

## Achieving Accounting Digitalization on University Campuses

Muhammad Azis<sup>1</sup>, Fajriani Azis<sup>2</sup>, Nurjanna<sup>3</sup>, Andi Annisa Sulolipu<sup>4</sup>, Elpisah<sup>5</sup>,  
Wahyudi Putera<sup>6</sup>, Saripuddin<sup>7</sup>, Abd Rasyid R<sup>8</sup>

<sup>1,2</sup>(Department of Accounting Education, Makassar State University, South Sulawesi, Indonesia)

<sup>3</sup>(Department of Accounting, STIE Tri Dharma Nusantara, South Sulawesi, Indonesia)

<sup>4,5,7</sup>(Department of Economics Education, Patempo University, South Sulawesi, Indonesia)

<sup>6</sup>(Department of Economics Education, Makassar State University, South Sulawesi, Indonesia)

<sup>8</sup>(Department of Economics and Business, Bone State Islamic Institute, South Sulawesi, Indonesia)

E-mail: mazis@unm.ac.id, azis\_feunm@yahoo.com<sup>1</sup>, fajrianiazis@unm.ac.id<sup>2</sup>, jnurjanna@gmail.com<sup>3</sup>, annisafachri.aas@gmail.com<sup>4</sup>, elpisah77.up@gmail.com<sup>5</sup>, yudhieputera@gmail.com<sup>6</sup>, saripuddin464@gmail.com<sup>7</sup>, arasyid676@gmail.com<sup>8</sup>

### Abstract

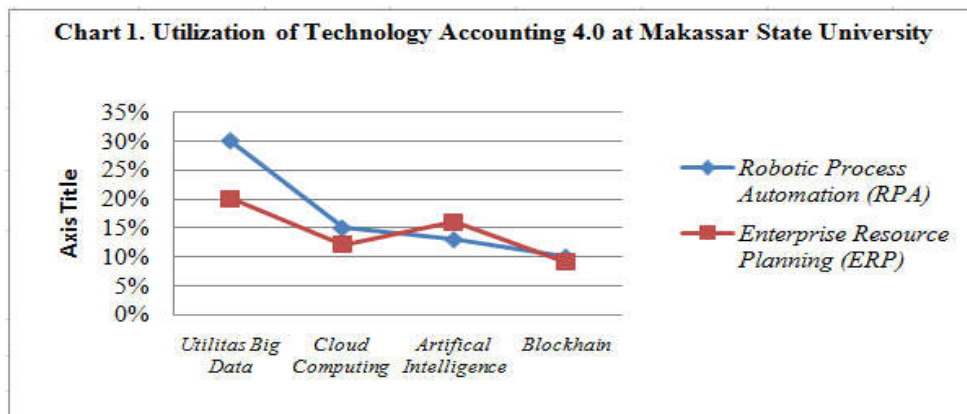
*This study aims to explain and analyze the influence of infrastructure, human resources and accounting information systems (AIS) on the success of accounting digitalization. The population in this study were lecturers of the faculty of economics and business, especially the accounting department, IT staff and students of the accounting department who were users and managers of accounting digitalization totaling 1,138. The sample used in this study, namely 200 respondents, using the sampling technique carried out by Probability Sampling or Stratified Random Sampling, which is a sampling method used in populations that have a stratified or layered arrangement using the Slovin formula. The analytical technique used for hypothesis testing is the Structure Equation Modeling (SEM) Lisreal Program. The results showed that direct (direct effect) infrastructure facilities have an insignificant effect on the success of accounting digitalization. Human resources have a significant effect on the success of accounting digitalization. And the Accounting Information System (AIS) has a significant effect on the success of accounting digitalization.*

Keywords: *Infrastructure Facilities, Human Resources, Accounting Information Systems (AIS) and the Success of Accounting Digitalization*

## I. INTRODUCTION

The development of the digital world today is characterized by the existence of new technologies offered to make human work simpler and minimize errors that may occur. As is the case in the world of accounting digitalization, digital accounting is a digital transformation of corporate financial management that refers to the representation of accounting information in a digital format. The adoption of accounting information systems is a way in the success of accounting digitalization so that companies are able to optimize their business (A. Bergmann, 2021). In supporting the success of the accounting digitization sector, it is necessary to have supporting infrastructure in order to realize digitization effectively and efficiently as stated by Miller (2000). Broadly and generally, facilities and infrastructure are the entire process of planning, procuring utilization and supervision of facilities and infrastructure used to achieve goals effectively and clearly. Then in supporting success in the accounting sector also requires qualified human resources who have broad knowledge of skills in the field of digitization and technology so that any errors that occur in the digitization process can be quickly made an improvement. As according to the opinion as a strategy in implementing management functions, namely planning, organizing, leading and controlling, in every activity or operational function of human resources starting from the process of attraction, selection, training and training development, placement which includes promotion, demotion and transfer, performance appraisal, compensation, industrial relations, to termination of employment, which is aimed at increasing the productive contribution of the organization's human resources to the achievement of organizational goals more effectively and efficiently by (Zolf, 2007). As well as in realizing the success of the digitalization sector in the accounting sector, an accounting information system is needed which bridges from the manual process of financial reports to the digitalization process of digital electronic financial reporting, where the accounting information system is a system that includes all accounting functions and activities. The process is carried out with the aim of considering the impact of the company's

internal and external operations on economic resources by (Vaassen, et al, 2009). The following data on the use of accounting digitization at Makassar State University is illustrated in chart 1 as follows:



Source: UNM Accounting Digitalization Based Information Data, 2023

From chart 1 above, it is illustrated that the utilization of accounting digitalization at Makassar State University has been running well, it's just that the process is still a little slow, such as the use of 4.0 technology in Robotic Process Automation (RPA) in big data utilities with 30%, cloud computing 15%, artificial intelligence 13% and blockchain by 10%. Furthermore, in Enterprise Resource Planning (ERP) on big data utilities with 20%, cloud computing 12%, artificial intelligence 16% and blockchain 9% where from both the use of technology 4.0 in Robotic Process Automation (RPA) and Enterprise Resource Planning (ERP) still need to need support so that the accounting digitization process at Makassar State University can be realized as a whole.

Several studies support the relationship between infrastructure facilities and the success of digitalization in the transportation sector accounts for most of the global Co2 emissions. To reduce the impact of climate change, several sustainability-oriented large-scale infrastructure projects such as electric road systems and rail system expansion have recently been on the policy agenda. A parallel development that is expected to accelerate the transition of the transport sector is digitalization, which although has been ongoing for decades, has recently been complemented by concepts such as artificial intelligence (AI) and smart city technologies. The integration of these digitalization tools at the organizational level provides not only opportunities, but also some challenges for actors involved in infrastructure projects by (Hetemi, et al, 2020). Furthermore, research on the relationship between human resources and the success of accounting digitalization where the purpose of this study is to highlight the impact of accounting digitalization on the business environment, work style, and the role of professional accountants: a paradigm shift. This research is based on theoretical research as well as empirical research based on questionnaires applied in economic entities, and the respondents are decision makers and professional accountants by (Coman, et al, 2022). As well as the relationship between accounting information systems and the success of accounting digitization where Information is an important life resource that is practically understood as necessary and useful data presented in a convenient way, according to user needs. Information systems can be defined as a combination of information resources, processes, and people that collect, transform, and distribute information to the organization. There are many different types of information systems. The accounting system is understood as an integrity or a certain set of accounting elements that are interconnected with each other by (Haje, et al, 2019).

