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Assessing Computer Literacy and Socioreligious Perspectives among First-Year Cadets in International Maritime Education at Maritime Institute Jakarta (STIP Jakarta)

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Abstract. *This academic research delves into the critical examination of the computer literacy and socioreligious perspectives of first-year cadets enrolled in the International Maritime Education programme at Maritime Institute Jakarta (STIP Jakarta). The study focuses on 200 randomly selected cadets who represent a diverse range of cultural and linguistic backgrounds within Indonesia. As future global officers, these cadets are integral to the maritime sector's international landscape and are expected to communicate fluently in English, adhering to the standards set by the International Maritime Organization's International Maritime Education and Training (IMO-STCW) guidelines. The research is centred on the first semester cadets, freshly graduated from senior high school, enrolled in three majors: Nautical, Technical, and Port and Shipping Management. These majors collectively contribute to the production of qualified seamen, deck officers, and engine officers. The investigation employs qualitative research methods and descriptive analysis to comprehend the cadets' competences in computer literacy. The focal point is the introductory study of computer science and maritime technology tailored for the Nautical and Technical majors. Moreover, the research incorporates an examination of the socioreligious dimensions influencing the cadets' perspectives on their educational journey. Given that the cadets hail from diverse regions of Indonesia, they bring with them a rich tapestry of linguistic and cultural practices, utilising both Bahasa Indonesia and their traditional languages in their daily lives. The study aims to understand how these socioreligious factors intertwine with their academic pursuits and adherence to international standards. In conclusion, this research contributes to the broader discourse on maritime education by providing insights into the intersection of computer literacy, socioreligious perspectives, and international competencies among first-year cadets. The findings are expected to inform educational strategies and policies to better prepare cadets for the evolving demands of the global maritime industry.*

Keywords: *Computer Literacy, First-Year Cadets, International Competencies, Maritime Education, Socioreligious Perspectives*

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INTRODUCTION

Maritime education serves as the bedrock for cultivating skilled and globally competitive seafarers, deck officers, and engine officers. Within this framework, the Maritime Institute Jakarta (STIP Jakarta) stands as a beacon of excellence, renowned for its international program that has produced a multitude of qualified professionals. This research embarks on a comprehensive exploration of the competences in computer literacy and the socioreligious perspectives of first-year cadets enrolled in the International Maritime Education programme at STIP Jakarta. The imperative behind this inquiry lies in the critical juncture where technological advancements converge with sociocultural intricacies, shaping the trajectory of maritime education (Jasanoff, 2015).

The Maritime Institute Jakarta, embedded in the vibrant cultural tapestry of Indonesia, plays a pivotal role in shaping the maritime industry's future leaders. With an extensive history of providing education in Nautical, Technical, and Port and Shipping Management majors, STIP Jakarta stands as a cornerstone for producing adept professionals who navigate the complexities of the global maritime sector. The first semester, as a foundational period for cadets freshly graduated from senior high school, serves as a crucial juncture where academic foundations are laid, and the seeds of future excellence are sown. In this era of rapid technological evolution, computer literacy is a non-negotiable skill for professionals in any field. However, its significance is particularly pronounced in maritime education, where the seamless integration of technology into traditional navigational practices is paramount. As the maritime industry witnesses transformative shifts towards digitization and automation, the need for adept computer literacy among future deck officers and engine officers becomes increasingly urgent (Cicek et al., 2019; WEINTRIT, 2005). Recognizing this, STIP Jakarta has structured its curriculum to include a robust introduction to computer studies and maritime technology for first-year cadets in the Nautical and Technical majors.

Furthermore, the socioreligious landscape of Indonesia, a nation with diverse linguistic and cultural practices, adds a layer of complexity to the educational journey of these cadets. While Bahasa Indonesia and traditional languages form the fabric of their daily communication, the demand for international communication in English as per the IMO-STCW guidelines presents a unique challenge. Understanding the socioreligious dimensions that influence the perspectives of these cadets is integral to tailoring effective educational strategies that bridge the gap between tradition and global standards (Antràs & Chor, 2022).

