Contribution of Lecturer Characteristics in the Formation of Accounting Student Competency: A Study at Higher Education Institutions in Yogyakarta Special Region

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Abstract

Purpose: This study investigates the influence of lecturer competence on student competencies in the context of online learning, addressing a research gap concerning the role of lecturers in adapting to new educational technologies.

Methodology: We collected data from vocational colleges in Yogyakarta (DIY) and Central Java through comprehensive observations and questionnaires. The gathered information was analyzed using regression analysis techniques to determine the relationship between lecturers' ICT understanding, their attitudes, and the resulting impact on student competence.

Findings: Our findings reveal a positive correlation between lecturers' proficiency in ICT and their attitudes, significantly affecting student competencies. The results underscore the importance of technological literacy among lecturers, who must master various online learning tools. Additionally, the attitudes displayed by lecturers play a critical role in shaping student behavior and engagement in the learning process.

Novelty: This study fills a significant research gap by highlighting the essential dimensions of lecturer competence in the realm of online learning. It emphasizes the need for lecturers to adapt to technological advancements and showcases the impact of their attitudes on student engagement and respect, which are crucial for effective learning in a technology-driven era.

Keywords: behavioral accounting, lecturer competence, online learning

Introduction

In the continuously evolving era of digital transformation, advancements in artificial intelligence technology, such as chat GPT (Generative Pre-trained Transformer), have become highly influential in shaping the behavior of today's adult students. This development not only introduces new ways of interacting with technology but also significantly impacts the education sector, particularly in the context of accounting education competencies. The emergence of artificial intelligence technology, like chat GPT, has created a more dynamic and interactive learning environment for students. The sophisticated language models enable students to engage in deep dialogues, receive instant answers, and easily access information. Consequently, this has transformed how students learn and interact with academic material.

However, alongside these positive innovations, several challenges arise, especially related to accounting education competencies. Accounting education requires a deep understanding of accounting

principles, analytical skills, and the ability to apply knowledge in real-world business contexts. The influence of artificial intelligence technology in the form of chat GPT can pose risks of reduced engagement in understanding essential accounting concepts, as the availability of instant information can replace efforts toward deep comprehension.

Recently, the use of chat GPT has become more widespread at various university levels (Kennedy, 2023). Universities, as complex entities connected to society and the industrial world, now play a clear role in facing economic dynamics and social changes, besides fulfilling the threefold missions of higher education (Daniel, 2020). Amid the pandemic, universities faced new challenges that required them to adapt through various strategies, including hybrid education models that combine face-to-face learning with online learning (Alt, 2018). The development of the digital society and new post-pandemic challenges has given a central role to hybrid education models, where educators' digital capabilities become crucial in meeting learning needs. The emergence of this paradigm indicates a shift in higher education approaches, demanding adaptation and innovation to keep universities relevant and effective in providing education to their students.

With rapid technological advancements, significant leaps have occurred in artificial intelligence through the integration of technology, digitalization, automation, and extreme uncertainty (Scherer et al., 2019). Facing this context, the World Economic Forum (2019) has warned about the lack of necessary skills to face future jobs, particularly in terms of digital competencies. Concepts like Digital Taylorism even discuss the potential massive replacement of jobs by robots, not only limited to low-skilled jobs but also the most advanced ones (Holford, 2019). Recent studies have specifically identified the types of jobs that might be replaced by computers (Frey & Osborne, 2017).

The role of universities becomes vital in leading initiatives to enhance and enrich Information and Communication Technology (ICT) competencies among the younger generation, preparing them for future demands. Currently, students' digital skills play a crucial role in facing global challenges. This concept is expressed in the literature through various terms such as digital competence, digital literacy, and digital skills. Higher education plays a key role in promoting economic growth and well-being, aiming to achieve better performance for the future of our society (Baker et al., 2018). The Student-Centered Learning (SCL) approach encourages students to take greater responsibility for their learning (O'Neill & McMahon, 2005). The success of this model heavily relies on the role of professional educators (Yanto et al., 2021). The digital era imposes simultaneous demands on students as the next workforce and on faculty as facilitators in developing competencies within the Student-Centered Learning (SCL) model.

While much research has been conducted related to accounting and finance education, the main focus of these studies tends to be on assessing students' pedagogical dimensions. The dynamic changes in learning methods, particularly the shift from face-to-face to online learning, have prompted students to adapt to these new learning models (Sadikin & Hamidah, 2020; Suryani et al., 2020; Ullah et al., 2018; Yanto et al., 2021). Various dimensions have been researched, involving aspects such as learning motivation, knowledge, skills, Grade Point Average (GPA), student attitudes, interests, and capabilities.

