

"The Effect of Financial Accounting Knowledge and Digital Competencies on Academic Performance of Accounting Students: The Moderating Role of Learning Motivation"

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ABSTRACT

This study investigates the effects of Financial Accounting Knowledge (FAK) and Digital Competencies (DC) on the Academic Performance (AP) of accounting students, with Learning Motivation (LM) as a moderating variable. Using a sample of 200 master's accounting students from the University of Muhammadiyah Malang (UMM), Indonesia, and the Université Générale Lansana Conté de Sonfonia (UGLC-S), Guinea, data were collected via a structured Likert-scale questionnaire, and Data were analysed using STATA. The results show that Financial Accounting Knowledge, Digital Competencies, and Learning Motivation each significantly and positively predict Academic Performance, together explaining 50.9% of the variance ($R^2 = 0.509$), with Learning Motivation emerging as the strongest predictor, followed closely by Financial Accounting Knowledge. However, the moderating effects of Learning Motivation on the relationship between the independent variables and Academic Performance were not statistically significant. Theoretically, these findings validate Human Capital Theory and Self-Determination Theory within the context of accounting education, offering an integrated perspective on how cognitive, digital, and motivational factors shape student success. Practically, institutions should embed digital skills training alongside foundational accounting content and adopt motivational pedagogical strategies. Future research should employ probability sampling, objective performance indicators, and longitudinal designs to strengthen generalizability across diverse educational contexts.

Keywords: Financial accounting knowledge, digital competencies, learning motivation, academic performance, accounting education.

INTRODUCTION

Financial accounting is a key component in contemporary organizations since it offers organized financial data that aids in transparency, accountability, and effective decision-making by managers, investors, and regulators (Phornlaphatrachakorn & Kalasindhu, 2021). Financial reporting helps players in the business environment assess their performance and financial status, which makes accounting know-how a vital skill in the business world (Kroon et al., 2021). As a result, financial accounting education has become one of the fundamental elements of accounting programs in universities that enables students to possess the ability to analyse and research technical skills that are needed in the practice of accounting in a professional setting (Craig, 2020). Acquiring good financial accounting skills can help students to read and understand financial statements, use accounting standards, and examine financial information in practical scenarios (Diez-Busto et al., 2023) (Kroon et al., 2021).

Over the last few years, the accounting field has been undergoing a tremendous change because of the fast pace of the emergence of digital technologies and digitalization of financial processes (Kroon et al., 2021). Cloud accounting systems, big data analytics, artificial intelligence, and enterprise information systems are all technologies that are increasingly finding a place in the accounting processes and financial reporting practices (Phornlaphatrachakorn & Kalasindhu, 2021). Because of this, accountants must not only be well-versed in accounting but also have digital competencies that can enable them to work efficiently in technology-driven settings (Utami et al., 2024). The incorporation of digital technologies in accounting practice has consequently

transformed the skills and competencies accounting graduates need and established new requirements of accounting education programs (Firdaus & Furqorina, 2024).

The online revolution of business environments has also affected how accounting education is imparted in higher learning institutions. Universities are undergoing a digital transformation of accounting software, spreadsheet programs, and online learning platforms in accounting programs to further improve the learning experience of students (Ma & Ruannakarn, 2024). Digital competencies are the skills of successfully utilizing digital technologies in the process of receiving, organizing, interpreting, and sharing information in both academic and work practice (van Laar et al., 2020). These competencies are also used in accounting education, such as the use of spreadsheets to perform financial analysis, accounting information systems to process transactions, and a digital platform to produce financial reporting (Putra Danaya et al., 2025). Research has shown that students who have a greater level of digital competence are more capable of adjusting to learning environments where technology is utilized and show greater degrees of learning efficacy (Osman et al., 2025). Hence, the role of digital skills in equipping accounting students with the requirements of Industry 4.0 and the digital economy is becoming more significant (Martins & A.S., 2024).

Some studies have been conducted in the past, which identified various variables that affect the performance of accounting students. One of the most widely used measures of the learning outcomes in students and their skills to acquire knowledge and competencies successfully during university training is academic performance (Sugiri & Ma'shum, 2022). Studies reveal that financial accounting knowledge has a strong influence on the academic performance of students since it provides the conceptual basis needed to comprehend the complicated accounting concepts and financial reporting issues (Juneja et al., 2025). Most students with good accounting-related knowledge usually have higher academic results and analytical skills in accounting courses (Kroon et al., 2021).

Concurrently, current studies have highlighted the increased significance of digital capabilities in learning outcomes in higher education. Students with high digital skills are more likely to be cooperative with technological usage and show better academic outcomes in learning with the use of technologies (Ma & Ruannakarn, 2024). Digital tools integration in accounting education has also been related to higher student engagement and better academic performance (Hanif & Ahmad, 2025). These results indicate that financial accounting skills and digital skills can be important factors in determining the academic success of accounting students.