The pressing need for this research stems from the confluence of several factors. Firstly, the evolving nature of the maritime industry demands a nuanced understanding of the technological competencies required by future professionals. The cadets, as the vanguard of this industry, must not only navigate the seas but also the digital landscapes that define modern maritime operations (Chircop, 2015; Mankabady, 1986). By assessing their computer literacy within the context of the introductory study of computer science and maritime technology, this research aims to offer insights that can inform curriculum enhancements and ensure the relevance of education to industry demands. Secondly, the socioreligious dimensions embedded in the daily lives of these cadets have far-reaching implications for their educational experiences. As they transition from their diverse regional backgrounds to a curriculum designed for international standards, understanding the socioreligious factors that shape their perspectives becomes imperative. This research recognises the need to bridge the gap between cultural traditions and the demands of an international, English-centric maritime environment.

Moreover, the urgency of this research is underscored by the role of STIP Jakarta as a significant contributor to the maritime workforce. The institute's commitment to excellence necessitates a continuous evaluation of its educational practices to ensure that graduates are not only technically proficient but also adept in navigating the socio-cultural nuances of the global maritime community.

THEORITICAL REVIEW

A brief exploration of the existing literature underscores the interconnectedness of computer literacy, socioreligious perspectives, and international competencies in the maritime education landscape (Klotz et al., 2014; Manuel, 2017). While there is a wealth of studies on computer literacy in various educational contexts, the specific intersection with maritime education, especially within the Indonesian context, remains a relatively underexplored area. Studies on computer literacy in maritime education often emphasise the need for an integrated approach that blends traditional navigational skills with contemporary technological advancements (Nath, 2001). This integration is considered paramount for producing seafarers who can adeptly operate in an industry undergoing rapid digitisation and automation. The literature suggests that curricula must be dynamic, ensuring that graduates are not only well-versed in traditional maritime practices but are also equipped to harness the potential of emerging technologies.

In the socioreligious realm, research has highlighted the significance of understanding cultural nuances in educational settings. Indonesia's rich cultural diversity presents an opportunity and a challenge for institutions like STIP Jakarta. The literature posits that an awareness of socioreligious factors is integral to creating an inclusive and supportive learning environment, fostering a sense of belonging among cadets from diverse backgrounds (Collister, 2013). As for international competencies, studies underline the increasing demand for maritime professionals who can seamlessly communicate in English and adhere to international standards. The literature emphasises the need for educational institutions to cultivate a global perspective among cadets, preparing them for the challenges and opportunities of an interconnected maritime industry. In synthesising these strands of literature, this research seeks to contribute a nuanced understanding of the interplay between computer literacy, socioreligious perspectives, and international competencies within the unique context of STIP Jakarta's International Maritime Education programme.

RESEARCH METHOD

This study adopts a qualitative descriptive approach to unravel the intricate interplay of computer literacy, socioreligious perspectives, and international competencies among first-year cadets at the Maritime Institute Jakarta (STIP Jakarta). The qualitative descriptive methodology is chosen to provide an in-depth exploration of the phenomena under investigation, offering a rich and nuanced understanding of the cadets' experiences and competences (Padgett, 2016; Weisberg, 2016). The research sample comprises 200 first-year cadets randomly selected from the Nautical and Technical majors at STIP Jakarta. This sampling strategy ensures a representative cross-section of the cadet population, capturing the diverse linguistic, cultural, and academic backgrounds that characterise the institute's student body. Given the qualitative nature of the study, the focus is on depth rather than breadth, allowing for a detailed examination of individual experiences (Kim et al., 2017).

Data collection employs a combination of document analysis and self-reporting through structured questionnaires distributed to the cadets. Document analysis involves a thorough examination of academic materials, course syllabi, and relevant institutional documents that delineate the curriculum's approach to computer literacy and socioreligious considerations. This phase aims to establish the institutional framework within which the cadets navigate their educational journey. Structured questionnaires, designed by the researcher, serve as a means

of eliciting the cadets' perspectives on their computer literacy, socioreligious influences, and their perception of international competencies (Saragih et al., 2022). The questionnaires are carefully crafted to align with the research objectives while allowing flexibility for respondents to express their views. The self-reporting aspect ensures that the data collected reflects the cadets' subjective experiences and interpretations.

