Prevention practices accounting fraud in managing village-owned business units and its approach using AI

Desak Nyoman Sri Werastuti[1*], **Anantawikrama Tungga Atmadja**[2], **Lucy Sri Musmini**[3], **I Made Pradana Adiputra**[4] , **Agung Sutoto**[5], **A.Nururrochman Hidayatulloh**[6], **Eko Sudarmanto**[7], **Purwanti**[8], **Nur Wahyuning Sulistyowati**[9]

[1,2,3,4] Universitas Pendidikan Ganesha, Denpasar, Indonesia

[5] Research Center for Cooperative, Corporation, and People's Economy, National Research and Innovation Agency (BRIN), Jakarta, Indonesia

[3,6] Research Center Social Welfare, Village, and Connectivity, National Research and Innovation Agency (BRIN), Jakarta, Indonesia

[7] Universitas Muhamadiyah Tangerang

[8] Universitas Pamulang Tangerang Selatan

[9] Universitas PGRI Madiun

*Corresponding Author: sri.werastuti@undiksha.ac.id

Abstract:

This study explores the practice of preventing accounting fraud in village-owned business units. The method used in this research is descriptive qualitative, and the approach is Artificial Intelligence (AI). For the descriptive qualitative methodology, the primary informants are several administrators of village-owned business units. The results of this study are two approaches, and the first is the conventional way, namely prevention carried out through work culture, opportunity removal, and financial report assessment; the 2nd approach is through technology or Artificial Intelligence applications. This research implies that work culture, elimination of opportunities, and evaluation of financial statements can prevent accounting fraud significantly if it is strengthened in written regulations. Bumdes managers need to make standard operating procedures in their activities. The AI approach results in Automated Data Analysis, Real-time Monitoring, Document Verification, and Automated Reporting System.

Keywords: accounting fraud, rules, work culture, financial reports, Artificial Intelligence

1. INTRODUCTION

The village fund budget proclaimed by the APBN is quite large, reaching 10% in stages yearly from and outside of transfers to the regions. The consequence of having a large allocation of village funds is the potential for accounting fraud (Han et al., 2022; Shonhadji & Maulidi, 2021). After issuing the Law of the Republic of Indonesia Number 6 of 2014, the village has an important position in supporting the achievement of development goals. The town has gained financial management authority and the potential to increase village income and community welfare. Village funds are prioritized for the formation of village-owned enterprises (BUMDesa). The construction of BUMDesa is expected to grow the village's original income and prosper the village community in the long term. BUM-Desa was formed to carry out village tasks and branches of business or production that are vital to the village. Like other businesses, BUMDesa

usually has several business units in product diversification and minimizing the risk of loss in carrying out its duties. BUMDesa will be successful if it has the support of various parties- the community, the village government, and the central government. Community participation is needed because mutual cooperation is one of the BUMDesa principles. BUM-Village can also be said as an activity from village to village. The KPK's 2018 annual report found an increasing number of corruption cases in using and managing village funds, which led to several village apparatuses and officials being named suspects. Cases of accounting fraud at BUMDesa, such as alleged misappropriation and misuse of funds, have also been found (Elbæk & Mitkidis, 2022; Nguyen, 2019; Warren & Schweitzer, 2018). Accounting fraud will continue to spread if no prevention is taken.

Some researchers summarize ways of preventing accounting fraud into two factors: forming a culture of honesty, openness, and attributes of assistance and minimizing opportunities for accounting fraud (Camfferman & Wielhouwer, 2019; Drew, 2018; Kimani et al., 2021). Efforts to create a culture of openness, honesty, and assistance attributes are influenced by three main factors: hiring honest people and providing fraud awareness training; providing employee assistance programs to assist employees in dealing with personal pressures; and creating a good work culture. Hiring real people and giving accounting fraud awareness training is essential for companies to have employee screening rules. Creating a good work culture in the work environment does not happen suddenly but must be trained. Therefore, it is common for employee fraud and other dishonesty to occur within the company. There are three elements to creating a good work environment to reduce the occurrence of accounting fraud: creating expectations that honesty will make good corporate, having easily accessible rules, and having cheerful personnel and standard operating procedures (SOP). The way to reduce the pressure mentioned in the theory of the causes of fraud is to provide employee assistance programs. With assistance in reducing stress, the potential for employees to commit accounting fraud will decrease. Forms of employee assistance programs include team building, counseling, training, conflict resolution, and so on. Accounting fraud affects the risk of poor company performance due to misinformation (Richardson et al., 2022). Monetary and non-monetary sanctions are required if the information contains accounting (Wang et al., 2019).

Various causes of accounting fraud occur in village funds. Nguyen (2019) and Warren & Schweitzer (2018) state that the lack of competence in human resources (HR) and weak internal controls lead to ineffectiveness and inefficiency in BUMDesa management. Inadequate oversight, weak governance, the existence of an '*ewuh pakewuh*' culture, and the absence of SOPs that regulate complaints mechanisms related to village funds can also be causes of accounting fraud (Suh et al., 2020; Swandaru & Muneeza, 2022). Another cause driving accounting fraud is the opportunity, pressure, and rationalization contained in the fraud triangle theory (Cullen & Brennan, 2017; Han et al., 2022; Shonhadji & Maulidi, 2021), which was later developed into the diamond fraud theory put

forward by Wolfe & Hermanson (2004). Suitability of compensation, the effectiveness of the internal control system, organizational culture, competence, and leadership style influence the occurrence of fraud in the village government (Basri et al., 2021).

There are various studies regarding the prevention of accounting fraud. Various studies state that internal control, supervision, individual morality, behavioral characteristics, and HR competencies positively prevent accounting fraud (Azim et al., 2017; Han et al., 2022; Utama & Basuki, 2022). Othman & Ameer (2022), Suh et al. (2020), and Swandaru & Muneeza (2022) add that organizational culture and the implementation of good corporate governance (GCG) also have a positive influence on preventing accounting fraud. In addition, the whistle-blowing system can also prevent fraud before it occurs (Elbæk & Mitkidis, 2022; Nguyen, 2019). Various studies and theories regarding the causes of accounting fraud have existed, but these events continue to occur and develop with the times. Most of these studies examine the causes of accounting fraud and use quantitative methods. BUMDesa is one of the government programs that continue to be echoed and encouraged for its establishment. However, a few BUMDesa have become bankrupt and even bankrupt in their journey. Accounting standards, auditing standards, and internal control regulations are needed to create good governance to eradicate corruption (Putri et al., 2023). Village apparatus minimizes fraud by improving the internal control system through implementing SOPs, developing the 'village partner' application, and avoiding all forms of fraud (Widhiastuti et al., 2020). The bystander effect, internal control, and organizational culture significantly affect accounting fraud's tendency. It is expected to eliminate the influence of bystanders, makes the internal control system effective, and through a positive organizational culture, encourage the emergence of whistleblowers as an effort to prevent fraud (Yasa et al., 2022).

