CHAPTER I

INTRODUCTION

1.1 Research Background

In the era of 21st-century learning, the integration of information and communication technologies (ICT) into education is no longer optional it is essential for preparing students to thrive in a globalized and digital society. Trilling and Fadel (2009) argue that modern education demands competencies such as critical thinking, problem-solving, communication, collaboration, and digital literacy. These skills are best nurtured through interactive and student-centred learning environments facilitated by technology (Voogt et al., 2013). Therefore, the incorporation of digital tools is fundamental to building relevant and future-oriented educational experiences. This is reaffirmed in a study by Sudana et al. (2023), which highlighted the necessity of integrating digital literacy into language teaching programs at Universitas Pendidikan Ganesha to empower 21st-century capability.

Among digital innovations, AI has emerged as a powerful driver of transformation in education. ChatGPT, a generative AI language model, exemplifies the potential of AI to enhance personalized learning through interaction, feedback, and content generation. Holstein et al. (2018) explain that AI technologies like ChatGPT offer adaptive learning by dynamically responding to students, thus enabling more contextual language practice. In English language instruction, ChatGPT supports grammar correction,

vocabulary building, and conversation practice, aligning with the principles of communicative language teaching (Hee Lee & Yoon, 2021). This highlights ChatGPT's practical relevance to current pedagogical needs, especially in language learning.

Indonesia gradually applies AI in schools as laws and mature policies. Law No. 11/2019 on the National System of Science and Technology directs this at the national level. Strategic programs such as the "Making Indonesia 4.0" blueprint and the *Merdeka Belajar* program spur it (Indonesia Investments, 2018). These regulations encourage digital innovation but also bring to the limelight ethical concerns such as academic integrity and human oversight (Dimitriadou & Lanitis, 2023). The government has also cautioned people against employing AI for uses such as plagiarism and is developing a list of easy-to-understand regulations for AI ethics to ensure all are ethical and honest (Kominfo, 2024)

However, the way it is put into place is different at different levels of education. High schools and vocational schools do not have as strict rules against AI as universities do. The Digital School Initiative encourages the use of AI to help students learn English and STEM disciplines, but it doesn't allow it to be used on tests (Kemendikdasmen, 2023). There are still problems such not having enough digital infrastructure, teachers not being ready, and not having standardized policies (Fannyramdhanisa et al., 2024). Similarly, Zulkarnain and Yunus (2023) reported similar concerns in Bali, where many teachers expressed enthusiasm about AI but were hesitant due to unclear ethical frameworks and insufficient institutional support. This shows that we need to

make systemic changes to make sure that AI is used fairly and ethically across the country.

Given this landscape, assessing the readiness of students and teachers to use AI tools like ChatGPT becomes crucial. According to Santosa et al. (2024), learner readiness involves digital literacy, motivation, and self-regulation. Students who are digitally prepared show higher confidence and more active engagement in learning (Agustiani et al., 2021). For teachers, readiness encompasses both pedagogical and technological competencies. Tondeur et al. (2017) note that teacher readiness requires skills in content design, digital tool integration, and assessment planning. Without this foundation, AI tools risk being underutilized or misapplied. Hence, both student and teacher readiness must be prioritized to optimize AI-supported instruction.

Alongside readiness, satisfaction is a key indicator of successful technology adoption. According to Wong and Chapman (2023), student satisfaction plays a pivotal role in influencing both academic performance and the perceived credibility of educational institutions. This is further supported by Nastasić et al. (2019), who emphasize that satisfaction is shaped not only by the quality of services provided but also by the overall learning experience, including the way students interact with technology and receive support from teachers. Harrati et al. (2016) highlights that system usability and the provision of relevant, timely feedback are among the strongest predictors of learner satisfaction. In the Indonesian educational context, where students often face disparities in digital access and varying levels of digital literacy, these factors become even more crucial. Thus, as these studies suggest, a deep understanding

of what drives student satisfaction is essential to ensure that tools like ChatGPT are integrated in a way that is both effective and meaningful.

In the context of integrating AI, one important factor that affects the sustainability and long-term success of technology adoption in education is teacher satisfaction. In addition to being a result, teacher satisfaction influences their readiness to experiment with and use new resources. Positive attitudes toward technology are primarily influenced by its perceived usefulness, ease of use, and compatibility with educational objectives (Davis, 1989; Venkatesh et al., 2003). Teachers are more likely to embrace AI tools like ChatGPT with confidence when they believe they will help them achieve their learning goals. However, technical difficulties, a lack of assistance, or worries about losing pedagogical control can all lead to discontent (Reid et al., 2016). These issues highlight the necessity of thorough instruction and ongoing institutional support in order to promote teachers' sense of competence and independence. Thus, increasing teacher satisfaction is not just advantageous; it is necessary to guarantee that AI tools are not only embraced but also maintained and effectively incorporated into teaching methods.