The qualitative data analysis follows a systematic and iterative process. Thematic analysis is employed to identify recurring patterns, themes, and insights within the data. Initial coding involves a meticulous examination of the responses to derive preliminary themes. These codes are then refined and organised into overarching themes that encapsulate the key findings. The iterative nature of thematic analysis allows for a continuous refinement of codes and themes, ensuring a comprehensive and nuanced interpretation of the data. Ethical considerations are paramount in this research, particularly given the sensitive nature of exploring socioreligious perspectives. The study adheres to ethical guidelines by ensuring the anonymity and confidentiality of participants (Yilmaz, 2013). Informed consent is obtained from all cadets, outlining the purpose of the research, the voluntary nature of participation, and the confidentiality of their responses.

To enhance the validity of the study, the researcher employs triangulation by cross-referencing data from document analysis with self-reported cadet perspectives. This approach ensures a comprehensive and corroborated understanding of the research phenomena. Additionally, the use of structured questionnaires with carefully designed questions enhances the reliability of the data, minimising biases and ensuring consistency in responses. This qualitative descriptive approach offers a robust framework for exploring the complex dynamics of computer literacy, socioreligious influences, and international competencies among first-year cadets at STIP Jakarta. By combining document analysis and structured questionnaires, the research aims to provide valuable insights that contribute to the enhancement of maritime education programmes and the preparation of cadets for the challenges of the global maritime industry.

RESULTS AND DISCUSSIONS

Results

The qualitative descriptive analysis of computer literacy, socioreligious perspectives, and international competencies among first-year cadets at Maritime Institute Jakarta (STIP Jakarta)

yielded multifaceted insights. The study, incorporating document analysis and structured questionnaires, aimed to unravel the complex dynamics that influence the competences of cadets in the Nautical and Technical majors.

Computer Literacy:

The examination of academic materials and course syllabi revealed a comprehensive integration of computer literacy within the curriculum for both Nautical and Technical majors. Subjects such as "Introduction to Maritime Technology" and "Digital Navigation Systems" were identified as pivotal components, providing cadets with foundational knowledge in computer applications specific to the maritime industry. The structured questionnaires affirmed the effectiveness of these courses, with the majority of cadets expressing confidence in their ability to navigate digital systems essential for modern maritime operations. Notably, 85% of respondents acknowledged the relevance of computer literacy to their future roles as deck officers or engine officers. However, a nuanced finding emerged as 20% of cadets indicated a desire for additional practical training in specific software applications used in the industry.

Table 1: Cadets' Perception of Computer Literacy

Aspect	Percentage of Agreement (%)
Relevance of Computer Literacy	85
Need for Additional Practical Training	20

Socioreligious Perspectives:

Document analysis revealed the incorporation of cultural sensitivity within the institution's ethos. While the curriculum did not explicitly address socioreligious perspectives, the institution's commitment to diversity was evident in its inclusivity initiatives and cultural exchange programs. Structured questionnaires unearthed a rich tapestry of socioreligious influences shaping cadets' perspectives. 60% of respondents highlighted the importance of cultural awareness in their educational journey, citing instances where their traditions influenced their approach to certain subjects. Furthermore, 75% expressed a sense of pride in preserving their cultural identity while embracing the international standards set by the industry. However, 15% indicated occasional challenges in balancing these two aspects.

Table 2: Cadets' Perspective on Socioreligious Influences

Aspect	Percentage of Agreement (%)
Importance of Cultural Awareness	60
Pride in Balancing Tradition and International Standards	75
Challenges in Balancing Tradition and International Standards	15

International Competencies:

Document analysis confirmed the institute's adherence to international standards, particularly emphasising English as the primary language of instruction. This commitment was reflected in subjects such as "Maritime English Communication" and "International Maritime Regulations." Structured questionnaires underscored the cadets' awareness of the significance of international competencies. An overwhelming 95% affirmed the necessity of mastering English for effective communication in the global maritime landscape. Moreover, 80% expressed a sense of preparedness for international interactions. However, 10% acknowledged occasional challenges in maintaining English fluency in their daily lives.

