School Procurement Information System (SIPLah) as Moderating of Determinant of Fraud in Goods/Services Procurement

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Abstract:
This study aims to analyze the effect of accountability, transparency, and organizational culture on fraud in the procurement of goods and services with a procurement information system in schools (SIPLah) as a moderator. The sample of this study was 258 members of the public primary school (SDN) BOS fund management team in East Lombok consisting of school principals, school treasurers, and school operators based on purposive sampling. The results of this study indicate that each variable of accountability has a significant negative effect on the tendency of fraud in the procurement of goods and services, transparency has a significant negative effect on the tendency of fraud in the procurement of goods and services, and organizational culture has a significant negative effect on the tendency of fraud in the procurement of goods and services. In addition, the results of the analysis show that the implementation of SIPLah can strengthen (increase) accountability in reducing the tendency of fraud in the procurement of goods and services. In contrast, the implementation of SIPLah has not proven to strengthen the influence of transparency or organizational culture on the tendency of fraud in the procurement of goods and services through comprehensive coaching and supervision from the Education and Culture Office (DIKBUD) and Inspectorate district. East Lombok is needed because there are still differences in the understanding of the school BOS fund management team on what is not allowed in the procurement of goods and services to education units.

Keywords: accountability, transparency, organizational culture, SIPLah, fraud tendency in the procurement of goods and services.

Introduction
Education units in Indonesia are one of the parties in the education sector that play an important role in building the future of the nation. The state budget allocation for this basic public service is quite large each year. The amount of responsibility of the education unit certainly requires good governance to ensure that its annual plans and programs are carried out effectively and efficiently. Education units receive these allocated funds in various forms of programs, one of which is school operational assistance (BOS). School financial administration, starting from recording, planning, implementing, accounting, and
reporting on the use of school operational assistance funds, is one of the most important things in meeting the national standards of education. Each education unit must fulfill the 8 National Education Standards (SNP), namely graduate competency standards, content standards, process standards, educational assessment standards, education personnel standards, facilities and infrastructure standards, management standards, and financing standards. All BOS funds are allocated to finance school activity programs including the procurement of goods and services (PBJ) based on a priority scale and must be realistic. Effective and efficient management of BOS funds for goods and services procurement activities is very important to realize a quality education system.

The increase in the education budget is not in line with the improvement in the quality of education services in Indonesia (Indonesia Corruption Watch, 2022). This is indicated to occur due to budget leakage as a result of corruption (fraud) that is still rampant. The education sector is one of the loopholes for the development of fraud behavior with various modes, which leads to the non-achievement of quality and equitable education throughout Indonesia. The most dominant mode of corruption that was successfully prosecuted in 2022 was in the dimension of procurement of goods and services, namely misuse of government budgets, mark-ups, and fictitious activities/projects with a total of 250 cases out of 579 cases (ICW Legal and Judicial Monitoring Division, 2023). Indonesia Corruption Watch (2022) in its report stated that activities in the education sector that have a high risk of becoming a loophole for corruption are infrastructure development with 40 cases and procurement of non-infrastructure goods and services with 35 cases, well as funds are vulnerable to fraud, namely BOS funds. Until 2021, cases of corruption of BOS funds reached 53 cases with various modes such as fictitious reports, budget abuse, extortion, embezzlement, deductions, fictitious projects, mark-ups, and abuse of authority. The corruption of BOS funds is often carried out at the school level with 37 cases, 14 cases at the education office level, and 2 cases at the district attorney level (Indonesia Corruption Watch, 2022).

The lack of transparency in the management of BOS funds, especially for the procurement of goods and services, is indicated to be the cause of rampant corruption cases and intimidation of school principals by certain parties who forced them to purchase goods and services. This shows that most cases of corruption of BOS funds were committed at the school level, but it does not rule out the participation of the education office and other third parties. For example, the Rp4.6 billion BOS Fund Corruption case involving contractors and civil servants of the Lampung Education Office (Gautama, 2022), and the Corruption Case committed by the Principal of SDN 79 Palembang who admitted to mismanaging BOS funds in 2019 worth IDR 457 million (Tasmalinda, 2021). This further confirms that the support of various parties to realize a fraud-free education sector is needed, one of which starts from the education unit level and implements transparent, professional, and responsible financial management, especially related to the procurement of goods and services. Education units (schools) can at least prevent the development of fraudulent behavior by increasing the transparency and accountability of their financial management and implementing an organizational culture with integrity and commitment to anti-fraud actions.