The relationship between readiness and satisfaction goes both ways and makes each other stronger. Students and teachers who are well-prepared are more likely to have satisfying experiences with AI tools, which in turn increases their motivation to continue using them (Sun et al., 2008). On the other hand, low readiness may result in frustration and eventual rejection of the technology. Recognizing this connection is important for designing

professional development and support systems that address both readiness and satisfaction simultaneously.

By demonstrating the real-world results of digital readiness and support, empirical findings serve to further support these theoretical viewpoints. For example, Kim and Kim (2022) discovered that when using AI chatbots in language learning environments, students with high levels of digital literacy were more engaged and satisfied. This emphasizes how important it is to give students the technological know-how they need to take full advantage of AI-enhanced learning. To support this, Adiguzel et al. (2023) showed that using AI tools for personalized learning increased students' motivation and promoted active engagement in English language classes. Similarly, Dai et al. (2020) highlighted that students' academic performance and general satisfaction tend to improve when they are ready to engage with AI-based platforms. All of these results lend credence to the idea that in order to optimize readiness and satisfaction in AI-integrated learning environments, systematic implementation that includes both digital competency and pedagogical support is necessary.

Readiness for AI integration has been examined in various models, notably Aydin and Tasci (2005) framework, which assesses access, skill, and institutional support. Hung et al. (2010) expand this by identifying barriers such as resistance to change and lack of ethical guidance. These challenges can be addressed through transparent communication and capacity-building initiatives. It is evident that understanding and enhancing readiness is not a

one-time task but an ongoing process that evolves with technological advancement.

The rapid advancement of AI tools like ChatGPT presents valuable opportunities for English language education in vocational schools, yet their effective implementation remains a challenge. SMK Negeri 1 Singaraja was selected as the research site because it is one of the largest and most established vocational schools in Buleleng Regency, making it a representative setting for exploring the dynamics of technology integration in vocational education. Its designation by the Directorate of Vocational High Schools as one of only two industry-based vocational schools in Bali highlights its strategic role in bridging academic learning with real-world industrial demands (NusaBali, 2017). This recognition reflects the school's commitment to implementing national vocational education priorities, including teaching factory models and partnerships with major industries.

On the other hand, SMK Negeri 1 Singaraja, a leading vocational school in Bali, preliminary observations revealed that while students are comfortable with basic technology, most lack experience using AI for learning. Teachers showed mixed readiness, with some eager to adopt ChatGPT but others hesitant due to insufficient training. This disconnect highlights the need for structured support to bridge the gap between AI's potential and its practical classroom application.

The integration of AI tools like ChatGPT in vocational education remains underexplored, with existing research primarily focusing on university or general school contexts. Most studies examine either teachers or students

separately, neglecting the crucial interaction between both groups in shared learning environments. This gap is particularly significant for vocational education, where English instruction must directly support career-oriented competencies. By investigating both readiness and satisfaction among students and teachers at SMK Negeri 1 Singaraja, this study addresses these research limitations while considering Indonesia's unique educational context under the "Merdeka Belajar" initiative.

This research provides practical insights for effectively implementing ChatGPT in vocational English instruction. The findings will guide teachers in classroom integration, inform school policies on responsible AI use, and support policymakers in developing targeted training programs. The integration of AI tools like ChatGPT in vocational education remains underexplored, with existing research primarily focusing on university or general school contexts. Most studies examine either teachers or students separately, neglecting the crucial interaction between both groups in shared learning environments. This gap is particularly significant for vocational education, where English instruction must directly support career-oriented competencies. By investigating both readiness and satisfaction among students and teachers at SMK Negeri 1 Singaraja, this study addresses these research limitations while considering Indonesia's unique educational context under the "Merdeka Belajar" initiative.

This study is grounded in two key theoretical perspectives: the readiness framework proposed by Hung et. al (2010) and the satisfaction dimensions outlined by Lemos and Pedro (2019). In the context of ChatGPT

integration in Indonesian vocational education, satisfaction becomes a crucial lens to explain readiness. Although ChatGPT is increasingly used in language education globally, there is a lack of research in vocational settings in Indonesia exploring how satisfaction with AI tools can explain readiness to adopt them in classrooms. Understanding the connection between readiness and satisfaction is essential to ensure that ChatGPT is implemented not only accessibly but meaningfully supporting student autonomy, engagement, and teacher innovation.