Research on the tendency of competencies from the perspective of lecturers as educators is still minimally explored. Do factors related to the digital abilities of educators have a more significant impact on the learning process and student competence enhancement?

Literature Review

Universities, as complex structures, face the challenges of changing times (Sadikin & Hamidah, 2020). Although universities significantly contribute to students' knowledge and preparation for transitioning to the workforce, sometimes this transition process encounters obstacles for certain graduates (Yanto et al., 2021). Universities have a substantial responsibility in developing student competencies, considered a bridge to the job market.

Discussions about student competencies have involved various aspects, and the implications for professional teaching from the use of technology in this new paradigm have also been a focus of research (Wang et al., 2015). Universities are no longer merely places to teach or conduct academic activities leisurely. Now, universities are required to be robust, complex entities competing in the business realm, necessitating substantial and ongoing investments.

Curriculum design should be considered a strategic plan, given the difficulty of keeping up with developments in a discipline due to what some researchers call "knowledge obsolescence" (Peled et al., 2019). Currently, college studies are more operational compared to the past, where skills, techniques, and knowledge flexibility distinguish them from other institutions. Therefore, the importance of competencies becomes increasingly evident, enabling individuals to perform specific tasks (Suryani et al., 2020).

Based on the Student-Centered Learning (SCL) educational method, the role of educators shifts to facilitators or guides in the learning process (O'Neill & McMahon, 2005). Educators not only impart knowledge but also act as architects in the educational process, from generating content, designing learning experiences, to accompanying students through discovery. This perspective is based on the constructivist model in human learning, where students are expected to be independent and responsible. The rapid changes in technology integration in education have been a particular concern, even before the pandemic. The constraints that emerged during the pandemic only reinforced the urgency for university transformation, not just in educators' pedagogical aspects but also in the overall organizational structure. Financial pressures due to economic losses, tuition costs, and substantial investments in technology need to be analyzed to support new demands (Krishnamurthy, 2020).

Literature by several experts has focused on the role of digital teaching understanding in the learning process in universities. Lecturers are considered the main actors who have a strong influence on students' learning outcomes (Amhag et al., 2019). Therefore, a holistic perspective on lecturers' digital competence is required to maintain the quality of student competencies. Through a literature review on educators' digital competencies, the following hypotheses can be formulated:

H1: Lecturers' ICT understanding affects student competence.

After implementing a hybrid learning model, lecturers need further training and development in teaching with technology. This is necessary for them to feel empowered to question the reasons behind changes and engage responsively in the learning context (Rahiem, 2020). Lecturers' attitudes have proven to be relevant factors in developing digital capabilities, as found by several studies (Lewis, 2020). These studies conclude that variables such as attitudes and self-training relate to the utilization of Information and Communication Technology (ICT) in the university environment. Consistent with these findings, other research on lecturers shows a positive relationship between technology perception, skills in using hardware and software, and a positive attitude in applying technology and pedagogical practices (Wang et al., 2015).

Educators' digital competence plays a central role in developing students' digital skills. Attitudes towards ICT use in various learning aspects and the variation of teaching media are also crucial factors. Lecturers' motivation to use technology can be triggered by the support and training they receive, empowering them to adopt the technology. Therefore, students' digital competence levels are expected to increase in line with educators' tendencies to utilize ICT, according to research findings (Lewis, 2020). Based on the literature review on educators' attitudes towards technology use, the hypothesis can be formulated as follows:

H2: Lecturers' attitudes affect student competence.

Several studies related to lecturers' abilities and attitudes towards student competencies have been conducted, such as research by Yanto et al. (2021) in the journal Cogent Education shows that lecturers' attitudes in developing ICT knowledge are key factors for students' competence success.

The study by Kanneganti et al. (2020) in the Postgraduate Medical Journal states that using technology during the pandemic for medical faculty learning can simulate operating room experiences, supporting student competency achievement.

Triwiyanto et al. (2021) in the Advances in Social Science, Education, and Humanities Research journal, through a meta-analysis study, found several crucial factors influencing student competencies during the pandemic, including teachers' strategies to increase student learning interest, obstacles in e-learning implementation, economic barriers in online learning, effectiveness of e-learning policy implementation, learning consistency, teachers' ability to master technology, difficulties in choosing learning platforms, and teachers' ability barriers in online learning.