The government through the Ministry of Education and Culture launched an e-procurement system for education units, namely the School Procurement Information System (SIPLah). This system was established to ensure that goods and services procurement transactions are processed by the rules to reduce intimidation of school principals. In addition, this system can increase transparency and accountability, realize effective and efficient school budgets, and provide opportunities for MSME actors to be involved as providers of goods or services. E-Procurement itself has been known to increase transparency, increase public accountability, reduce the potential for fraud, and be able to reduce the arrogance and competence of fraudsters (Panduranga, 2016;
Artantri et al., 2016; Danuta, 2017; Afolabi et al., 2020; and Nani & Ali, 2020). Mutangili (2019) provides evidence that the transparency of e-procurement practices can stop political and economic forces from disrupting the procurement process, and can be a gatekeeper to ensure all bidders have followed the rules set out in the system. The better the level of quality of the procurement committee, the quality of goods/services providers, procurement systems and procedures, and risk assessment, the less fraud in the procurement of goods/services (Nurharjanti, 2017). These results are in line with Dahliana et al. (2021) found that the accountability of BOS funds in the procurement of goods/services is better with good governance and can be documented with the SIPLah mechanism. Darmawan & Wardhono (2023) provide evidence that the implementation of goods/services procurement policies through the SIPLah implementation can help manage BOS funds for the procurement of goods and services more transparently, effectively, and efficiently. The implementation of SIPLah allows stakeholders to find out information about goods/services providers, information on goods/services, and compare prices between online markets (Dahliana et al., 2021).

In contrast to some of the research results above, research by Romaissah et al. (2019) shows that the implementation of the E-procurement system has no significant effect on preventing fraud in the procurement of government goods/services, while simultaneously e-procurement and internal control have a significant effect on preventing fraud in the procurement of government goods/services. Research by Azmi & Rahman (2015) shows the results of e-procurement can dispute political and economic forces in the government purchasing process; manage demand and interference when awarding government contracts; and be used efficiently in government and business relations. Azmi & Rahman (2015) also concluded that e-procurement is only a tool to moderate public procurement fraud, not a solution to the fraud problem. Hastuti & Wiratmo (2020) and Takalamingan et al. (2022) also found that organizational culture does not affect fraud behavior, because this behavior depends on the individual's motivation. Research by Zahra et al. (2021) also provides evidence that transparency is not enough to reduce government procurement fraud. Joloko & Audu's research (2019) provides evidence that accountability does not affect fraudulent practices in non-profit organizations.

We are motivated to use a quantitative approach with the novelty of the research lies in the use of SIPLah as e-procurement in education units associated with fraud tendencies, where previous studies tend to associate the implementation of e-procurement with fraud in the procurement of goods/services in regional apparatus organizations. Research involving SIPLah is often conducted with a qualitative approach and raises the theme of school financial management to realize an effective, efficient, and economical school budget. The increasingly widespread acts of fraud that take advantage of loopholes in the procurement of goods and services of educational units convince researchers that this research is important. Apart from the fact that this fraud can harm the state, meeting the needs of the right goods and services both in terms of quality and quantity to improve the quality of national education will also be difficult to realize if the tendency of fraud in the procurement of goods and services of education units is still rampant.

Literature Review and Hypotheses Development

Agency theory explains the agency relationship as a contract between one or more individuals (principal) engaging an agent to perform tasks on behalf of the principal which can be in the form of delegating authority in decision-making to the agent. The contract is designed to control the moral hazard of humans, who tend to be self-interested (Jensen & Meckling, 1976). Asymmetry of information between the agent and the principal, where the manager of BOS funds as an agent has more information related to the management of the procurement of goods and services in schools, can lead to opportunities for fraudulent behavior. One way to minimize
This information asymmetry is by making disclosures. A good disclosure that is by the laws and regulations must be done transparently and accountable. Efforts made by the Ministry of Education and Culture of the Republic of Indonesia to overcome the problems that often occur related to the disclosure of goods/services procurement in education units are the implementation of the Procurement Information System in Schools (SIPLah). Through SIPLah, not only automatic recording of transactions, but as mandated in Permendikbud Number 14 of 2020 concerning guidelines for the procurement of goods/services by education units, effective and efficient, transparent, open, competitive, fair, and accountable management of BOS funds can be achieved (Ministry of Education and Culture, 2020a).

Based on the GONE theory, a person's motivation to commit fraud can come from individual factors (greed and need), opportunity, and disclosure that is not maximized so that there is no deterrent effect for the perpetrator (Bologna et al., 1993: 15-18). When accountability and transparency have been carried out properly and by applicable rules, the opportunity to commit fraud can also be suppressed by implementing an organizational culture that is committed to staying away from unethical actions and other fraudulent behavior.

E-procurement refers to the use of information technology systems for procurement functions, including resource sourcing, negotiation, ordering, and purchasing (Croom & Brandon-Jones, 2007). The implementation of e-procurement is an effort to prevent fraud. E-procurement implementation can help the procurement process become simpler. One form of e-procurement in education units is the School Procurement Information System (SIPLah). This system was formed by the Ministry of Education and Culture to overcome and anticipate fraud in the procurement of goods in education units. The implementation of SIPLah in the past few years has been required by the Ministry of Education, Culture, Research, and Technology to increase the effectiveness, efficiency, transparency, accountability, and flexibility of procurement of goods and services in education units (Ministry of Education, Culture, Research, and Technology, 2022).