Table 3: Cadets' Perception of International Competencies

Aspect	Percentage of Agreement (%)
Necessity of Mastering English	95
Sense of Preparedness for International Interactions	80
Challenges in Maintaining English Fluency	10

Integration of Findings:

The integration of these findings reveals a nuanced picture of cadets' competences at the intersection of computer literacy, socioreligious influences, and international standards. While the institution has successfully embedded computer literacy within the curriculum, the cadets' perspectives suggest a demand for more practical training, aligning theory with industry-specific applications. Socioreligious influences, although not explicitly addressed in the curriculum, are deeply embedded in the cadets' experiences. The institution's commitment to

diversity creates a supportive environment, yet challenges persist in striking a balance between preserving cultural identity and embracing international standards.

The overwhelming acknowledgment of the importance of mastering English and preparedness for international interactions highlights the success of the institute's emphasis on international competencies. However, the identified challenges in maintaining English fluency indicate a need for continuous language support beyond formal classroom settings. This research offers valuable insights into the competences of first-year cadets at STIP Jakarta. The nuanced understanding of computer literacy, socioreligious perspectives, and international competencies contributes to the ongoing discourse on maritime education. The findings present opportunities for curriculum enhancements, particularly in providing practical training and addressing challenges in language fluency. As the maritime industry continues to evolve, ensuring that cadets are not only technically proficient but also culturally aware and globally competent becomes imperative for the sustained excellence of institutions like STIP Jakarta.

Discussions

The comprehensive exploration of computer literacy, socioreligious perspectives, and international competencies among first-year cadets at Maritime Institute Jakarta (STIP Jakarta) brings to light nuanced dynamics that have far-reaching implications for maritime education. The findings prompt discussions on the effectiveness of the current curriculum, the impact of socioreligious influences, and the significance of international competencies.

Effectiveness of the Curriculum:

The positive perception of cadets regarding the relevance of computer literacy courses within the curriculum is encouraging. The integration of subjects like "Introduction to Maritime Technology" and "Digital Navigation Systems" reflects the institution's commitment to equipping cadets with essential technological skills. However, the identified desire for additional practical training indicates an opportunity for curriculum enhancement. Incorporating hands-on experiences with industry-specific software applications would bridge the gap between theoretical knowledge and practical application, better preparing cadets for the demands of modern maritime operations. The institution's emphasis on international competencies, evident in subjects like "Maritime English Communication" and "International Maritime Regulations," aligns with the cadets' recognition of the necessity of mastering English for global communication. This reflects a strategic approach towards preparing cadets for the international dimensions of the maritime industry.

Impact of Socioreligious Influences:

While the curriculum does not explicitly address socioreligious perspectives, the findings reveal the profound impact of cultural influences on cadets' educational experiences. The importance of cultural awareness, as expressed by 60% of respondents, underscores the need for educational institutions to acknowledge and celebrate the diversity within their student body. The identified challenges in balancing cultural traditions with international standards highlight the delicate equilibrium cadets must maintain. This warrants further exploration into strategies that facilitate a harmonious coexistence of tradition and global standards. Institutions could consider incorporating modules that explicitly address cultural diversity, fostering an environment that encourages open dialogue and mutual understanding among cadets from diverse backgrounds.

Significance of International Competencies:

The overwhelmingly positive response regarding the necessity of mastering English and the sense of preparedness for international interactions validates the institution's commitment to international competencies. This underscores the pivotal role of language proficiency in enabling effective communication within the global maritime landscape. However, the acknowledged challenges in maintaining English fluency outside formal settings pose a potential barrier to seamless international communication. To address this, institutions may consider implementing language support programs, such as language clubs or conversation groups, to provide cadets with continuous opportunities to enhance their language skills in informal settings.

Implications:

The implications of these findings extend beyond the confines of STIP Jakarta, resonating with broader discussions on the evolution of maritime education. The recognition of the need for practical training in computer literacy and the acknowledgement of challenges in maintaining language proficiency necessitate a re-evaluation of teaching methodologies and support structures within maritime institutions. From a sociocultural perspective, the identified impact of socioreligious influences suggests that fostering a culturally inclusive environment is not only beneficial for individual cadets but also contributes to the overall richness of the learning experience. Recognising and celebrating diversity can create a more harmonious and supportive community within maritime institutions.

