggesting a high level of model stability. The standard error of the estimate was .35842, indicating a relatively low level of prediction error.

Table 4.13 Model summary

Model Summary			
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
0.883	0.695	0.693	0.35842

4.5.2 ANOVA Results

The results of the analysis of variance (ANOVA) revealed that the overall regression model was statistically significant, $F(2, 361) = 410.614$, $p < .001$. This suggests that the set of independent variables collectively contributed to the prediction of students' work readiness. The regression sum of squares was 105.499, while the residual sum of squares was 46.376. The total sum of squares was 151.875. The detailed ANOVA results are presented in Table 4.14.

Table 4.14 ANOVA results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	105.499	2	52.750	410.614	0.000**
Residual	46.376	361	0.128		
Total	**151.875**	**363**			

Note *Significant at the 0.05 level

**Significant at the 0.01 level

4.5.3 Regression Coefficients

The regression coefficients of each predictor are presented in Table 4.15. The results indicated that AI literacy was a statistically significant predictor of work readiness (B = 0.795, β = 0.795, t = 21.905, $p < .01$). This shows that higher levels of AI literacy were associated with higher levels of perceived work readiness.

In contrast, university context (access to AI tools) was not found to be a statistically significant predictor of work readiness (B = 0.055, β = 0.061, t = 1.683, p = .093). This indicates that when AI literacy was included in the model, the direct effect of university context on work readiness was not statistically significant.

Table 4.15 Regression coefficients

Coefficients[a]					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
AI literacy	0.795	0.036	0.795	21.905	0.001**
University context	0.055	0.032	0.061	1.683	0.093

Note *Significant at the 0.05 level

**Significant at the 0.01 level

CHAPTER 5

DISCUSSION

5.1 Summary of Key Findings

This study was conducted to examine the influence of AI literacy on work readiness among university students, with particular attention given to the roles of individual factors and university context. A quantitative research design was employed, and data were collected from 364 undergraduate students. Descriptive statistics, correlation analysis, one-way analysis of variance (ANOVA), and multiple regression analysis were used to address the research questions and test the proposed hypotheses.

The descriptive results indicated that the overall level of AI literacy among university students was high. Similarly, students' perceived level of work readiness was also found to be high. These findings suggest that the participants generally perceived themselves as being capable of engaging with AI-related technologies and prepared to enter the workforce. This outcome reflects the growing importance of digital and AI-related competencies as essential components of graduate readiness in contemporary labor markets (Ng et al., 2021; Potgieter et al., 2023).

The correlation analysis revealed a strong positive relationship between AI literacy and work readiness. This result indicates that students who reported higher levels of AI literacy also tended to perceive themselves as being more prepared for professional life. In addition, university context, particularly in terms of access to AI tools, was found to be positively associated with work readiness.

The ANOVA results showed that AI literacy differed significantly across certain individual factors, particularly frequency of AI tool usage, prior AI experience, and GPA. However, no statistically significant differences were observed across other demographic variables, such as gender and school. These findings suggest that experiential and behavioral factors may play a more prominent role in shaping AI literacy than basic demographic characteristics.

Finally, the multiple regression analysis demonstrated that AI literacy was a significant predictor of work readiness. When entered into the same model, university context did not show a statistically significant direct effect on work readiness. This indicates that students' personal level of AI literacy played a more central role in determining their perceived readiness for work than institutional access alone.

5.2 Discussion Based on Research Questions and Hypotheses

5.2.1 Discussion of RQ1 and H1: Level of AI Literacy among University Students

The findings indicated that the overall level of AI literacy among university students was high. This result suggests that most students perceived themselves as being capable of understanding, using, and critically engaging with AI-related tools. Such a finding may be attributed to the increasing integration of digital technologies into students' academic activities and daily lives, which has resulted in frequent exposure to AI-based systems, such as recommendation algorithms, automated content generation tools, and data-driven platforms.

From a theoretical perspective, AI literacy has been conceptualized as a multidimensional construct that encompasses technical, cognitive, and ethical components (Ng et al., 2021). The high level of AI literacy observed in this study implies that students were not only familiar with the operational use of AI tools but were also able to reflect on their implications and limitations. This aligns with the framework proposed by Long and Magerko (2020), which emphasizes that AI literacy extends beyond functional knowledge to include critical understanding, contextual awareness, and responsible engagement with AI technologies.