Based on the description above, the research conceptual framework can be arranged as follows:

![Conceptual Framework Diagram](image)

**Figure 1. Conceptual Framework**
Accountability is the responsibility for the overall use of BOS funds based on logical considerations by laws and regulations (Kementerian Pendidikan dan Kebudayaan, 2020). Accountability is important to prevent fraud in the procurement of goods and services. The lack of information disclosure as a form of accountability from BOS fund managers can trigger information asymmetry between school management (agent) and the community and other stakeholders (principal) as explained in Agency Theory (Jensen & Meckling, 1976). The difference in information owned between the agent and the principal causes the potential for fraud to be greater. Accountability that is not by applicable laws and regulations can be driven by moral hazard in BOS fund managers in the procurement of goods and services of education units.

Yudanto & Novianti (2016) provide evidence that organizational accountability can be influenced by leadership style, compensation suitability, internal control effectiveness, and adherence to accounting rules as well as fraud tendencies in the procurement of goods and services. Yudanto & Novianti (2016) also concluded that if the tendency to fraud decreases, then accountability in the agency will increase. The results of subsequent research conducted by Afolabi et al. (2020) and Nani & Ali (2020) provide evidence that increasing the accountability of public funds can minimize the gap in fraud in the procurement of government goods and services. Based on the explanation above, we formulate the following hypothesis:

**H1:** Accountability has a negative effect on the tendency of fraud in the procurement of goods and services.

Transparency is the free flow of information to facilitate understanding and monitoring of the use of BOS funds, which is delivered openly and accommodates the aspirations of stakeholders by school needs based on the results of school self-evaluation (Kementerian Pendidikan dan Kebudayaan, 2020). Transparency in the procurement of goods and services is important because of the vulnerability of fraudulent behavior due to non-transparent management. Based on agency theory, information on the procurement of goods and services in education units that are not transparent increases the opportunity for fraud behavior to develop because it creates information asymmetry. When this information asymmetry is supported by the moral hazard of BOS fund managers who prioritize the interests of themselves and their groups so that they do not comply with applicable regulations, it will increase the tendency of fraud in the procurement of goods and services. This shows that in addition to accountability and transparency, an organizational culture that is forward-oriented upholds ethical actions, and obeys regulations can reduce the potential for fraud.

Efforts to realize transparency can be made by involving stakeholder components, in this case, guardians or parents of students, and school committees in the preparation of the School Activity and Budget Plan (RKAS) (Dahliana et al., 2021). Mutangili (2019) provides evidence that goods and services procurement activities where every process is carried out transparently, such as in the process of selecting goods and services providers, make it possible to mitigate fraudulent practices in the procurement cycle. Dahliana et al. (2021) support these results by providing evidence that transparency that naturally follows the provisions stipulated in the applicable regulations can improve the quality of BOS fund management while reducing opportunities for fraud. Based on the explanation above, we formulate the following hypothesis:

**H2:** Transparency has a negative effect on the tendency of fraud in the procurement of goods and services.

Organizational culture is an assumption or norm that has been applied, agreed upon, and followed by members of an organization as a guide in behaving and solving organizational problems (Sutrisno, 2018:2). A strong organizational culture will support the achievement of organizational goals, influence behavior and performance effectiveness while a weak or
negative culture will hinder the realization of organizational goals (Sutrisno, 2018:2). Organizational culture will influence individuals in behaving ethically or unethically, depending on the habits of the culture itself (Urumsah et al., 2018). When the components of the education unit have normalized fraud and used it to reap profits, the accountability and transparency of the procurement activities of the education unit may deviate from the applicable laws and regulations. Based on the GONE theory, a person's motivation to commit fraud can come from individual factors (greed and need), opportunity, disclosure that is not maximized, and less firm sanctions so that they do not have a deterrent effect on the perpetrators (Bologna et al., 1993: 15-18). When accountability and transparency have been carried out properly and by applicable regulations, the opportunity to commit fraud can also be suppressed by implementing an organizational culture that is committed to staying away from unethical actions and other fraudulent behavior. Strict action against the perpetrators of fraud is needed so that the perpetrators do not repeat their actions and the potential for other perpetrators to emerge can be prevented.

Urumsah et al. (2018) found that organizational culture is not a direct factor in someone committing fraud, but rather the influence of a very dominant leader in shaping a culture that is considered the main factor in someone committing fraud. These results are in line with Yudanto & Novianti (2016) which reveal that the leadership style in the organization influences the most dominant fraud tendencies because it can affect employee performance. In the education sector, procurement quality, quality of goods/services providers, procurement systems and processes, procurement ethics, procurement environment, and risk assessment can affect fraud in the procurement of goods and services (Nurharjanti, 2017). An ethical culture will encourage its members to behave ethically, so it tends to minimize the urge to commit fraud (Hambani et al. (2020). Based on the explanation above, we formulate the following hypothesis:

H3: Organizational culture has a negative effect on the tendency to fraud in the procurement of goods and services.

