



Research Article

© 2023 Nurhayati et al.

This is an open access article licensed under the Creative Commons Attribution-NonCommercial 4.0 International License (<https://creativecommons.org/licenses/by-nc/4.0/>)

Received: 18 December 2022 / Accepted: 10 February 2023 / Published: 5 March 2023

Development of the Digital Accounting and Its Impact on Financial Performance in Higher Education

Immas Nurhayati¹

Azolla Degita Azis²

Foni Agus Setiawan³

Iis Anisa Yulia⁴

Desmy Riani²

Endri Endri⁵

¹Management Department, Faculty of Economics and Business,
Universitas Ibn Khaldun, Bogor, Indonesia

²Accounting Department, Faculty of Economics and Business,
Universitas Ibn Khaldun, Bogor, Indonesia

³Department of Informatics Engineering,
Universitas Ibn Khaldun, Bogor, Indonesia

⁴Management Department, Faculty of Economics and Business,
Universitas Nusa Bangsa, Bogor, Indonesia

⁵Universitas Mercu Buana, Jakarta, Indonesia

*Corresponding Author

DOI: <https://doi.org/10.36941/jesr-2023-0031>

Abstract

The emergence of digital society in industry 4.0 is one of the most visible changes in the XXI century. The creation of digitization has led to significant changes in accounting and financial management as features of an innovative University. This study aims to analyze the development of digital accounting and examine its impact on economic performance in higher education by using IBM SPSS Statistics 25 and the feasibility of the investment using the payback period approach. The development of digital accounting is based on a web 2.0-based ICT system using the Software Development Life Cycle (SDLC) method with the waterfall model and applying the latest financial accounting standards. Analysis of the impact of accounting digitization was carried out on 247 educational staff as a population and involved 152 respondents as samples selected using the Slovin formula. Data analysis consisted of descriptive statistics, correlation, and multiple regression analysis with an error rate of 5%. The findings showed a positive correlation between financial performance and accounting digitization. Accounting digitization significantly affected financial arrangement with a P-value of 0.000 is smaller than the alpha (α) of 0.05 or sig.T< 0.05, which means significant. The investment feasibility test using the payback period concludes that digital accounting is feasible to implement in higher education. The eligibility criteria based on the results of calculating the rate of return on investment is three years and two months, faster than the required payback period of four years.

Keywords: digitization, financial performance, innovation, investment, technology

1. Introduction

The emergence of digitization, or the global digital transformation of society, characterizes the phenomenon of civilization in the 21st century. This process involves switching offline to online mode and occurs in all areas of life, including digitization accounting, business and economics, education, capital, labor, money market, chemical, manufacturing, and financial institution. In addition, the digital revolution elevates a higher level of scientific and technological advancement. The client-centric model of external communication with partners and customers and modifying the working model for the information from big data to deep machine learning, which uses artificial intelligence, are the kind of digitization (Ponomarenko et al., 2021).

Innovative developments in information technology, and digital literacy, are significantly more sophisticated and rapid and affect and provide changes in various aspects of life and the global economy (Coman et al., 2022; Nurhayati et al., 2021a; International Institute for Applied Systems Analysis (IIASA), 2018). To increase the carrying capacity for creating a digital culture within the university environment in various aspects, such as information systems, educational services, accounting, and finance, it is the responsibility of university management to make this happen. Universities must find new methods, tools, and strategies to preserve high-quality education for all stakeholders. Investment in digital infrastructure and innovation is non-negotiable. This investment is a priority scale for institutional development during a pandemic whose benefits will be felt in the long term. Previous research has proven that the digitization of accounting impacts digital competitiveness (Ponomarenko et al., 2021).

In a competitive market, universities must adopt information systems to deal with high volatility, uncertainty, complexity, and ambiguity. The information system is a company's effort to provide information with high accuracy (Tarmidi et al., 2014; Oesterreich & Teuteberg, 2019). High-speed data processing and high-speed information access help universities offer good service to consumers, developing the quality and accuracy of tasks and valuable for measuring universities' performance (Biddle et al., 2009). As a result, moving from traditional to digital is a way to improve a university's performance and competitiveness.

2. Literature Review

The COVID-19 crisis has accelerated the process of digitizing public and private institutions and, due to technological advances, has become routine in work and daily activities, including in the management of company finance and accounting. For example, digital-based accounting information systems have been implemented in various companies, governments, and private institutions to provide correct, precise, and accurate financial information (Richstein., 2019; Tawfik et al., 2022). Using computers, accountants can store large amounts of data, perform complex calculations, and handle financial transactions that they cannot do manually.

The idea of digitization in higher education emerged around the beginning of the XXI century. Digitization encourages universities to adjust the implementation of academic and non-academic activities with technological developments. Several research topics concern sustainable development, and people's lives in the future depend on digital transformation in the world of education (Hopwood et al., 2005). The other discussions on continuous quality improvement focused on the learning process and academic achievement (Elken & Stensaker, 2018; Khurniawan et al., 2020; Nasim et al., 2020; El-Adl & Alkharusi, 2020). Other researchers focus on aspects of learning development and innovation (Khalatur et al., 2021), employee productivity (Pan & Sun, 2018; Saluy et al., 2021), digitization (Ponomarenko et al., 2021), and digitization-friendly corporate culture (Grover et al., 2022). The development of digitization in universities impacts increasing digital competitiveness and improves the reputation of universities, increasing the number of students, the quality of education, and cost structure (Ponomarenko et al., 2021).