This finding is consistent with previous research suggesting that contemporary university students tend to demonstrate relatively high levels of digital and AI-related competence, particularly in learning environments where technology is embedded into instructional practices (Potgieter et al., 2023; Grassini, 2024). The result further implies that universities may already be providing learning contexts that support the development of foundational AI literacy. However, it also indicates that continuous curricular adaptation is required to ensure that students' AI literacy evolves in response to rapid technological advancements. Such adaptation is essential to prevent AI literacy from being limited to surface-level tool usage and to promote deeper conceptual and ethical understanding.

5.2.2 Discussion of RQ2 and H2: Relationship between AI Literacy and Work Readiness

The findings revealed a strong positive relationship between AI literacy and work readiness among university students. This result suggests that students who demonstrated higher levels of AI literacy were more likely to perceive themselves as being prepared for professional life. Such a relationship may be explained by the nature of AI literacy as a competence that integrates technical understanding, critical thinking, and ethical awareness, all of which are increasingly required in contemporary workplaces.

From a theoretical perspective, work readiness has been conceptualized as a multidimensional construct that encompasses not only technical skills but also cognitive flexibility, self-efficacy, adaptability, and problem-solving abilities (Caballero et al., 2011; Potgieter et al., 2023). AI literacy contributes to these dimensions by enabling individuals to interact with intelligent systems, interpret algorithmic outputs, and make informed decisions in technology-rich environments. As proposed by Ng et al. (2021), AI literacy involves cognitive, evaluative, and ethical components, which may support individuals' ability to navigate complex and uncertain work contexts. Therefore, students who possess higher AI literacy may be better equipped to respond to technological demands, thereby enhancing their perceived readiness for employment.

The observed relationship is consistent with previous studies suggesting that digital competence and emerging technology literacy are closely associated with employability and career preparedness. Grassini (2024) emphasized that critical AI understanding is essential for meaningful participation in modern societies and workplaces. Similarly, Long and Magerko (2020) argued that AI literacy enables individuals to move beyond passive technology consumption toward active and informed engagement. The present finding supports these perspectives by demonstrating that AI literacy is not merely a technical skill but a broader competence that contributes to students' confidence, autonomy, and adaptability in professional settings.

The strong association between AI literacy and work readiness also implies that preparing students for AI-integrated workplaces requires more than providing access to digital tools. It requires the cultivation of reflective, critical, and ethical engagement with AI systems. This highlights the importance of integrating AI-related learning outcomes into higher education curricula, not only as technical training but as part of holistic employability development. By fostering AI literacy, universities may enhance students' capacity to adapt to rapidly changing work environments and to engage with technology in a responsible and informed manner.

5.2.3 Discussion of RQ3 and H3: Differences across Individual Factors

The findings indicated that significant differences in AI literacy were observed across certain individual factors, particularly frequency of AI tool usage, prior AI experience, and GPA, while no significant differences were found across other demographic variables, such as gender and school. This pattern suggests that experiential and behavioral factors may play a more prominent role in shaping AI literacy than static demographic characteristics. Rather than being determined by background attributes alone, AI literacy appears to be influenced by how frequently and meaningfully students engage with AI-related technologies.

From a theoretical perspective, learning and competence development have been conceptualized as processes that are strongly influenced by direct experience, practice, and reflection (Kolb, 1984). Students who frequently interact with AI tools and who possess prior experience with AI-based systems are more likely to develop operational familiarity, conceptual understanding, and critical awareness of these technologies. As proposed by Ng et al. (2021), AI literacy encompasses not only technical skills but also evaluative and ethical dimensions, which are cultivated through repeated engagement and reflective learning. In addition, the significant differences observed across GPA groups suggest that academic performance may be associated with the development of AI literacy, as higher achievement is often linked to stronger self-regulated learning, metacognitive skills, and persistence (Zimmerman, 2002; Broadbent & Poon, 2015).

In contrast, the absence of significant differences across gender and school implies that access to AI-related knowledge and basic exposure to digital technologies may have become more evenly distributed among students. This finding is consistent with recent research suggesting that traditional digital divides based on demographic characteristics have become less pronounced in higher education contexts, where technology is widely embedded in learning practices (Potgieter et al., 2023). However, this does not imply that students' learning experiences are homogeneous. Rather, it highlights that opportunities for developing AI literacy may be shaped more by patterns of engagement and practice than by demographic background alone. These findings suggest that educational interventions aimed at enhancing AI literacy should prioritize experiential and reflective learning opportunities that enable students to interact with AI systems in meaningful ways.