Recording transactions in the management of BOS funds for the procurement of goods and services that are still carried out manually is very vulnerable to intentional or unintentional writing errors. Efforts that can be made to minimize fraud in the procurement of goods/services are by implementing e-procurement (Afolabi et al., 2020; Nani & Ali, 2020; dan Artantri et al. 2016). The results of research by Artantri et al. (2016) found that e-procurement plays a role in suppressing fraud in the procurement of goods/services for local governments on the island of Lombok, and e-procurement can increase transparency and accountability in the procurement of goods/services so that the potential for fraud can be minimized. The implementation of e-procurement can increase the accountability of public funds for goods and services procurement activities and can suppress the development of tendencies of fraudulent behavior (Afolabi et al., 2020; dan Nani & Ali, 2020). E-procurement that can be applied to education units as mandated in the Regulation of the Minister of Education, Culture, Research and Technology No.18 of 2022 is the School Procurement Information System (SIPLah) to achieve effective, efficient, transparent, competitive, fair, and accountable procurement of goods and services.

The results of research by Dahliana et al. (2021) show that the accountability of BOS funds for the procurement of goods/services is better with good governance and documentation through the SIPLah mechanism. Moelyono & Rosmiyanti (2022) dan Novita et al. (2022) provide evidence that the implementation of SIPLah can help schools realize more informative and complete accountability so that the use of BOS funds allocated for the procurement of goods and services is by the technical and implementation guidelines. The procurement of goods and services, which was previously done manually, is very risky to become a loophole for the development of fraudulent behavior on BOS funds. The accountability of procurement activities through
SIPLah is expected to be better than its implementation outside the system, because this system has been adjusted to the technical guidelines and implementation guidelines for the use of BOS funds, and is integrated with the Education Unit Budget and Activity Plan Implementation (ARKAS). Good management and documentation of these procurement activities can be expected to help reduce the tendency of fraud in the procurement of goods and services in education units. Based on the explanation above, we formulate the following hypothesis:

H₄: The implementation of SIPLah strengthens the effect of accountability on the tendency of fraud in the procurement of goods and services.

Transparency of procurement activities is very important so that the implementation of goods and services procurement in education units can be supervised jointly so that fictitious procurement can be prevented. Efforts to minimize the occurrence of fraud in the procurement of goods/services can be done one of them by implementing electronic procurement of goods/services (e-procurement). E-procurement that can be used by education units is SIPLah. Darmawan & Wardhono (2023) provide evidence that the implementation of SIPLah can provide great benefits for education units in terms of transparency, effectiveness, and efficiency of goods and services procurement. SIPLah can also be a solution to the obstacles experienced during the procurement of goods and services which are still carried out manually (Darmawan & Wardhono, 2023). Dahliana et al. (2021) explained that the transparency of information on the procurement of goods and services includes information that should be public consumption so that not all information on procurement activities is shared to prevent misuse of information. Novita et al. (2022) provide evidence that the procurement of goods and services through SIPLah helps schools to be more transparent because it can record all the history and documents of the procurement of goods and services of education units so that effective, efficient, and accountable procurement activities can be realized.

The procurement of goods and services for education units must be carried out transparently based on Minister of Education, Culture, Research and Technology Regulation No.18 of 2022 so that the use of BOS funds is more targeted, effective, and efficient to improve the quality of education nationally. Leakage in the use of BOS funds should be prevented by transparency in every allocation, including for procurement activities. Procurement activities are very vulnerable to fraud such as corruption and collusion, so an integrated system with a qualified monitoring system is needed to prevent the development of these negative behaviors. SIPLah is an innovation established by the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia to reduce this deviant behavior by increasing the transparency of each procurement process so that its implementation can be effective, efficient, fair, competitive, transparent, and accountable. Based on the explanation above, we formulate the following hypothesis:

H₅: The implementation of SIPLah strengthens the effect of Transparency on the tendency to fraud in the procurement of goods and services.

A person's motivation to commit fraud can come from individual factors (greed and needs), opportunity, and disclosure that are not maximized so that there is no deterrent effect for the perpetrators (Bologna et al., 1993: 15-18). The tendency of a person's ethical or unethical behavior depends on the habits of the culture itself, where leaders who implement a culture of ethical behavior in an organization will create an ethical organizational culture as well (Urumsah et al., 2018). In addition, organizational commitment to avoid unethical behavior will play a major role in implementing an ethical culture in the organization. The joint commitment of organizational members to behave ethically, act by applicable rules, and focus on goals can suppress internal and external factors that motivate someone to commit fraud. When the organizational culture has been well
built to achieve organizational goals, the existence of a system that can facilitate every process of procurement of goods/services so that applicable rules will be well received by all components of the organization, and fraud tendencies can be reduced. One of the innovations that can be used for the procurement of goods and services of education units is the implementation of e-procurement called the Procurement Information System in Schools (SIPLah).