Digitization can be interpreted as a process of transformation from analog forms to digital.

Another definition of information system accounting is a system that organizes forms and reports to produce the financial data needed for decision-making (Phornlaphatrachakorn & Kalasindhu., 2021; Razak et al., 2020; Richstein, 2019; Tawfik et al., 2022). The general goal of digitization is cost efficiency and increasing the effectiveness of the company's business (Ricardianto et al., 2022; Shan & Troshani, 2021). Accounting digitization is a part of accounting that records economic transactions in the company and produces financial statements (Taib et al., 2022; Shahnia et al., 2020). The company's financial statements represent the company's ability to optimize revenue and operational cost efficiency (Endri et al., 2020).

Financial and accounting, like many other fields, is experiencing a need for change to digital and the way businesses transact (AlNasrallah & Saleem, 2022; Coman et al., 2022; Meraghmi et al., 2021; Möller et al., 2020; Phornlaphatrachakorn & Kalasindhu, 2021; Shkolnyk et al., 2022; Taib et al., 2022; Lipaj & Davidavičienė, 2013)). However, research on the impact of accounting digitization found a low level of awareness of the significance of digital transformation and a lack of effort to develop accounting information systems by its requirements. Meraghmi et al. (2021) and Phornlaphatrachakorn and Kalasindhu (2021) examine the relationship between accounting digitization, the quality of the financial report, and digital transformation and demonstrate that digital accounting significantly impacts the effectiveness of strategic decisions, accounting information usefulness, and the quality of financial reporting. Furthermore, an accounting information system and internal control directly affect the quality of non-financial information and indirectly impact successful decision-making (Monteiro et al., 2022; Kharbat & Muqattash, 2020).

This study analyzes the development of digital accounting in higher education using Waterfall and Borg and Gall's method. Development of an accounting system applying the latest accounting standards, namely Interpretation of Financial Accounting Standards (ISAK) 35 and Financial Accounting Standards of Non-Profit-Oriented Entities (SAK EP). SAK EP is the latest SAK ratified in the 2nd quarter of 2021. SAK EP will be implemented in 2025. As the newest SAK, the presence of SAK EP is good for understanding and implementing financial management information systems in higher education. Preparing financial reports in higher education as non-profit entities refers to the financial accounting standards SAK EP while the interpretation uses ISAK 35. It is essential to ensure that institutions constantly implement technology covering a wide range of new emerging topics or regulations. This study also examines the impact of accounting digitization on financial performance and the feasibility of the investment using the payback period and return on investment. The hypotheses were formulated as follows:

Ha₁: Accounting digitization is significantly affecting the financial management performance

Ho₁: Accounting digitization is not significantly affecting the financial management performance

3. Methodology

The development of a web 2.0-based financial management information system and accountancy uses the SDLC method with the waterfall model, which can easily be accessed via smartphones, personal computers (PCs), and the Borg and Gall. The waterfall is a method and sequential approach that beginnings at the level and progress of the framework to examination, plan, code, test, and support. Web 2.0 is a network of websites that are more dynamic and on one platform. Websites in the web 2.0 category have more flexible characteristics, content is more updated, and easily modified by internet users. Web page visitors can interact, communicate and exchange information with each other. Web 2.0 is a development of Web 1.0. There are various websites devices such as mobile phones, tablets, and desktop sites to access it. A responsive website is a website that can adjust the ratio of the website to the ratio of the devices used—the easier access the website through these devices, the more accessible gathering information. Organizational culture will determine the success of web 2.0 applications. The stages of the waterfall method are listed below.

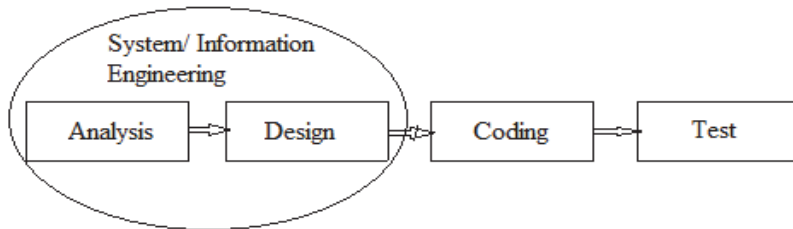


Figure 1: Waterfall Method

System development using the waterfall model begins with analyzing and compiling system requirements by the required performance, interface, and behavior data. Designing an application model is carried out after the analysis phase. Next, coding is the process of translating the design into a language understood by the system. Finally, the testing process focuses on the software's internal logic to ensure that all statements and the system built are as expected. Borg and Gall is a research and development model used to design a new product through ten steps, as presented in Figure 2.