5.2.4 Discussion of RQ4 and H4: Predictive Effect of AI Literacy on Work Readiness

The regression results indicated that AI literacy was a significant predictor of students' work readiness. This finding suggests that students who demonstrated higher levels of AI literacy were more likely to perceive themselves as being prepared for professional environments. Rather than functioning merely as a technical competence, AI literacy appears to operate as a broader capability that supports students' confidence, adaptability, and problem-solving orientation in technology-rich work contexts. This result reinforces the notion that readiness for contemporary employment is increasingly shaped by individuals' ability to engage meaningfully with intelligent systems.

From a theoretical perspective, work readiness has been conceptualized as a multidimensional construct that includes not only technical competence but also self-efficacy, cognitive flexibility, and the ability to navigate complex and uncertain environments (Caballero et al., 2011; Potgieter et al., 2023). AI literacy contributes to these dimensions by enabling individuals to understand algorithmic processes, critically evaluate automated outputs, and make informed decisions when interacting with intelligent systems (Ng et al., 2021; Long & Magerko, 2020). As such, students with higher AI literacy may be better equipped to adapt to technological change, engage in continuous learning, and respond to emerging workplace demands. The present findings support this perspective by demonstrating that AI literacy functions not only as a knowledge-based competence but also as a psychological and behavioral resource that enhances perceived readiness for employment.

The predictive role of AI literacy also implies that preparing students for AI-integrated workplaces requires more than providing access to digital tools or infrastructure. While institutional resources may facilitate exposure, personal competence in understanding, evaluating, and applying AI appears to be more central to students' readiness for work. This suggests that higher education institutions should prioritize the development of AI literacy through structured learning experiences that promote critical thinking, ethical awareness, and reflective engagement with AI technologies. By doing so, universities may enhance students' capacity to function effectively in rapidly evolving professional environments and to engage with intelligent systems in a responsible and informed manner.

5.3 Theoretical Implications

The findings of this study contribute to the existing literature on AI literacy and work readiness by providing empirical support for the conceptualization of AI literacy as a multidimensional competence that extends beyond technical proficiency. While AI literacy has often been framed as a form of digital or technological skill, the present results suggest that it also functions as a broader cognitive and behavioral resource that supports students' adaptability, self-efficacy, and professional confidence. This supports the framework proposed by Ng et al. (2021), in which AI literacy is viewed as encompassing cognitive, evaluative, and ethical dimensions. The strong association between AI literacy and work readiness reinforces the argument that emerging technology literacies should be understood as integral components of employability rather than as peripheral or optional skills.

In addition, the predictive role of AI literacy observed in this study extends existing models of work readiness, which have traditionally emphasized soft skills, self-efficacy, and career-related attitudes (Caballero et al., 2011; Potgieter et al., 2023). The present findings suggest that AI literacy should be integrated into these models as a core construct that shapes how individuals perceive and respond to technologically mediated work environments. By demonstrating that AI literacy significantly predicts work readiness, this study provides empirical evidence that technological understanding and critical engagement with intelligent systems are not merely contextual factors but central determinants of perceived employability in the digital era.

Furthermore, the differential effects of individual factors on AI literacy highlight the importance of experiential learning and self-regulated engagement in the development of emerging competencies. The significance of AI usage frequency, prior AI experience, and GPA supports theoretical perspectives that emphasize learning as an active, experience-based process (Kolb, 1984) and competence development as a function of reflective practice and sustained engagement (Zimmerman, 2002). These results challenge deterministic views of competence development based solely on demographic characteristics and instead underscore the role of agency, practice, and learning behaviors. Consequently, this study contributes to theory by framing AI literacy as a dynamic and learnable competence that evolves through interaction, reflection, and contextualized practice.

5.4 Practical Implications

The findings of this study provide several important practical implications for higher education institutions, curriculum designers, and educators. Given that AI literacy was found to be a significant predictor of work readiness, it is suggested that AI-related competencies should be explicitly integrated into university curricula. Rather than being treated as optional or supplementary content, AI literacy should be embedded across disciplines through learning activities that promote critical thinking, ethical awareness, and reflective engagement with intelligent systems. This approach may help students develop not only technical familiarity but also deeper conceptual understanding of AI applications and limitations.