Furthermore, One of the new strategies for detecting fraud in accounting is to use the help of Artificial Intelligence (AI) technology (Figure 1). It is an automated data analysis, real-time monitoring, document verification, and automated reporting system. By using algorithms and machine learning techniques, AI can detect suspicious transaction patterns such as number manipulation, document forgery, and misuse of funds, and this is considered the most effective way to avoid fraud from conventional or manual systems. AI can warn if an action exceeds a limit, such as a transaction value limit, or notify the administrator to stop the transaction. AI can verify the authenticity of documents, and this can prevent fraudulent practices and data manipulation. So that with AI can produce financial reports that are precise and automatic and minimize errors or shortcomings or Human errors from Humans. AI can correct errors, identify fraud in accounting, analyze data specifically, identify patterns that can be seen by detecting eyes or fingerprints, then provide reports automatically from the results of these inputs. AI is made with programming languages or high-level machine languages so that it can give specific conclusions, for example, Deep Learning which can detect the type of voice input

heard and provide findings on what kind of voice according to the dataset or AI combined with MCU Devices such as ESP32-Camera that can detect objects within the scope of the camera or in front of the camera (PDP.Adi & Yuyu, 2022). Artificial intelligence (AI) in this context refers to using computer algorithms and AI models to detect potentially fraudulent activities or patterns of behavior in large data sets. AI-based fraud detection systems typically rely on machine learning techniques, which allow algorithms to learn from historical data and identify new patterns or anomalies that could indicate fraud.
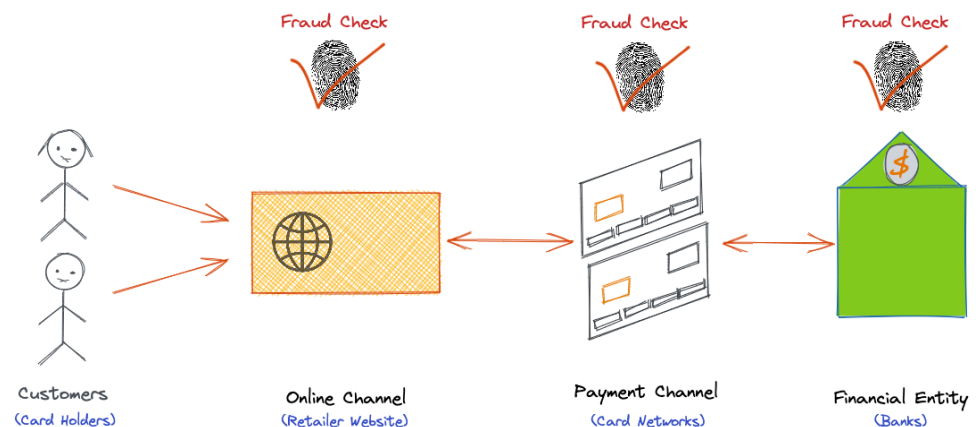
Figure 1. AI-based Fraud Detection (Sources: https://aws.amazon.com/)

An example of program code used to detect or investigate fraud is by setting the location and other parameters.

```
if IP_ADDRESS_LOCATION is 'Indonesia.'
and CUST_ADDRESS_COUNTRY is 'Indonesia.'
and CUSTOMER_PHONE_LOC is 'Japan.'
then
Investigate
```

Based on the study of these problems, this research was conducted to know the application of accounting fraud prevention that had been carried out by the business unit and establish a model for implementing accounting fraud prevention. The results of this study are expected to provide information on the findings of gaps between the theory of accounting fraud prevention and the implementation of accounting fraud prevention in the field. The findings of themes and sub-themes related to forms of accounting fraud prevention can be used as a reference in formulating accounting fraud prevention theories. Furthermore, it is hoped that this research will later become a basis for business unit managers and other stakeholders to make decisions about the development of BUMDesa business units. In addition, this article discusses approaches to Artificial Intelligence (AI) technology in solving fraud problems, detection of data manipulation, and other frauds. The discussion of AI in this article is more about AI approaches, AI methods, AI block diagrams to overcome fraud, and systems built as a whole.

2. METHOD

Several methods are used in this manuscript. In addition to conducting direct interviews with BUMDesa business unit personnel, it also compares with AI technology approaches to detect fraud in accounting practices. This study used a descriptive qualitative method. This approach was chosen in this study to examine the implementation of accounting fraud prevention in the field taken from informants' experiences so that the data obtained reflects the real situation. Several previous studies in the field of accounting used this approach, such as research conducted by Gomes et al. (2021), L'Heureux (2022), Rashid et al. (2022), and Suwitoyo et al. (2021), a study using a qualitative descriptive methodology to examine the mode of accounting fraud in an entity.

Research design is a process that must be carried out in planning and conducting research. This design will provide an overview of the relationship between theme taking, data collection, and data analysis to describe the interrelationships between themes, how they are measured, and so on (Bosley & Knorr, 2018; Z. Othman et al., 2020). This research uses the phase carried out by the clean water empowerment committee, which begins with the initial observation, followed by a literature review and the preparation of an interview protocol. Data collection in this study used interviews with a semi-structured method, then content analysis was carried out, and finally, conclusions were drawn. The different characteristics of the villages coupled with the government, which tends to be simplistic and generalizes the problems in the town on the financial aspect, is one of the reasons for the failure of BUMDesa. In addition, limited human resource competence without a human resource development program continues to be a scourge for BUMDesa management, including preventing accounting fraud. Preliminary observations of the study were carried out by observing the positive reactions from the community after the BUMDesa business unit provided clean water services. Discussions with the management resulted in the conclusion that the BUMDesa business unit is a business unit that still exists and is the most active today, so this research focuses on one of the BUMDesa business units, which is one of the busiest units in the BUMDesa.

All administrators of the water supply unit are the object of research in this study, both daily administrators and hamlet administrators, BUMDes management, and unit supervisors. The unit was chosen because it is the most active business unit and the business unit most needed by the village community. This is because people always have difficulty getting clean water when the dry season comes. The other business units in the BUMDesa are not running optimally or have even stopped operating. Primary data is used in the data source for this study. Preliminary data is data obtained from primary sources or sources. The semi-structured interview used as a data collection technique in this study focuses on capturing the prevention that has been carried out. An interview is a dialogue between the interviewer and interviewee to obtain the necessary information. Data was collected with the help of a recorder if permitted by the informant.