## II. LITERATURE REVIEW

### a. Infrastructure Facilities

Broadly and generally, according to Miller (2000) facilities and infrastructure are the entire process of planning, procuring utilization and supervision of facilities and infrastructure used to achieve goals effectively and clearly. Meanwhile, according to Uddin et al. (2013) facilities and infrastructure as an activity to organize, and analyze the needs and inventory, and procurement of movable or immovable goods. it is concluded that facilities and infrastructure as a medium to facilitate the achievement of goals.

### **b. Human Resources**

According to the opinion of Zolf (2007), as a strategy in applying management functions, namely planning, organizing, leading and controlling, in every activity or operational function of human resources starting from the process of attraction, selection, training and development, placement which includes promotion, demotion and transfer, performance appraisal, compensation, industrial relations, to termination of employment, which is aimed at increasing the productive contribution of the organization's human resources to the achievement of organizational goals more effectively and efficiently.

According to the opinion of Bernardin et al (2006), human resources (HR) are services or work efforts that can be provided in the production process. In other cases, HR describes the quality of effort made by a person in a certain time to produce goods and services. The second definition, HR is related to humans who can work to provide services or work efforts. Being able to work can be interpreted as being able to carry out all activities that have economic activities.

### **c. Accounting Information System**

According to Vaassen, et al. (2009), the definition of AIS is a system that includes all accounting functions and activities. The process is carried out with the aim of considering the impact of the company's internal and external operations on economic resources. According to Hall (2015) in a book entitled "*Accounting Information System*" it is explained that AIS is a series of components that have a relationship and cooperation with the aim of collecting, storing, processing company economic information. Bodnar and Hopwood (2001) define AIS as a collection of data sources specifically designed to transform various company economic data into a report. This information is then used as a basis for decision making.

### **d. Success of Accounting Digitalization**

In the world of accounting, digital accounting is a digital transformation of corporate financial management that refers to the representation of accounting information in a digital format. The adoption of accounting information systems is a way of digitizing accounting so that companies are able to optimize their business by (Bergmann, 2021). Digital transformation in accounting is the processing of accounts payable and receivable, Digitalization in the Procurement Process, Digitalization in the audit process, and so on. According to him, accountants can participate in financial management and the audit process digitally. Therefore, it is expected that the ability of accountants in the digital aspect must continue to develop along with the times. "*Accountants in the domain really understand accounting knowledge and if you add strong digital knowledge, it will be a sweet combination, accountants will continue to play a role in the era of digital transformation.*" by (Bhimani, 2006).

Digitization of the audit process further increases data security due to the existence of a digital trail that provides information about who accessed and when the data was accessed so that the efficiency and accuracy of audit results also increase. Currently, digital financial accounting systems have developed digital workflows that allow the system to recognize accounting codes in the invoicing process by (Bhimani, 2021). Technology-based automation systems can help the process of closing books regularly. Automated systems that use artificial intelligence can collect data from various existing sources, combine the data, and present it in a report in a short time. Interested parties can immediately make policies based on the data available with the automated system.

Currently, cloud computing is on the rise because many are using it. Cloud computing is one aspect of technological development that plays an important role in changing the accounting system. Cloud computing makes it easy for users to store data online and this system is easily accessed quickly by interested parties so that sending financial data to financial and accounting consultants is increasingly practical. The combination of knowledge and expertise possessed by accountants assisted by accounting software such as Accurate Online, will make the process of processing large amounts of accounting data easier and faster. Accountants must present complete and well-structured financial reports so that management can develop financial strategies more effectively so that the company can run well and last long by (Agostino, et al, 2022).

## **Hypothesis**

### **Infrastructure Facilities Affect the Success of Accounting Digitalization**

The transportation sector accounts for most of the global Co2 emissions. To mitigate the impact of climate change, several sustainability-oriented large-scale infrastructure projects such as electric road systems and rail system expansions have recently been on the policy agenda. A parallel development that is expected to accelerate the transition of the transport sector is digitalization, which, although it has been going on for decades, has recently been complemented by concepts such as artificial intelligence (AI) and smart city technologies. The integration of these digitalization tools at the organizational level provides not only opportunities, but also some challenges for actors involved in infrastructure projects. An approach currently promoted in the infrastructure sector is the Building Information Model (BIM), which is a decision-making instrument that utilizes various digitization tools and applications by (Hetemi, et al, 2020). It further examines how, through environmental accounting, the broader context of corporate sustainability can be incorporated into the emerging vision for Industry 4.0, the fourth industrial revolution. An argument is developed that through the engagement of the profession, environmental accounting can be enhanced and can support at little additional cost the large actual and potential investments being made in Industry 4.0 infrastructure designed for the digitization of business. Industry 4.0 can be used successfully as a basis for utilizing external environmental accounting and environmental management accounting by (Burritt and Christ, 2016). As well as better understand the automation of management accounting by exploring the programmability of management accounting work. Design/methodology/approach: We build on the literature on digitalization in management accounting and use a pragmatic constructivist methodology to understand how digitalization occurs at the individual actor level in accounting practices. The research uses a data set from an interventionist case study of a machine manufacturer by (Korhonen, et al, 2020).

#### **H.1: Infrastructure Facilities Significantly Affect the Success of Accounting Digitalization**

### **Human Resources on the Success of Accounting Digitalization**

The current pandemic crisis has caused a paradigm shift in the economy. Phrases such as digital transformation and business digitization are common in the communication channels of economic entities, which want to benefit from the advantages of information technology (artificial intelligence, software robots, and blockchain) to streamline their business. The purpose of this study is to highlight the impact of accounting digitalization on the business environment, work style, and the role of professional accountants: a paradigm shift. This research is based on theoretical research as well as empirical research based on questionnaires applied in economic entities, and the respondents are decision makers and professional accountants by (Coman, et al, 2022). Furthermore, the readiness of North Sumatra Province in the era of digitalization in the face of free market competition inevitably starts from the transformation of human resources (HR). Digital HR transformation becomes very important in an era where technological disruption becomes commonplace where revolutionary changes occur but also evolutionary phenomena in organizations. In addition to digitization, the transition to a business with technology at its center also requires changes in technology, education, skills, and organizational innovation by (Berampu and Sari, 2020). And the purpose of this article is to determine the role of human resources as a basis for digitizing the company's main processes. We propose the interpretation of the enterprise human resource development system in the context of digitalization as a combination of general linear management subsystems, target, functional and support subsystems complementary to information systems and computer capital by (Gunina, et al, 2020).

