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The Effect of the Accounting Information System (AIS) on Accounting and Financial Task Efficiency at the Depok City Local Government Finance Office

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***Abstract*—The objective of the research is to determine the effect of the Accounting Information System (AIS) on the efficiency of accounting and tasks at the Local Government Finance Office in Kota Depok. This research was conducted by survey in 2017, which was distributed to unit of analysis. The results show that AIS is positive across budgeting, accounting and reporting, auditing and control functions. The office staff displayed an ease of use while performing accounting tasks, from processing financial data through to accountability.**

Keywords—Budgeting, Accounting Information System, reporting, tasks, controlling.

I. INTRODUCTION

Currently, information systems are proliferating because the need for accurate information is increasing. This means further development of information systems to fulfill information needs. In turn, the technology to meet the need for information will also undergo development. The deployment of computerized AIS will improve the efficiency of organizational tasks such as budgeting, accounting and reporting, audit and control functions.

Accounting information systems can support users by compiling comprehensive information, which should be clear and well-informed. Dalci and Tanis [1] state that accounting information systems must be aligned to company goals, but this does not apply in the public sector area. However, Gullkvist [2] has a different opinion on this issue, arguing that AIS would benefit every organization. Therefore, a good accounting information system is a must in the provision of better services [3]. An accounting information system must be fully utilized to provide better information and performance.

Implementation of information systems in public sector organizations – particularly in local government - will enhance the performance of agencies and individuals within an agency. Quantity, quality, timeliness and the cost of outputs can be defined as performance outcomes for an agency [4]. Performance also illustrates the extent to which agencies can achieve results when compared with past performance and to what extent the achievement of objectives and efficiencies have been met. Better information systems would enhance user performance, which would also improve accurate decision making.

The Depok government has been using the SIPKD application system for accounting-related procedures in each SKPD. The computer-based information system for government accounting transactions is operated by authorized officials at the SKPD level. This SIPKD application is based on systems and procedures governed by legislation. By adopting this application throughout the Depok City Government, the performance of the Local Government Finance Office (as part of the Depok City Government) has become more effective and efficient.

The results of research conducted on public sector organizations in Malaysia by Zakaria et al. [5], show that general accounting systems have benefitted effective accounting tasks. Their adoption has also significantly improved the punctuality and the precision of reports and audits, as well as improving the accuracy of both. Overall, the results of the study show that respondents consider the most significant impact of an AIS has been on the efficiency of accounting and reporting tasks, followed by the efficiency of control functions. However, auditing efficiencies are less significant than the performance efficiencies achieved in budgeting tasks.

This study is related to research conducted by Zakaria et al. [5] in several public sector agencies in Malaysia. Extrapolating from this, the goal of this particular paper is to ascertain the effect of AIS on the efficiency of budgeting, accounting and reporting, audit and control functions at the Local Government Finance Office in Depok City.

This research is important because there is a paucity of information on the impact of AIS on the efficiency of financial processing and accounting in various government agencies throughout Indonesia. Most of the focus to date in this area has been on organizations, individuals or has been confined to accounting functions themselves [6-8].

The research focuses on Depok City because it received the Dana Rakca Award in 2017. The Dana Rakca Award recognizes provinces or cities/districts that perform well in public service, fiscal health and local financial management, public services in education, health and infrastructure and in efforts to improve the general welfare of its citizens. In addition, Depok City deployed SIPKD as its AIS in 2010 and has subsequently received unqualified opinion from BPK 6 times in a row since 2011.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

According to the United Nations Development Program in Sedarmayanti [9], good governance can be defined as using economic, political and authority in order to create better management at any level to enhance social welfare. These three aspects can cause better economic condition, policy and better communication among stakeholders (government, private and society).