Besides financial accounting expertise and digital skills, learning motivation is also a significant determinant that defines the academic performance of students. Learning motivation is the inner force that helps to motivate students to get involved in learning activities, continue to learn the tasks, and reach the educational objectives (Lei et al., 2024; Wild & Neef, 2023). According to recent research, those students who are more active, engaged, and able to employ useful learning strategies are more likely to achieve better academic performance due to the increase in their level of motivation (Basileo et al., 2024; Hendrilia et al., 2025). Moreover, academic performance was found to have a strong positive correlation with learning motivation, especially in the context of its impact on the persistence of students and their involvement in learning (Liu et al., 2024). Besides, it is possible that motivational factors may boost the efficacy of competencies of students because their skills of using knowledge and digital skills to study are enhanced, and accordingly, a moderating factor may be introduced between competencies and academic performance.

Even though the reviewed literature has analysed how financial accounting knowledge and digital competencies influence academic performance, most authors primarily concentrate on how these two variables have a direct connection (Firdaus & Furqorina, 2024; Ma & Ruannakarn, 2024). Although these studies offer good information, they are still incomplete in explaining the circumstances that make these competencies more effective or less effective in enhancing the academic performance of students. Recent studies focus on the determination of motivation to learn as an important factor that affects students in their engagement and academic performance (Liu et al., 2024), but the moderating effects of learning motivation on the relationships between competencies and academic performance have not been thoroughly investigated. Specifically, the empirical evidence regarding the ability of learning motivation to enhance or deteriorate the effect of financial accounting knowledge and digital competencies on academic performance is limited. Thus, this research fills

this gap, as it also includes the learning motivation as a moderating variable to offer a more comprehensive insight into the variables that influence the academic performance of accounting students.

Hence, further empirical studies concerning the acquisition of financial accounting knowledge and digital competencies and their combined effects on the academic performance of accounting students are necessary. The integrated impact of these competencies would be of importance to universities that are interested in devising effective accounting programs that would meet the requirements of the digital economy. The purpose of the research is to investigate how financial accounting knowledge and digital skills affect the academic performance of accounting students and to investigate how learning motivation moderates the relationships between these variables. The research question that will be used to direct this study is: How does financial accounting knowledge and digital competencies influence the academic performance of accounting students, and how learning motivation moderates the relationships between them?

This research paper contributes to the accounting education literature by examining the relationships between financial accounting knowledge, digital competencies, and academic performance, with learning motivation as a moderating variable. Most previous studies have primarily focused on the direct effects of accounting knowledge and digital skills on students' academic outcomes, while only a few studies have examined the interaction effect of learning motivation on these relationships. By investigating strengthens or weakens the relationship between financial accounting knowledge, digital competencies, and academic performance, this study provides a deeper understanding of students' success in accounting education within an increasingly digitalized learning environment

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical Foundations

The main theory that informs this research is the **Human Capital Theory** and **Self-Determination Theory**, which can be used to explain the correlation between financial accounting knowledge and digital competencies, learning motivation, and academic performance.

According to Human Capital Theory (Becker, 1983-1975), the knowledge and skills of people are major resources that make them productive and perform well. Financial accounting knowledge and digital competencies, in this context, are viewed as the key types of human capital that will help students achieve higher academic performance. Students with good accounting knowledge have a better understanding of intricate financial concepts, and those with high levels of digital competence can make good use of technological tools in learning. Thus, the two variables should have a positive impact on academic performance.

Nevertheless, the knowledge and skills might not be sufficient to ensure high performance. This is attributed to the Self-Determination Theory (Legault, 2017), which focuses on motivation in shaping behaviour and performance. This theory explains that students who have a high level of learning motivation are more active, tenacious, and ready to put their competencies to good use. Learning motivation in the given study has a direct positive effect on academic performance, as well as enhances the connection between competencies (financial accounting knowledge and digital skills) and performance.

Therefore, whereas the Human Capital Theory can be used to explain the direct impacts of knowledge and competencies on academic performance, the Self-Determination Theory can be used to explain how motivation can positively influence the effective application of competencies. A combination of these theories gives a holistic perspective on explaining student academic success.

Hypotheses Development with Theoretical Support

Financial Accounting Knowledge and Academic Performance.

Financial accounting knowledge is an essential element of accounting education since it gives the conceptual base to perceive the financial reporting, analysis, and decision-making. The existing studies provide clear evidence of the positive correlation between accounting knowledge and academic performance.

Kroon (2021) discovered that students who have a strong background in accounting excel in the advanced accounting courses as they can put the core concepts into practice. Similarly, Nanda (2025) indicated that financial accounting expertise helps much to improve the analytical skills and examination performance of students. These results imply that cognitive learning of accounting principles is a key to academic performance.