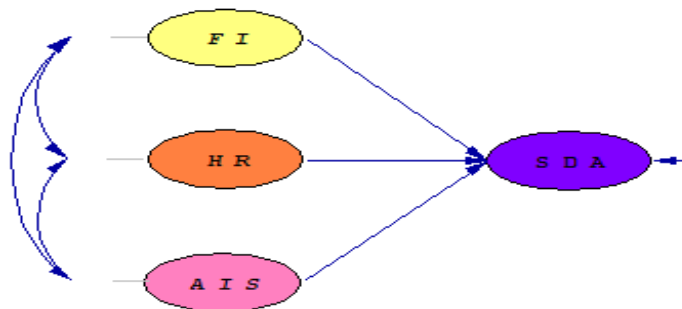
#### **H.2 : Human Resources Significantly Affect the Success of Accounting Digitalization**

### **Accounting Information System on the Success of Accounting Digitalization**

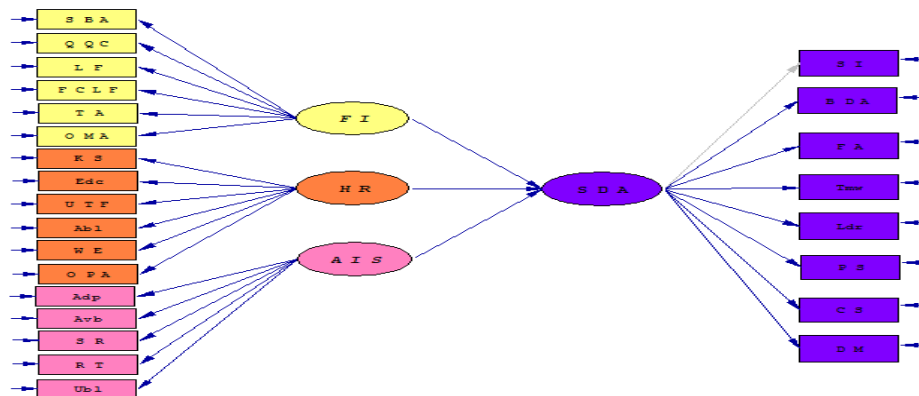
The main purpose of primary accounting is not only to collect, measure and process information, but also to provide feedback in preparation and decision making. The increasing level of automation and the widespread use of various types of computer technology at all stages of the accounting process make it possible to abandon primary documents in paper form by (Haje, et al, 2019). Furthermore, the development of digitization, software and processing power and the accompanying data explosion create significant changes, dilemmas and possibilities for companies and their finance functions. concluded that the

possibilities that exist in digitally enabled businesses create various information literacy challenges as well as new possibilities for accounting information providers by (Bhimani and Willcocks, 2014). And Robotic Process Automation (RPA) is an emerging technology that enables the automation of rule-based business processes and tasks through the use of software bots. found that securing technical capabilities is only one part of the RPA implementation process. Organizations engage in process standardization and optimization, develop tools such as scorecards to rank tasks, adjust governance structures to include digital employees, and redefine internal controls. Organizations benefit from automating only certain processes, namely those that are structured, repetitive, rule-based, and with digital inputs. In addition to cost savings, organizations also get better process documentation, lower error rates, more accurate process performance measurement, and better report quality by (Kokina and Blanchette, 2019); (Azis, et al, 2018).

**H.3 : Accounting Information Systems Significantly Affect the Success of Accounting Digitalization**



**Figure 1. Conceptual Framework of Relationship Between Variables**



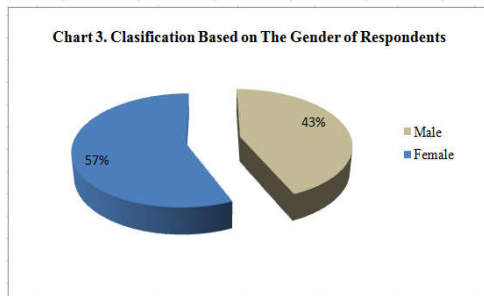
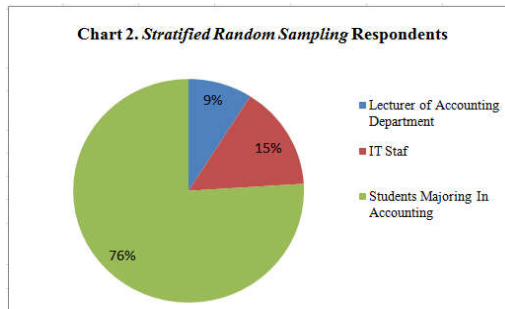
Source: Data processed (SEM) Lisreal Program, 2023

**Figure 2. Conceptual Framework of Relationship Between Variables and Indicators**

**III. RESEARCH METHOD**

The research was conducted on the campus of Makassar State University in Accounting. This location was chosen because Makassar State University is well known for its effective digital technology teaching and learning process so that Makassar State University is one of the pilot state campuses in central and eastern Indonesia producing quality education that has entered the era of digitalization, especially accounting. The population in the study were lecturers of the faculty of economics and business, especially the accounting department, IT staff and students majoring in accounting who were users and managers of accounting digitalization totaling 1,138. This research was only conducted for lecturers majoring in accounting, IT staff and students majoring in accounting how effective the success of accounting digitalization that has been implemented at Makassar State University through infrastructure, human resources and accounting information systems that have been implemented. The sampling technique was carried out by Probability Sampling or Stratified Random Sampling, which is a sampling method used in populations that have a stratified or layered arrangement using the Slovin formula. Based on calculations using the Slovin formula

by Slovin (1960), a sample size of 200 respondents was obtained. The unit of analysis used in this study is Lecturer Staff and accounting students who are users and managers of accounting digitalization with sample specifications that have been determined by researchers, namely lecturers of the faculty of economics and business, especially accounting majors, staff and students. The following is a classification of the distribution of population and samples from various professions including lecturers, staff and students.



Source: *Data processed by Respondents of Lecturers, Staff, Students of the Accounting Department of Makassar State University (N=200), 2023*

Based on chart 2. above, most of the student respondents majoring in accounting were 152 or 76% of respondents, then IT staff were 30 or 15% of respondents and lecturers majoring in accounting were 18 or 9%. Data collection in this study used a questionnaire method. From chart 3 above, most of the respondents were female as many as 113 or 57% of respondents and 87 or 43% of respondents were male. Respondents' answers were measured using a 5-point Likert scale. The data analysis technique used is the *Structure Equation Modeling* (SEM) Program using the help of the Lisreal program.

#### IV. RESULTS AND DISCUSSION

##### a. Results

##### Validity Testing

**Table 1. Validity Test**

		Correlations			
		Facilities and Infrastructure	Human Resources	Accounting Information System	Successful Digitization Accounting
Facilities and Infrastructure	Pearson Correlation	1	.787**	.934**	.944**
	Sig. (2-tailed)		.000	.000	.000
	N	200	200	200	200
Human Resources	Pearson Correlation	.787**	1	.667**	.727**
	Sig. (2-tailed)	.000		.000	.000
	N	200	200	200	200
Accounting Information System	Pearson Correlation	.934**	.667**	1	.944**
	Sig. (2-tailed)	.000	.000		.000
	N	200	200	200	200
Successful Digitization Accounting	Pearson Correlation	.944**	.727**	.944**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	200	200	200	200

\*\* .Correlation is significant at the 0.01 level (2-tailed).

Source: *Data Processed SPSS Program (N = 200), 2023*

Table 1 of the validity test above shows that all question/statement items to measure the variable infrastructure (X.1), human resources (X.2), accounting information systems (X.3) and the success of accounting digitization (Y) in this study have a correlation coefficient greater than  $t_{table} = 0.650$  (table value for  $n = 200$ ). So, it can be concluded that all items in the question / statement indicators of the variable infrastructure (X.1), human resources (X.2), accounting information systems (X.3) and the success of accounting digitalization (Y) are valid.