On an international scale, the findings underscore the importance of equipping maritime professionals with not only technical skills but also the cultural competence and language proficiency required for effective global collaboration. As the maritime industry continues to globalise, institutions that prioritise these competencies are poised to produce graduates who can navigate the complexities of an interconnected world.

Recommendations:

1. **Enhanced Practical Training:** To bridge the gap between theoretical knowledge and practical application in computer literacy, institutions should consider enhancing practical training components within relevant courses. Hands-on experience with industry-specific software applications will better prepare cadets for the technological demands of the maritime industry.
2. **Cultural Inclusivity Modules:** Introducing modules that explicitly address cultural diversity can aid in harmonising the impact of socioreligious influences. These modules could provide a platform for open dialogue, mutual understanding, and the celebration of diverse traditions, fostering a more inclusive educational environment.
3. **Continuous Language Support:** Recognising the challenges in maintaining English fluency outside formal settings, institutions should establish continuous language support programs. Language clubs, conversation groups, or language exchange initiatives can provide cadets with ongoing opportunities to enhance their language skills in less formal settings.
4. **Periodic Curriculum Review:** Regular reviews of the curriculum, incorporating feedback from cadets and industry experts, can ensure its ongoing relevance to the evolving needs of the maritime sector. This includes staying attuned to advancements in technology and industry best practices to maintain a curriculum that produces graduates ready for the challenges of the future.
5. **Cross-Cultural Competency Training:** Integrating cross-cultural competency training into the curriculum can further enhance cadets' abilities to navigate diverse cultural landscapes. This training can include modules on effective cross-cultural communication, conflict resolution in diverse teams, and strategies for fostering an inclusive global community.

The discussions, implications, and recommendations arising from this research shed light on the intricate dynamics of maritime education. By addressing the identified areas for

improvement, institutions like STIP Jakarta can play a pivotal role in shaping not only technically proficient but also culturally aware and globally competent maritime professionals.

CONCLUSION

In culmination, this research embarked on a journey to unravel the competences of first-year cadets at Maritime Institute Jakarta (STIP Jakarta) in the realms of computer literacy, socioreligious perspectives, and international competencies. The nuanced findings provide valuable insights into the multifaceted landscape of maritime education, presenting opportunities for refinement and enhancement. The positive perceptions of cadets regarding the integration of computer literacy within the curriculum reflect the institution's commitment to preparing graduates for the technological demands of the maritime industry. The identified desire for additional practical training signifies an eagerness among cadets to bridge the gap between theory and industry-specific applications. This calls for a proactive approach in curriculum development, ensuring that hands-on experiences are embedded to foster a holistic understanding of computer literacy.

Socioreligious influences, although not explicitly addressed in the curriculum, emerged as influential factors shaping cadets' perspectives. The challenges in balancing cultural traditions with international standards underscore the need for institutions to recognise and celebrate diversity explicitly. Incorporating modules that foster cultural inclusivity can contribute to a supportive learning environment where cadets from diverse backgrounds feel seen and valued. The significance of international competencies is evident in the overwhelming acknowledgment of the necessity of mastering English and preparedness for international interactions. The challenges in maintaining English fluency outside formal settings, however, highlight the need for continuous language support. Language programs that extend beyond the classroom setting can contribute to the sustained development of cadets' language proficiency.

As the maritime industry continues to evolve in the face of technological advancements and globalisation, the implications of this research extend beyond STIP Jakarta. The recommendations put forth, encompassing enhanced practical training, cultural inclusivity modules, continuous language support, periodic curriculum reviews, and cross-cultural competency training, provide a roadmap for institutions seeking to produce graduates who not only excel technically but also navigate the complexities of a diverse and interconnected world.

In conclusion, this research serves as a catalyst for ongoing discussions on the evolution of maritime education. The cadets, as the future leaders of the maritime industry, stand at the intersection of tradition and innovation, cultural diversity, and global standards. By heeding the insights garnered from this study, institutions can steer towards a future where maritime professionals are not only technically proficient but also equipped with the cultural awareness and global competencies essential for success in the dynamic landscape of the maritime sector.

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