Nonetheless, other studies point to the weakness of conventional accounting education. According to Sangster et al. (2020), the methods of teaching based on memorization in the first place can reduce the ability to think critically. This shows that financial accounting knowledge is necessary, but it is effective with respect to its teaching and implementation.

Despite these shortcomings, a general set of literature helps prove that there is a positive correlation between financial accounting knowledge and academic performance.

H1: Financial accounting Knowledge positively influences academic performance.

Digital Competencies and Academic Performance

Digital competencies mean the skill to successfully apply digital technologies in the learning process, resolving a problem, and communicating (van Laar et al., 2020). The accounting competency areas in the accounting education are spreadsheets, accounting software, and digital platforms in financial analysis and reporting.

The effects of digital competencies on academic performance are positive, as evidenced by the empirical studies. According to Ma and Ruannakarn (2024), the more digitally skilled students experience a better learning experience and have better learning performance in technology-enhanced classroom environments. Likewise, Hanif et al. (2025) demonstrated that academic success is achieved in accounting education when digital tools are introduced.

Moreover, according to Osman et al. (2025), digitally capable students are better oriented to online and blended learning, which helps them improve their academic performance. Nonetheless, there are still certain difficulties. As Firdaus and Furqorina (2024) observe, the potential constraints of digital competencies include differences in the availability of technology and the degree of digital literacy.

Overall, the literature demonstrates that digital competencies can be critical in enhancing academic performance, especially in the academic environment of the modern era, where technology plays a crucial role.

H2: Digital competencies positively influence academic performance.

Motivation to study and Academic Performance.

Motivation for learning plays a vital role in determining the performance of students in terms of their engagement, persistence, and effort towards learning processes. Highly motivated students tend to engage in classroom learning, embrace powerful learning approaches, and record improved educational results.

Hendrilia et al. (2025) established that motivated students are more engaged and more active in academic performance. On the same note, Liu et al. (2024) found that learning motivation and academic performance had a strong positive correlation with each other, especially student persistence and engagement.

Nonetheless, motivation is dynamic and may be affected by internal and external forces, including individual interest, self-efficacy, instruction, and learning conditions. This implies that motivation not only has a direct influence on academic performance but may also have some interaction with it.

Learning motivation, on this account, should impact academic achievement in a positive manner that is direct.

H3: There is a positive relationship between learning motivation and academic performance.

Moderating Role of Learning Motivation.

Although financial accounting skills and digital skills are good predictors of academic performance, they might

not be effective, based on their motivation levels. The motivation to learn may also affect the way students use their knowledge and skills within the academic environment.

It is said that motivated students will devote more effort and persevere in difficult tasks as articulated by the Self- Determination Theory (Legault, 2017). This indicates that highly motivated students can easily leverage their financial accounting skills and digital capabilities to deliver superior academic results.

Even though several studies were conducted to investigate the direct impact of knowledge, digital skills, and motivation on academic performance, few studies have investigated the moderating effect of learning motivation. This is one of the gaps in the literature.

