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Structural Equation Modeling on the Quality of Batam City Government Financial Reports with Accounting Information Systems as Intervening Variables

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ABSTRACT

Financial statements are deemed to be of high quality when they are relevant, comparable, understandable, and reliable. The implementation of an accounting information system significantly contributes to ensuring the production of reports that are effective, relevant, efficient, and accurate. Without integrating an internal control system into the accounting information system, its benefits may be limited. The primary objective of establishing an accounting internal control system is to generate reliable financial reports, thereby ensuring the production of high-quality financial statements. This research investigates the impact of Accounting Internal Control on the Quality of Financial Statements in the Batam City Government, with the Accounting Information System serving as an intervening variable. The study's sample includes 155 employees working in the finance department across various SKPK (regional government work units) in the Batam City Government. The analysis was conducted using AMOS version 22.0. The findings reveal that Accounting Internal Control has a positive and significant influence on both the Accounting Information System and the Quality of the Batam City Government's Financial Statements. Moreover, the Accounting Information System mediates the relationship between Accounting Internal Control and the quality of financial statements.

1. Introduction

The Riau Islands is a province in Indonesia with its capital located in Tanjungpinang City. Among its municipalities is Batam, which plays a significant role in the region. To achieve good governance, the Batam City government consistently strives to enhance the quality of its financial reports. Quality financial statements are those that are relevant, comparable, understandable, and reliable. Implementing an accounting information system is crucial for ensuring effectiveness, relevance, efficiency, and accuracy in reporting. However, without an integrated accounting internal control system, the benefits of such a system may be limited. The primary aim of establishing an accounting internal control system is to ensure the production of reliable and trustworthy financial reports, thereby contributing to the creation of high-quality financial statements.

The quality of financial information is greatly influenced by accounting internal control (Bale et al, 2023; Andriani, Suarsa & Yuniati, 2019). An optimal internal control system can minimize errors

and irregularities within the limits that can be considered feasible, and will soon be identified and overcome (Purwono, 2004) in (Yohanes & Ohoiwutun, 2015). The internal accounting process is designed to meet the expectations of all parties regarding the accuracy of the presentation of financial statements. The availability of sufficient human resources, but without a good internal control system, does not necessarily realize reliable financial reports (Khotimatus & Riana, 2017).

An accounting information system is a system that can contain government information that is useful to make it easier for human resources to be able to plan, manage, analyze and evaluate financial data information so that it can produce relevant and accountable financial reports (Gusherinsya & Samukri, 2020). In the study (Adji & Andayani, 2021) it is stated that the accounting information system is one of the factors causing the improvement of regional financial quality, affecting the improvement of regional financial quality, this is because the input and output processes carried out will be more efficient.

The Batam City Government has received a Fair Opinion Without Exception (WTP) from the Riau Islands Financial Audit Agency (BPK) in 2023. This WTP opinion achievement is the 12th in a row so that it received an award from the Minister of Finance of the Republic of Indonesia, Sri Mulyani. The acquisition of the WTP opinion is generally because the financial statements of the Batam City Government are in accordance with the principles of the Government Accounting Standards (SAP). With regard to improving the quality of local government financial statements, the Batam City Government must continue to take the necessary steps to implement accrual-based accounting in accordance with Government Accounting Standards, adequacy of disclosure, improvement of internal control systems, and compliance with laws, in order to maintain the Reasonable Opinion Without Exception (WTP) of the Riau Islands BPK.

There are several studies behind this research, including research from Bale et al, (2023) and Nabilah (2018) which states that internal control of accounting has a significant effect on the quality of financial information. Then research from Suryani, Febrina and Salmi (2022) stated that accounting internal control has a significant effect on the value of financial information. Furthermore, research from Adji & Andayani (2021), Pratiwi, Vonna and Harmi (2022), Kusnandi, Oemar and Supeno (2022), Kusuma et al., (2017) stated that accounting information systems have a significant effect on the quality of financial information. Meanwhile, research from Bale et al, (2023), Almira (2022) and Emilianus (2021) stated that accounting information systems do not have a significant effect on the quality of financial information. The difference in the results of this study encourages researchers to reconfirm related to the influence between variables in this study.