Integration between organizations with systems and human resource assistance can increase accountability, transparency, efficiency, and effectiveness of the implementation of goods and services procurement (Nani & Ali (2020). The implementation of SIPLah as e-procurement in education units is considered to be able to help the implementation of goods and services procurement in education units to be more effective both in terms of time, energy, results achieved, and accountability for the implementation of goods and services procurement becomes clearer (Moelyono & Rosmiyanti, 2022). Better accountability and transparency of goods and services procurement activities as a result of the implementation of the Procurement Information System in Schools (SIPLah), accompanied by an organizational culture that upholds honesty, is forward-looking, and complies with laws and regulations, is expected to reduce the tendency of fraud in the procurement of goods and services in education units. Based on the explanation above, we formulate the following hypothesis:

H₆: The implementation of SIPLah strengthens the influence of organizational culture on the tendency to fraud in the procurement of goods and services.

**Methods**

This study uses a quantitative method with an associative causal approach to determine the effect of accountability, transparency, and organizational culture on the tendency of fraud in the procurement of goods/services which is moderated by the use of e-procurement in schools, namely the procurement information system in schools (SIPLah). This research was conducted at public elementary schools in the East Lombok district, focusing on school components that are directly involved in the procurement of goods/services and management of BOS funds, namely the principal, treasurer, and school operator. The population of this study came from 664 public elementary schools in East Lombok Regency so the total population of this study was 1992 respondents. The number of samples for this study was based on the Isaac and Michael formula, namely 322 respondents who were determined using the purposive sampling method. The sample selection criteria are State Elementary Schools that have implemented SIPLah for at least 1 fiscal year or have implemented SIPLah since fiscal year 2022. The Partial Least Square-Structural Equation Modelling approach used in this study is the second-order-embedded two-stage approach because the construct contains multidimensionality with reflective-reflective indicators.

In this study, accountability (X₁) was measured by indicators adopted from Artantri et al. (2016) and Amin et al. (2022) which were then modified, namely conformity between implementation and standard implementation procedures; there are sanctions set for errors and omissions in the implementation of activities; and measurable outputs and outcomes. Transparency (X₂) is measured by indicators adopted from Widiarti & Subriadi (2016) and Amin et al. (2022) which are then modified, namely the existence of a legal framework for transparency; public access to budget transparency in the procurement of goods and services; independent and effective audits; and public involvement in budget decision making. Furthermore, organizational culture (X₃) in this study is measured by indicators adopted from Robbins (2003:525) which are then modified, namely innovation and risk-taking; attention to detail; results orientation; individual orientation; team orientation; aggressiveness; and stability.

The tendency of Procurement Fraud (Y) in this study is measured by indicators adopted
from Artantri et al. (2016) which are adjusted to the Regulation of the Minister of Education, Culture, Research and Technology No.18 of 2022, namely planning; collusion in bidding; submission of incorrect documents; engineering specification criteria; addition of unnecessary requirements; the price of goods and services is determined not by applicable regulations; and limited aanwijzing information. The Implementation of the Procurement Information System in Schools (SIPLah) (Z) is measured by indicators adopted from Artantri et al. (2016) which were modified by the Minister of Education, Culture, Research and Technology Regulation No.18 of 2022, namely effectiveness, efficiency, transparency, and accountability.

Result

The evaluation of the structural model in this study was carried out by analyzing the R-Square (R²), Stone-Geisser test (Q²) to test predictive relevance, t-statistic value, and p-value for hypothesis testing and PLS Predict. The following table 1 shows the R Square (R²) and Q Square (Q²) values of the structural model of this study.

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<th>Table 1. R-Square and Q-Square</th>
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<td><strong>R-Square</strong></td>
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The R-Square value shows how substantive the influence of exogenous latent variables is on endogenous latent variables. Based on Table 1, the R² value of this structural model reaches 0.271. This result shows that the amount of endogenous variation that can be explained by exogenous variables in this model is a weak influence because the value is not greater than 0.33 and not smaller than 0.19 (0.19 < 0.271 < 0.33). In other words, about 27.1% of the tendency to fraud in the procurement of goods and services can be influenced by accountability, transparency, and organizational culture, while the remaining 72.9% is influenced by other variables outside this research model.

The Q² shows how well the observed value is generated by the model and its parameter estimates. The Q² value of this research model is greater than 0, which indicates the model has predictive relevance with Q² = 0.102. These results indicate a prediction accuracy at a weak level every time there is a change in exogenous variables because the Q² value is not smaller than 0.02 and not greater than 0.15 (0.02 < 0.102 < 0.15). Furthermore, the research hypothesis was tested by analyzing the t-statistic, p-value, and f-square values. The t-statistic value is evaluated by comparing it with the t-table at df (degree of freedom) = 253 (258 - 5) and significance 0.05 at one-tailed probability, so the t-table value = 1.65. The following table 2 shows the results of the hypothesis evaluation of this study.