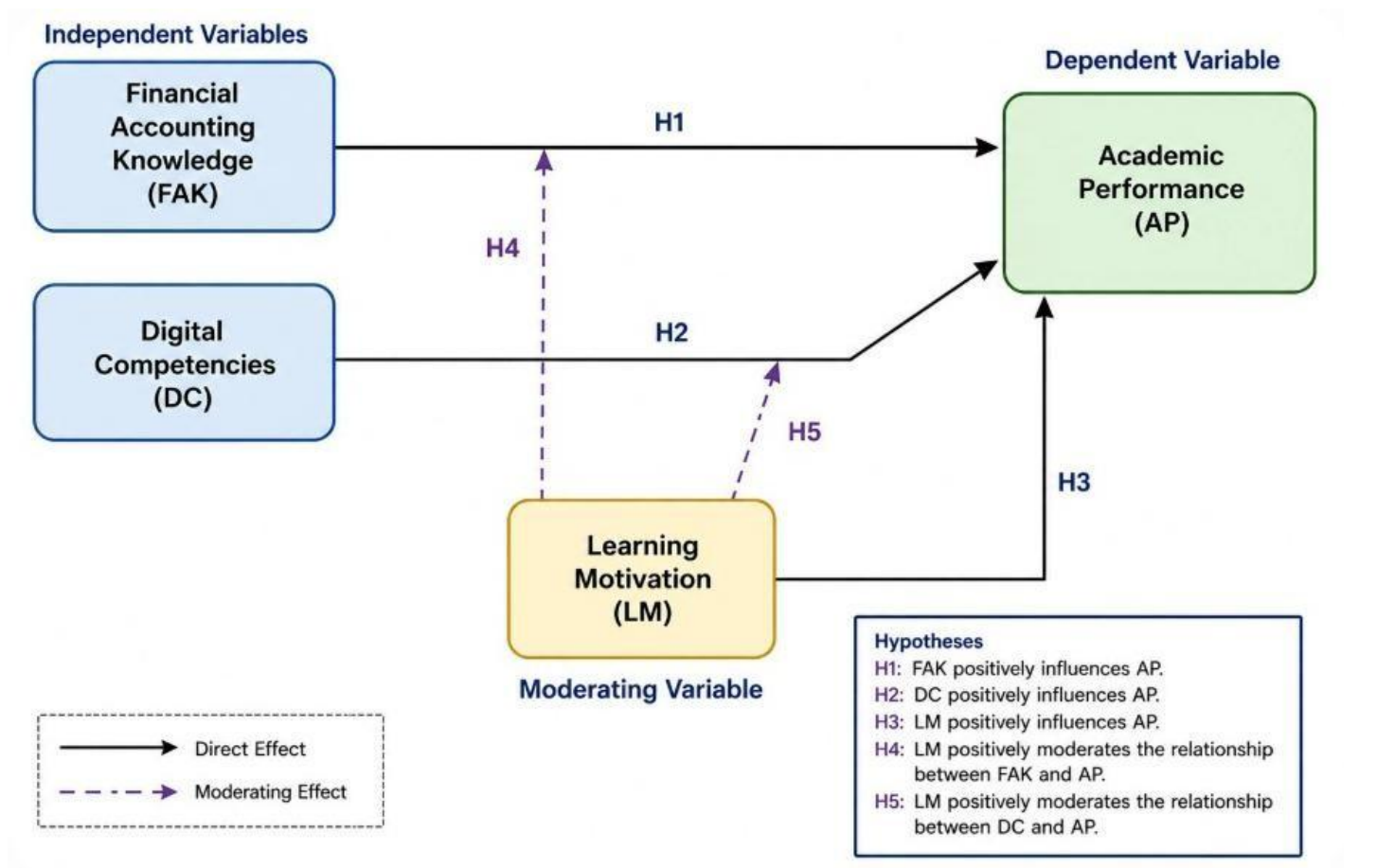
It is hoped that, therefore, learning motivation reinforces the correlation between financial accounting knowledge and academic performance and between digital competencies and academic performance.

H4: Learning motivation positively moderates the relationship between financial accounting knowledge and academic performance.

H5: Learning motivation positively moderates the relationship between digital competencies and academic performance.

CONCEPTUAL FRAMEWORK

The present study suggests a conceptual model whereby the impact of financial accounting knowledge and digital competencies on academic performance is analysed, and learning motivation is a moderating factor. The independent variables are financial accounting knowledge and digital competencies that have a direct impact on academic performance (Sumartini et al., 2024). In addition, learning motivation has a direct effect on academic performance and is also expected to strengthen the relationships between financial accounting knowledge and academic performance, as well as between digital competencies and academic performance. The conceptual framework of this study is presented in Figure 1.



METHODOLOGY

Research Design

To investigate the connections among financial accounting knowledge, digital competencies, learning motivation, and academic performance, this research design is based on a quantitative approach (Creswell, 2023). Data are gathered through a survey, and accounting students are surveyed to enable statistical analysis of the hypotheses under investigation.

This research is quantitative in nature since it seeks to test the correlations between well-defined variables, i. e., financial accounting knowledge, digital skills, motivation to learn, and academic achievement. The quantitative approach is suitable because it enables measurement of these variables using numerical data and allows testing of the suggested hypotheses. Further, the research will examine direct and moderating effects, which will involve regression-based methods to ascertain the magnitude and importance of relationships. As such, the quantitative method offers a methodical and impartial way to test the theoretical model and produce generalizable findings.

Sample and Population

The study population will be comprised of students pursuing the Management and Accounting course at UMM in Indonesia and UGLC-S in Guinea. The sample is made up of 200 master students who are studying accounting and were sampled through a convenience method (Creswell, 2023). The students have been selected on the basis that they already have enough exposure in terms of academic background about financial accounting and digital tools, and are thus suitable to be used in this study. The data will be gathered by use of an online survey questionnaire that will be sent to the respondents via a link. The sample size is believed to be sufficient for statistical analysis and testing of the hypotheses proposed.

We acknowledge that convenience sampling was used because it was practical for reaching students at the two universities. However, this means the sample may not fully represent all accounting students. This limitation is discussed further in the Limitations section.

Data Collection Method

The information is gathered using a structured questionnaire that was given to students of accounting. The questionnaire will include several questions assessing financial accounting knowledge, digital skills, motivation to study, and academic outcomes. The Likert scale is used to measure the responses, with the highest level being 1 = strongly disagree and the lowest being 5 = strongly agree.

Academic Performance and Digital Competencies were measured using self-reported answers. To reduce bias, the survey was anonymous and the questions were written in a neutral way. Still, using self-reported data instead of objective measures is a limitation, which is discussed further in the limitations section.