Table 1 shows a list of research informants. The consideration for selecting the informant is the primary management who knows the overall operations and management of the business unit. The BUMDesa management has responsibility for the running of the business unit as well as supervising it. Supervisors are structurally in charge of overseeing the running of BUMDesa. All informants agreed to be interviewed, and the names of informants were changed to comply with the research code of ethics.

Data were collected through three semi-structured interviews with different informants in each implementation using the same interview protocol. The interview protocol referred to themes and theories from the literature and previous studies, including Drew (2018), Flasher & Lamboy-Ruiz (2019), Kimani et al. (2021), and Raval (2018). This study was designed using semi-structured interviews to explore three main topics. The first topic discusses work culture. The second topic reviewed in this study concerns missed opportunities. The last topic discusses the assessment of financial statements. Furthermore, questions are developed during the field research process carried out by researchers to explore other topics that support the research topic.

**Table 1.** Research informant data

Name	Position
Aziz	Chairman
Budi	Secretary
Cyan	Supervisor
Dedi	BUMDesa management
Eny	Treasurer

Before analyzing the study results, a transcription was carried out first, and the validity of the data was tested. Testing the validity of the data in this study was carried out using a source triangulation test (Cintra et al., 2018). Source triangulation in this study was the collection of data from five informants. This study also uses the participant observation method, which involves observers who are members of the environment where data is collected. In this case, the observer is the researcher himself because the researcher is also a person who has competence in the field of auditing and fraud, so the data produced is not biased. After the validity test is carried out, data reduction is carried out to sort out the data that is needed and which is not required before the data analysis process. Data reduction is a step of simplification, selection, abstracting,

Data analysis is carried out when the data obtained is in words that can be arranged based on their classification, not in the form of numbers. There are several stages in conducting data analysis in this study, starting with determining the scope of the phenomenon under investigation. After the phenomenon's scope is selected, it is followed by compiling a list of questions. The interview method uses the list of questions as the basis for data collection. The transcribed interview results are then analyzed through three stages: the initial stage, the horizons stage, and the cluster of the meaning stage. The essence description stage is

carried out after the data analysis has been reported. After all, stages have been completed, a model for preventing accounting fraud at BUMDesa is created.

Moreover, one of the cloud server-based AI technologies is AWS. AWS Cloud-based Accounting fraud detection system [Figure 2] is one example of how fraud detection can be addressed with several steps, among others: [1] Schedule the transactions producer, [2] Generate payment transactions. [3] Process the input transactions, [4] Get fraud predictions. [5] Sink the fraud outcome. [6] Send email notifications. And [7] Visualize a real-time dashboard.
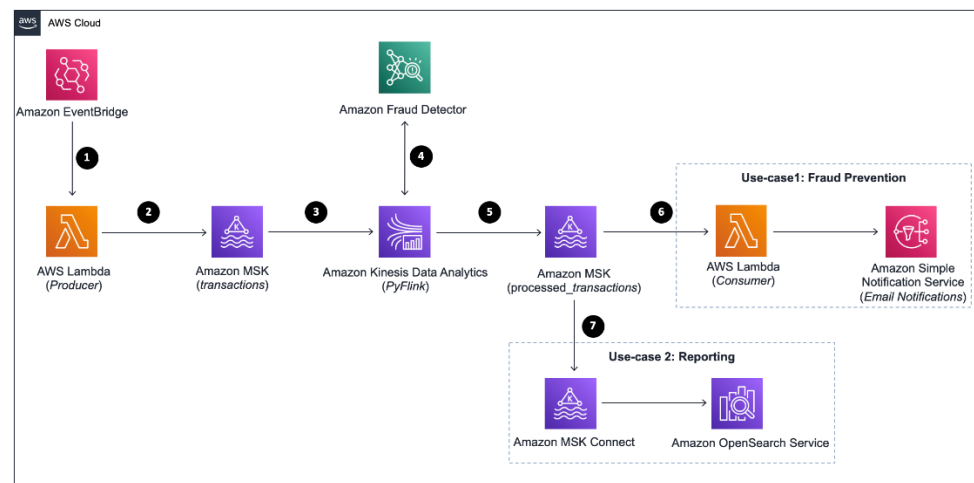
Figure 2. AWS Cloud-based Accounting fraud detection system (*Sources*: https://aws.amazon.com/)

The following is an example of coding a program to solve fraud problems in AI-based accounting. First, initialize variables, load data into the model, analyze data, identify fraudulent transactions, and flag fraudulent transactions for further review.

```
// This program uses AI to detect fraud in accounting
// Initialize variables
var data = [] // Array of data to be analyzed
var model = new FraudDetectionModel() // AI model

// Load data into a model
model.loadData(data)

// Analyze data
model.analyzeData()

// Identify fraudulent transactions
var fraudulentTransactions =
model.getFraudulentTransactions()

// Flag fraudulent transactions for further review
for (var transaction in fraudulentTransactions) {
  transaction.flagForReview = true;}
```
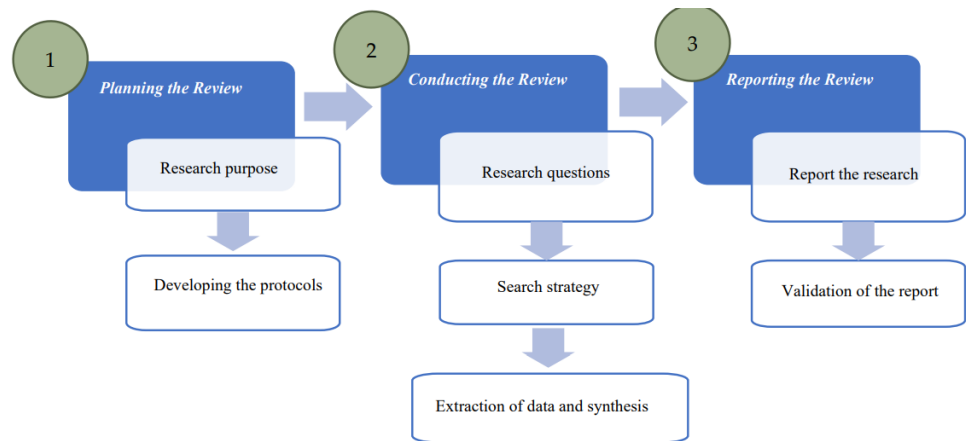
Figure 3. Systematic Literature Review (Abdulalem Ali et al., 2022)

Furthermore, the method to detect fraud in the accounting process is the Systematic Literature Review (SNR). SNR is a research method that systematically searches, evaluates, and synthesizes the existing body of knowledge on a particular topic. SLRs are often used to identify gaps in the research, develop new research questions, and inform the design of new research studies. SLRs can be conducted on various topics, including but not limited to the effectiveness of different AI techniques, the impact of AI on society, and the ethical implications of AI.