Ninković et al. (2021) in the Educational Studies journal states that the significant impact of the COVID-19 pandemic manifested in decreased student competencies due to lecturers' lack of readiness to face sudden online learning.

König et al. (2020) in the European Journal of Teacher Education emphasizes that teachers' competencies, including pedagogical knowledge of technology and teachers' learning opportunities related to digital teaching and learning, can positively impact student competencies.

Although these studies present diverse perspectives, differing opinions exist, as exemplified by Ninković et al. (2021) highlighting lecturers' unpreparedness in facing online learning during the pandemic. Therefore, this research aims to investigate accounting lecturers' abilities in enhancing student competencies amid the pandemic, focusing on understanding the use of ICT media and lecturers' attitudes reflected in their willingness to master ICT, stay updated.

Methodology

This research will sample objects for the distribution and completion of questionnaires. Returned questionnaires will be processed by tabulating data using Excel. The data will then be further processed using SPSS, the results will be analysed, and discussions will be conducted.

This research will be conducted at higher education institutions with accounting departments in DIY (Yogyakarta Special Region) as respondents for the distributed questionnaires. The independent variables used in this study are lecturers' ICT understanding and lecturers' attitudes, while accounting students' competence is the dependent variable. The statistical method that will be used to test the hypothesis is multiple regression, with the following equation model:

$$Y = a_1 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \varepsilon$$

Where:
Y = Student Competence
X1 = Lecturers' ICT understanding
X2 = Lecturers' attitudes
β = Regression Coefficient
ε = Error

The data analysis process will involve validity and reliability tests to evaluate the questionnaires used in the study. Afterward, the data will be analysed using multiple linear regression analysis techniques. Hypothesis testing will be conducted using t-tests and F-tests. Additionally, to measure the extent to which the independent variables can explain the dependent variable in a regression model, the Coefficient of Determination will be measured.

Results and Discussion

All lecturers in the Yogyakarta Special Region are respondents in this study. The required sample size for this research is 675 respondents. The description of the questionnaire results filled out by these samples can be found in Table 1:

Table 1. Descriptive Statistics

Variabel	N	Min	Max	Mean	Std. Dev
Lecturer's IT Understanding	675	41	61	52,07	2,80
Lecturer's attitude	675	33	48	40,04	2,68
Student competence	675	19	29	23,91	1,99

Source: Research Data

The data in Table 1 shows that the variable Lecturers' ICT Understanding has a minimum value of 41 and a maximum value of 61, with an average of 52.07. This indicates that the lecturers' understanding of ICT is considered good and contributes to explaining the students' competence. Meanwhile, the variable Lecturers' Attitudes has a minimum value of 33 and a maximum value of 48, with an average of 40.04. These results show that the lecturers' attitudes are considered good and also play a role in explaining the students' competence.

Validity Test

In research using questionnaires, a validity test is an important step to ensure that the instruments used are valid, meaning they can accurately and consistently measure what they are supposed to measure and reveal the data and variables being studied. Validity in this context reflects the accuracy and precision of the instrument in performing its measurement function.

Table 2. Validity Test

Variabel	Item	Corrected Item (r hitung)	r tabel	Keterangan
Lecturer's IT Understanding	X1.1	0.1829	0.1161	Valid
	X1.2	0.1538	0.1161	Valid
	X1.3	0.1747	0.1161	Valid
	X1.4	0.1552	0.1161	Valid
	X1.5	0.1635	0.1161	Valid
	X1.6	0.1439	0.1161	Valid
	X1.7	0.1628	0.1161	Valid
	X1.8	0.1681	0.1161	Valid
	X1.9	0.1356	0.1161	Valid
	X1.10	0.1258	0.1161	Valid
	X1.11	0.1611	0.1161	Valid
	X1.12	0.1413	0.1161	Valid
	X1.13	0.1321	0.1161	Valid
Lecturer's attitude	X2.1	0.1864	0.1161	Valid
	X2.2	0.1842	0.1161	Valid
	X2.3	0.1756	0.1161	Valid
	X2.4	0.1279	0.1161	Valid
	X2.5	0.1539	0.1161	Valid
	X2.6	0.1877	0.1161	Valid