Measurement of Variables

Variable	Definition	Indicators	Scale
Financial Accounting Knowledge (FAK)	Students' understanding of accounting principles and financial reporting	Understanding of financial statements; Knowledge of accounting standards; Ability to analyse financial data	Likert Scale (1–5)
Digital Competencies (DC)	Ability to use digital tools in learning and accounting tasks	Use of spreadsheets; Use of accounting software; Ability to use online learning platforms	Likert Scale (1–5)

Learning Motivation (LM)	Students' level of motivation in engaging with learning activities	Learning engagement; Persistence in tasks; Interest in learning	Likert Scale (1–5)
Academic Performance (AP)	Students' academic achievement in accounting studies	Self-reported academic results; Understanding of course materials; Academic success level	Likert Scale (1–5)

Table 1. Measurement of Variables

Data Analysis Technique

Statistical software, e.g., STATA, is used to analyse the data. The data are summarized with the help of descriptive statistics, and multiple regression analysis is performed to examine the direct links between the variables (H1H3). In addition, moderation analysis is done to test the moderating impact of learning motivation on the relationship between financial accounting knowledge and academic performance, and between digital competencies and academic performance (H4 and H5).

The importance of the relationships is measured by the p-value; a value below 0.05 means the relationships are statistically significant. Regression coefficients (β) are used to interpret the direction and strength of the relationships.

The regression model in this research is presented as:

$$Y = \beta_0 + \beta_1 FAK + \beta_2 DC + \beta_3 LM + \beta_4 (FAK \times LM) + \beta_5 (DC \times LM) + \varepsilon$$

Where Y represents academic performance, FAK represents financial accounting knowledge, DC represents digital competencies, and LM represents learning motivation. The interaction terms $FAK \times LM$ and $DC \times LM$ are used to test the moderating effects.

Assumptions Testing

Before running multiple regression and moderation analysis, various statistical assumptions were checked for validity and reliability of results. The normality of residuals was checked using the Shapiro-Wilk test, homoscedasticity was analysed using the Breusch-Pagan test, linearity was checked using residual versus fitted value plots, multicollinearity was tested using the Variance Inflation Factor (VIF), and independence of observations was ensured through the survey design.

RESULTS

Assumptions Testing Results

All statistical assumptions were tested and satisfied before the main analysis, as summarized in Table 2.

Table 2. Assumptions Testing Results

Assumption	Test/Method	Result	Conclusion
Normality	Shapiro-Wilk test	$W = 0.992, p = 0.317$	Confirmed
Homoscedasticity	Breusch-Pagan test	$\chi^2 = 0.01, p = 0.935$	Confirmed
Linearity	Residual vs Fitted plot	No violation detected	Confirmed
Multicollinearity	VIF	$VIF = 1.00 - 1.01$	Confirmed
Independence	Survey design	Independent responses	Confirmed

Reliability Analysis

The internal consistency of every measurement scale was measured using the Cronbach alpha coefficient before the implementation of the actual analysis. All four constructs showed good reliability as indicated in Table 1, with alpha values of 0.809-0.891, with all of them above the recommended alpha of 0.70 (Nunnally, 1978). These findings indicate that the survey questions employed to assess the Financial Accounting Knowledge ($\alpha = 0.860$), Digital Competencies ($\alpha = 0.891$), Learning Motivation ($\alpha = 0.866$), and Academic Performance ($\alpha = 0.809$) are internally consistent and reliable.

Table 3 Reliability Analysis (Cronbach's Alpha)

Variables	No. of Items	Cronbach's Alpha (α)	Reliability
Financial Accounting Knowledge (FAK)	3	0.860	Good
Digital Competencies (DC)	3	0.891	Good
Learning Motivation (LM)	3	0.866	Good
Academic Performance (AP)	3	0.809	Good

Note. $\alpha > 0.70$ is considered acceptable; $\alpha > 0.80$ is considered good (Nunnally, 1978).

Descriptive Statistics

Table 4 presents the descriptive statistics for all study variables. The mean scores for Financial Accounting Knowledge (LM = 3.493, SD = 0.666), Digital Competencies (LM = 3.487, SD = 0.774), and Learning Motivation (LM = 3.532, SD = 0.687) indicate that respondents reported moderate-to-high levels across all three independent variables. Academic Performance yielded the highest mean score (LM = 3.798, SD = 0.542), suggesting that the sampled accounting students generally perceived their academic achievement positively. All variables were measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 4 Descriptive Statistics (n = 200)

Variable	Mean	Std. Dev.	Min	Max
Financial Accounting Knowledge (FAK)	3.493	0.666	2.00	5.00
Digital Competencies (DC)	3.487	0.774	1.00	5.00
Learning Motivation (LM)	3.532	0.687	2.00	5.00
Academic Performance (AP)	3.798	0.542	2.33	5.00

Note. All variables were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Correlation Analysis

Table 3 shows the Pearson correlation of the variables of the study. The findings indicate that Financial Accounting Knowledge ($r = 0.424$, $p < 0.001$), Digital Competencies ($r = 0.343$, $p < 0.001$), and Learning Motivation ($r = 0.423$, $p < 0.001$) all have significantly and positively correlated with Academic Performance. These results support H1, H2, and H3 preliminarily. It is worth noting that the three independent variables do not have high intercorrelations with other variables (r between -0.085 and 0.041), which implies that the problem of multicollinearity is not noticeable.