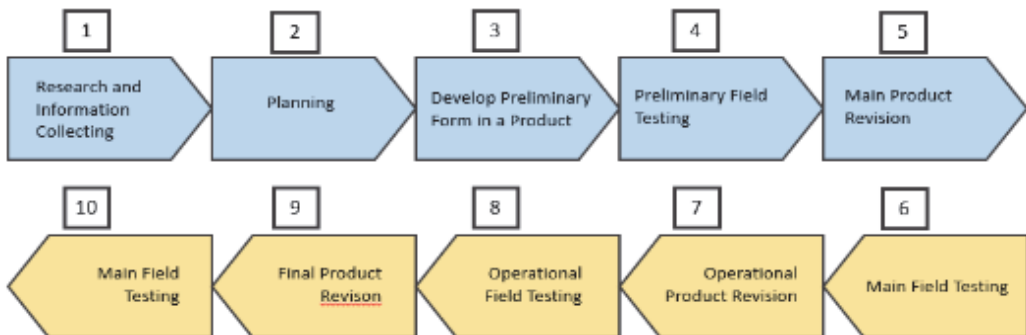


Figure 2: Borg and Gall Method

Analysis of the impact of accounting digitization on financial performance was tested with the help of IBM SPSS Statistics 25 using validity, reliability, regression, correlation, and determination. Testing the impact of digitization of accounting on financial performance is a quantitative study by testing hypotheses. The population in this study was 247, consisting of stakeholders and education staff in the finance department from several higher institutions. The 152 respondents as a sample were selected using the Slovin formula with a standard error of 5%. The data were collected using a questionnaire. Questionnaires with statements about the research variables were distributed to all respondents and will be tested to get the data validity and reliability. Testing the validity and reliability of the questionnaire results is intended to ensure that the research questionnaire is consistent and valid. The validity of the questionnaire is determined by comparing the value of the r count with the value of the r table. If the r count is higher (smaller) than the r table with a significance level of 0.05, then the variable is valid (invalid). While reliability was measured using Cronbach's Alpha coefficient. If Cronbach's Alpha coefficient > 0.70 (< 0.70), then the question is reliable (not reliable).

Questionnaire data tabulation will be processed using IBM SPSS Statistics 25 to obtain descriptive statistical testing and multiple linear regression data analysis. The descriptive statistical test explains respondents' responses to the questionnaire statements. Multiple linear regression analyzes how the independent variables affect the dependent variable. To conclude the data

processing, we can refer to the results of the ANOVA statistical test, including the F-test to determine whether all independent variables can explain the dependent variable and the T-test to determine the relationship between one variable with another variable partially. The T-test or F-test value show $\alpha < 0.05$, which means significant. The determination coefficient aims at the model's ability to explain how all the independent variables simultaneously affect the dependent variable, as indicated by the adjusted R Squared value. The higher the value of R squared, the higher the contribution of the independent variable to the dependent variables. The correlation coefficient (r) indicates the relationship between two variables with values of -1 to +1. +1 (-1) indicates a strong (weak) relationship between the two variables.

Capital budgeting is a tool that can be used to make long-term investment decisions. The payback period is one of the most widely used methods in assessing investment. The study conducted by (de Souza & Lunkes, 2016) proved that the payback period is the most widely used model for assessing investment (70.5%) compared to other capital budgeting models, such as the internal rate of return (61%) and net present value (64.5%) methods. This finding suggests that some businesses continue to use payback periods and do not consider the time value of money as a weakness of the payback period. Managers use PP traditionally or culturally because it is less expensive, more flexible, easier to calculate, and requires less mental effort than other practices.

4. Results

Table 1 below shows the steps for developing digital accounting adapted from the Borg and Gall model.

Table 1. Borg and Gall's Research and Development Steps

No	Research Steps	Description
1	Research and information collecting	Analyze user needs (requirements analysis). We organize seminars and FGDs by inviting experts, stakeholders, and education staff to determine user needs. Carry out early mitigation of the existing accounting system, data collection, and literature review about SAK EP and ISAK 35.
2	Planning	Preparation of an outline (consisting of mapping and setting general policies) and the detailed design of the accounting system (flow chart, form, and report format).
3	Develop primary form	System implementation coding. Create a basic system framework and seek validations from the material substance and information systems experts.
4	Preliminary field	System testing to determine the output produced by the system (testing and debugging).
5	Main product revision	Reviewing preliminary field results and making the necessary revisions
6	Main field testing	Do a feasibility test of the information system
7	Product revision	Make revisions if there are still errors in the system
8	Operational field testing	System installation (deployment). Testing the effectiveness and feasibility of systems
9	Final product revision	Discussion and finalization of the accounting digitization system.
10	Dissemination and implementation	Socialization and internalization of the accounting digitization to stakeholders and users

The stages of preparing the design of the financial management and accounting information system, as shown in figure 3, consist of (1). Determine a chart of accounts (CoA). (2) Determine the terms/descriptions used in the financial reporting system. (3). Presents information about the entity, including assets, liabilities, equity, income, expenses, gains and losses, contributions from and contributions to owners, and cash flows, including other information in the notes to the financial statements. (4). Produce a statement of financial position, statement of comprehensive income, and

statement of changes in net assets as appropriate. (5). Test the system to ensure that the system has worked according to the requirements specifications (Moudud-Ul-Huq et al., 2020). The user can use the accounting digitization system if the accountant has validated the data input.