In addition, the results highlight the importance of experiential and practice-based learning opportunities. Since AI literacy was found to vary significantly according to students' frequency of AI tool usage and prior AI experience, it is recommended that universities provide structured opportunities for hands-on interaction with AI technologies. Such opportunities may include project-based learning, case-based simulations, internships, and interdisciplinary assignments that require students to apply AI tools to real-world problems. Through repeated exposure and guided reflection, students may be better equipped to develop transferable skills that enhance their confidence and adaptability in technology-rich work environments.

The findings also suggest that improving students's work readiness requires more than institutional access to technological infrastructure. Although university context may facilitate exposure, students' personal competence in understanding, evaluating, and applying AI was found to play a more central role in shaping perceived readiness for work. Therefore, support systems such as workshops, mentoring programs, and career development initiatives should be designed to foster students' self-efficacy, digital confidence, and lifelong learning orientation. By focusing on the development of AI literacy as a holistic competence, universities may better prepare graduates to navigate complex professional environments and to engage responsibly with emerging technologies.

5.5 Limitations of the Study

First, the research employed a cross-sectional design, in which data were collected at a single point in time. While this design allowed for the examination of relationships and predictive associations among variables, it did not permit causal inferences to be made. Consequently, although AI literacy was found to significantly predict work readiness, the directionality of this relationship cannot be definitively established. Longitudinal or experimental designs would be required to examine changes in AI literacy and work readiness over time and to provide stronger evidence of causality.

Second, the data were collected using self-reported questionnaires, which may be subject to response biases such as social desirability and self-perception bias. Students' reported levels of AI literacy and work readiness may not fully reflect their actual competencies or behaviors in real-world contexts. Although self-report measures are commonly used in educational research and provide valuable insights into perceptions and attitudes, the inclusion of objective assessments, performance-based measures, or qualitative data could enhance the validity of future investigations.

Third, the sample was drawn from a single university context, which may limit the generalizability of the findings. Institutional culture, curricular structures, and technological resources may differ across universities and national contexts. As a result, the patterns observed in this study may not be directly transferable to other educational settings. Future studies are encouraged to employ more diverse and representative samples to examine whether similar relationships between AI literacy and work readiness can be observed across different institutional and cultural contexts.

5.6 Recommendations for Future Research

First, longitudinal and experimental research designs should be employed to examine the developmental trajectory of AI literacy and its long-term effects on work readiness. Such approaches would allow for stronger causal inferences and provide deeper insights into how students' competencies evolve over time.

Second, future research is encouraged to incorporate more diverse measurement approaches. While self-report instruments offer valuable insights into students' perceptions, they may not fully reflect actual competencies. The use of performance-based assessments, scenario-based tasks, or behavioral indicators could provide more objective measures of AI literacy and work readiness. In addition, qualitative methods such as interviews, focus groups, or reflective journals may help uncover how students interpret their experiences with AI tools and how these experiences shape their professional identities. A mixed-methods approach could therefore enhance both the depth and validity of future investigations.

Third, future studies should consider expanding the scope of sampling to include multiple institutions, disciplines, and cultural contexts. Given that educational systems and technological infrastructures vary widely, cross-institutional and cross-national comparisons may reveal contextual differences in how AI literacy is developed and how it contributes to work readiness. Moreover, future research may explore additional variables, such as personality traits, learning motivation, digital anxiety, or ethical sensitivity, to further refine theoretical models of AI literacy and employability.

5.7 Conclusion

This study was conducted to examine the influence of AI literacy on work readiness among university students, with particular attention given to the roles of individual factors and university context. By employing a quantitative research design, the study provided empirical evidence regarding the level of AI literacy among students, the relationship between AI literacy and work readiness, the differences across individual characteristics, and the predictive role of AI literacy. The findings demonstrated that AI literacy was not only positively associated with work readiness but also served as a significant predictor of students' perceived preparedness for professional environments.

The results further highlighted that AI literacy is not merely a technical competence but a multidimensional construct that encompasses cognitive, evaluative, and ethical dimensions. This finding reinforces the conceptualization of AI literacy as a form of emerging competence that supports adaptability, critical thinking, and self-efficacy in technology-rich contexts. Moreover, the observed differences across individual factors suggest that AI literacy is shaped more by experiential and behavioral engagement than by static demographic characteristics. These findings collectively emphasize that readiness for contemporary work environments is increasingly dependent on students' ability to understand, interpret, and responsibly engage with intelligent systems.