Table 5 Pearson Correlation Matrix

Variable	FAK	DC	LM	AP
FAK –Financial Accounting Knowledge	1.000	0.041	–0.085	0.424
DC – Digital Competencies	0.041	1.000	–0.036	0.343
LM – Learning Motivation	–0.085	–0.036	1.000	0.423
AP – Academic Performance	0.424	0.343	0.423	1.000

Note. $p < 0.001$. Two-tailed significance tests.

Multiple Regression Analysis (H1, H2, H3)

A multiple regression analysis was done to test the direct relationship between Financial Accounting Knowledge (H1), Digital Competencies (H2), and Learning Motivation (H3), and Academic Performance. Table 4 indicates that the overall model was statistically significant ($F(3, 196) = 67.634$, $p < 0.001$), accounting for 50.9% of the variance in Academic Performance ($R^2 = 0.509$; Adjusted $R^2 = 0.501$).

H1 was supported by the finding that Financial Accounting Knowledge was a strong positive predictor of Academic Performance ($\beta = 0.367$, $t = 8.956$, $p = 0.001$). Equally, Academic Performance was positively predicted by Digital Competencies with a significant and significant predictive value ($\beta = 0.239$, $t = 6.811$, $p < 0.001$) and thus, H2 was accepted. H3 was also supported with a significant positive effect of Learning Motivation on Academic Performance ($\beta = 0.374$, $t = 9.429$, $p = 0.001$). Of the above three predictors, Learning Motivation ($\beta = 0.374$) had the highest impact on Academic Performance, which was closely followed by Financial Accounting Knowledge ($\beta = 0.367$).

Table 6 Multiple Regression Results – Direct Effects on Academic Performance (Y)

Predictor	β	SE	t-value	p-value	Hypothesis
Constant	0.362	0.243	1.491	0.138	—
Financial Accounting Knowledge (FAK)	0.367	0.041	8.956	0.000	H1 ✓
Digital Competencies (DC)	0.239	0.035	6.811	0.000	H2 ✓
Learning Motivation (LM)	0.374	0.040	9.429	0.000	H3 ✓

Note. $R^2 = 0.509$; Adjusted $R^2 = 0.501$; $F(3, 196) = 67.634$, $p < 0.001$. $p < 0.001$.

Moderation Analysis (H4, H5)

To examine the moderating role of Learning Motivation on the relationships between the independent variables and Academic Performance (H4 and H5), a hierarchical moderated regression analysis was performed using mean-centred variables to reduce multicollinearity. The interaction terms $FAK \times LM$ and $DC \times LM$ were included in the model. Results are presented in Table 5.

The moderation model explained 52.0% of the variance in Academic Performance ($R^2 = 0.520$, Adjusted $R^2 = 0.508$; $F(5, 194) = 42.115$, $p < 0.001$), representing an incremental variance explained of $\Delta R^2 = 0.012$ over the direct effects model. However, neither the interaction term $FAK \times LM$ ($\beta = 0.078$, $t = 1.284$, $p = 0.201$) nor $DC \times LM$ ($\beta = -0.091$, $t = -1.848$, $p = 0.066$) reached statistical significance at the conventional $\alpha = 0.05$ level. Therefore, H4 and H5 were not supported.

Table 7 Moderation Analysis Results – Learning Motivation as Moderator

Predictor	β	SE	t-value	p-value	Hypothesis
Constant	3.800	0.027	140.743	0.000	—
FAK (mean-centred)	0.379	0.041	9.232	0.000	—
DC (mean-centred)	0.241	0.035	6.815	0.000	—
LM (mean-centred)	0.371	0.040	9.371	0.000	—
FAK $\times$ LM (interaction)	0.078	0.061	1.284	0.201 (ns)	H4 X
DC $\times$ LM (interaction)	-0.091	0.049	-1.848	0.066 (ns)	H5 X

Note. $R^2 = 0.520$; Adjusted $R^2 = 0.508$; $\Delta R^2 = 0.012$; $F(5, 194) = 42.115$, $p < 0.001$. Variables mean-centred before computing interaction terms. $p < 0.001$; ns = not significant.