3. RESULT AND DISCUSSION

Data collection was carried out by interviewing and asking permission from the informant to record the implementation of the interview. Before carrying out the interview, the interviewer introduced himself and explained the interviewer's interactions with the management of the BUMDesa business unit. In addition, during the interview, the interviewer described the interest and closeness between the author and the object being discussed.

Statements of significant informants have been interpreted and integrated with the phenomena studied and are detailed in the following explanation. Accounting fraud is a moral deviation regarding perceptions of truth, legal justice, fairness, and equality (Wahyuni et al., 2021). Accounting fraud is often also considered financial statement fraud or deviant behavior in presenting financial statements (Fiolleau et al., 2018; Lau & Ooi, 2016). Accounting fraud is a problem faced by organizations and users of financial reports worldwide (Bao et al., 2020; Sandhu, 2022; Soneji, 2022). If accounting fraud is not detected and prevented in time, it will cause significant stakeholder losses. However,

No one is a winner when accounting fraud occurs. The result will be the same in case of any form of fraud. A person who commits accounting fraud may enjoy a higher lifestyle or keep the company from failing for a while. The organization whose funds were stolen suffered a loss. Therefore, preventing accounting fraud is a huge saving. When fraud can be prevented, there is no need for detection and investigation costs. Organizations do not have to make difficult termination and prosecution decisions. Valuable work time is not lost on unproductive activities and dealing with crises.

Several researchers have summarized ways to prevent accounting fraud into two factors: establishing a culture of honesty, openness, and attributes of assistance and minimizing opportunities for fraud (Camfferman & Wielhouwer, 2019; Drew, 2018; Kimani et al., 2021). Culture is the whole pattern of behavior and the behavior of a group of people in social life, thought, religion, institutions, and performance. Culture in the organization is also known as organizational culture. Organizational culture is defined as the assumptions, values, and behaviors that are learned and shared by members of the organization. Culture is how an organization does things (organizational property). Organizational culture is essential for corporate results. The business unit in this study provides clean water services that have been operating since 2012. Initially, this business was managed in every hamlet in Kunir Village. However, since the rule that there can only be one BUMDesa in one village in 2017, the business activities jointly managed by the community with the same type of business must be united as part of the BUMDesa. This business unit was established due to the community's need for clean water in Kunir Village, which is difficult to obtain during the dry season. Therefore, through the village meeting, the residents brought up this issue, and the village approved it. The responsibility for the business unit's capital, management and operational costs is fully assigned to the management. The village government is passive in managing business units, and village funds are only disbursed once at the start of establishing a business unit when the business unit is experiencing financial difficulties. However, BUMDesa management and business unit supervisors have carried out their roles and responsibilities in overseeing the business unit's journey.

The work culture in the business unit is still highly social. This is demonstrated by the voluntary attitude and commitment of the management in managing this business unit. The relatively high workload and low income do not affect the management's performance. The control of this business unit continues to work honestly and ethically, as expressed by Aziz and Budi as follows:

"The social nuance is still high... being honest at work then they implement good ethics at work" (Aziz).

"Honest and good at work... yes, just help each other, sis, back up each other because it's not your main job" (Budi).

Aziz and Budi's statement shows an idealism in work. However, because the salary does not match the amount of work and responsibilities carried out, the management of the business unit has not been able to make this business unit the primary source of income. Thus, they still have other jobs outside the business unit. As a result, when the management has different activities and cannot carry out work in the business unit, the business unit cannot bind. It will be given tolerance (see Budi's statement). In addition, the community always highlights the work of administrators, so administrators must always try to do their best and be responsive. Work culture is closely related to organizational culture. The existence of a work culture that has a high social nuance and the closeness of one administrator to other managers proves that the work atmosphere and work culture in the business unit are good. Good work culture will prevent accounting fraud if accompanied by proper honorariums (Flasher & Lamboy-Ruiz, 2019;

Kimani et al., 2021). An inadequate honorarium means that the management's needs are still not met to minimize the occurrence of accounting fraud; it is necessary to meet the management's needs first. This confirms the gone theory, which states that need is one of the drivers of accounting fraud, so it is necessary to fulfill the needs of organizational management. Based on the results of field studies, business unit managers are workers who are then given the mandate to manage the business. Managers are people who want to become administrators and not go through elections. In addition, no particular competencies must be possessed to become an administrator. This is because it is difficult to find people who want to become administrators, which require a lot of time and are highly social.

The management during management has carried out their responsibilities as administrators properly, responsibly, and ethically, although not all administrators have sufficient competence. In general, the administration has been honest during management. The chairman and other administrators work in synergy, remind each other, and work hand in hand in trying to manage the business unit as well and as best as the management can. This follows the theory of good corporate governance and several studies from Azim et al. (2017), Han et al. (2022), and Utama & Basuki (2022) that morality, character, organizational culture, and good corporate governance can prevent accounting fraud from occurring.

Individual morality can influence accounting fraud. The low morality of an individual will tend to make him commit accounting fraud. Morality is considered a reason that underlies a person to act ethically. Ethics is a discipline that examines a person's moral standards or the moral standards of a society. Morality is a concept that interprets an action concerning the nature of values so that morality can be related to the quality of human action.

Nevertheless, morality is closely related to individual attitudes and behavior in a society with social, cultural, economic, and political structures. The morality of a person or group of people is related to what they have and what they think and see about the good and bad, right and wrong things to do. Individual morality is the biggest cause for someone to commit accounting fraud. Therefore, accounting fraud is morally unacceptable behavior.

Managers as management who manage business units have the opportunity if they want to commit accounting fraud. However, intentions and opportunities to commit accounting fraud can be countered by having good individual integrity, morality, and organizational culture (Fiolleau et al., 2018; Lau & Ooi, 2016; Mangala & Kumari, 2017; Sow et al., 2018). Integrity is an individual's value, translated into commendable attitudes and behavior that upholds the importance of truth in all circumstances. Integrity means that a person is not easily trapped, pressured, or justified in making mistakes even when allowed to do so (Saluja et al., 2021). This prevents someone from committing accounting fraud (Rifai & Mardijuwono, 2020). The management of the business unit in carrying out their duties as managers of the business unit will be supervised by BUMDesa and village representative supervisors. When a problem occurs in the business unit, the internal management will solve it themselves first. However, if the business

unit's internal control cannot resolve the issue, BUMDesa and supervisors will be involved. This was conveyed by Cyan and Dedi below.

"If indeed it cannot continue without a clear reason, then the management will be given a warning." (cyan).