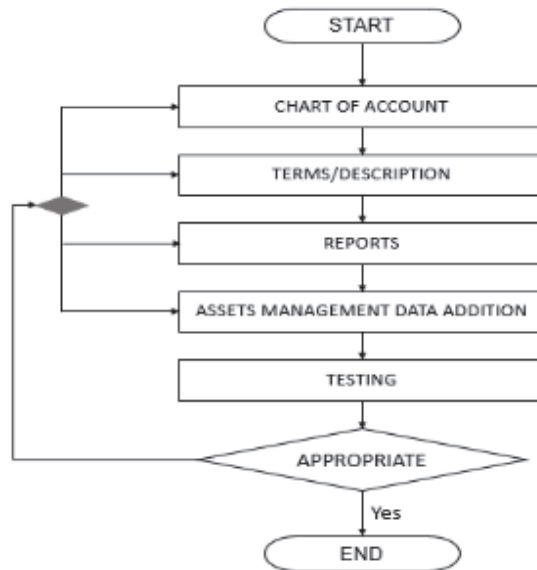


Figure 3. The Accounting System Design

The accounting digitization system in higher education is developed based on the latest financial accounting standards, namely SAK EP and ISAK 35. This system has several main menus, a login page, a front page, master data, transactions, and reports. The login page serves to authenticate users who will enter the system for system security. The front page is the initial display when the user logs in. Master data includes a chart of accounts, voucher type, opening balance, and budget limit. There are four menus in the master data, a chart of accounts, voucher type, opening balance, and budget line. A chart of accounts (CoA) is an index of financial accounts in a ledger generated by a financial and accounting information system based on SAK EP and ISAK 35 divided into several categories: assets, liabilities, net assets, income, and expenses. The separation of assets, liabilities, net assets, income, and expense accounts is intended so that the financial reports produced by the system meet the financial reporting standards as stipulated in ISAK 35 and SAK EP.

The accounts used in the information system consist of 1758 accounts and produce seven financial reports, namely trial balance list, general ledger, statement of financial position, statement of comprehensive income, report of changes in net assets, statement of cash flows, and notes to financial statements. Analysis of the impact of accounting digitization on financial performance in higher education will be tested using several analytical tools such as validity, reliability, descriptive statistics, regression, correlation, and coefficient of determination. The data were collected using a questionnaire distributed to all respondents. The list of questions given to respondents is closed, as a scale test that refers to the Likert Scale. The level of the Likert Scale covers agrees (S), strongly agree (SS), doubtful (R), disagree (TS), and strongly disagree (STS).

Testing the validity and reliability of the questions presented in the questionnaire about the impact of digitization of accounting on university financial performance was processed using the IBM SPSS Statistics 25 for windows application. The results are shown in Table 2

Table 2. Validity and Reliability Testing

Validity Test Result			
Question	Significance	Question	Significance
X1.1	0.001*	Y1	0.001*
X1.2	0.001*	Y2	0.001*
X1.3	0.001*	Y3	0.001*
X1.4	0.001*	Y4	0.001*
X1.5	0.001*	Y5	0.001*
X1.6	0.001*	Y6	0.001*
X1.7	0.001*	Y7	0.001*
X1.8	0.001*	Y8	0.001*
X1.9	0.001*	Y9	0.001*
X1.10	0.135	Y10	0.001*
X1.11	0.001*	Y11	0.001*
X1.12	0.001*	Y12	0.001*
X1.13	0.001*	Y13	0.001*
Reliability Test Result			
Variable		Cronbach's Alpha	
X		0.936**	
Y		0.924**	

Source: Data Processed (2022) *Valid **Reliable

The significance value of the validity test shows a value of < 0.05 , which indicates that the question items are valid. The reliability test showed that Cronbach's alpha (α) was higher than 0.7, meaning that all items were declared reliable.

The descriptive statistics test shows the respondents' answers to each question asked. The value shows the highest and lowest scores for each answer. Table 3 presents the descriptive statistics for accounting digitization (Financial Management and Accounting Information Systems). The average score of respondents' answers regarding financial management and accounting information systems is about 4.242, meaning respondents gave a positive response and supported the development of digital accounting in higher education. Financial management and accounting information systems ease of accessing, understanding, and operating (mean value 4.275). Financial management and accounting information systems can process data quickly (mean value 4.150) and flexibly (mean value 4.4). The results show that digitization of accounting is vital as a much-needed facility to support the completion of work effectively and efficiently.

Table 3. Descriptive Statistics for Accounting Digitization (Financial Management and Accounting Information Systems).

No	Dimension	Statement	Item	N	Mean
1	Easy to use	Ease of operating the system	1	152	4.275
		Ease of understanding the systems	2	152	4.275
		Ease of accessing the systems	3	152	4.375
		Ease of understanding the location and function of the tools available on the systems	4	152	4.175
2	Punctuality	Systems can process data quickly	5	152	4.150
3	Flexibility	Systems quickly adapt to change	6	152	4.325
		Systems apply the latest accounting standards	7	152	4.475
4	Accuracy	Systems can process data accurately	8	152	4.375
		Systems provide actual data	9	152	4.175
		Systems reducing the human error	10	152	4.125

No	Dimension	Statement	Item	N	Mean
5	Availability	The system integrates data with other units	11	152	4.125
		Systems provide complete financial data.	12	152	4.050
6	Efficiency	Systems facilitate accounting/recording work	13	152	4.250

Table 4 shows the descriptive statistics for financial performance. The average score of respondents' answers regarding financial management and accounting information systems is about 4.353. The result shows that most respondents agree that accounting digitization can improve financial performance. Accounting digitization helps measure financial performance (mean value 4.650), makes finances controllable (mean value 4.450), and can produce internal reports accurately and on time (mean value 4.425). The survey results are in line with the conclusions of previous research that digital accounting can improve the quality of financial reporting (Andreassen, 2020; Kewo & Afiah, 2017; Mulyani, 2021; Fathony et al., 2020) and reduce the risk of information asymmetry between users and related parties (Copeland & Galai, 1983; Shan & Troshani, 2021).