Summary of Hypothesis Testing

The hypothesis testing results have been summarized in Table 6. Three hypotheses out of five were supported. A significant positive direct relationship was observed between Financial Accounting Knowledge and Digital Competencies, on the one hand, and Academic Performance, on the other hand (H1, H2, H3). The moderating role of Learning Motivation on the relationships between Financial Accounting Knowledge and Academic Performance (H4) and between Digital Competencies and Academic Performance (H5) was not statistically significant, however.

Table 8 Summary of Hypothesis Testing Results

H	Description	β	p-value	Result
H1	Financial Accounting Knowledge $\rightarrow$ Academic Performance	0.367	0.000	Supported
H2	Digital Competencies $\rightarrow$ Academic Performance	0.239	0.000	Supported
H3	Learning Motivation $\rightarrow$ Academic Performance	0.374	0.000	Supported
H4	Learning Motivation moderates FAK $\rightarrow$ AP	0.078	0.201 (ns)	Not Supported
H5	Learning Motivation moderates DC $\rightarrow$ AP	-0.091	0.066 (ns)	Not Supported

Note. $p < 0.001$; ns = not significant ($p > 0.05$).

DISCUSSION AND CONCLUSION

Knowledge of Financial Accounting and Academic Performance (H1)

The multiple regression analysis revealed that there is a significant positive correlation between Financial Accounting Knowledge and Academic Performance ($\beta=0.367$, $p = 0.001$), which proves H1. This observation aligns with the prior research that has found accounting knowledge to be a key predictor of student achievement. Kroon (Kroon et al., 2021) showed that students with a solid background knowledge of accounting perform better in higher-level accounting since they can better apply the fundamental theoretical concepts to more complex financial issues. Equally, Nanda (2025) established that financial accounting knowledge greatly increases the analytical skills and study performance of students.

Theoretically, this finding is consistent with Human Capital Theory (Becker, 1983/1975), which assumes that knowledge and skills are highly valued forms of human capital that directly increase individual productivity and

performance. Those students who make investments in building their financial accounting knowledge base amass a kind of intellectual capital, which can be transformed into quantifiable academic benefits. These results highlight the fact that the importance of a solid basic accounting education in the university curriculum remains significant, especially as the profession continues to evolve and get more complex and international (Craig, 2020).

Digital capabilities and Academic achievement (H2)

It was found that Academic Performance was significantly and positively predicted by Digital Competencies ($\beta = 0.239$, $p < 0.001$), which supports H2. The finding is consistent with emerging research on the importance of digital skills in the modern higher education context. Ma and Ruannakarn (2024) found that digitally literate students show better learning results in a technology-based classroom, whereas Hanif et al. (2025) revealed a positive correlation between the incorporation of digital tools and the academic performance in accounting education.

The Digital Competency effect on Academic Performance is also positive and can be explained by the growing digitalization of the accounting practice. According to Kokina et al. (2021), digital proficiency is not only beneficial but also mandatory, as cloud accounting systems, big data analytics, and enterprise information systems are becoming part of the accounting processes. Digitally competent students have an increased likelihood of using these tools, and it increases their ability to process, analyse, and interpret financial information (Putra Danaya et al., 2025). Additionally, Osman et al. (2025) discovered that digitally able students become more easily adjusted to blended and online learning models that contribute further to an increase in academic performance in technology-mediated learning platforms.

Academic Performance and Learning Motivation (H3).

Among the three predictors, Learning Motivation showed the most direct influence on Academic Performance ($\beta = 0.374$, $p < 0.001$), which validated H3 and affirmed its key position in the success of students. This observation has been in line with Self-Determination Theory (Legault, 2017), which postulates that students who are intrinsically motivated have higher chances of getting deep into academic material, perseverance during difficulties, and the use of effective learning strategies.

The same findings were made by Hendrilia et al. (2025), who stated that motivated students have a greater degree of academic engagement, which results in better performance outcomes. Liu et al. (2025) also affirmed that there is a solid positive association between learning motivation and academic persistence, which subsequently leads to improved outcomes. Notably, the fact that Learning Motivation was found to be the most significant predictor indicates that affective and motivational variables are at least as powerful as cognitive abilities in establishing academic achievement. This has significant consequences for accounting teachers, as they ought to reflect on the creation of pedagogical methods that are not only capable of imparting knowledge and digital skills but also the proactive encouragement of intrinsic motivation in students to study.

Moderating Learning Motivation (H4 and H5)

Surprisingly, the moderation analysis failed to establish a statistically significant moderating role of Learning Motivation with the relationship between Financial Accounting Knowledge and Academic Performance ($\beta = 0.078$, $p = 0.201$), or with the relationship between Digital Competencies and Academic Performance ($\beta = 0.091$, $p = 0.066$). Thus, H4 and H5 were not validated.