2. Method

Population and Sample

The object of this study is the employees of the City Apparatus Work Unit (SKPK) in the Batam City Government. The research model used in this study is the Structural Equation Modelling (SEM) model, where in SEM the ideal number of samples is between 100-200 (Hair et al., 2009) and must also consider the number of indicators in the model. The determination of the number of samples can amount to 5-10 of the number of indicators. In this study, there are 15 indicators so that the number of samples can range from 75-150 respondents. The number of samples is determined by multiplying the number of indicators by 10, so that the total sample is 15 x 10 = 150 respondents. Sampling in this study uses a non-probability sampling technique, namely by a purposive sampling approach. The sample used in this study is employees who carry out accounting/financial administration functions where the functions and duties as well as the honorarium obtained have been stipulated in the decree (SK) of the mayor and the office/agency/office/secretariat. The criteria for respondents were Budget Users (PA), Financial Administration Officials (PPK), Expenditure Treasurers (BP), SPM Makers (PSPM) and Financial Report Makers (PL). The sample in this study is all employees who manage finances in the Batam City Government which totals 150 employees spread across 10 SKPKs in the Batam City Government.

Variable Operational Definition

This study has three variables, where the internal control of accounting (X) is an independent variable, the quality of financial information (Y) is a bound variable, and the accounting information system (Z) is an intervening variable. Where accounting internal control (X) consists of 5 (five) indicators citing Government Regulation Number 60 of 2008, namely: control environment, risk assessment, control activities, internal control monitoring, and information and communication. for the quality of financial information (Y) consists of 5 (five) indicators quoting opinions from Susanto (2009), namely: documents/formulas, financial statements, methods, procedures and communication. Furthermore, the accounting information system (Z) also consists of 5 (five) indicators quoting from the Accounting Standards of Government Regulation Number 71 of 2010, namely: relevance, reliability, appellate and consistent, consideration, and materiality characteristics.

2.3 Full Model Research

The form of a full model flow chart with mediated variables in this study is as shown in Figure 1 below:

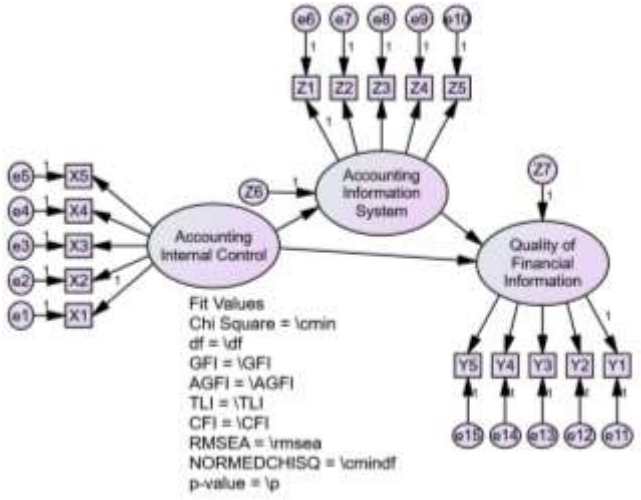

Fig. 1. Full Model Research

Once a theoretical theory or model has been developed and illustrated in a flowchart, researchers can begin to convert the model's specifications into a series of equations. This equation is formulated to express the causality relationship between various constructs, with the following formula:

$Z = b_1X+\zeta_6$
$Y = b_2X+ b_3Z +\zeta_7$

Note:
b1, b2, b3 = Direct relationship between endogenous variables and endogenous variables
Y = Quality of Financial information
Z = Accounting Information System
X = Accounting Internal Control
Z6, Z7 = Residual value

The statistical test was carried out by observing the level of significance of the relationship between variables indicated by the C.R (Critical Ratio) value which is identical to the t-test in regression and its probability value (P). A significant relationship is characterized by a C.R value greater than 2.58 and a P value smaller than 0.05 (Ferdinand, 2002). And for the mediation test according to the opinion of Baron & Kenny (1986) developed by Preacher & Hayes (2008).