According to the Ministry of Home Affairs, Sistem Informasi Pengelolaan Keuangan Daerah (SIPKD) is a system designed to encourage local government provision of better regional financial management regulation based on efficiency, economics, effectiveness, transparency, and accountability. It should be auditable. SIPKD is a tangible provision by the Ministry of Home Affairs to local governments in the field of regional financial management. It is designed to standardize the way regional financial management interpret systems and procedures in the implementation of various laws and regulations. SIPKD allows financial information to be processed into a product of semester and yearly financial statements. According to Zakaria et al. [5], task efficiency is an important concept in the measurement of the success or effectiveness of a system designed to support people in their work. AIS was developed to facilitate organizations in collecting, storing and distributing data for planning, control, coordination, analysis and decision-making purposes. A study conducted by Zakaria et al. [5] in selected Malaysian public sector agencies, concludes that the AIS currently has a positive effect on the budgeting, financial reporting, auditing and financial control functions. Effective use of the system should support users to accomplish their work efficiently. This also applies to systematized accounting and financial data work-flow Deshmukh [10]. IT and accounting data must be aligned to produce good reports [8, 11]. To measure performance of IT and efficiency, requires such a tool [12]. The hypotheses of this research can be summarized in the table below (Table 1).

H1: SIPKD has a positive effect on the budgeting tasks' efficiency.

H2: SIPKD has a positive effect on the accounting and reporting tasks' efficiency.

H3: SIPKD has a positive effect on the audit tasks' efficiency.

H4: SIPKD has a positive effect on the controlling tasks' efficiency.

TABLE I. SUPPORTING THEORY FOR HYPOTHESES

Independent Variable	Dependent Variable	Researcher
AIS (SIPKD)	Budgeting tasks efficiency	Zakaria et al. (2017
AIS (SIPKD)	Accounting and reporting tasks efficiency	Sajady et al. (2008) [13]; Hunton, (2002) [14];
AIS (SIPKD)	Audit tasks efficiency.	Banker et al. (2002) [15];
AIS (SIPKD)	Controlling tasks efficiency	Sajady et al., (2008) [13].

[a.] Source: Stated sources

III. METHODOLOGY

This research uses data modeling and Structural Equation Modeling (SEM) to analyze data. It conducted preliminary analysis and SEM. After performing factor analysis, the hypotheses were tested using SEM by SmartPLS (Partial Least Squares). Data was collected using a questionnaire distributed to employees who engage with various components of AIS in the Local Government Finance Office at Depok City. According to Sekaran [16], a questionnaire is a set of written questions that have been prepared in such a way as to be answered by the respondent, usually accompanied by alternative answers.

The selected population comprised as many as 45 people in the Local Government Finance Office at Depok City. In this study, a full sampling method was used consisting of the relevant workforce at all levels in this office.

IV. RESULTS AND DISCUSSION

Table 2 provides a description of the statistical results employed to measure each latent indicator in this study:

Table 1 shows that the dependent variable efficiency of budgeting tasks is proxied by Budtask (Budgeting task) and measured using indicators in the statements on the questionnaire. In this variable the mean value is higher than the median value, so it can be deduced that more of the sample population is likely to realize efficiencies in budgeting tasks. The highest value on this variable is 6, which means that the respondent strongly agreed on the efficiency variable of budgeting task. The Acctask (accounting and reporting task) variable has a mean higher than its median value, which also indicates that most respondents perceive efficiencies in accounting and reporting tasks. The highest score in this variable is also 6, which means this respondent agreed strongly regarding the efficiency of accounting and reporting tasks.

TABLE II. DESCRIPTIVE STATISTICS

Indicator	Mean	Median	Min	Max
Budtask1	5,286	5,000	4,000	6,000
Budtask2	5,238	5,000	3,000	6,000
Budtask3	5,214	5,000	3,000	6,000
Budtask4	5,286	5,000	4,000	6,000
Acctask5	5,310	5,000	4,000	6,000
Acctask6	5,095	5,000	3,000	6,000
Acctask7	5,167	5,000	4,000	6,000
Acctask8	5,238	5,000	3,000	6,000
Acctask9	5,000	5,000	3,000	6,000
Acctask10	4,833	5,000	2,000	6,000
Acctask11	4,929	5,000	2,000	6,000
Audtask12	5,167	5,000	4,000	6,000
Audtask13	5,310	5,000	3,000	6,000
Audtask14	5,048	5,000	2,000	6,000
Audtask15	5,119	5,000	4,000	6,000
Conttask16	5,071	5,000	4,000	6,000
Conttask17	5,238	5,000	3,000	6,000
Conttask18	4,929	5,000	3,000	6,000
Conttask19	5,190	5,000	4,000	6,000
AISEff	5,357	5,000	4,000	6,000

Budtask: Budget task; Acctask: Accounting and reporting task; Audtask: Audit task; Conttask: Controlling task; AISEff: AIS effectivity

Source: Data

Audtask variables have a mean greater than their median value which also means that most respondents perceive efficiency in the audit task. The highest score in this variable is also 6, which means the highest respondent answered 'strongly agree' regarding the efficiency of the audit task. The Conttask variable (Controlling task) has a mean greater than its median value, which also shows that most respondents perceive efficiencies in the control task. The highest score in this variable is also 6, which means this respondent also strongly agreed about the efficiency of the control task.