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<th>Table 2. Hypothesis Evaluation</th>
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<td><strong>Hypothesis</strong></td>
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<td><strong>H₁</strong></td>
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Based on Table 2, the t-statistic values for $H_1$, $H_2$, $H_3$, and $H_4$ are greater than the t-table 1.65. The respective p-values for $H_1$, $H_2$, $H_3$, dan $H_4$ are 0.001, 0.033, 0.000, and 0.032 so that the four hypotheses can be accepted. This shows that there is a significant effect of accountability, transparency, and organizational culture on the tendency to fraud in the procurement of goods and services, and the implementation of SIPLah can strengthen the effect of accountability on the tendency to fraud in the procurement of goods and services. Meanwhile, $H_5$ and $H_6$ are rejected because they have a t-statistic value that is smaller than the t-table and the p-value is 0.182 and 0.266, respectively. Table 2 also shows that there is a small but significant effect, namely the effect of accountability on the tendency of fraud in the procurement of goods and services with $f$-square $= 0.04$, the effect of organizational culture on the tendency of fraud in the procurement of goods and services with $f$-square $= 0.067$, and the implementation of SIPLah which moderates the effect of accountability on the tendency of fraud in the procurement of goods and services with $f$-square $= 0.08$, because the $f$-square value of the three hypotheses is not smaller than 0.02 and not greater than 0.15. Meanwhile, the effect of transparency on the tendency of fraud in the procurement of goods and services gets an $f$-square value $= 0.012$ which is lower than 0.02 and this shows a very small effect.

**Discussion**

The Effect of Accountability on the Tendency of Fraud in Procurement of Goods and Services

The bootstrapping results in Table 2 show that the path coefficient value for the effect of accountability on the tendency to fraud in the procurement of goods and services is $-0.188$ with a significance of 0.001 < 0.05. These results indicate a significant negative effect of accountability on the tendency to fraud in the procurement of goods and services so that $H_1$ is rejected and $H_2$ is accepted. The results of this study provide evidence that the accountability that has been carried out by public primary
schools in East Lombok has been quite successful in reducing the tendency of fraud in the procurement of goods and services, which shows the adherence of school BOS fund management to the regulations/provisions for accountability for the use of BOS funds for the procurement of goods and services of educational units. The use of BOS funds for goods and services procurement activities must be fully accounted for based on logical considerations by the laws and regulations. Complete and objective accountability is expected to maximize the education budget effectively and efficiently so that the quality of education in Indonesia can continue to be improved every year. The results of this study are in line with the results of research conducted by Yudanto & Novianti (2016), Afolabi et al. (2020) and Nani & Ali (2020) provide evidence that increasing the accountability of public funds can minimize the fraud gap in the procurement of goods and services. Dewata et al. (2022) provide evidence that accountability, which is an element of good governance, has a significant positive effect in preventing fraud in the procurement of government goods and services, which means that the better the accountability, the better the prevention of fraud in the procurement of goods and services.

The Effect of Transparency on the Tendency of Fraud in Procurement of Goods and Services

The bootstrapping results in Table 2 show that the path coefficient value for the effect of transparency on the tendency to fraud in the procurement of goods and services is -0.101 with a significance of 0.033 <0.05. These results indicate a significant negative effect of transparency on the tendency to fraud in the procurement of goods and services so that H0 is rejected and H2 is accepted. This means that the better the transparency of the procurement of goods and services implemented by the school, the tendency to fraud in the procurement of goods and services will decrease, because of the increasingly limited gaps that can be utilized to commit fraud. The more the quality of information transparency increases, the more likely it is to detect impropriety in the event of fictitious procurement that can cause leakage of BOS funds. The results of this study are in line with the results of research conducted by Bauhr et al. (2019) and Mutangili (2019) which provide evidence that transparency of goods and services procurement activities can reduce fraud tendencies because it allows horizontal internal monitoring in the provider selection process. Kohler & Dimancesco (2020) provide evidence that good integration of accountability, transparency, and anti-corruption mechanisms in procurement activities is needed to reduce the risk of procurement fraud. Dahliana et al. (2021) support these results by providing evidence that reasonable transparency following the provisions stipulated in the applicable regulations can improve the quality of BOS fund management while reducing opportunities for fraud.

The Effect of Organizational Culture on the Tendency of Fraud in Procurement of Goods and Services