Overall, this study contributes to the growing body of literature on AI literacy and employability by demonstrating the central role of AI-related competencies in shaping students' work readiness. The findings underscore the importance of integrating AI literacy into higher education curricula as a core element of graduate preparation. By fostering critical, reflective, and ethical engagement with AI technologies, universities may better equip students to navigate complex professional environments and to respond effectively to the demands of rapidly evolving labor markets. It is hoped that this study will serve as a foundation for future research and educational practices aimed at preparing students for AI-integrated workplaces.

REFERENCES

Alias, R., Baharum, Z., & Yusoff, N. M. R. N. (2022). Work readiness among final-year students in Malaysian public universities. *International Journal of Academic Research in Business and Social Sciences, 12*(10), 1773–1787.

Baumann, A., Blythe, J., Cleverley, K., & Underwood, J. (2019). Work readiness, transition, and integration: A review of the literature. *Nursing Leadership, 32*(2), 52–66.

Biagini, G. (2025). AI ethics and education: Preparing students for intelligent environments. *Journal of Digital Learning, 18*(1), 22–37.

Caballero, C. L., & Walker, A. (2010). Work readiness in graduate recruitment and selection: A review of current assessment methods. *Journal of Teaching and Learning for Graduate Employability, 1*(1), 13–25. https://doi.org/10.21153/jtlge2010vol1no1art546

Caballero, C. L., Walker, A., & Fuller-Tyszkiewicz, M. (2011). The Work Readiness Scale (WRS): Developing a measure to assess work readiness in college graduates. *Journal of Teaching and Learning for Graduate Employability, 2*(1), 41–54. https://doi.org/10.21153/jtlge2011vol2no1art552

Chen, X., & Thompson, M. (2023). Evaluating AI education programs in higher education. *Journal of Educational Technology, 17*(4), 245–262.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Coursera. (2025, January 15). WEF Future of Jobs Report 2025. Coursera Blog. https://blog.coursera.org/wef-future-of-jobs-report-2025/

Dignum, V. (2019). *Responsible Artificial Intelligence: How to develop and use AI in a responsible way*. Springer.

European Commission. (2020). *The digital competence framework for citizens (DigComp 2.1)*. Publications Office of the European Union.

Faiz, M. (2024). Systematic review of factors influencing work readiness among university students. *Journal of Education and Human Development, 13*(1), 45–60.

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.

Finch, D. J., Hamilton, L. K., Baldwin, R., & Zehner, M. (2013). An exploratory study of factors affecting undergraduate employability. *Education + Training, 55*(7), 681-704. https://doi.org/10.1108/ET-07-2012-0077

Garcia, R., & Nelson, T. (2022). Digital divide and AI readiness in global education. *Journal of International Educational Policy, 29*(2), 112–128.

Gfrerer, A., Jarvenpaa, S., Haeussler, C., & Lu, Y. (2020). *Bridging the digital mindset gap: Case evidence on digital readiness and mindset alignment in the workforce*. In Proceedings of the International Conference on Information Systems (pp. 1–17).

Grassini, S. (2024). A psychometric validation of the PAILQ-6: Perceived artificial intelligence literacy questionnaire. In *NordiCHI 2024: Nordic Conference on Human-Computer Interaction* (pp. 1–10). ACM.

Hagendorff, T. (2020). The ethics of AI ethics: An evaluation of guidelines. *Minds and Machines, 30*(1), 99–120. https://doi.org/10.1007/s11023-020-09517-8

Helyer, R., & Lee, D. (2014). The role of work experience in the future employability of higher education graduates. *Higher Education Quarterly, 68*(3), 348–372. https://doi.org/10.1111/hequ.12055

Imjai, N., Chansamran, S., Sungthong, S., Usman, B., & Aujirapongpan, S. (2025). Developing employability digital competencies of Thai Gen Z business students: The role and matter of digital learning environments and digital adaptation skills. *The International Journal of Management Education*, 24(3), Article 101219. https://doi.org/10.1016/j.ijme.2025.101219

Jackson, D. (2016). Re-conceptualising graduate employability: The importance of pre-professional identity. *Higher Education Research & Development, 35*(5), 925–939. https://doi.org/10.1080/07294360.2016.1139551

Johnson, R. B. (2014). *Educational research: Quantitative, qualitative, and mixed approaches* (5th ed.). SAGE Publications.