The AISEff (AIS Effectivity) variable has a mean greater than its median value, which also shows that most respondents believe AIS is effective. The highest value in this variable was also 6, which means the highest respondent agreed strongly regarding the effectiveness of the use of AIS.

V. INFERENTIAL RESULTS

At this stage, we analyzed all of the questionnaires completed by 42 respondents to get answers to the research questions and also to prove the previous hypotheses. The inferential analysis on Smart PLS consists of two stages: Evaluation of the measurement or outer model and the testing of the structural model or inner model (see Figures 1 and 2).

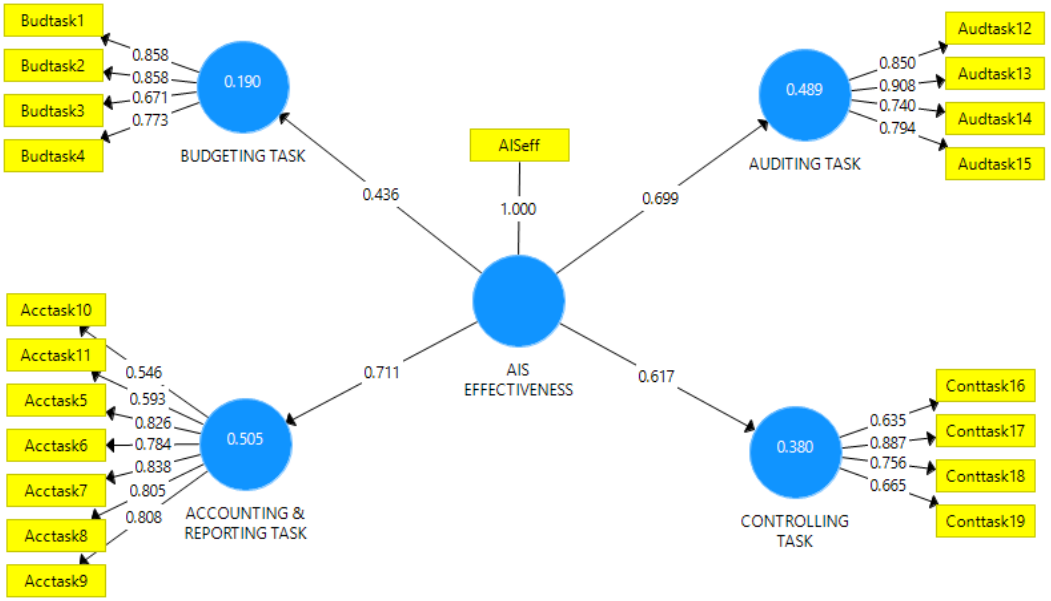

Fig. 1. PLS Algorithm Smart PLS Model

Source: Data

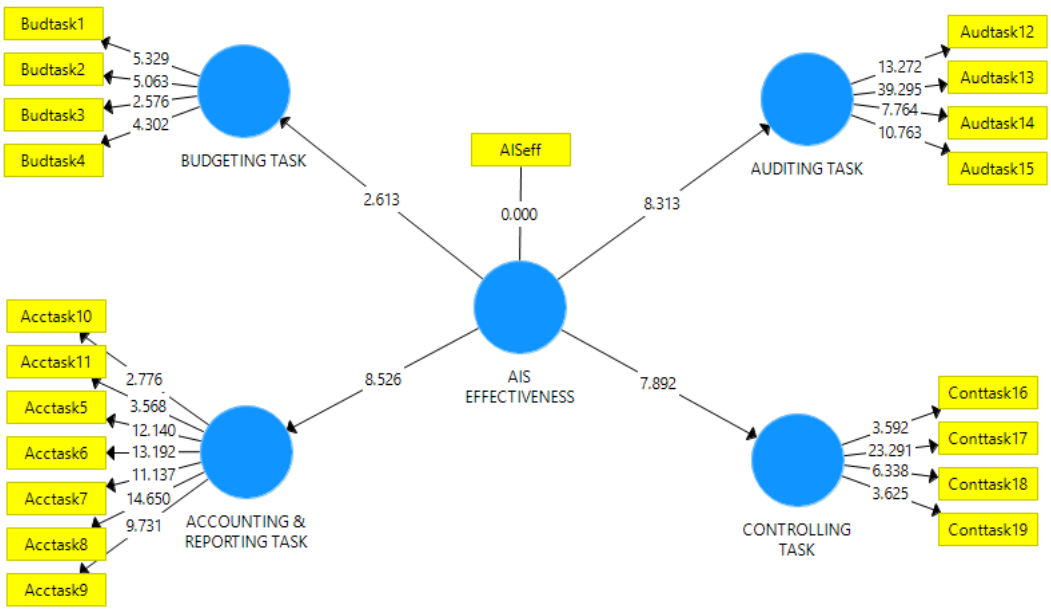

Fig. 2. Bootstrapping SmartPLS Model

Source: Data

A. Measurement Evaluation (Outer) Model

Performing model measurements through confirmatory factor analysis is used to test the validity and reliability of a study (Table 3 and 4). Testing the validity of a study confirms the value of convergent validity, Average Variance Extracted (AVE) and the value of discriminant validity. The following is a table of convergent validity, AVE and discriminant validity values:

TABLE III. OUTPUT OUTER LOADINGS SMARTPLS

Outer Loadings	AIS Effectiveness	Accounting & Reporting Task	Auditing Task	Budgeting Task	Controlling Task
AISEff	1.000				
Acctask10		0.546			
Acctask11		0.593			
Acctask5		0.826			
Acctask6		0.784			
Acctask7		0.838			
Acctask8		0.805			
Acctask9		0.808			
Audtask12			0.850		
Audtask13			0.908		
Audtask14			0.740		
Audtask15			0.794		
Budtask1				0.858	
Budtask2				0.858	
Budtask3				0.671	
Budtask4				0.773	
Conttask16					0.635
Conttask17					0.887
Conttask18					0.756