"If it's really bad, usually the supervisor will also call and then find a solution together" (Dedi).

Cyan and Dedi's awareness illustrates that this business unit does not yet have an express or implied internal control system. However, the business unit has implemented internal control in its operations. This study has five types of internal control systems (SPI): control environment, risk assessment, control activities, information and communication, and monitoring activities. Opportunities for accounting fraud can be minimized by implementing SPI. Strengthening the internal control system is one of the vital aspects for the organization to ensure the effectiveness and efficiency of the organization. The internal control structure of an organization depends on the nature and characteristics of the organization (Dangi et al., 2020). Internal control is a process influenced by the board of directors, management, and other personnel to provide adequate assurance regarding the objectives of operating effectiveness and efficiency, reliability of financial reporting, and legal compliance (Anindya & Adhariani, 2019; Sandhu, 2022). Therefore, there is expected to be an increase in performance and the achievement of organizational goals and objectives efficiently with the implementation of an effective internal control system.

BUMDesa business units with relatively small turnover usually do not have a system used explicitly for internal control. There are five components of internal control, including risk assessment, information and communication, control environment, control activities, and monitoring activities. Not all business units have standards, processes, and structures for internal control. However, sometimes in their daily lives, they have to carry out internal controls. At the organization's establishment, there is 'AD/ART,' which is used as SOPs or work references, but sometimes they cannot be used as they should considering the circumstances in the environment, which sometimes do not match expectations.

There is no adequate control system. Of course, it can be concluded that the management carries out no risk assessment. Based on the results in the field, although there is no risk assessment yet, the business unit has analyzed the risk factors that exist in the organization and has tried to implement prevention of several risk factors that may occur. One of the risk factors faced by business units is related to human resources. If one administrator cannot carry out his duties in the field, the other administrators will back up, and there is an announcement in it. However, the limits of this notification are still unclear, considering that the honorarium is not appropriate, so the notification of the responsibility for carrying out tasks by the management is also unclear. Although the honor received is small, The management is quick to respond if there are problems experienced by customers, such as when there is a leak in the network pipe which causes no water to flow to residents' homes, the administrator will immediately

jump in to repair the network pipe. This shows the management has worked well.

On the other hand, administrators are still experiencing difficulties receiving customer payments. Existing SOPs cannot be implemented considering that the customers are villagers and many have busy lives as farmers, traders, etc. Various methods have been made to find a middle ground that does not burden the customer with the final decision being flexible at the time and place of payment.

Depending on the agreement with the customer. If the customer cannot pay bills for that month, they can also be paid the following month. Regarding customer payments, this still needs improvement because if it continues with high tolerances, it will be burdensome for the business unit, considering that payments from customers are the primary income and business units must pay for expenses.

One of the risks faced by this business unit is related to customer payments. Customer regularity in paying fees is essential for the sustainability of this business unit. Based on the rules contained in the Articles of Association and Bylaws (AD/ART), it is written that payments are made every 10 to 20, but in the field, it is difficult to do so. The administrators change strategies many times to cope. Eny stated this in the following statement:

"According to the rules, customer payments are made every 10th to 20th. Because in this village, it is also complicated. Initially, the rule was one-door payment, and we waited at the BUMDes office because there was a BUMDes office. We tried it for three months. It turns out that the amount of payment from them is minimal from customers who want to come and pay at the BUMDes office; it's like we spend time, yes every afternoon even though we have work, so the waiting time in the BUMDes office room we share the schedule. We waited a long, but only three customers came, and nothing worked out. Then we try to think again; we wait at home so it doesn't take too long. We are waiting at the house of each hamlet admin, and we give time from the 10th to the 20th from 2 pm to 5 pm. It also doesn't work because customers in the village come any time they want, and finally, everything is working like that. So they want to pay for the morning hours, we serve them, they want to pay for the ba'da isya' hours, so we serve them as they wish, and we can't spend too much time. The important thing is that they pay when we are at home. Some customers like this method, but some prefer to be visited at home for payment. So there is a billing term from the hamlet management, so what is currently operating is not following the initial SOP. It's just that we think which is good we run" (Eny). *So they want to pay for the morning hours, we serve them, they want to pay for the ba'da isya' hours, so we serve them as they wish, and we can't spend too much time. The important thing is that they pay when we are at home. Some customers like this method, but some prefer to be visited at home for payment. So there is a billing term from the hamlet management, so what is currently operating is not following the initial SOP. It's just that we think which is good we run"* (Eny). *So they want to pay for the morning hours, we serve them, they want to pay for the ba'da isya' hours, so we serve them as they wish, and we can't spend too much time. The important thing is that they pay when we are at home. Some customers like this method, but some prefer to be visited at home for payment. So there is a billing term from the hamlet management, so what is currently operating is not following the initial SOP. It's just that we think which is good we run"* (Eny). *Some customers like this method, but some prefer to be visited at home for*

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Eny's statement shows that there is a risk in business unit expenses. There is a business unit's most significant expenditure that cannot be predicted per month, namely damage to machinery and its supporting equipment. These damages cannot be expected directly. Business units can only predict based on the age of assets but cannot predict the number of times and approximately when damage will occur. In addition, the cost to overcome the damage value is not cheap. This is because the asset's original price or the support parts are not cheap.

This means that when expenses exceed the funds that have been reserved, the board must look for other sources of funds, such as debt with the manager's personal wealth. The biggest expenses for the business units in this study are operational expenses for handling machine damage or pipe damage. If conditions like this are allowed to continue, it will cause bankruptcy for the organization, and the community's need for clean water cannot be fulfilled again. This then requires an in-depth study on the causes of engine damage so that it can be more predictable and prepare special funds to handle engine repairs.

In addition, there are problems with the validity and credibility of evidence of business activity expenses (transactions). Evidence of these transactions is essential to have in a business to avoid mistakes and misappropriation of company assets (Goh, 2020; Purnamawati & Adnyani, 2021). As a basis and reference for accounting records, the validity and authenticity of transaction evidence are essential. The BUMDesa business unit, located in a village and a considerable distance from the city, has caused several shopping activities or purchases of operational goods of insignificant value to be carried out by the management at village stalls that do not have receipts/invoices. Even if there is a note in the form of a pack of cigarettes, the validity is low, but the treasurer cannot confirm whether the transaction is correct.

Realizing these problems, business unit managers agree together on the procedures for spending the business unit budget. Before the management makes expenditures for operations, it is required to confirm with the treasurer with the chairman's knowledge. The treasurer also made rules that managers who make purchases must attach a note even though the form of the note is in the form of a pack of cigarettes. This method is used in the context of transparency and internal accountability for managing business unit funds.