### Reliability Testing

**Table 2. Reliability Test**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.945	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Facilities and Infrastructure	201.8900	394.581	.963	.906
Human Resources	201.9100	412.655	.741	.965
Accounting Information System	212.1250	392.864	.910	.918
Successful Digitization Accounting	189.9350	304.021	.935	.918

Source: *Data Processed SPSS Program (N=200), 2023*

Table 2 of the reliability test above shows that the questions / statements for the variable item values of infrastructure facilities, human resources, accounting information systems and the success of accounting digitalization have a Cronbach's Alpha value of 0,945, Cronbach's Alpha if Deleted is above 0.7 and above the r-table value of 0.120 (r-table value for  $n = 200$ ) and so it can be argued that the question / statement items for the question / statement variables for the variables of infrastructure facilities, human resources, accounting information systems and the success of accounting digitalization are suitable for use as data collection tools and as measuring instruments.

### Classical Assumption Testing

**Table 3. Normality Test**

**One-Sample Kolmogorov-Smirnov Test**

		Facilities and Infrastructure	Human Resources	Accounting Information System	Successful Digitization Accounting
N		200	200	200	200
Normal Parameters <sup>a</sup>	Mean	66.7300	66.7100	56.4950	78.6850
	Std. Deviation	5.92814	6.63673	6.22929	8.56109
Most Extreme Differences	Absolute	.125	.087	.135	.102
	Positive	.096	.048	.122	.075
	Negative	-.125	-.087	-.135	-.102
Kolmogorov-Smirnov Z		1.771	1.223	1.916	1.444
Asymp. Sig. (2-tailed)		.006	.100	.007	.131

a. Test distribution is Normal.

Source: *Data Processed SPSS Program (N=200), 2023*

From table 3 above, it can be concluded that the results of the data normality test with Kolmogorov-Smirnov by comparing the probability number value or Asymp. Sig (2-tailed) with a significance level of 0.05 or 5% with decision making if the significance value is less than 0.05 or 5% then the data distribution is abnormal. Based on the calculation of the SPSS program above, the variables of infrastructure, human resources, accounting information systems and the success of accounting digitalization with a probability number value or Asymp. Sig (2-tailed) with a significance level above 0.05 or 5%, the data is declared normally distributed.

**Table 4. Autocorrelation Test**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.960 <sup>a</sup>	.922	.921	2.40704	1.756

a. Predictors: (Constant), Accounting Information System, Human Resources, Facilities and Infrastructure

b. Dependent Variable: Successful Digitization Accounting

Source: Data Processed SPSS Program (N=200), 2023

The results in table 5, show each variable infrastructure facilities (X.1) with Sig 0.373, human resources (X.2) with Sig 0.714 and accounting information systems (X.3) with sig 833, each variable (Sig.) > 0.05 or above 0.05, it can be concluded that there are no symptoms of heteroscedasticity.

**Direct Testing**

**Table 6. F-Simultaneous Test**

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13449.558	3	4483.186	773.782	.000 <sup>a</sup>
	Residual	1135.597	196	5.794		
	Total	14585.155	199			

a. Predictors: (Constant), Accounting Information System, Human Resources, Facilities and Infrastructure

b. Dependent Variable: Successful Digitization Accounting

Source: Data Processed SPSS Program (N=200), 2023

Based on table 6 above, simultaneous testing together shows the regression value of 13449.559, residual 1135.597, df 3, mean square 4483.186. f value 773.782 with sig .000 which means that directly together infrastructure facilities, human resources and accounting information systems have a significant effect on the success of accounting digitization.

**Table 7. Partial t-test**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.387	2.051		-3.115	.002		
	Facilities and Infrastructure	.068	.044	.053	1.544	.124	.343	2.912
	Human Resources	.604	.102	.418	5.904	.000	.079	12.631
	Accounting Information System	.712	.081	.518	8.848	.000	.116	8.639

a. Dependent Variable: Successful Digitization Accounting

Source: Data Processed SPSS Program (N=200), 2023

Based on the results of the path analysis in Table 8, the structural equation can be formulated as follows:

$$Y = 0.053 X_1 + 0.418 X_2 + 0.518 X_3 + e_1$$

The structural equation can be interpreted as:

- (1) The infrastructure variable has a coefficient of 0.053, which means that directly the infrastructure has a significant effect on the success of accounting digitalization, meaning that if the infrastructure increases, the success of accounting digitalization will increase.
- (2) The human resource variable has a coefficient value of 0.418, which means that directly human resources have an influence on the success of accounting digitalization, meaning that the increase in human resources will affect the success of accounting digitalization.



- (3) The accounting information system variable has a coefficient value of 0.518, which means that directly the accounting information system has an influence on the success of accounting digitalization, meaning that the more the accounting information system increases, the more it will affect the success of accounting digitalization. In this study, the effect of infrastructure, human resources and accounting information systems on the success of accounting digitalization is calculated through the SPSS for windows program.

**Table 8. Test Coefficient of Determination**  
**Model Summary<sup>b</sup>**

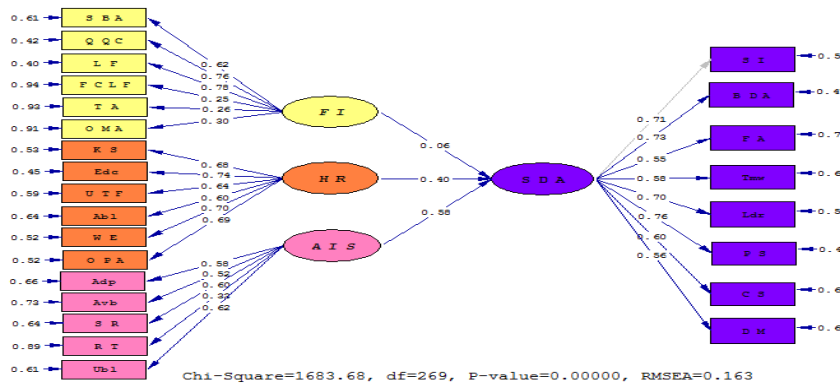
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.960 <sup>a</sup>	.922	.921	2.40704

a. Predictors: (Constant), Accounting Information System, Human Resources, Facilities and Infrastructure

b. Dependent Variable: Successful Digitization Accounting

Source: Data Processed SPSS Program (N = 200), 2023

Table 8 test the value of the coefficient of determination (R<sup>2</sup>) and the error variable (e) In calculating the total coefficient of determination obtained of 0.848, it is concluded that 96.0% of the success variable of campus accounting digitalization is influenced by infrastructure, human resources and accounting information systems by 96%, the remaining 4% is influenced by other factors not included in the research model or outside the research model. Furthermore, testing estimates SEM lisreal program as follows:

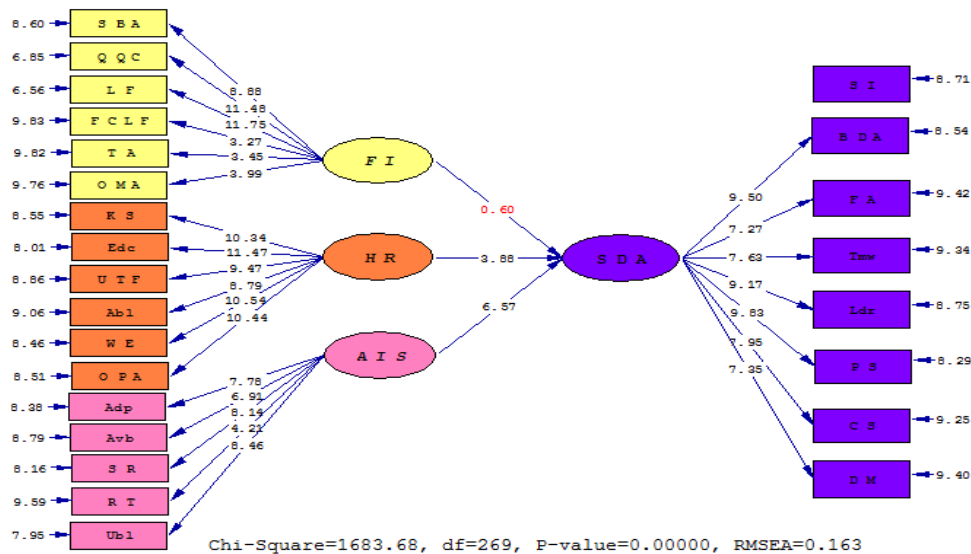


Source: Data Processed (SEM) Lisreal Program, 2023

**Figure 3. Path Analysis Estimates Model Diagram**

In Figure 2, the estimates of the path analysis model diagram of the value of the direct effect of infrastructure facilities (X.1 ) on the success of accounting digitization (Y) with a value of 0.06, infrastructure variables with indicators including the arrangement of school buildings (X1.1) with a value of 0.62, quantity and quality of rooms (X1.2) of 0.76, the functioning of the library (X1.3) of 0.77, the functioning of classroom and laboratory facilities (X1.4) of 0.25, the availability of textbooks (X1.5) of 0.26, and the optimization of media / tools (X1.6) of 0.30. Then human resources (X.2) on the success of accounting digitization (Y) with a value of 0.40, human resource variables through intellectual quality indicators include knowledge and skills (X2.1) with a value of 0.68, education (X2.2) of 0.74, understanding the field (X2.3) of 0.64, ability (X2.4) of 0.60, work enthusiasm (X2.5) of 0.69, and organizational planning ability (X2.6) of 0.69. As well as the accounting information system variable (X.3) on the success of accounting digitalization (Y), with a value of 0.58, the accounting information system variable through the adaptation indicator (X3.1) of 0.58, availability (X3.2) of 0.52, system reliability (X3.3) of 0.60, response time (X3.4) of 0.33 and usability (X3.5) of 0.62. As well as the accounting digitization success variable (Y) through hard skill indicators including information systems (Y.1) of 0.71, big data analytics (Y.2) of 0.73, forensic accounting (Y.3) of ,055, soft skills including teamwork (Y.4) of 0.58, leadership (Y.5) of 0.70, presentation skills (Y.6) of 0.75, communication skills (Y.7) of 0.61 and

decision making (Y.8) of 0.56. Furthermore, testing the t-values of the model that has been carried out with the SEM lisreal program obtained the following values:



Source: Data Processed (SEM) Lisreal Program, 2023

Figure 4. Model Diagram T-Value Significance Test

From Figure 4 of the T-Value significance test above, the direct effect of the infrastructure variable (X.1) on the success of accounting digitization (Y) with a value of 0.60, infrastructure variables with indicators including the arrangement of school buildings (X1.1) with a value of 8.88, quantity and quality of rooms (X1.2) by 11.47, the functioning of the library (X1.3) by 11.74, the functioning of classroom and laboratory facilities (X1.4) by 3.26, the availability of textbooks (X1.5) by 3.44, and the optimization of media / tools (X1.6) by 3.99. Then human resources (X.2) on the success of accounting digitization (Y) with a value of 3.88, human resource variables through intellectual quality indicators include knowledge and skills (X2.1) with a value of 10.33, education (X2.2) of 11.47, understanding the field (X2.3) of 9.47, ability (X2.4) of 8.79, work enthusiasm (X2.5) of 10.53, and organizational planning ability (X2.6) of 10.44. As well as accounting information system variables (X.3) on the success of accounting digitalization (Y), with a value of 6.57, accounting information system variables through adaptation indicators (X3.1) of 7.77, availability (X3.2) of 6.91, system reliability (X3.3) of 8.14, response time (X3.4) of 4.21 and usability (X3.5) of 8.46. As well as the success variable of accounting digitization (Y) through hard skill indicators including big data analytics (Y.2) of 9.49, forensic accounting (Y.3) of 7.26, soft skills including teamwork (Y.4) of 7.62, leadership (Y.5) of 9.15, presentation skills (Y.6) of 9.83, communication skills (Y.7) of 7.94 and decision making (Y.8) of 7.35.

Table 9. Direct Effects of Infrastructure (X.1), Human Resources (X.2) and Accounting Information Systems (X.3) on the Success of Digitalized Accounting (Y)

Effect of Variabel	Direct Efferct Y	Total Effect
X.1 → Y	0,065	0,065
X.2 → Y	0,398	0,398
X.3 → Y	0,581	0,581

Source: Data Output (SEM) Lisreal Program, 2023

Table 9. shows the summary results of the value of each direct effect path between variables and the error value of each structural equation generated through path analysis techniques.

**Hypothesis Testing**

For hypothesis testing to determine the effect of independent variables on the dependent variable by comparing the t-count value obtained from the path model with the t-table of 1.96 which can be seen from the t-value model.

**Table 10. Hypothesis Testing**

Variabel	t-Statistik	>	t-Value	Keterangan
Facilities and Infrastructure → Success of Digitalization	0,60	<	1,96	
Human Resources → Success of Digitalization	3,88	>	1,96	
Accounting Information System → Successful of Digitalization	6,57	>	1,96	

\*) Significant at  $\alpha = 10\%$

Source: *Data Output (SEM) Lisreal Program, 2023*

**Hypothesis 1**

Based on hypothesis testing, it shows that the t-value of  $0.60 < 1.96$  with a significance of 5%, this indicates that the direct effect of infrastructure facilities has an insignificant effect on the success of accounting digitization, which means that the first hypothesis is rejected.

**Hypothesis 2**

Based on hypothesis testing, it shows that the t-value of  $3.88 > 1.96$  with a significance of 5%, this shows that the direct effect of human resources has a significant effect on the success of accounting digitalization, which means that the second hypothesis is accepted.

**Hypothesis 3**

Based on hypothesis testing, it shows that the t-value of  $6.57 > 1.96$  with a significance of 5%, this shows that the direct effect of accounting information systems has a significant effect on the success of accounting digitalization, which means that the third hypothesis is accepted.

**b. Discussion**

**Infrastructure Facilities on the Success of Accounting Digitalization (H.1)**

The results showed that infrastructure facilities directly (direct effect) had an insignificant effect on the success of accounting digitalization with an Unstandardized Coefficients B value of 0.068 with a Beta Standardized Coefficients value of 0.053 with a t-value of  $0.60 < 1.96$  with a sig of 0.05. This means that if the infrastructure will be functioned, it will reduce the success of accounting digitalization on campus. The lack of success of digitalization of accounting on campus is inseparable from how infrastructure facilities must immediately get improvements on campus. Where things that must be addressed in infrastructure facilities include the arrangement of school buildings, the quantity and quality of classrooms, the functioning of the library, the functioning of classroom and laboratory facilities, the availability of textbooks, and the optimization of media / tools as a form of campus improvement in terms of infrastructure facilities. If you look at the research results which show that infrastructure facilities have an insignificant effect on the success of accounting digitalization, then the party in this case the role holder on campus must be able to provide the success of accounting digitalization to students with staff and teachers on campus to improve excellent service to students, staff and teachers on campus in order to achieve the success rate of digitalization in the accounting sector with hard skills including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making.