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1.2 Identification of Problem

The incorporation of AI tools such as ChatGPT in education has attracted significant interest due to its capacity to revolutionize teaching and learning methodologies. The efficacy of these advances mostly depends on the readiness and contentment of both teachers and students. Hung et al. (2010) emphasize that readiness involves not only technical competence but also motivation, learner autonomy, and self-efficacy all of which influence how successfully digital tools are adopted. Lemos and Pedro (2019) further argue that satisfaction arises when users perceive the technology as useful, accessible, and aligned with their educational needs. Although numerous studies have

underscored the advantages of AI in improving learning outcomes (Adiguzel et al., 2023; Chen et al., 2024). Limited research has investigated the combined effects of student and teacher readiness on satisfaction with AI tools. The disparity is particularly pronounced in vocational school settings, such as SMK Negeri 1 Singaraja, where digital integration remains in its nascent stages, and both factions are pivotal in influencing the efficacy of AI-assisted English instruction.

Teacher readiness is a critical factor influencing the effective adoption of AI in classrooms. A study by Adzkia and Refdinal (2024) highlighted that many vocational high school teachers in Indonesia exhibit limited technological skills, which impedes their ability to integrate AI tools into their teaching practices. This lack of readiness is often attributed to insufficient training and a lack of exposure to emerging technologies. Similarly, research by Viberg et al. (2023) emphasized that teachers' trust in AI technologies is significantly influenced by their self-efficacy and understanding of these tools. Without adequate confidence and knowledge, teachers may be reluctant to incorporate AI into their pedagogy, thereby affecting their satisfaction and the overall effectiveness of AI integration.

On the other hand, student readiness plays an equally vital role in the successful implementation of AI tools like ChatGPT. Rusandi et al. (2023) conducted a study in Indonesia revealing that students' digital literacy levels significantly impact their perceptions and effective use of ChatGPT as a learning medium. Students with higher digital competencies were more likely to utilize ChatGPT effectively, leading to enhanced learning experiences and

satisfaction. Conversely, students with limited digital skills faced challenges in leveraging the full potential of AI tools, resulting in decreased satisfaction and engagement.

Furthermore, the relationship between readiness and satisfaction is interdependent. Research by Chan and Hu (2023) indicated that students who felt adequately prepared to use AI tools reported higher satisfaction levels, which in turn motivated continued use and deeper engagement with the technology. This cyclical relationship underscores the importance of ensuring both readiness and satisfaction to maximize the benefits of AI integration in education.

However, studies on this subject are frequently conducted in higher education environments or concentrate on a particular stakeholder, most frequently students. Understanding how teachers and students view and experience adoption of AI remains limited, especially in vocational high schools that place a strong emphasis on technical instruction and practical skills. This disparity is even more noticeable in Indonesia, where, in spite of national initiatives like the *Merdeka Belajar* program and the Making Indonesia 4.0 roadmap, vocational schools are frequently left behind in the country's rapid digital development (Indonesia Investments, 2018). The combined readiness and satisfaction of these two important stakeholders in vocational settings particularly when it comes to deploying AI for language instruction have not been fully examined in many research.

By investigating teacher and student readiness and satisfaction in using ChatGPT for English instruction, the current study provides a novel viewpoint

to close this gap. A more comprehensive grasp of how AI can be effectively incorporated into the classroom is offered by this dual focus. The study goes beyond technical proficiency and explores motivation, confidence, and perceived value using the Online Learning Readiness model developed by Hung et al. (2010) and the Satisfaction Theory developed by (Lemos & Pedro, 2019). The study's originality is strengthened by the use of a sequential explanatory mixed-methods methodology, which blends the depth of qualitative insights with the generalizability of quantitative data to offer a nuanced understanding of how AI technologies like ChatGPT operate in actual educational settings.

This study is urgent because it is pertinent to the recent changes in education and the quick digitization of Indonesian teaching methods. Even the most sophisticated AI tools run the risk of being misused or underutilized if there is not enough readiness or satisfaction. This is especially important at vocational institutions, where students must acquire both academic and technological skills and where learning objectives are frequently closely linked to industry demands. Effective training, curriculum development, and institutional support mechanisms that will guarantee long-term success and sustainability depend on identifying the particular obstacles and facilitators of AI adoption in such contexts.

The reason SMK Negeri 1 Singaraja was selected as the research site is because it exemplifies the potential and difficulties of integrating AI into vocational education. Although pupils were typically at ease using simple digital tools, first observations at the school showed that they had little

experience with more complex AI applications like ChatGPT. Conversely, teachers' levels of openness varied; some were keen to try AI, while others lacked confidence as a result of their lack of exposure and professional development. This disparity made a strong argument for more research. SMK Negeri 1 Singaraja, one of the biggest and most well-known vocational schools in Buleleng Regency, provides a sample environment whose results may help guide comparable establishments throughout the area. By examining this setting, the study is able to record real-life experiences and offer contextually pertinent findings that can direct more extensive AI deployment plans in Indonesian vocational education.