The business unit has carried out control activities, both internal control between management and external control. The board of commissioners, in this case, the supervisor, has full authority and responsibility to control, supervise, and provide direction for managing the organization's resources. The effectiveness of supervision in an organization will be in line with the improvement in the quality of the management's performance. This is also a parameter of the effectiveness of organizational governance. Supervision carried out by supervisors and shareholders, in this case, the community, is essential to

aligning the community's and administrators' interests. The effectiveness of administrative supervision carried out by supervisors will minimize the occurrence of accounting fraud. Supervisors are responsible for supervising management and ensuring the implementation of company management, enforcement of SOPs, and organizational accountability obligations per the results of village meeting forums. Supervisors can prevent the occurrence of accounting fraud. Supervisors have responsibility and authority in the management oversight process (Fiolleau et al., 2018; Lau & Ooi, 2016).

Supervision in business operational activities prevents irregularities, fraud, and the risk of business loss. In the operational activities that have been carried out, the business unit has carried out supervision and controls. These activities are either in the form of control in the field or control in the administrative field. This control is mentioned by Budi and Dedi as follows:

"Supervision is carried out there is supervision in the field and administration. Supervised in the field, such as operations related to network pipes, bills to customers, or cleanliness of clean water. Suppose administrative supervision is like the budget and the work the management has carried out" (Budi).

"Usually, we coordinate first. We will discuss it with the management" (Dedi).

Budi and Dedi's statement shows that the external control of the business unit is carried out by BUMDesa management and supervisors from the village government. When a problem occurs in the business unit, the director will resolve it internally. However, if you can't, it will be raised to BUMDesa management or supervisor. Later the BUMDesa management and supervisors will provide input to business unit management or discussions to find solutions together. Suppose there are problems related to the management that the internal management cannot handle. In that case, the BUMDesa management and supervisors will assist so that the business unit does not run without supervision. External controls prevent accounting fraud (Malau et al., 2019; Perols et al., 2017).

One that can drive the organization's success is transparent information and smooth communication. Communication and knowledge in the business unit run well, as evidenced by the smooth communication between management. The management also holds regular meetings to discuss the business unit's financial reports and problems encountered. However, the meeting time is sometimes once a month, once in three months, or even once in five months, depending on the activities of the entire board. Communication with customers has been going well, and communication with the village has also been running, but it's not related to policy.

Internal communication in this business unit has been going well. Even though they are reasonable, sometimes there is a feeling of *'ewuh pakewuh'* because the administrators are friends outside of this business unit and our neighbors. The official business unit meeting was held conditionally considering the busyness of each management. This can be found in the results of interviews with Aziz and Eny as follows:

"The communication went well because we created a WA group., every day, every night, he keeps joking in the WA group "(Aziz).

"If the communication is good but sometimes there are problems. Until now, it has not been routine, and only usually for three months at most, sometimes six months, sometimes, for example, there is a program that can also be done per month, that is still conditional" (Eny).

These two statements show that controls related to internal communication have been carried out well but are constrained in payments which ultimately sacrifice the management even though they are customer-centric. If left unchecked, this will eventually bring the manager to a point where he can no longer survive (Sharma et al., 2021; Yan & Wen, 2020). Moreover, the management is not from the election but whoever wants it, and the competence is still lacking, and the honorarium is not yet proper.

Management welfare is an important part that the company must consider in maintaining business continuity. Giving honorariums will affect employee morale, and these honors can motivate management performance (Fitri et al., 2019). Having a salary as compensation for the board's performance will increase employees' sense of belonging to the company (Lehmann & Heagy, 2017; Rustiarini et al., 2020). This can encourage management to improve work performance because they feel valued by the company. Then, this will be assessed as an award the company gives employees to promote the company to improve its performance. Providing appropriate compensation to employees can indirectly trigger the prevention of accounting fraud (Pacini et al., 2019).

The organization must monitor activities to ensure that all internal control components are running correctly. This internal control is part of the organization's risk management to achieve its goals (Anisah & Falikhatun, 2021; Riney, 2018). A good and proper form of internal control is carried out with regular evaluations within the organization (Elbæk & Mitkidis, 2022; Warren & Schweitzer, 2018). The internal organization can monitor activities by holding regular meetings to assess all ongoing activities, discuss risks and problems, and discuss solutions to risks and issues to run even better.

The effectiveness of SPI implementation will strengthen organizational values in increasing supervision, thereby reducing and preventing misappropriation activities such as fraud or misappropriation of assets (Omar et al., 2016). However, the importance of internal control in public sector organizations is often overlooked, especially internal control for whistle-blowing or related activities which is the focus of this research. The public sector is always blamed for being unresponsive and reactive in resolving customer complaints that tarnish their reputation (Dangi et al., 2020). This is not following the findings in field studies. Communities as customers and stakeholders are very communicative and carry out good supervision. If a problem occurs in the business unit, it will immediately be heard by the public. Even after an accounting fraud has occurred, resolved in an open trial by the village government, the perpetrators of accounting fraud do not carry out the agreement, so the community imposes social sanctions.

In addition, the perpetrators of accounting fraud are no longer trusted by the community and are not allowed to hold positions in organizations in the community or village government structures. Even though the business unit has collected bills and an agreement has been made by the perpetrators of accounting fraud, until now, the business unit's losses have not returned. The village government also did not follow up again, so the business unit had given up trying to regain their rights. Perpetrators of accounting fraud do not carry out the agreement, so society gives social sanctions. In addition, the perpetrators of accounting fraud are no longer trusted by the community. They are not allowed to hold positions in organizations in the community or village government structures. Even though the business unit has collected bills and an agreement has been made by the perpetrators of accounting fraud, until now, the business unit's losses have not returned. The village government also did not follow up again, so the business unit had given up trying to regain their rights. Perpetrators of accounting fraud do not carry out the agreement, so society gives social sanctions. In addition, the perpetrators of accounting fraud are no longer trusted by the community and are not allowed to hold positions in organizations in the community or village government structures. Even though the business unit has collected bills and an agreement has been made by the perpetrators of accounting fraud, until now, the business unit's losses have not returned. The village government also did not follow up again, so the business unit had given up trying to regain their rights. Even though the business unit has collected bills and an agreement has been made by the perpetrators of accounting fraud, until now, the business unit's losses have not returned. The village government also did not follow up again, so the business unit had given up trying to regain their rights. Even though the business unit has collected bills and an agreement has been made by the perpetrators of accounting fraud, until now, the business unit's losses have not returned. The village government also did not follow up again, so the business unit had given up trying to regain their rights.