The results of the model estimates test of infrastructure variables consist of indicators of school building arrangements, quantity and quality of classrooms, functioning of libraries, functioning of classroom and laboratory facilities, availability of textbooks, and optimization of media / tools. Digitization success variable accounting consists of hard skill indicators including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research conducted by Hetemi, et al (2020) the approach currently promoted in the infrastructure sector is the Building Information Model (BIM), which is a decision-making

instrument that utilizes various digitalization tools and applications. However, while the economic implications of BIM have been widely discussed in the literature, the (inter)organizational dynamics involving different actors in infrastructure projects are not yet fully understood. Large infrastructure projects are sociotechnical endeavors embedded in complex institutional frameworks; therefore, the institutional norms, practices and logics within them are significant.

The results of the t-value test model and the results of the infrastructure variable hypothesis consist of indicators of the arrangement of school buildings, the quantity and quality of classrooms, the functioning of the library, the functioning of classroom and laboratory facilities, the availability of textbooks, and the optimization of media/tools. It is necessary to make comprehensive improvements and evaluations of campus infrastructure indicators in order to achieve a successful digitalization of accounting which ultimately improves its indicators, namely hard skills including big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research conducted by Burritt and Christ. (2016) an argument was developed that through professional engagement, environmental accounting can be improved and can support at little additional cost the large actual and potential investments made in Industry 4.0 infrastructure designed for business digitization. Industry 4.0 can be used successfully as a basis for utilizing external environmental accounting and environmental management accounting. A new academic research program is suggested to establish how Industry 4.0 can facilitate more accurate, high quality, real time environmental management accounting and external environmental reporting across relevant sectors, company sizes, across different management roles and collaborative arrangements, as well as in supply and value chains. Several ways are outlined in which accountants, professional associations, and governments can help capture the benefits of Industry 4.0 for environmental accounting. These include education and training opportunities as well as building on the efficiency and lower cost ideas that are a key part of Industry 4.0. This innovative paper provides the first research into the potential for large current and expected worldwide investments in Industry 4.0 to provide a foundation for improving corporate sustainability through greater use of environmental accounting. As well as findings may become increasingly relevant for advanced analytics initiatives and applications in management accounting (e.g. robotic process automation, big data, machine learning, and artificial intelligence). Practical implications: Practitioners need to carefully analyze the entities they want to automate and understand the factual possibilities of using and maintaining the planned automated system throughout its life cycle. This research shows that when processes are assessed from a distance, non-programmable management accounting tasks and expertise can be mistaken for programmable, and the goal of automating them has little chance of success. It also shows the possibility for human accountants to remain relevant compared to machines and paves the way for further studies on advanced decision technologies in management accounting by (Korhonen, et al, 2020).

### **Human Resources Affect the Success of Accounting Digitalization (H.2)**

The results showed that human resources directly (direct effect) had a significant effect on the success of accounting digitalization with an Unstandardized Coefficients B value of 0.604 with a Beta Standardized Coefficients value of 0.418 with a t-value of 3.88 > 1.96 with sig 0.05. This means that if human resources will be functioned, it will increase the success of accounting digitalization on campus. This means that if human resources will be functioned, it will increase the success of accounting digitalization on campus. Increasing the success of accounting digitalization on campus is inseparable from how human resources built on campus get good skill results in realizing superior and competitive human resources. Where what forms human resources includes knowledge and skills, education, understanding their fields, abilities, work enthusiasm and organizational planning capabilities as a form of campus achievement in terms of human resources. If you look at the research results which show that human resources have a significant effect on the success of accounting digitalization, then the party in this case the role holder on campus has provided the success of accounting digitalization to students, IT staff and teachers on campus in improving excellent service to students, staff and teachers on campus in achieving the success rate of digitalization in the accounting sector with hard skills including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. The results of the test estimates of the human resource variable model consist of indicators of knowledge and skills, education, understanding their fields, abilities, work enthusiasm and organizational planning abilities. Accounting digitization success variable consists of hard skill indicators including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research conducted by Coman, et al. (2022)

said the purpose of this study was to highlight the impact of accounting digitalization on the business environment, work style, and the role of professional accountants: a paradigm shift. This research is based on theoretical research as well as empirical research based on questionnaires applied in economic entities, and the respondents are decision makers and professional accountants. The results obtained from the statistical analysis of the questionnaire (Chi-square, Crosstabulation, Friedman test) show that digitalization is more than a conventional change, as it involves both technology and people. The orientation towards digitalization implies, in addition to a well-organized implementation plan, a change in the mentality of the human factor corroborated by the evolution of the organizational culture of the economic entity. At the same time, we are witnessing a change in the accounting paradigm, and the role of professional accountants is evolving from "transaction recorders" to analysts and consultants to entrepreneurs. The research confirms that the digitalization of accounting proves to be not only a modern solution, imposed by technological progress, but also timely, necessary, and even mandatory given the difficulty of anticipating the economic and social context resulting from the pandemic crisis. The study stands out for the innovative character of the subject approached, the digitalization of accounting, which represents the concept in full expansion, and for its practical usefulness. This is evidenced by the analysis carried out and the conclusions drawn in the context of an economic environment that is constantly looking for solutions. All operations can be moved to a controlled and accessible digital environment that can be accessed from any location.

The results of the t-value test model and the results of the human resource variable hypothesis consist of indicators of knowledge and skills, education, understanding their fields, abilities, work enthusiasm and organizational planning abilities have been proven to be owned by students, IT staff and teachers on campus in realizing a successful digitalization of accounting with indicators, namely hard skills including big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research, the readiness of North Sumatra Province in the era of digitalization in the face of free market competition inevitably starts from the transformation of human resources (HR). Digital HR transformation becomes very important in an era where technological disruption becomes commonplace where revolutionary changes occur but also evolutionary phenomena in organizations. In addition to digitization, the transition to a business with technology at its center also requires changes in technology, education, skills, and organizational innovation. This cannot be denied, including the government in improving human resources is one of the ways that can be done to be able to compete in the international world. This research is intended to obtain data and information about the transformation of human resources in North Sumatra in order to improve competitiveness in the digital era. HR transformation in North Sumatra in the digital era is formed by the dimensions of technology and innovation by (Berampu and Sari, 2020). As well as proposing an interpretation of the company's human resource development system in the context of digitalization as a combination of general linear management subsystems, targets, functional and support subsystems that complement each other with information systems and computer capital. We indicate the directions of transformation of the human resource development system in the context of digitalization. To determine the list of favorable factors and obstacles affecting the promotion of digitalization. We consider the main directions of human resource development at industrial enterprises of the Voronezh region, propose the structure of the human resource development system with the allocation of basic elements. We emphasize the concept of training in its development within the framework of the human resource development system by (Gunina, et al, 2020) ; (Azis and Abduh, 2019).