Table 4. Descriptive Statistics for Financial Performance

No	Dimension	Statement	Item	N	Mean
1	Easy to use	Ease in preparing integrated financial reports.	1	152	4.575
		Ease to prepare plans and realization of budgets	2	152	4.350
		Ease of handling taxation	3	152	4.245
		Ease of recording financial transactions	4	152	4.250
		Helpful in measuring financial performance	5	152	4.650
2	Accuracy	Accounting digitization can produce internal reports correctly.	6	152	4.425
		Accounting digitization can provide the required data quickly	7	152	4.200
		Accounting digitization supports the achievement of goals effectively and efficiently	8	152	4.400
		Accounting digitization facilitates online financial control.	9	152	4.375
3	Effectiveness	Accounting digitization makes financial management easier	10	152	4.325
		Accounting digitization increases stakeholder satisfaction	11	152	4.450
		The benefits of accounting digitization in decision-making	12	152	4.300
		Accounting digitization provides financial transaction services more quickly and easily	13	152	4.050

The research hypothesis (F test) was tested using simple linear regression analysis and showed a relationship between the independent variable (X) and the dependent variable (Y) at a level of significance (α) of 5%. The independent variable is accounting digitization proxied by financial and accounting management information systems, while the dependent variable is financial performance. Table 6 shows a sign $F < 0.05$, which indicates it is significant. The results are presented in Table 6.

Table 5. ANOVA

	df	SS	MS	F	Significance F
Regression	1	4.395422	4.395422	25.37492	1.18E-05
Residual	38	6.582328	0.173219		
Total	39	10.97775			

Source: SPSS Output

Table 6 shows the significant value of t statistics of 0.00, smaller than the significance (α) of 5%, which concluded that financial management and accounting information systems significantly affect financial performance.

Table 6. Coefficients

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.712595	0.679127	1.049281	0.300677
X Variable 1	0.773842	0.153621	5.037353	1.18E-05

Source: SPSS Output

Based on the correlation test, the coefficient value shows results of 0.632 means there is a strong correlation between financial management and accounting information systems and financial management performance. The coefficient of determination test (R square) of financial management and accounting information system is 0.40, meaning financial management and accounting information system affects financial management performance and other factors influence 60%. The economic impact can be felt from its existence.

The benefits of digitizing accounting can be identified by measuring the return on investment (ROI) value. ROI is obtained by calculating the ratio of maintenance costs to opportunity costs for the initial investment costs of developing the system. The benefits of digitizing accounting can be identified by measuring the return on investment (ROI) value. ROI is obtained by calculating the ratio of maintenance costs to opportunity costs for the initial investment costs of developing the system. The initial investment cost for system development is IDR 63,895,833, consisting of hardware and software procurement costs. Maintenance costs consist of the cost of labor, network maintenance costs, and overhead costs. Within a month, the maintenance fee is IDR 3,230,000. The monthly opportunity cost is IDR 4,929,833, consisting of a reduction of labor costs, printing costs, and overtime costs for reporting. The ongoing expense and the opportunity cost can be seen in table 7.

Table 7. Ongoing Expense

No	Descriptions	Investment cost (IDR)	Maintenance cost (IDR)	Opportunity cost (IDR)
1	Hardware	8,333,333		
2	Software/Application	55,562,500		
3	Cost of labor		4,250,000	
4	Network maintenance cost		679,833	
5	Overhead cost		2,550,947	
6	Reduction of labor costs			4,250,000
7	Reduction of printing cost			679,833
8	Reduction of overtime costs for reporting			2,550,947
	Monthly expenses	63,895,833	3,230,780	4,929,833

The profit obtained from applying digitization of accounting is IDR 4,929,833 - IDR 3,230,780 = IDR 1,699,053. Benefits earned for one year from the application of digitization of accounting is IDR 1,699,053 x 12 months = IDR 20,388,636. Return on Investment, ROI = (IDR 20,388,636/ IDR 63,895,833) x 100% = 31.9%. The feasibility of an investment project can also be measured using the payback period approach as follows:

$$PBP = \text{IDR } 80,562,500 / \text{IDR } 20,388,636 = 3.13.$$

The digitization of accounting is feasible to be applied in a higher institution with a payback period of three years and two months, which is faster than the required payback period of four years.

5. Discussion

Accelerating the digitization of financial management in higher education is to optimize financial

management to provide higher-quality services in an era of disruption (Ahrens & Chapman, 2006). Within the investment framework, facing the COVID-19 Pandemic, where learning activities use digital services, universities prioritize education budget allocations for investment in digital infrastructure development, which includes four things: First, investment for network development, which aims to maximize service connectivity. Second, investment in technology infrastructure related to how to place company application systems to keep them safe. Third, application development investment, and Fourth, cyber security investment to anticipate increasingly widespread cyber attacks.