Competence is a person's ability to carry out the work according to his position. Some researchers say that there are six aspects to the concept of competence, including knowledge, abilities, understanding, values, interests, and attitudes (Anisykurlillah et al., 2020; Einarsen & Jack, 2020; Roszkowska, 2021). HR competence can influence organizational management. Lack of competence can lead to non-optimal administrative processes to human error (Camfferman & Wielhouwer, 2019). Human error can occur due to negligence, ignorance, or lack of competence. In addition, HR competence can positively influence preventing accounting fraud (Azim et al., 2017; Han et al., 2022; Swandaru & Muneeza, 2022). Competence needs to be continuously honed and improved so that existing human resources can manage the organization effectively and efficiently and become human capital. Organizations have a responsibility to enhance the competence of their human resources.

The competency of the management of the business unit is still insufficient, but the administration has carried out its responsibilities properly. The business unit has never held training to improve human resources (HR), but if there is training from the association, management representatives will be included in

the activity. This is reflected in the expression that Aziz and Eny said in the following quote:

"If the association holds training, we will participate. I don't think it's going that far if you're holding your own training. The other friends were like that, so they did what was expected in carrying out the activity. They each have their responsibilities" (Aziz).

"You say competence is also not competence; maybe there are some who have competence, but at the time of initial formation, it seemed that more wanted to be appointed than those who wanted, so there was no election" (Eny).

These two statements illustrate that the BUMDesa business unit does not yet see competency, and increasing competence is crucial for the business unit. The limited number of human resources willing to become administrators also encourages the lack of competence of human resources owned by business units. Not infrequently, there are BUMDesa business units whose management has not changed for more than two terms because no one else wants to replace them.

Social control has an essential role in order and harmony in social life. Social control theory contains relationships, commitments, values, norms, and one's beliefs not to do anything that deviates from and violates the law (Campa, 2018; Chen et al., 2018). Someone who commits irregularities or violates the law will get sanctions. One form of sanction is social sanction. Social sanctions are usually implicit and unwritten. The running of social sanctions shows that social control is going well.

The community is very active and cares about the BUMDesa business unit. News spread very quickly in the village. Suppose there are perpetrators of accounting fraud in the business unit. In that case, the community will provide social sanctions to the perpetrators despite no criminal or binding administrative sanctions. As in the case that occurred in connection with the management of the business unit in the previous period who embezzled cash, Eny conveyed the following quote:

"It was confirmed because, at that time, the previous management was brought in to be collected at the village hall, and then the previous management also stated that they were willing to pay, but so far, it has not been paid, so it is just talking and not real. So it's like being eliminated so it doesn't continue, and cases like that might not just happen once. There are reports, for example, that there is a balance, but there is no form. If asked, yes, they will be paid, but the fact is, no" (Eny).

Eny's statement reflects that enforcing standard operating procedures (SOP) and implementing a good monitoring system is an obligation for companies to avoid accounting fraud (Fiolleau et al., 2018; Lau & Ooi, 2016). SOP is an implementation guide that contains the stages of organizational activities standardized in writing. The SOP document at least contains procedures for carrying out work, implementation time, location, and executor. SOPs must be owned by a business organization to improve service and organizational performance (Sahdan et al., 2020; Urumsah et al., 2018). SOP enforcement can be carried out properly if all organizational elements can understand the SOP well. A good understanding by management regarding accounting fraud detection is

a potentially important element in the success of organizational governance policies to enhance organizational development and reduce the risk of bankruptcy associated with reported cases of accounting fraud. Bookkeeping of business unit financial statements, This is made and does not use generally accepted standards. Several receipts are used as proof of transactions as simple receipts. Internal financial reports are reported once a month, while externally, namely to the BUMDesa and the village government, it is done once a year. The following is Eny's statement regarding this matter:

"Our bookkeeping is also simple, how much is income, how much is expenses, what are expenses for, the rest is profit. Well, that's what we're having a little trouble with. There are receipts if it's like electricity, but when shopping in the village, they are like this, so I'm also confused about cigarette packs. If Budi is thorough, but if it's the 'lurah', you can only see it because seeing his comments, he can quite understand us" (Eny).

Eny's statement shows the urgency that financial reports containing important financial positions and performance are owned by an organization as a basis for evaluation and decision-making (Gepp et al., 2021; Hudayati et al., 2022). Financial reports will provide an overview related to a business's capital structure, profits, and losses. The treasurer makes BUMDesa business unit financial reports with evidence of expenses and income obtained from the hamlet administrators or directly by the treasurer. All evidence of expenses in managing BUMDesa business units, whether in the form of invoices or cigarette packs, are archived as proof of transactions. The evidence of these expenditures is compiled in the financial statements. However, the writing is not following applicable standards, namely in the form of notes on how much cash comes in and goes out. This is because the treasurer only has administrative competence but does not yet have accounting/finance competence. Transactions in the business unit are not complex or many, but several transactions are routine every month, such as electricity payments and payment of management fees. Good financial reports according to accounting standards will encourage transparency in business financial management (Joseph et al., 2021; Kartini, 2018). but several monthly transactions are routine, such as electricity payments and administrative fees. Good financial reports according to accounting standards will encourage transparency in business financial management (Joseph et al., 2021; Kartini, 2018). but several monthly transactions are routine, such as electricity payments and administrative fees. Good financial reports according to accounting standards will encourage transparency in business financial management (Joseph et al., 2021; Kartini, 2018).

Financial reports are reported internally at monthly internal meetings and to BUMDesa and the village government once a year. This aims to ensure the validity of the financial statements made by the treasurer. From the reporting carried out by business units, the BUMDesa usually always provides input. This means that the financial statements are a form of supervision by the BUMDesa business unit management. As for the village, the government cannot be expected to provide meaningful input regarding financial conditions because the village government is passive in supervising business units. The financial reports

that have been made should be a reference for decision-making so that it can be better.

The implementation of accounting fraud prevention is carried out in three ways, namely through work culture, eliminating opportunities, and assessing financial reports. The work culture that the organization owns is in the form of high morality, followed by a culture of honesty and openness. In addition, a high social culture can be a good incentive to build a good work culture. The formation of a good organizational culture begins with a common goal that all members in an organization understand. Develop behavioral values as a standard in organizations, such as applying the values of honesty, social spirit, openness, and others. Leaders are role models in implementing organizational cultural values (Cross & Gillett, 2020; Eman & Bulovec, 2021; Hardinto et al., 2020; Saxena, 2017; Wu & Christensen, 2021). In addition, internalization, training, and appreciation activities are needed to foster organizational values in members (Courtois & Gendron, 2020).