3. Results and Discussion

Confirmatory Factor Analysis

An indicator is said to be valid if the value of the loading factor for each item or indicator is greater than 0.60 (Ghozali, 2013). The validity test in this study was carried out on exogenous constructs and endogenous constructs. The results of the CFA test of each variable can be seen in Table 1 below:

Table 1. CFA Test Result

Indicator			Estimate	Cut Of Value	Conclusion
X1	<---	AccountingInternalControl	,734	0,60	Valid
X2	<---	AccountingInternalControl	,750	0,60	Valid
X3	<---	AccountingInternalControl	,747	0,60	Valid
X4	<---	AccountingInternalControl	,750	0,60	Valid
X5	<---	AccountingInternalControl	,735	0,60	Valid
Z1	<---	AccountingInformationSystem	,792	0,60	Valid
Z2	<---	AccountingInformationSystem	,750	0,60	Valid
Z3	<---	AccountingInformationSystem	,747	0,60	Valid
Z4	<---	AccountingInformationSystem	,743	0,60	Valid
Z5	<---	AccountingInformationSystem	,726	0,60	Valid
Y1	<---	QualityofFinancialinformation	,751	0,60	Valid
Y2	<---	QualityofFinancialinformation	,763	0,60	Valid
Y3	<---	QualityofFinancialinformation	,718	0,60	Valid
Y4	<---	QualityofFinancialinformation	,772	0,60	Valid
Y5	<---	QualityofFinancialinformation	,778	0,60	Valid

Based on Table 1, it can be explained that all indicators of the data variables are valid. This is known from the value of the loading factor of all indicators, none of which are below 0.60. If all indicators that form the variable construct are significant, then it can be used to represent data analysis.

Normality Test

The data is said to have a normal distribution if the value of the critical ratio skewness or critical ratio kurtosis has an absolute value between – 2.58 to +2.58. The results of the normality test can be seen in the following Table 2:

Table 2. Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
Y5	2,000	5,000	,095	,459	-,478	-1,155
Y4	2,000	5,000	,230	1,111	-,537	-1,298
Y3	2,000	5,000	,085	,409	-,297	-,717
Y2	2,000	5,000	,176	,850	-,505	-1,219
Y1	2,000	5,000	,026	,125	-,406	-,981
Z5	2,000	5,000	-,125	-,601	-,399	-,963
Z4	2,000	5,000	-,149	-,719	-,352	-,851
Z3	2,000	5,000	,245	1,183	-,388	-,937
Z2	2,000	5,000	,506	2,445	-,148	-,359
Z1	2,000	5,000	-,016	-,079	-,604	-1,460
X5	2,000	5,000	-,035	-,170	-,298	-,720
X4	2,000	5,000	,150	,724	-,325	-,785
X3	2,000	5,000	-,082	-,394	-,376	-,908
X2	2,000	5,000	-,034	-,164	-,481	-1,162
X1	2,000	5,000	,223	1,076	-,442	-1,068
Multivariate					-9,068	-2,376

From Table 2, it is known that the c.r value univariate and multivariate are not outside the ± value range of 2.58 and the multivariate c.r value is -2.376. So it can be concluded that the data in this study is normally distributed.

Model Conformance Test

This full model test before modification is presented to see how far the initial model formed meets the Goodness Of Fit (GOF) criteria before the model is modified. The following will be presented with a full model image before modification:

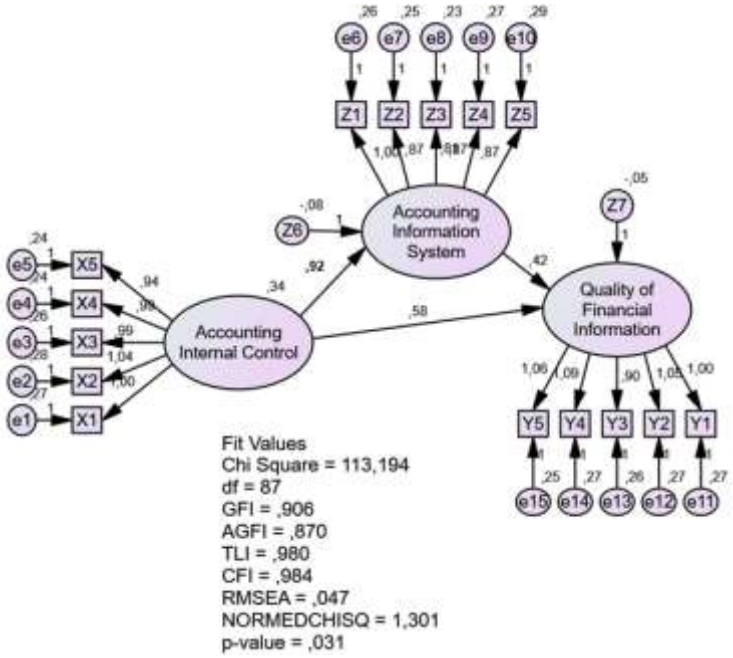

Fig. 2. Full Research Model Before Modification

Based on Figure 2, it is clear that not all Goodness of Fit (GOF) values meet the required criteria, for example, the AGFI value is still marginal (0.870 < 0.90), and the p-value is also still marginal. Thus, the research model is not suitable and has not been able to explain the research model accurately and well, so that the model needs to be modified.