Conttask19					0.665

[b.] Source: Data

TABLE IV. OUTPUT DISCRIMINANT VALIDITY SMARTPLS

Discriminant Validity	AIS Effectiveness	Accounting Reporting Task	Auditing Task	Budgeting Task	Controlling Task
AIS Effectiveness	1.000				
Accounting & Reporting Task	0.711	0.751			
Auditing Tasking	0.699	0.762	0.825		
Budgeting Task	0.436	0.692	0.633	0.794	
Controlling Task	0.617	0.843	0.732	0.680	0.742

[c.] Source: Data

Based on the results of the outer loadings above, all of the indicators have met the convergent validity test because all factor loading is above 0.5. The means all indicators can be declared valid.

Table 4 allows us to conclude that the AVE root has the highest correlation. The AVE root construct controlling task is still lower than the correlation between the controlling task constructs within the accounting and reporting tasks and this means that the construct has low discriminant validity. However, this is not a serious problem because in the convergent validity test all data has exceeded the validity test requirement.

Based on the results displayed in Table 5, all indicators meet the requirements because all AVE values are above 0.5. This means that all constructs have been declared valid. Furthermore, to test the reliability of the study, we can see the composite reliability and Cronbach's Alpha values for each variable. A construct is considered to have good reliability if the value of composite reliability and Cronbach's Alpha is above 0.7 [17]. To ascertain the composite reliability and Cronbach's Alpha in the PLS Algorithm report we chose composite reliability and Cronbach's Alpha.

The output of composite reliability and Cronbach's Alpha are all above 0.7. Therefore, it can be concluded that the entire construct has good reliability (see Tables 6 and 7).