1.3 Research Limitation

This study has several limitations. The research is context-specific, and it only focuses on SMK Negeri 1 Singaraja. It could limit the generalizability of the findings to other vocational or general educational institutions in Indonesia. It only considers English teachers and students but no other key stakeholders like administrators and policymaker. The research is particularly focused on the use of ChatGPT, outside of the investigation of additional AI uses that might give differing functions or impacts. Data gathered through survey and interview techniques are self-reported and therefore potentially biased or incomplete in the identification of the tool. The study thus has a short-term focus and doesn't quantify the long-term implications of the application of AI in learning.

1.4 Research Questions

1. What is the readiness level of students' at SMKN 1 Singaraja in utilizing ChatGPT in English learning?
2. What is the readiness level of English teachers' at SMKN 1 Singaraja in utilizing ChatGPT in English learning?
3. How do students' at SMKN 1 Singaraja describe their satisfaction regarding their readiness level in integrating ChatGPT into English language teaching?
4. How do English teachers' at SMKN 1 Singaraja describe their satisfaction regarding their readiness level in integrating ChatGPT into English language teaching?

1.5 Research Objective

The aims of this study are as follows:

1. The study aims to investigate the students' readiness at SMKN 1 Singaraja on utilizing ChatGPT in English instruction
2. The study aims to investigate the English teachers' readiness at SMKN 1 Singaraja on utilizing ChatGPT in English instruction
3. The study aims to investigate the students' satisfaction at SMKN 1 Singaraja regarding their readiness on utilizing ChatGPT in English instruction
4. The study aims to investigate the English teachers' satisfaction at SMKN 1 Singaraja regarding their readiness on utilizing ChatGPT in English instruction

1.6 Significance of Research

The significance of this research lies in its contribution to both theoretical and practical aspects of English language teaching and educational technology. Theoretically, it expands the literature on AI integration by examining user readiness and satisfaction in vocational high school English instruction. Practically, it offers insights for teachers and policymakers on effectively implementing tools like ChatGPT to enhance teaching and learning, highlighting both opportunities and challenges.

1.6.1 Theoretical Significance

The significance of this study from a theoretical standpoint focuses on its contributions within the areas of educational readiness and satisfaction. The incorporation of ChatGPT technology at the school level warrants an analysis of both teachers' and students' readiness that aims to broaden their understanding of Hung et al. (2010) framework which incorporates readiness, self-directed learning, learner control, and motivation. These factors are important when assessing the level of engagement and emerging technological readiness an individual possesses in the field of education.

Beyond that, this research also adds to satisfaction theory described by Lemos and Pedro (2019) by arguing that satisfaction derived from the educational technology's usability, usefulness, and engagement positively impacts continued use and integration with the system. In a world reshaped by the pandemic, this study offers insight into ChatGPT's role as a digital tool in

teaching English and the satisfaction and readiness triad that is critical to facilitating transformative learning experiences.

1.6.2 Practical Significance

1. **For teacher**

   For teachers, the study offers a pathway for targeted professional development, ensuring teachers possess the necessary skills to effectively integrate ChatGPT technology into English instruction. It also provides insights for the development of pedagogical strategies, optimizing the use of technology to create engaging and effective learning experiences. The findings can inform efficient resource allocation within educational institutions, guiding investments in training, technological infrastructure, and ongoing support.

2. **For students**

   Students stand to benefit from a more personalized and adaptive learning experience as the research delves into their readiness to engage with ChatGPT technology. The customization of AI-driven tools based on individual learning styles and preferences can enhance the overall learning experience. Additionally, insights into students' readiness contribute to the development of curricula that enhance digital literacy and problem-solving skills. The integration of ChatGPT technology in English instruction also holds the promise of improving language proficiency, providing real-time feedback and interactive language practice.

3. **For readers**

For readers, this research offers valuable insights into the practical considerations of implementing ChatGPT technology in nowadays educational settings. The study's framework and methodology can guide informed decision-making for teachers, policymakers, and researchers interested in adopting innovative technologies in education. Furthermore, the research contributes to the academic discourse on the intersection of technology and education, serving as a valuable resource for scholars and practitioners exploring the effective integration of AI in language instruction.

4. **For future researchers**

Future studies might use this study as a starting point to investigate how AI technologies like ChatGPT can be integrated into educational environments, especially vocational institutions. Utilizing well-known models like the Satisfaction Theory by Lemos and Pedro (2019) and the Online Learning Readiness model by Hung et al. (2010), the study provides a reproducible technique that blends quantitative and qualitative approaches to capture both quantifiable outcomes and contextual insights. The results point to important elements that might be further investigated in future research across various topic areas, geographical locations, and educational levels, such as digital literacy, institutional support, and pedagogical readiness. Furthermore, in a quickly changing digital education landscape, this research encourages future scholars to examine the long-term, ethical, and instructional implications of AI-

enhanced learning settings by opening up chances for multidisciplinary exploration.