One possible reason for the non-significant moderation results is the way interaction effect was measured. Using single Likert-Scale items to build interaction terms can weaken real effects because of limited variation and measurement error. So the non-significant result may be partly due to how the variables were measured, not because Learning Motivation has no moderating effect at all. Future studies could use more advanced statistical methods (such as latent moderated structural equations) that handle measurement error better.

The fact that these moderation effects are not significant, although surprising, provides some valuable insights. First, the incremental variance accounted by the interaction terms was very small ($\Delta R^2 = 0.012$), indicating that the moderating effect of Learning Motivation is not large when the direct effect of Learning Motivation on Academic Performance is considered. This means that Learning Motivation is more of an autonomous academic success facilitator than a conditional enhancer of knowledge and digital skills. Second, such an outcome might indicate the potential that the competencies and academic performance relationship is constant across the varying levels of motivation - that is, students possessing strong financial accounting knowledge or digital skills will perform better, regardless of their motivation level.

These results are contrary to the theoretical assumptions of Self-Determination Theory (Legault, 2017), which would expect that motivation increases the successful use of competencies. Nevertheless, they do not conflict with the overall literature completely. According to Firdaus and Furqorina (2024), the conditional effect of motivation can be mitigated by the contextual variables of the institutional environment, quality of teaching, and the availability of resources. Future studies ought to investigate whether the moderating effect of Learning Motivation is greater in other educational situations or using larger and more varied samples.

SUMMARY OF FINDINGS

In this paper, we explored the influences of the Financial Accounting Knowledge (FAK) and Digital Competencies (DC) on the Academic Performance (AP) of accounting students with Learning Motivation (LM) as a moderating variable using a sample of 200 master students of the University of Muhammadiyah Malang (UMM) in Indonesia and the Université Générale Lansa Contes de Sonfonia (UGLC-S) in Guinea. The results have revealed that the three variables, namely, Financial Accounting Knowledge, Digital Competencies, and Learning Motivation, have each a significant positive direct effect on Academic Performance, with a combined 50.9% of the variance in Academic Performance ($R^2 = 0.509$). Nonetheless, the hypothesized moderation role of Learning Motivation on the associations between the independent variables and Academic Performance was not statistically established.

Theoretical Contributions

This work has several theoretical contributions to the accounting education literature. First, it empirically supports Human Capital Theory (Becker, 1983/1975) in the realm of accounting education by proving that, not only domain-specific knowledge, but also digital competencies, which are two important types of human capital, positively correlate with academic achievement. Second, it helps to validate the application of the Self-Determination Theory (Legault, 2017) by showing that the motivation pathway is directly correlated to academic performance, at the same time exposing the conditions under which the Self-Determination Theory has its limits as far as moderation effects are concerned. Third, this study addresses a gap in the existing literature by investigating the interplay of cognitive, digital, and motivational variables on the academic performance of accounting students simultaneously - a more comprehensive approach than the previous literature that was inclined to study these variables separately (Firdaus & Furqorina, 2024; Ma & Ruannakarn, 2024).

Practical Implications

The results of this research have significant practical implications for accounting educators, curriculum designers, and university administrators. As Financial Accounting Knowledge and Digital Competencies have such tremendous positive impacts, institutions must consider teaching not only the theoretical bases of accounting but also practical digital skills in their accounting courses. This involves the incorporation of accounting programs training, data analytics applications, and online financial reporting systems into the basic coursework (Martins & A.S., 2024; Putra Danaya et al., 2025).

Moreover, the observation that Learning Motivation is the most predictive of Academic Performance underscores the necessity of pedagogical strategies that can be able to foster intrinsic motivation in accounting students. Teachers' ought to evaluate adopting the strategies of active learning, problem-based learning, and real-life case studies to improve student engagement and interest in accounting (Hendrilia et al., 2025). Academic

support systems and mentoring programs, which enable students to remain motivated during their studies, should also be invested in by universities, especially in the face of more digital and technology-driven learning settings (Osman et al., 2025).

Limitations and Future Research.

There are limitations to this study. To begin with, the convenience sampling technique restricts the extrapolation of the results since the sample is not necessarily representative of the population of accounting students at large. Probability sampling methods should be used in future studies to maximize extraneous validity. Second, self-reported Likert scale measures were used to collect the data, which are prone to social desirability bias and method common variance. The limitation could be overcome by future research by triangulating self-report data with objective performance indicators like GPA records or standardized test scores.

Third, the research design is cross-sectional, so it cannot make causal inferences. Longitudinal studies that monitor the changes in competency and motivational changes of students over time would give deeper insights into the dynamic relationship between the study variables. Fourth, the non-significant moderation effects of Learning Motivation indicate that some other variables, including self-efficacy, the quality of teaching, or institutional resources, could be more salient as moderating factors and should be considered in future research. Finally, it would be valuable to repeat this study in other cultural settings and education systems of accounting, as it will help to contribute to the generalizability and cross-cultural validity of the results.

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