TABLE V. OUTPUT AVE SMARTPLS

AVE	
AIS Effectiveness	1.000
Accounting & Reporting Task	0.564
Auditing Task	0.681
Budgeting Task	0.63
Controlling Task	0.551

[d.] Source: Data

TABLE VI. OUTPUT COMPOSITE RELIABILITY SMARTPLS

Composite Reliability	
AIS Effectiveness	1.000
Accounting & Reporting Task	0.899
Auditing Task	0.895
Budgeting Task	0.871
Controlling Task	0.828

TABLE VII. OUTPUT CRONBACH'S ALPHA SMARTPLS

Cronbach's Alpha	
AIS Effectiveness	1.000
Accounting & Reporting Task	0.869
Auditing Task	0.844
Budgeting Task	0.814
Controlling Task	0.738

[e.] Source: Data

B. Structural Evaluation (Inner) Model

The results of structural model testing are done by looking at the strength of the predicted structural model, which can be seen with R-square and also testing the hypothesis by looking at the value of the parameter coefficient and the t-statistical significance value.

Based on Table 8, the efficiency variables of the accounting and reporting tasks (AccTask) can be explained by the effectiveness of the SIA (AISEff) variable 0,505 or 50.5%. The SIA (AISEff) effectiveness variable can explain the audit task efficiency variables (AudTask) of 0.489 or 48.9%, where this variable is also included in the moderate category. Control tasks (ContTask) has an R-Square value of 0.380 or 38% of this variable so it is also included in the moderate category. But for budgeting tasks (BudTask), R-squares are 0.187 or 19%, which means it is classified as a weak variable.

Based on the results in Table 9 it can be concluded that all variables have a significant effect, with the T-statistics values generated for all variables over 1.96 (5% significance level). The results of the parameter coefficient indicate that the relationship between the effectiveness of AIS affect the efficiency of accounting tasks and reporting, which can be seen from the T-statistics value and original sample values. These have values of 8.526 and 0.711 respectively, which means that the use of an effective AIS can affect accounting and reporting tasks more positively compared with other tasks, which is reflected by the T-statistics value exceeding 1.96 and because of the positive original sample. This proves that the use of SIPKD as an AIS in the Local Government Finance Office at Depok City had a positive influence on the task of accounting and reporting. It also reinforces the findings of Sajady et al. [13] that the application of an AIS can improve the quality of financial reporting through the provision of information related to accounting and reporting activities.

Furthermore, the audit task has a T-statistics value of 8.313, so the use of SIPKD as the AIS on the audit task has a positive influence and can also be considered significant. This proves that the use of AIS can play a role in the fulfillment of professional audit duties [15]; and AIS can also reduce bureaucracy, allowing the acceleration of the audit process and a reduction in audit time lags [18].

TABLE VIII. OUTPUT R-SQUARE SMARTPLS

R-square	
Accounting & Reporting Task	0.505
Auditing Task	0.489
Budgeting Task	0.190
Controlling Task	0.380

Source: Data

TABLE IX. HYPOTHESES TESTING RESULTS

Path Coefficients	Original Sample	T Statistics	P Values
AISEff->Acctask	0.711	8.526	0.000
AISEff->AudTask	0.699	8.313	0.000
AISEff->BudTask	0.436	2.613	0.005
AISEff->ContTask	0.617	7.892	0.000

[f.] Source: Data

For controlling tasks, the T-statistics value is 7,892 which means that the use of SIPKD has a positive effect on controls at the Local Government Finance Office in Depok City.This reinforces the finding of Sajady et al. [13] that the use of an AIS will lead to better internal control systems. The Budgeting tasks' T-statistics value of 2.613 means that the use of SIPKD has had a positive effect on the task of budgeting in local government in Depok City.

VI. CONCLUSIONS

This study examines the effect of using an effective AIS on the efficiency of financial and accounting tasks within the analysis unit of the Local Government Finance Office in Depok City. It uses quantitative methodology with survey methods. It can be concluded that the deployment of SIPKD has had a positive effect on the efficiency of budgeting, accounting and reporting, audit and control functions. The effectiveness of an AIS has a positive effect on budgeting tasks, which shows that the budgeting process is more systematic when functions are upgraded from traditional to modern budgeting control models. The significant positive impacts on accounting and reporting tasks prove that the system has contributed demonstrably to accounting tasks, with commensurate improvements in timely and accurate reporting. In addition, the effectiveness of SIPKD also positively affects audit functions, extending to the public sector. The results also prove that AIS has a positive effect on the efficiency of the control functions, indicating that the use of SIPKD as the AIS in the Local Government Finance Office in Depok City has created a system of better internal controls.

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