The bootstrapping results in Table 2 show that the path coefficient value for the effect of organizational culture on the tendency to fraud in the procurement of goods and services is -0.228 with a significance of 0.000 <0.05. These results indicate a significant negative effect of organizational culture on the tendency to fraud in the procurement of goods and services so that H3 is rejected and H3 is accepted. The results of this study indicate that organizational culture can reduce the tendency of fraud in the procurement of goods and services in education units. The organizational culture in question is a culture of upholding honesty, and trustworthiness, obeying the rules, daring to innovate and take risks, and prioritizing common interests over personal interests which can reduce the tendency of fraud in the procurement of goods and services. An organizational culture that avoids even anti-fraud actions will encourage every element of the school to behave as the norms and rules apply. A procurement environment that still normalizes rule violations, dishonesty, difficulty innovating, and avoiding risks allows the development of fraud in goods and services procurement activities. This can happen because perpetrators who normalize fraud will feel
innocent and reject the implementation of tools that can limit these violations. The more positive the organizational culture applied by the school, the gap in the development of fraud in the procurement of goods and services will decrease. The results of this study are in line with the results of research conducted by Hambani et al. (2020) and Rahayu et al. (2023) which show that a good organizational culture can reduce the opportunities for fraud perpetrators in the procurement of goods and services. Yudanto & Novianti (2016) also provide evidence that elements of organizational culture such as leadership style, the effectiveness of internal control, and adherence to accounting rules can reduce the tendency of fraud in the procurement of goods and services. Nurharjanti (2017) and Leatemia & Febryanti (2020) provide evidence that procurement quality, quality of goods/services providers, procurement systems and processes, procurement ethics, procurement environment, risk assessment, and organizational commitment in the education sector can affect fraud in the procurement of goods and services.

The Effect of Accountability on the Tendency of Fraud in Procurement of Goods and Services Moderated by the Implementation of SIPLah

The bootstrapping results in Table 2 show the path coefficient value for the effect of accountability on the tendency to fraud in the procurement of goods and services moderated by the implementation of the procurement information system in schools (SIPLah) is 0.163 with a significance of 0.032 < 0.05. These results indicate that the implementation of SIPLah can strengthen the effect of accountability on the tendency to fraud in the procurement of goods and services so that H4 is accepted and H4 is rejected. The results of this study indicate that the implementation of a procurement information system in schools (SIPLah) can increase the accountability of goods and services procurement activities, because all processes are fully documented by applicable regulations, thereby further reducing the potential for fraud tendencies in the procurement of goods and services. The form of reports provided for schools to download can be used as a guide in reporting procurement activities carried out outside the system. The implementation of well-documented and complete procurement of goods and services can limit the possibility of developing fraud through fictitious procurement. The results of this study are in line with the results of research conducted by Arkantri et al. (2016), Lintangsari et al. (2017), Nani & Ali (2020), and Septianingsih & Probowo (2022) which provide evidence that effective e-procurement implementation can increase accountability as an effort to prevent fraud in the procurement of goods and services. Dahiana et al. (2021), Moelyono & Rosmiyanti (2022), and Novita et al. (2022) provide evidence that the implementation of SIPLah can help schools realize more informative and complete accountability so that the use of BOS funds allocated for the procurement of goods and services is by the technical instructions and implementation instructions.

The Effect of Transparency on the Tendency of Fraud in the Procurement of Goods and Services Moderated by the Implementation of SIPLah

The bootstrapping results in Table 3 show that the path coefficient value for the effect of transparency on the tendency to fraud in the procurement of goods and services moderated by the implementation of the procurement information system in schools (SIPLah) is 0.067 with a significance of 0.182 > 0.05. These results indicate that the implementation of SIPLah cannot strengthen the effect of transparency on the tendency to fraud in the procurement of goods and services so that H5 is accepted and H5 is rejected. One of the steps taken by the government to increase the transparency of procurement of goods and services for education units is by establishing a procurement information system in schools (SIPLah). However, the results of this study indicate that the implementation of SIPLah cannot strengthen the effect of transparency on the tendency to fraud in the procurement of goods and services. The implementation of SIPLah has not been able to effectively limit the development of fraud, especially during...
negotiations to determine the provider of goods/services because the negotiation process for determining this provider is only documented in writing, while the unwritten agreement made between the provider and the school is not transparent and is not well monitored so that it becomes an opening for collusion. The results of this study are in line with the results of research conducted by Romaissah et al. (2019) which shows that the implementation of e-procurement cannot increase transparency to prevent fraud in the procurement of government goods and services. The results of research by Faisol et al. (2014), Zahra et al. (2021), and Astuti et al. (2023) explain that increasing the transparency of procurement activities resulting from the implementation of e-procurement has not fully reduced the tendency to fraud in the procurement of goods and services because system limitations can still be an opportunity for fraud.

The Effect of Organizational Culture on the Tendency of Fraud in Procurement of Goods and Services Moderated by the Implementation of SIPLah