### **Accounting Information System (AIS) Affects the Success of Accounting Digitalization (H.3)**

The results showed that the Accounting Information System (AIS) directly (direct effect) had a significant effect on the success of accounting digitalization with an Unstandardized Coefficients B value of 0.712 with a Beta Standardized Coefficients value of 0.518 with a t-value of 6.57 > 1.96 with a sig of 0.05. This means that if the Accounting Information System (AIS) will be functioned, it will increase the success of accounting digitalization on campus. The increase in the success of accounting digitalization on campus is inseparable from how the Accounting Information System (AIS) run by the campus gets results in managing accounting information in realizing the management of the Accounting Information System (AIS) in digitalization. Where what makes up the Accounting Information System (AIS) includes adaptation, availability, system reliability, response time and usability as a form of campus achievement in terms of the Accounting Information System (AIS). If you look at the research results which show that

the Accounting Information System (AIS) has a significant effect on the success of accounting digitization, then the party in this case the role holder on campus has provided the success of accounting digitization to students, IT staff and teachers on campus in improving the management of accounting information data on campus in achieving the success rate of accounting digitization with hard skills including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making.

The results of the model estimates test of the Accounting Information System (AIS) variable consist of indicators of adaptation, availability, system reliability, response time and usability. The accounting digitalization success variable consists of hard skill indicators including information systems, big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research Information is an important life resource that is practically understood as necessary and useful data presented in a convenient way, according to user needs. An information system can be defined as a combination of information resources, processes, and people that collect, transform, and distribute information to an organization. The main purpose of primary accounting is not only to collect, measure and process information, but also to provide feedback in preparation and decision making. The increasing level of automation and the widespread use of various types of computer technologies at all stages of the accounting process made it possible to abandon primary documents in paper form. Keywords: Information, primary accounting, accounting system, automation by (Haje, et al, 2019).

The results of the t-value test model and the results of the hypothesis of the Accounting Information System (AIS) variable consisting of indicators of adaptation, availability, system reliability, response time and usability have been proven to be owned by accounting information system managers on campus in realizing a successful digitization of accounting with indicators, namely hard skills including big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. In line with research on the development of digitalization, software and processing power and the accompanying data explosion create significant changes, dilemmas, and possibilities for companies and their finance functions. This article discusses a model for understanding the relationship of data, information and knowledge. We apply this model to examine developments in strategy, organizational structure and costs, digitization, business analytics, outsourcing, offshoring and cloud computing. We argue that organizations need to be sensitive to different types of knowledge, the challenges of creating and applying such knowledge, and be more mindful of what can be achieved through advances in information-based technology and software. Changes in cost structures are influenced by developments in how data, information and knowledge can be utilized. We discuss outsourcing and offshoring of work and the consequences of data, information and knowledge as well as those related to cloud computing. We conclude that the possibilities in digitally enabled businesses create information literacy challenges as well as new possibilities for accounting information providers by (Bhimani and Willcocks, 2014). And Robotic Process Automation (RPA) is a new technology that enables the automation of rule-based business processes and tasks through the use of software bots. Based on the theories of Task-Technology Fit (TTF) and Technology-to-Performance Chain (TPC) (Goodhue and Thompson 1995) and research on expert systems (Messier and Hansen 1987; Sutton 1990), this study explores the emerging themes surrounding the implementation of bots for accounting and finance tasks. We found that securing technical capabilities is only one part of the RPA implementation process. Organizations engage in standardizing and optimizing processes, developing tools such as scorecards to rank tasks, adjusting governance structures to include digital employees, and redefining internal controls. Organizations benefit from automating only certain processes, namely those that are structured, repetitive, rule-based, and with digital inputs. In addition to cost savings, organizations also gain better process documentation, lower error rates, more accurate process performance measurement, and better report quality by (Kokina and Blanchette, 2019) ; (Azis, et al, 2022).

## V. CONCLUSION AND SUGGESTIONS

### a. Conclusion

Based on the test results and discussion above, the conclusion of this study is that infrastructure facilities directly (direct effect) have an effect and are not significant to the success of accounting digitalization, infrastructure variables with indicators of school building arrangements, quantity and quality of classrooms, functioning of libraries, functioning of classroom and laboratory facilities, availability of textbooks, and optimization of media / assistive devices. Human resources directly (direct effect) have a

significant effect on the success of accounting digitalization, human resource variables with indicators of knowledge and skills, education, understanding their fields, abilities, work enthusiasm and organizational planning abilities. The Accounting Information System (AIS) directly (direct effect) has a direct and significant effect on the success of accounting digitization, the Accounting Information System (AIS) variable consists of indicators of adaptation, availability, system reliability, response time and usability has been proven both in questionnaires and in the field conducted on the Makassar State University campus, which concluded that human resource variables and the Accounting Information System (AIS) are proven to increase the success of accounting digitization at Makassar State University with hard skills including big data analytics, forensic accounting. Soft skills include teamwork, leadership, presentation skills, communication skills, and decision-making. Meanwhile, infrastructure variables with indicators of school building arrangements, quantity and quality of classrooms, functioning of libraries, functioning of classroom and laboratory facilities, availability of textbooks, and optimization of media / tools need to be thoroughly revamped so that they are proven to increase the success of accounting digitalization at Makassar State University.

#### **b. Suggestion**

Based on the research results and conclusions that have been described, there are several suggestions in terms of infrastructure with indicators of the arrangement of school buildings, quantity and quality of classrooms, the functioning of the library, the functioning of classroom and laboratory facilities, the availability of textbooks, and the optimization of media / tools need to be re-addressed by leadership elements so that they have an impact on the success of digitalization of accounting on campus in the future for the better. From human resources with indicators of knowledge and skills, education, understanding their fields, abilities, work enthusiasm and organizational planning abilities, it is also necessary to be re-optimized even though so far it has gone well. In terms of Accounting Information Systems (AIS) with indicators of adaptation, availability, system reliability, response time and usability also need to be maximized so that the success of accounting digitization that has been running can be sustainable in the future. In terms of accounting digitalization, indicators that need to be imposed are hard skills, including information systems that need special attention for the smooth distribution of accounting digitalization-based data on the Makassar State University campus.

## **VI. ACKNOWLEDGMENTS**

Thanks to all parties, especially the respondents of the Faculty of Economics and Business, Department of Accounting at the Makassar State University campus who have helped a lot in this research, so that research on the success of accounting digitization on the Makassar State University campus can be written and informed to all parties, especially leadership elements for the future progress of the campus.

## **BIBLIOGRAPHY**

- Bergmann, A. (2021). Digitalization starts affecting core processes. *Public Money and Management*, 41(4), 279-280.
- Miller, J. B. (2000). Principles of public and private infrastructure delivery (Vol. 101). London: Kluwer Academic Publishers.
- Zolf, R. (2007). Human Resources: A Book of Poetry. *Coach House Books*.
- Vaassen, E. H., Meuwissen, R., and Schelleman, C. (2009). Accounting information systems and internal control. *Wiley*.
- Hetemi, E., Ordieres-Meré, J., and Nuur, C. (2020). An institutional approach to digitalization in sustainability-oriented infrastructure projects: The limits of the building information model. *Sustainability*, 12(9), 3893.
- Coman, D. M., Ionescu, C. A., Duică, A., Coman, M. D., Uzlau, M. C., Stanescu, S. G., and State, V. (2022). Digitization of accounting: The premise of the paradigm shift of role of the professional accountant. *Applied Sciences*, 12(7), 3359.
- Haje, P., Arystanbaeva, A., Oralbaeva, Z., and Kупenova, Z. (2019). The role and importance of accounting information system in the context of digitalization. *Central Asian Journal of Social Sciences and Humanities*, 5(1), 64-73.
- Uddin, W., Hudson, W. R., and Haas, R. (2013). Public infrastructure asset management. *McGraw-Hill Education*.
- Bernardin, H. J., and Russell, J. E. (2006). Human resource management (p. 736). *New York: Tata McGraw-Hill*.