Kong, S. C., Cheung, W. M. Y., & Zhang, G. (2021). Evaluation of an artificial intelligence literacy course for university students with diverse study backgrounds. Computers and Education: Artificial Intelligence, 2, 100026.

Lee, M., Siewiorek, D. P., Smailagic, A., Bernardino, A., & Bermúdez i Badia, S. (2021). A human–AI collaborative approach for clinical decision making on rehabilitation assessment. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (CHI '21) (pp. 1-14). Association for Computing Machinery.

Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. In D. Brown (Ed.), *Career choice and development* (4th ed., pp. 255–311). Jossey-Bass.

Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-16).

Mansoor, M., El-Sayed, M., Kumar, R., & Aziz, H. (2024). Cross-national study on AI literacy and career confidence. *Journal of Global Higher Education, 12*(2), 105–124.

Meesook, K., Imjai, N., Usman, B., Vongchavalitkul, B., & Aujirapongpan, S. (2025). The influence of AI literacy on risk management skills and the roles of diagnostic capabilities and prognostic capabilities: Empirical insight from Thai Gen Z accounting students. *International Journal of Information Management Data Insights, 5*(1), 100341. https://doi.org/10.1016/j.jjimei.2025.100341

National Institute of Educational Testing Service (NIETS). (2022). *Thai workforce skill demand report: Digital and AI competency trends*. NIETS.

Ngampornchai, A., & Adams, J. (2016). Students' acceptance and readiness for e-learning in Northeastern Thailand. *International Journal of Educational Technology in Higher Education, 13*(1), 1–13. https://doi.org/10.1186/s41239-016-0034-x

Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). *Conceptualizing AI literacy: An exploratory review*. *Computers and Education: Artificial Intelligence, 2*, 100041. https://doi.org/10.1016/j.caeai.2021.100041

Nurlaela, S., Kurjono, & Rasto. (2021). *Determinants of work-readiness*. Proceedings of the Conference on International Issues in Business and Economics Research (CIIBER 2019) (pp. 199–205). Atlantis Press.

OECD. (2022). *AI and the future of skills: Emerging evidence and applications*. OECD Publishing. https://www.oecd.org/education/ai-and-the-future-of-skills.htm

Podubinski, T., Jessup, B., Kirschbaum, M., Bailie, J., Heaney, S., Sheepway, L., . . . Bourke, L. (2024). Perspectives of work readiness among Australian health students trained during the COVID-19 pandemic. *BMC Medical Education, 24*(1), 1053. https://doi.org/10.1186/s12909-024-06044-3

Potgieter, I. L., Coetzee, M., & Ferreira, N. (2023). Technological adaptability and employability among university graduates. *South African Journal of Industrial Psychology, 49*(1), a2001.

Srisawasdi, N., & Panjaburee, P. (2022). Trends and development of artificial intelligence in game-based learning from 2011 to 2022: A promising environment for learning digital citizenship behaviors in Thailand. In S. Iyer, J. L. Shih, W. Chen & M. N. Md Khambari (Eds.), *Proceedings of the 30th International Conference on Computers in Education*. Asia-Pacific Society for Computers in Education.

Sultoni, I., Gunawan, I., & Mangzila, A. (2023). Exploring factors that can affect students' work readiness. *Jurnal Dinamika Manajemen Pendidikan*, 7(2), 129–142. https://doi.org/10.26740/jdmp.v7n2.p129-142

Williams, J., & Park, H. (2023). Technology resources and AI learning outcomes in higher education. *Journal of Educational Infrastructure, 14*(1), 89–102.

World Economic Forum. (2023). *The future of jobs report 2023*. https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

World Economic Forum. (2025). The future of jobs report 2025. https://www.weforum.org/reports/the-future-of-jobs-report-2025

Wut, T. M., Wong, S. M., & Cheung, H. Y. (2025). AI literacy and perceived employability among business students. *Journal of Education and Work, 38*(1), 72–89.

Yang, L., Zhang, H., & Luo, M. (2025). National AI education strategies: A comparative review. *Asia-Pacific Journal of Education Policy, 20*(1), 45–60.

Zhang, Y., Li, X., & Chen, J. (2023). Employer expectations and AI skills among graduates. *Journal of Workforce Development, 31*(2), 103–118.

Zhao, J., Panoutsou, N., & Wang, S. (2022). Defining and assessing AI literacy: A systematic review. *Computers and Education: Artificial Intelligence, 3*, 100080.

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