The full model test after modification is intended so that the model formed can meet the requirements of the GOF. Modifications are made by connecting each error term suggested by the system, with the aim of increasing the value of GOF that has not met the criteria. The following will be presented with a full model image after modification:

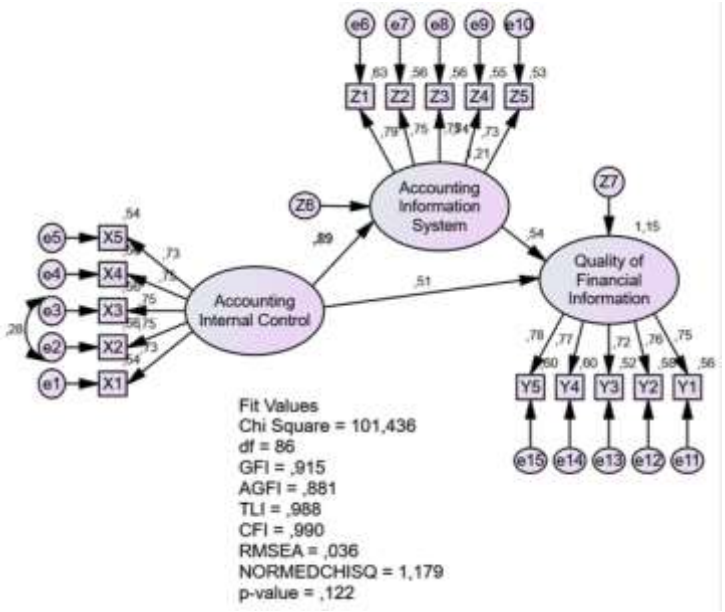

Fig. 3. Full Research Model After Modification

Based on Figure 3, it is clear that all the constructs used to form this research model have met the GOF criteria. Such as the chi-square, TLI, CFI, RMSEA, CMIN/DF values that have met the required criteria and are further emphasized with a p-value of 0.122 which is greater than 0.05 shows that the model formed has been very significant. Except for the AGFI value which is still marginal but is close to good.

Discussion

The statistical test was carried out by observing the level of significance of the relationship between variables indicated by the C.R (Critical Ratio) value which is identical to the t-test in regression and its probability value (P). A significant relationship is characterized by a C.R value greater than 2.58 and a P value smaller than 0.05 (Ferdinand, 2002). To see how much the influence of the independent variable on the dependent variable is shown in Table 1 below:

Table 3. The Effect of Independent Variables on Dependent Variables

			Std. Estimate	Estimate	S.E.	C.R.	P
Accounting InformationSystem	<---	Accounting InternalControl	,892	,867	,084	10,643	***
Qualityof Financialinformation	<---	Accounting InternalControl	,511	,523	,078	6,752	***
Qualityof Financialinformation	<---	Accounting InformationSystem	,536	,476	,068	7,031	***

Based on Table 3, the structural equations can be described as follows:

Structural Equations I : $Z = b_1X+\zeta_6$

$Z = 0{,}892\ X$

Structural Equations II : $Y = b_2X+ b_3Z +\zeta_7$

$Y = 0{,}511X+ 0{,}536Z$

Based on Table 1, it will be described in detail to be able to more clearly answer the hypothesis of this research as follows:

The Effect of Accounting Internal Control on the Accounting Information System

Based on the results of the analysis, it can be seen that accounting internal control has a positive and significant effect on the Batam City Government's accounting information system with a standardized regression weight estimate of 0.892 (89.2%), a critical ratio value of 10.643 which is greater than 2.58 and a probability value of 0,0001 which means very significant. This proves that accounting internal control has a positive and significant effect on the Batam City Government's accounting information system.