During the COVID-19 Pandemic, accounting digitization is not only a modern solution (Quattrone, 2016; Scott et al., 2012) but also the flexibility of its use which is easily accessible anywhere and anytime, as long as there is an internet connection (Coman et al., 2022; Mulyani, 2021). Accounting digitalization plays an important role in achieving company goals and recommends that company leaders maximize investment in accounting digitalization (Bell et al., 2018) to ensure the sustainability of the company (Biddle et al., 2009; Phornlaphatrachakorn & Kalasindhu, 2021) and Digitalization has a positive impact on the company's economy, including increasing business efficiency and increases the effectiveness of financial performance (Biddle et al., 2009; Phornlaphatrachakorn & Kalasindhu, 2021). Digitization positively impacts business efficiency (Knudsen, 2020; Arnoboldi et al., 2017; Nurhayati et al., (2021b; Borowski, 2021). the use of resources and increasing the speed and accuracy of data processing (Nurhayati et al., 2021b; Borowski, 2021). However, many institutions still need to realize the importance of accounting digitization, as evidenced by the low effort to develop accounting information systems (Meraghni et al., 2021). The implications of this study can be used as a basis for consideration for higher education managers to implement financial digitization based on the latest financial accounting standards that apply to universities, namely SAK EP and ISAK 35, so that they are updated and by applicable regulations.

6. Conclusion

This study analyzes the development of financial and accounting management information systems (accounting digitization) and evaluates its impact on financial performance in higher education. The process of developing a financial and accounting management information system begins with preparing the infrastructure, software, and hardware, including the development of information system supporting facilities, such as the installation of electrical networks, operating rooms, and competent human resources with the ability and knowledge in the field of information technology. Then, the development of accounting digitization uses the Waterfall and Borg and Gall methods through several testing steps to find the best suitable formula with the expected models. The financial reporting framework refers to private entity financial accounting standards (SAK EP), and its interpretation refers to the interpretation of accounting standards (ISAK 35).

Based on the respondents' answers submitted through distributed questionnaires, with a statistically significant value (α) of 5%, it is concluded that financial management and accounting information systems significantly affect financial performance. The coefficient value shows a result of 0.632, meaning there is a strong correlation between accounting digitization and financial management performance. The contribution of accounting digitization to financial performance is 40%, meaning that other factors influence 60%. The benefits and roles of digitizing accounting are intensely felt, including assisting in recording daily transactions, preparing annual income and expenditure budget plans, and yearly financial reports. In addition, with financial digitization, work can be done easier, faster, and with high accuracy, and it reduces human error. The feasibility test for the development of digitization of accounting is using the payback period approach. The digitization of accounting is feasible to implement in higher education with a payback period of three years and two months, which is faster than the required payback period of four years.

The findings of this study can be a reference for higher education to invest in information and communication technology (ICT) that supports various digital-based academic and non-academic

activities. Therefore, universities must make changes and innovations, adjust to existing technological developments and apply digital accounting to manage their finances. Even though the investment costs are high, the high cost is nothing compared to the benefits users will receive and feel. Information Systems are a tool to facilitate management in making decisions, especially in the VUCA era. The information system is a support system that provides data and information on the present, past, and future quickly and accurately. Therefore, these findings are expected to contribute to financial management in higher education for business effectiveness and sustainability. However, this paper uses a single regression model with only one independent and dependent variable. Therefore, in this regard, there are opportunities for further research to conduct the same study using a different model that involves more independent variables and a larger population and sample.