	X2.7	0.1605	0.1161	Valid
	X2.8	0.1791	0.1161	Valid
	X2.9	0.1342	0.1161	Valid
	X2.10	0.1196	0.1161	Valid
Student competence	Y1.1	0.1774	0.1161	Valid
	Y1.2	0.1860	0.1161	Valid
	Y1.3	0.1393	0.1161	Valid
	Y1.4	0.1223	0.1161	Valid
	Y1.5	0.1211	0.1161	Valid
	Y1.6	0.1351	0.1161	Valid

Source: Research Data

In the validity testing process, an instrument is considered valid by comparing the calculated correlation coefficient (r) with the correlation value in the critical distribution table. In this context, as seen in Table 2, if the calculated r value is greater than the table r value, it can be concluded that the instrument used in the questionnaire meets the validity criteria or qualifies as an instrument/indicator in the questionnaire.

Reliability Test

Besides conducting a validity test, Ghozali (2013) emphasizes the importance of a reliability test as an additional step to evaluate the indicators of variables in a questionnaire. The reliability testing process involves calculating Cronbach's Alpha, and if the result exceeds 0.60, it can be concluded that the instrument or indicator is considered reliable or dependable in measuring the intended concept. This demonstrates the consistency and reliability of the instrument in measuring the variables in the questionnaire.

Table 3. Reliability Test

Variabel	Cronbach's Alpha if Item Deleted	Keterangan
Lecturer's IT Understanding	0.920	Reliabel
Lecturer's attitude	0.114	Reliabel
Student competence	-0.713	Reliabel

Source: Research Data

Multiple Regression Analysis Test

After completing a series of preliminary tests, the next step involves testing the experimental model that has been designed. This model test is carried out to evaluate the extent of the fit of the developed research model. The results of this test will provide an overview of the effectiveness and suitability of the research model, opening the way to assess how well the model can explain and detail the phenomenon under study.

Table 4. Regression Analysis

Variabel	Koesfisien	t-statistic
Lecturer's IT Understanding	27.336	
Lecturer's attitude	0.063	0.023 **
Student competence	0.004	0.885 ***
Adj. R2	0.005	
F-Stat	2.630	0.073 ***

***, ** significant at the levels of 0.1 and 0.05 respectively

Y=27.336+0.063X1+0.004X2+e

In the F-test on the existing model, Table 4 presents the F-test results, indicating the influence of all independent variables on the dependent variable. The significance level of the F-Statistic lower than 10% provides evidence that lecturers' ICT understanding and lecturers' attitudes significantly influence student competence.

Through partial testing, Table 4 shows the significance value of the lecturers' ICT understanding variable, which is smaller than the significance level of 0.05, with a calculated t value of 0.063, which is positive. This indicates that lecturers' ICT understanding has a significant positive effect on student competence. Likewise, the lecturers' attitude variable, with a significance value smaller than the significance level of 0.10 and a calculated t value of 0.004, is positive. Therefore, it can be concluded that lecturers' attitudes also have a significant positive effect on student competence.

From the results of this study, it can be concluded that there is significant evidence (significance value less than 0.10) showing that lecturers' ICT understanding has a significant positive effect on student competence. This finding is consistent with the results of the research conducted by Amhag et al. (2019). Additionally, for the lecturers' attitude variable, the significance value is less than 0.05, indicating that Hypothesis 2 is also supported. This result is consistent with the findings of Lewis (2020). The overall study implies that lecturers who have a good understanding of technology and attitudes aligned with their roles can enhance students' competence in the teaching and learning process.

Conclusions

Through the results of the regression analysis, this study found that lecturers' understanding of ICT and their attitudes significantly influence student competence. In the context of education, lecturers play a central role in the academic development of students. Therefore, lecturers are expected to have a deep understanding of technology, especially in an era where technology permeates all aspects. The technological skills possessed by lecturers are crucial for providing effective and relevant teaching in line with contemporary demands.

In addition to technological understanding, lecturers' attitudes also play a key role in shaping student competence. A positive and adequate attitude from lecturers not only creates a healthy learning environment but also encourages students to be polite and respectful towards their lecturers. This study reflects that ICT understanding and lecturers' attitudes have a real impact on student competence.

From the results of this study, it can be concluded that the broader the ICT understanding lecturers have, the smoother the process of knowledge transfer to students, which in turn enhances their competence. Similarly, the better the lecturers' attitudes, the higher the level of student respect towards the lecturers, which ultimately contributes to the improvement of student competence. Overall, this study underscores the importance of the role of lecturers in shaping student competence through technological understanding and positive attitudes.

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