- Hall, J. A. (2015). Accounting information systems. *Cengage Learning*.
- Bodnar, G. H., and Hopwood, W. S. (2001). *Accounting information systems* (Vol. 8). London: Prentice Hall.
- Bhimani, A. (Ed.). (2006). Contemporary issues in management accounting. *Oxford university press*.
- Bhimani, A. (2021). Accounting disrupted: How digitalization is changing finance. *John Wiley and Sons*.
- Agostino, D., Saliterer, I., and Steccolini, I. (2022). Digitalization, accounting and accountability: A literature review and reflections on future research in public services. *Financial Accountability and Management*, 38(2), 152-176.
- Burritt, R., and Christ, K. (2016). Industry 4.0 and environmental accounting: a new revolution?. *Asian Journal of Sustainability and Social Responsibility*, 1(1), 23-38.
- Korhonen, T., Selos, E., Laine, T., and Suomala, P. (2020). Exploring the programmability of management accounting work for increasing automation: an interventionist case study. *Accounting, Auditing and Accountability Journal*, 34(2), 253-280.
- Berampu, L. T., and Sari, W. D. (2020). Human resources transformation in the digitalization professional era in north sumatera. *Esensi: Jurnal Bisnis Dan Manajemen*, 10(2), 135-146.
- Gunina, I. A., Reshetov, V. V., Logunova, I. V., Pestov, V. U., Dudareva, O. V., and Kalashnikova, I. A. (2020, August). Improvement and Development of Human Resources of an Enterprise in the Context of the Digitalized Economy. *In Russian Conference on Digital Economy and Knowledge Management (RuDEcK 2020)* (pp. 234-237). Atlantis Press.
- Bhimani, A., and Willcocks, L. (2014). Digitisation, 'Big Data' and the transformation of accounting information. *Accounting and business research*, 44(4), 469-490.
- Kokina, J., and Blanchette, S. (2019). Early evidence of digital labor in accounting: Innovation with Robotic Process Automation. *International Journal of Accounting Information Systems*, 35, 100431.
- Azis, M., Haeruddin, M., and Azis, F. (2018). Entrepreneurship Education and Career Intention: The Perks of being a Woman Student. *Journal of Entrepreneurship Education*, 21(1).
- Slovin, E. (1960). Slovin's formula for sampling technique. Retrieved July 21, 2021.
- Azis, M., and Abduh, A. (2019, August). Qualitative Meta-Analysis of Academic Culture in Higher Education. In *1st International Conference on Education Social Sciences and Humanities (ICESSHum 2019)* (pp. 322-326). Atlantis Press.
- Azis, M., Sikar, M. A., and Azis, F. (2022, January). Millennial Entrepreneur Ecosystem Based on Digital (Digital Entrepreneurship) in Pandemic Covid 19 in Makassar City. In *International Conference on Social, Economics, Business, and Education (ICSEBE 2021)* (pp. 178-183). Atlantis Press.
- Azis, F. (2020). Effect of Educational Level, Environment and Quality of Service on Compulsory'Personal Tax Objectives In Makassar City. *Jurnal Administrare: Jurnal Pemikiran Ilmiah dan Pendidikan Administrasi Perkantoran*, 7(2), 331-338.
- Azis, F. (2020). Effect of Educational Level, Environment and Quality of Service on Compulsory'Personal Tax Objectives In Makassar City. *Jurnal Administrare: Jurnal Pemikiran Ilmiah dan Pendidikan Administrasi Perkantoran*, 7(2), 331-338.
- Nurjanna., Tawe, A., Sahabuddin, R., Putera, W and Yahya, L, I. (2022). Factors that Influence Entrepreneurship Decision Making in Shaping the Characteristics Entrepreneurial of MSMEs among Women in Makassar City. *Asian Journal of Business and Management*, 10(4), 80-101.
- Sulolipu, A. A., Wahyono, H., Soetjipto, B. E., and Haryono, A. (2022). Silk weaving business sustainability as a cultural heritage of Indonesia: a case study in Wajo Regency, South Sulawesi. *Industria Textila*, 73(2), 184-190.
- Elpisah, E., and Suarlin, S. (2022). The Effect of Clarity of Budget Targets, Accounting Control and Reporting System on The Performance Accountability. *Golden Ratio of Auditing Research*, 2(2).
- Putera, W., Sahabuddin, R., Rakib, M., and Girikallo, A. S. (2020). Effect of Service Quality on Customer Satisfaction Through Customer Value in PDAM Kota Makassar (Customer Approach in Developing Clean Water Product Services to Customers). *International Journal of Innovative Science and Research Technology*, 5(10), 1129-1137.
- Putera, W., Rakib, M., and Sahabuddin, R. (2021). Competitive Advantages Influence on Marketing Performance: Study on Food and Beverage MSMEs. *The American Journal of Humanities and Social Sciences Research (THE AJHSSR)*, 4(1), 75-83.
- Putera W., Sahabudin R., Rakib M., and Lestari I. (2021) The Influence of Facilities and Innovation in Improving Consumer Satisfaction Through Creativity in MSMEs Micro Handicraft Products in



- South Sulawesi Province, *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 5(6), 01-13.
- Putera, W., Alimuddin, A., Yahya, I. L., and Magfirah, M. (2021). Factors that Affect Employee Welfare in Improving Employee Performance at Pt. Semen Indonesia (SIG) Persero TBK. *Asian Journal of Social Science and Management Technology*, 3, 1-92.
- Putera, W., R, Rasyid, A., Saripuddin., Basmar, E., Sahabuddin, R., Rakib, M., Nurjanna., Anshori, M, A., Yahya, L, I and Alimuddin. (2022). Revenue Factors, Service Quality and Location Affect Consumer Purchasing Decisions In Mediating Prices and Product Dealers Products Toyota PT. Hadji Kalla. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 6(9), 91-114.
- Putera, W., R, Rasyid, A., Saripuddin., Diputra, I., Magfirah., Basmar, E., Rakib, M., Sahabuddin, R., Rajamemang., Yahya, L, I and Budiawati. (2022). Social Problems And Public Services In Influencing The Fulfillment Of The Needs Of The People Of Maros Regency Through The Performance Of The Good Government Government. *Asian Journal of Social Science and Management Technology*, 4(5), 62-83.
- Saripuddin., Kadir, D., Nurjaya., Putera, W., R, Rasyid, A., Elpisah., W, Fahreza, M., Yahya, L, I. (2022). Government Policy Through Market Orientation in Supporting the Business Performance of Maros Bread Business in Maros Regency, *International Journal of Capacity Building in Education and Management (IJCBE)*, Vol. 5, No. 1, September, 2022. ISSN:2350-2312(E) ISSN: 2346-7231
- Maidin, R., Rajamemang., Nurdin, M., Putera, W., Aliza, N., Qalsum, A. T. U., and Yahya, I. L. (2022). Implementation of the Targeted Electricity Subsidy Policy at the Office of PT. PLN (Persero) ULP Sinjai. *International Journal of Public Administration and Management Research*, 8(3), 29-41.
- Abd Rasyid, R., Putera, W., Azis, M., Yahya, L, I., Azis, F. (2023). Factor Affecting The Improvement of Marketing Performance of Indonesian MSMEs Product. *International Journal Of Capacity Building In Education and Management*, 5(3), 1-13.