The internal control system has a positive and significant effect on the quality of the Batam City Government's accounting information system, so the better the internal control system, the quality of the accounting information system will increase and vice versa. A reliable accounting information system is a system that has adequate control so that the information produced by the system can be relied on to be used in decision-making, in this case control is an inseparable element from the existing accounting information system (Romney & Steinbart, 2015). Susanto (2008) explained that the first defense against financial misappropriation is internal control, in other words, a comprehensive internal control system, thoroughly implemented and regularly monitoring the activities of an organization is an important step to maintain and detect the risk of losses caused by financial misappropriation.

The Effect of Accounting Internal Control on the Quality of Financial Information

Based on the results of the analysis, it can be seen that accounting internal control has a positive and significant effect on the quality of financial information of the Batam City Government with a standardized regression weight estimate of 0.536 (53.6%), a critical ratio value of 7.031 which is greater than 2.58 and a probability value of 0,0001 which means very significant. It can be concluded that accounting internal control has a positive and significant effect on the quality of financial information of the Batam City Government.

The internal control system has a positive and significant effect on the quality of the accounting information system, so the better the internal control system, the quality of the accounting information system will increase and vice versa. According to Jogiyanto (2013) With the existence of internal control, it is hoped that the quality of the information produced will be higher, which will further positively affect organizational productivity. The internal control system as a process influenced by the board of directors, management and employees is designed to provide a convincing guarantee that the organization's goals will be achieved through the efficiency and effectiveness of operations, the presentation of trustworthy financial statements, compliance with applicable laws and regulations (Susanto, 2008).

The Effect of Accounting Information System on the Quality of Financial Information

Based on the results of the analysis, it can be seen that the accounting information system has a positive and significant effect on the quality of financial information of the Batam City Government with a standardized regression weight estimate of 0.511 (51.1%), a critical ratio value of 6.752 which is greater than 2.58 and a probability value of 0,0001 which means very significant. It can be concluded that the accounting information system has a positive and significant effect on the quality of financial information of the Batam City Government.

Accounting information system has a positive and significant effect on the quality of the accounting information system, so the better the internal control system, the quality of the accounting information system will increase and vice versa. According to Romney and Steinbart (2015) The quality of the accounting information system is a system that collects, records, stores, and also processes data into accounting information that is useful in assisting the decision-making process. The existence of an accounting information system in an organization is none other than to be able to produce information that is useful for its users in the decision-making process. This is because to be able to produce quality accounting information, it is necessary to have a reliable Accounting Information System in processing data and transactions so that the information produced can be useful in the decision-making process. Accounting information systems include the use of information technology to provide information to users. Computers are used in various types of information systems (Tresyani & Puspitawati, 2019)

Indirect Effect of Accounting Internal Control on the Quality of Financial Information through the Accounting Information System

To find out whether or not the Accounting Information System mediates or not on the influence between Accounting Internal Control and Quality of Financial information, it can be seen in the following image of the sobel test results:

Input:			Test statistic:	Std. Error:	*p*-value:
a	0.892	Sobel test:	6.13412318	0.0743076	0
b	0.511	Aroian test:	6.11608	0.07452682	0
s_a	0.084	Goodman test:	6.15232699	0.07408774	0
s_b	0.068	Reset all	Calculate		

Fig. 4. Sobel Test Results

It can be seen that the significance of the -a path (0.0001) and the -b path (0.0001), while the -c path (0.0001) and the -c' path (0.0000002). Therefore, it can be concluded that the Accounting Information System mediates in a partial mediation of the influence between Accounting Internal Control and the Quality of Financial information of the Batam City Government.

4. Conclusion

From the results of the study, it can be concluded that the findings in this study are: (1) Accounting internal control has a positive and significant effect on the Batam City Government's accounting information system. (2) Accounting internal control has a positive and significant effect on the quality of financial information of the Batam City Government. (3) Accounting information system has a positive and significant effect on the quality of financial information of the Batam City Government. (4) Accounting Information System mediates in a partial mediation the influence

between Accounting Internal Control and Quality of Financial information of the Batam City Government.

Acknowledgment

This research has limitations, so it is hoped that future researchers who want to discuss the same topic are expected to add other variables that have an influence on the Quality of Financial information and expand the research sample to get more comprehensive results.

Declarations

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