References

- Ahrens, T., & Chapman, C. S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, organizations and society*, 31(8), 819–841. <https://doi.org/10.1016/j.aos.2006.03.007>
- AlNasrallah, W., & Saleem, F. (2022). Determinants of the Digitization of Accounting in an Emerging Market: The Roles of Organizational Support and Job Relevance. *Sustainability*, 14(11), 6483. <https://doi.org/10.3390/su14116483>
- Andreassen, R. I. (2020). Digital technology and changing roles: a management accountant's dream or nightmare? *Journal of Management Control*, 31(3), 209–238. <https://doi.org/10.1007/s00187-020-00303-2>
- Arnaboldi, M., Busco, C., Cuganesan, S. (2017). Accounting, accountability, social media and big data: revolution or hype? *Accounting, Auditing and Accountability Journal*, 30(4), 762–776. <https://doi.org/10.1108/AAAJ-03-2017-2880>
- Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of accounting and economics*, 48(2–3), 112–131. <https://doi.org/10.1016/j.jacceco.2009.09.001>
- Borowski, P. F. (2021). Digitization, digital twins, blockchain, and industry 4.0 as elements of the management process in enterprises in the energy sector. *Energies*, 14(7), 1885. <https://doi.org/10.3390/en14071885>
- Coman, D. M., Ionescu, C. A., Duică, A., Coman, M. D., Uzlaş, M. C., Stănescu, S. G., & State, V. (2022). Digitization of Accounting: The Premise of the Paradigm Shift of Role of the Professional Accountant. *Applied Sciences (Switzerland)*, 12(7), 1–25. <https://doi.org/10.3390/app12073359>
- Copeland, T. E., & Galai, D. (1983). Information Effects on the Bid-Ask Spread. *The Journal of Finance*, 38(5), 1457–1469. <https://doi.org/10.1111/j.1540-6261.1983.tb03834.x>
- de Souza, Paula, and Rogério João Lunkes. 2016. "Capital Budgeting Practices by Large Brazilian Companies." *Contaduriay Administracion* 61(3): 514–34. <http://dx.doi.org/10.1016/j.cya.2016.01.001>
- El-Adl, A., & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. *Cypriot Journal of Educational Sciences*, 15(1), 104–111. <https://doi.org/10.18844/cjes.v15i1.4461>
- Elken, M., & Stensaker, B. (2018). Conceptualizing 'quality work in higher education. *Quality in Higher Education*, 24(3), 189–202. <https://doi.org/10.1080/13538322.2018.1554782>
- Endri, E., Sumarno, A., & Saragi, H. (2020). Analysis of Financial Performance: Evidence from Food and Beverage Companies in Indonesia. *International Journal of Advanced Science and Technology*, 29(5), 4199 – 4208. Retrieved from <http://sersc.org/journals/index.php/IJAST/article/view/13690>
- Fathony, M., Khaq, A., & Endri, E. (2020). The Effect of Corporate Social Responsibility and Financial Performance on Stock Returns. *International Journal of Innovation, Creativity, and Change*, 13(1), 240–252. Retrieved from https://www.ijicc.net/images/vol_13/13120_Fathony_2020_E_R.pdf
- Grover, V., Tseng, S. L., & Pu, W. (2022). A theoretical perspective on organizational culture and digitization. *Information & Management*, 59(4), 103639. <https://doi.org/10.1016/j.im.2022.103639>
- Hopwood, B., Mellor, M., & O'Brien, G. (2005). Sustainable development: mapping different approaches. *Sustainable development*, 13(1), 38–52. <https://doi.org/10.1002/sd.244>
- International Institute for Applied Systems Analysis (IIASA). (2018). Digitization will transform the global economy. *Digitization Will Transform the Global Economy*, 18–22. Retrieved from <https://iiasa.ac.at/web/home/resources/publications/IIASAPolicyBriefs/pb20.html>

- Kewo, C. L., & Afiah, N. N. (2017). Does the Quality of Financial Statements Affect Internal Control Systems and Internal Audits? *International Journal of Economics and Financial Issues*, 7(2), 568–573. Retrieved from <https://dergipark.org.tr/en/pub/ijefi/issue/32035/354530>
- Khalatur, S., Kuprina, N., & Kurbatska, L. (2021). New business strategies formation of enterprises and outsourcing development as a condition for increasing competitiveness in the markets of Europe and Ukraine: a comparative analysis. *Baltic Journal of Economic Studies*, 7(4), 203–213. <https://doi.org/10.30525/2256-0742/2021-7-4-203-213>
- Kharbat, F. F., & Muqattash, R. (2020). Accounting information system courses: Developing a hybrid syllabus in digitization. *International Journal of Digital Accounting Research*, 20(26), 135–167. https://doi.org/10.4192/1577-8517-v20_6
- Khurniawan, A. W., Sailah, I., Muljono, P., Indriyanto, B., & Maarif, M. S. (2020). An Analysis of Implementing Total Quality Management in Education: Succes and Challenging Factors. *International Journal of Learning and Development*, 10(2), 44–59. doi:10.5296/ijld.v10i2.17270
- Knudsen, D. R. (2020). Elusive boundaries, power relations, and knowledge production: A systematic review of the literature on digitization in accounting. *International Journal of Accounting Information Systems*, 36, 100441. <https://doi.org/10.1016/j.accinf.2019.100441>
- Lipaj, D., & Davidavičienė, V. (2013). Influence of information systems on business performance. *Mokslas-Lietuvos ateitis/Science-Future of Lithuania*, 5(1), 38–45. <https://doi.org/10.3846/mla.2013.06>
- Meraghni, O., Bekkouche, L., & Demdoun, Z. (2021). Impact of Digital Transformation on Accounting Information Systems – Evidence from Algerian Firms. *Economics and Business*, 35(1), 249–264. <https://doi.org/10.2478/eb-2021-0017>
- Monteiro, A. P., Vale, J., Leite, E., Lis, M., & Kurowska-Pysz, J. (2022). The impact of information systems and non-financial information on company success. *International Journal of Accounting Information Systems*, 45, 00557. <https://doi.org/10.1016/j.accinf.2022.100557>
- Möller, Klaus, Utz Schäffer, and Frank Verbeeten. (2020). Digitization in Management Accounting and Control: An Editorial. *Journal of Management Control*, 31(1–2): 1–8. <https://doi.org/10.1007/s00187-020-00300-5>
- Mulyani, F. (2021). Quality and efficiency of accounting information systems. *Praxis Latinoamericana*, 26(2), 323–336. Retrieved from <https://www.redalyc.org/journal/279/27966514027/27966514027.pdf>
- Nasim, K., Sikander, A., & Tian, X. (2020). Twenty years of research on total quality management in Higher Education: A systematic literature review. *Higher Education Quarterly*, 74(1), 75–97. <https://doi.org/10.1111/hequ.12227>
- Nurhayati, N., Endri, E., Suharti, T., Aminda, R.S., & Muniroh, L. (2021a). The impact of COVID-19 on formation and evaluation of portfolio performance: A case of Indonesia. *Investment Management and Financial Innovations*, 18(3), 63–73. doi:10.2151/imfi.18(3).2021.06
- Nurhayati I, Endri E, Aminda RS, Muniroh L. (2021b). Impact of COVID-19 on Performance Evaluation Large Market Capitalization Stocks and Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 56. <https://doi.org/10.3390/joitmc7010056>
- Oesterreich, T.D., & Teuteberg, F. (2019). The role of business analytics in the controllers and management accountants' competence profiles: An exploratory study on individual-level data. *Journal of Accounting & Organizational Change*, 15(2), 330–356. <https://doi.org/10.1108/JAOC-10-2018-0097>
- Phornlaphatrachakorn, K., & Kalasindhu, K. N. (2021). Digital Accounting, Financial Reporting Quality, and Digital Transformation: Evidence from Thai Listed Firms. *Journal of Asian Finance*, 8(8), 409–419. <https://doi.org/10.13106/jafeb.2021.vol8.no8.0409>
- Ponomarenko, V., Rayevnyeva, O., Yermachenko, V., Aksonova, I., & Brovko, O. (2021). Digitization as a development factor of the innovative-active university. *Problems and Perspectives in Management*, 19(4), 213–231. [https://doi.org/10.2151/ppm.19\(4\).2021.18](https://doi.org/10.2151/ppm.19(4).2021.18)
- Quattrone, P. (2016). Management accounting goes digital: Will the move make it wiser? *Management Accounting Research*, 31, 118–122. <https://doi.org/10.1016/j.mar.2016.01.003>
- Razak, A., Nurfitriana, F.V., Wana, D., Ramli, R., Umar, I., & Endri, E. (2020). The Effects of Financial Performance on Stock Returns: Evidence of Machine and Heavy Equipment Companies in Indonesia. *Research in World Economy*, 11(6), 131–138. <https://doi.org/10.5430/rwe.v11n6p131>
- Ricardianto, P., Barata, F., Mardiyani, S., Setiawan, E., Subagyo, H., Saribanon, E., & Endri, E. (2022). Supply chain management evaluation in the oil and industry natural gas using SCOR model. *Uncertain Supply Chain Management*, 10(3), 797–806. DOI: 10.5267/j.uscm.2022.4.001
- Richstein, C. (2019). Strategic IT management: how companies can benefit from an increasing IT influence. *Journal of Enterprise Information Management*, 32(2), 251–273. <https://doi.org/10.1108/JEIM-08-2018-0172>