Elimination of opportunities can be done through control systems and social sanctions from the community. The internal control system is the main control system that the organization must own. According to COSO theory, the internal control system can be in the form of risk assessment, environmental control, activity control, information and communication, and monitoring activities. However, not all organizations have an internal control system, especially organizations with a small scope. This is because small organizations usually still focus on organizational operations. In addition to internal control, external control is needed. External control is control carried out by outsiders of organizational management.

Financial statements are a collection of financial information used to describe the organization's performance. In order to maintain the validity of the financial statements, it is necessary to assess the financial statements. Assessment of financial reports is needed to maintain confidence in preparing financial reports that stakeholders have made as a basis for decision-making. Apart from that, financial reports can also be an early indicator to see red-flag accounting fraud and can be used as a reference to see whether organizational goals have been achieved and the preparation of financial reports that stakeholders have made as a basis for decision-making. Apart from that, financial reports can also be an early indicator to see red flags of accounting fraud and can be used as a reference to see whether organizational goals have been achieved.

Moreover, In helping the process of fraud action, such as in the case above, by asking questions directly to employees, this is deemed less effective, so the improvement is honesty detection. One solution is Honesty or fraud detection using AI [Figure 4]. One of the algorithms performed is as follows in Figure 4. And the AI Performance can be seen in Table 2 and Table 3.
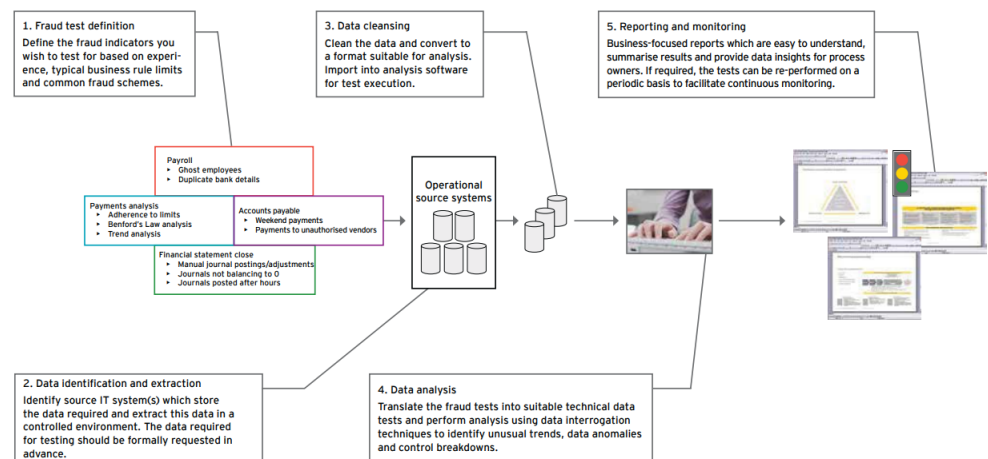
Figure 4. AI-based fraud detection (sources:
https://eyfinancialservicesthoughtgallery.ie/)

```python
import pandas as pd
from sklearn.ensemble import RandomForestClassifier

# Load data
data = pd.read_csv('data.csv')

# Create features
features = ['amount', 'account_number', 'transaction_date',
'customer_id']

# Create a target variable
target = data['fraud']

# Train model
model = RandomForestClassifier()
model.fit(features, target)

# Predict fraud
predictions = model.predict(features)

# Print accuracy
print(model.score(features, target))
```

Table 2. Best Accuracy of AI method for fraud detection

AI Method	Accuracy Percentage
Machine learning	95-99%
Deep learning	97-99.9%
Natural language processing	95-98%
Computer vision	96-99%

Table 3. Best Accuracy of Deep Learning Method for fraud detection

Deep Learning Method	Accuracy Percentage
Convolutional neural networks (CNNs)	99%
Recurrent neural networks (RNNs)	98%
Generative adversarial networks (GANs)	97%

4. CONCLUSIONS

BUMDesa business unit management does not explicitly understand the term accounting fraud. Accounting fraud prevention has not become a focus because it is still focused on increasing profits. Nonetheless, prevention is applied unwritten. Some precautions taken include work culture, elimination of opportunities, and assessment of financial reports. The management of the BUMDesa business unit prioritizes a high social spirit, being honest and ethical even though the honorarium received is not proper. In eliminating opportunities, external control has been carried out by the management and supervisors of the BUMDesa business unit. In addition, there are penalties in the form of social sanctions for perpetrators of accounting fraud. BUMDesa business unit financial reports have been prepared and reported both internally and externally to BUMDesa and the village government; in the theory of prevention of accounting fraud, it is stated that fraud can be prevented by establishing a culture of honesty, openness, and attributes of assistance and minimizing opportunities for fraud. Each has its constituent elements as carried out by the BUMDesa business unit. However, not all features in the theory have been implemented. Several aspects of accounting fraud prevention have been implemented. The results of data exploration show in-depth information related to forms of accounting fraud, for example, in eliminating opportunities for accounting fraud to occur in BUMDesa management, namely by external controls and social sanctions. One form of accounting fraud prevention that needs to be maximized in BUMDesa management is the establishment of written rules.

Moreover, AI can complete the process of fraud in the field of accounting by Identifying patterns of fraudulent activity. AI can analyze large amounts of data to identify patterns indicating fraudulent activity. For example, AI can locate employees submitting extensive expense reports or making frequent changes to their travel arrangements. It was flagging suspicious transactions. AI can flag suspicious transactions for further review by human analysts. This can help identify fraudulent activity early on, before it can cause significant damage to the company. It was automating the investigation process. AI can automate many tasks investigating fraud, such as collecting data, running reports, and generating alerts. This can free up human analysts to focus on more complex aspects of the investigation. It provided insights into the root cause of fraud. AI can help identify the root cause of fraud, which can help prevent future incidents. For example, AI can identify weaknesses in internal controls that may have made the company more vulnerable to fraud.

AUTHOR CONTRIBUTIONS

Conceptualization; D.N.S.Werastuti [D.N.S.W], A.T.Atmadja [A.T.A], L.S.Musmini [L.S.M], I M.P.Adiputra [I.M.P.A], A.Sutoto [A.S], A.N.Hidayatulloh [A.N.H], E.Sudarmanto [E.S], Purwanti Purwanti [P.P], methodology; [D.N.S.W],[A.T.A],[L.S.M],[I.M.P.A],[A.S],[A.N.H],[E.S],[P.P], validation; [D.N.S.W],[A.T.A],[L.S.M],[I.M.P.A],[A.S],[A.N.H],[E.S],[P.P], formal analysis: [D.N.S.W],[A.T.A],[L.S.M],[I.M.P.A],[A.S],[A.N.H],[E.S],[P.P], investigation; [D.N.S.W],[A.T.A],[L.S.M],[I.M.P.A],[A.S],[A.N.H],[E.S],[P.P], data curation;

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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