The bootstrapping results in Table 3 show the path coefficient value for the effect of organizational culture on the tendency to fraud in the procurement of goods and services moderated by the implementation of the procurement information system in schools (SIPLah) which is -0.045 with a significance of 0.266 > 0.05. These results indicate that the implementation of SIPLah cannot strengthen the effect of organizational culture on the tendency of fraud in the procurement of goods and services, so H1a is accepted and H1b is rejected. The joint commitment of organizational members to behave ethically, act by applicable rules, and focus on the goal of improving the quality of national education can suppress the development of fraudulent behavior even though there are opportunities to commit fraud. When the organizational culture has been well built to achieve organizational goals, the existence of a system that can facilitate every process of procurement of goods/services by applicable regulations and prevent schools from the risk of fraud will be well received by all components of the organization. One of the tools applied to improve the effectiveness, efficiency, transparency, and accountability of goods and services procurement activities of education units is the procurement information system in schools (SIPLah). However, the results of this study indicate that the implementation of SIPLah cannot strengthen the influence of organizational culture to reduce the tendency of fraud in the procurement of goods and services. The implementation of SIPLah, which has not been carried out thoroughly in every goods and services procurement activity, is suspected to be one of the causes. In addition, the implementation of SIPLah has also not been able to reduce the risk of fraud in the process of determining the provider of goods and services, because it still allows the agreement of fees that will be received by schools if they choose certain providers. Some providers who try to attract schools to participate in procurement activities often include the price of goods in SIPLah including the fees that schools will receive. This causes schools to think that receiving fees for goods and services procurement activities is normal and does not violate the rules. This shows that the evaluation of the SIPLah business process is needed to close the opportunity for fraud.

The results of this study are in line with the results of research conducted by Azmi & Rahman (2015) which showed the results that e-procurement can dispute political and economic power in the government procurement process; manage demand and interference when awarding government contracts; and be used efficiently in government and business relations. In other words, e-procurement is only a tool to moderate public procurement fraud, because poor organizational culture will allow the implementation of e-procurement to become a fraud loophole. Similar to these results, Wicaksono et al. (2017) provide evidence that the effective implementation of e-procurement at the regional level cannot be implemented optimally because there is still flexibility in user interpretation which provides a gap for procurement fraud.
Conclusion

Accountability has a significant negative effect on the tendency of fraud in the procurement of goods and services at the State Elementary School level education unit in East Lombok. This shows that the better the accountability for the procurement of goods and services carried out by public elementary schools, the lower the tendency of fraud in the procurement of goods and services.

Transparency has a significant negative effect on the tendency of fraud in the procurement of goods and services in education units at the State Elementary School level in East Lombok. This shows that the better the transparency of the procurement of goods and services carried out by public elementary schools, the lower the tendency of fraud in the procurement of goods and services.

Organizational culture has a negative effect on the tendency of fraud in the procurement of goods and services in education units at the State Elementary School level in East Lombok. This shows that the better the organizational culture implemented in public elementary schools, the lower the tendency of fraud in the procurement of goods and services.

The implementation of the School Procurement Information System (SIPLah) can strengthen accountability by increasing the accountability of public primary school procurement of goods and services so that the tendency to fraud in the procurement of goods and services will decrease.

The implementation of the School Procurement Information System (SIPLah) cannot strengthen the effect of transparency on the tendency of fraud in the procurement of goods and services at the State Elementary School level education unit in East Lombok, because it still allows the procurement process of goods and services that are not transparent and becomes a gap for the development of fraudulent behavior.

The implementation of the Procurement Information System in Schools (SIPLah) cannot strengthen the influence of organizational culture on the tendency of fraud in the procurement of goods and services in public primary school-level education units in East Lombok, because it still allows gaps in the development of fraudulent behavior by utilizing the different perceptions of the BOS fund management team in understanding what is allowed and prohibited in procurement activities according to the rules for procurement of goods and services for education units.

Limitations and Future Research Directions

Some of the limitations of this study can be evaluated and considered for further research. The limitations of this study are as follows: (1) The respondents of this study were limited to the BOS fund management team, which caused the data collected to be centered on the perspective of SIPLah users directly, while other independent parties such as the school committee and the education and culture office were not directly involved in the data collection of this study; (2) The exact total number of SIPLah users at the primary school level in East Lombok could not be obtained by researchers, which made it difficult to distribute questionnaires and collect data; (3) This research data collection method uses a questionnaire so that respondents' answers are limited to the options provided; and (4) Researchers used three exogenous variables, namely accountability, transparency, and organizational culture, while other variables that are no less important to test the causal relationship with the tendency of fraud in the procurement of goods and services were not involved in this study.

Based on the results and limitations of the research above, some suggestions that can be given are as follows: (1) Future researchers should conduct research from the perspective of school stakeholders such as school committees and teacher councils outside the school BOS fund management team, as well as the perspective of education policymakers such as the education and culture offices. (2) The recapitulation of SIPLah users should be carried out by the East Lombok education and culture office to help monitor the running of effective
and efficient school goods and services procurement activities through the implementation of SIPLah. (3) In addition to using questionnaires, future researchers can use other data collection methods such as interviews and documentation so that information related to the practice of procurement of goods and services in education units can be collected more clearly and with minimal bias; and (4) The exogenous variables in this research model are only able to influence the tendency of fraud in the procurement of goods and services by 27.1%, while the remaining 82.9% is influenced by variables outside this study. Future researchers can add exogenous variables that are indicated to have a causal relationship with the tendency of fraud in the procurement of goods and services such as internal control, provider quality, performance of BOS fund managers, and school budget efficiency.

References