- Saluy, A. B., Abidin, Z., Djamil, M., Kemalasari, N., Hutabarat, L., Pramudena, S. M., & Endri, E. (2021). Employee productivity evaluation with human capital management strategy: The case of covid-19 in Indonesia. *Academy of Entrepreneurship Journal*, 27(5), 1-9. Retrieved from <https://www.proquest.com/docview/2574810621/fulltextPDF/B84FF55FF3434DCAPQ/1?accountid=34643>
- Scott, S. V., & Orlikowski, W. J. (2012). Reconfiguring relations of accountability: Materialization of social media in the travel sector. *Accounting, organizations and society*, 37(1), 26-40. <https://doi.org/10.1016/j.aos.2011.11.005>
- Shahnia, C., Purnamasari, E.P., Hakim, L., & Endri, E. (2020). Determinant of profitability: Evidence from trading, service, and investment companies in Indonesia. *Accounting*, 6(5), 787-794. doi: 10.5267/j.ac.2020.6.004.
- Shan, Y.G., & Troshani, I. (2021). Digital corporate reporting and value relevance: evidence from the US and Japan. *International Journal of Managerial Finance*, 17(2), 256-281. Retrieved from <https://doi.org/10.1108/IJMF-01-2020-0018>
- Shkolnyk, I., Frolov, S., Orlov, V., Datsenko, V., & Kozmenko, Y. (2022). The impact of financial digitization on ensuring the economic security of a country at war: New measurement vectors. *Investment Management and Financial Innovations*, 19(3), 119-138. doi:10.21511/imfi.19(3).2022.11
- Taib, A., Awang, Y., Shuhidan, S. M., Rashid, N., & Hasan, M. S. (2022). Digitization in Accounting: Technology Knowledge and Readiness of Future Accountants. *Universal Journal of Accounting and Finance*, 10(1), 348-357. <https://doi.org/10.13189/ujaf.2022.100135>
- Tawfik, O.I., Durrah, O., Hussainey, K., & Elmaasrawy, H.E. (2022). Factors influencing cloud accounting implementation: evidence from small and medium enterprises in Oman. *Journal of Science and Technology Policy Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JSTPM-08-2021-0114>
- Tarmidi, M., Rasid, S. Z. A., Alrazi, B., & Roni, R. A. (2014). Cloud computing awareness and adoption among accounting practitioners in Malaysia. *Procedia-Social and Behavioral Sciences*, 164, 569-574. <https://doi.org/10.1016/j.sbspro.2014.11.147>