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THE USE OF BENFORD'S LAW IN PERFORMANCE AUDIT TO DETECT FRAUD IN THE STATE EXPENDITURE TRANSACTIONS ASSISTED BY IDEA SOFTWARE (A Case Study at the Transportation Ministry Work Units)

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ABSTRACT
The aim ofthis study was to determine the use of Benford's Law in Performance Audits todetect fraudin state expenditure transactions assisted by IDEA Software,a case studyat several Work Units of the Ministry of Transportation. The research method used was descriptive qualitative and direct experiment. This researchwas conucted while the researcher wascarruing outperformance auditat three work units of the Ministry of Transportation. The researcher used IDEA Software to analyze the financial transaction data according to Benford's law. Based on the results of the research, the right type of state expenditure to be analyzed using Benford law isgoods expenditure.In addition,Benford's Law can be used in performance audits to determinestate expenditure transactions that are indicated fraud with the success rate of ranging from 20% to 50%t. Transactions that appear are not in accordance with Benford's law.

1. INTRODUCTION

The Inspectorate General of the Ministry of Transportation, in carrying out its role as Government Internal Supervisory Apparatus (APIP) of the Ministry of Transportation, has a program of Internal Audit that is carried out periodically, or commonly known as Performance Audit.

The effectiveness of Internal Audit is defined as the ability of the Government Internal Supervisory Apparatus (APIP) to realize Good Governance and Clean Government, in which one of its concrete actifities is to detect fraud in state budget expenditures. However, in the period from 2010 to 2017, the Corruption Eradication Commission of Indonesia (KPK) received 70 reports of corruption cases that occurred at the Ministry of Transportation. The Ministry of Transportation is also noted as the worst Ministry based on a public sector integrity survey conducted by the KPK on 40 service units in 20 Ministries and Institutions. (source: https: //law-justice. co, posted November 28, 2017).

The negative news above shows weaknesses in the implementation of the Performance Audit program, especially in identifying fraud on the state expenditure transaction.

The supervisory policy appplied at the Inspectorate General of the Ministry of Transportation states that the performance audit is carried out for a maximum of 15 calendar days with 2 audited objects. Thus, the performance audit for the examination of state expenditure transactions is carried out using a purposive random sampling method. This method is similar to random sampling but it begins by determining in advance the characteristics of the choice, for example: a minimum limit on the value of activities, types of activities, impact of risk activities, and others, based on the

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direction of the Audit Team Technical Controller. However, the drawback of this method is that it does not guarantee whether the audit sample represents complete population or not and the audit risk is still high due to the possibility of inaccurate audit sampling.

Thererefore, it is necessary to innovate the use of new methods in determining state expenditure transactions that indicate fraud during the performance audit to reduce the audit risk.

For academics and practitioners of statistics, there is a statistical analysis based on Benford's Law that is used to identify anomalous numeric arrays from a large collection of data in the form of numbers. Benford's Law is indeed not commonly known to be used in performance audits, so the theory is not popularly known by the Auditors, especially the Government Internal Auditors in Indonesia.

Analysis procedure with Benford's Law is a statistical analysis of transaction data in large numbers to get statistics on the use of numbers that appear in transactions adjusted to Benford's Law. If the data numbers are produced without intentional elements, the frequency of occurrence of these numbers will be in accordance with Benford's Law, and vice versa if there is an intentional element by humans to create a combination of numbers and become a unity in financial data, the results of the analysis show that there are certain numbers that appear more or less than expected, which will lead to transactions that are considered unnatural or indicated fraud in the process of the transaction.

This phenomenon encourages researcher to conduct this tudy entitled "**The Use of Benford's Law in Performance Audits to Detect Fraud in the State Expenditure Transaction assisted by IDEA Software, a case study at several Work Units of the Ministry of Transportation**."

Based on the background above, the researcher identifies the formulation of the problem to be investigated: (1) What type of state expenditure that can be analyzed using Benford's Law to detect fraud? (2) What is the truth level of the existence of fraud that can be proven based on the list of state expenditure transactions that are not in accordance with Benford's Law?

The research objective is to determine the successful use of Benford's Law to identify state expenditure transactions that are indicated fraud to reduce audit risk and expected benefits. And the results can be input for new innovations in determining state expenditure transactions that are indicated fraud during the performance audit.

Due to limited research time while carrying out performance audits, the use of Benford's Law only focuses on analyzing the first two numbers of financial transactions which are grouped into suspicious and highly suspicious transactions based on IDEA software. This research was conducted only at 3 Work Units of the Ministry of Transportation: Office A in East Kalimantan, Office B in North Kalimantan, and Office C in Southeast Sulawesi.

2. LITERATURE REVIEW AND HYPOTHESIS

Benford's Law

Benford's Law is one of the methods often used by auditors and academics in computer-based audit. Benford's Law was first introduced by Frank Benford when making observations while working as a physicist at the General Electric laboratory in New York in 1920. Frank Benford published an article titled "The Law of Anomalous Number" which states that the lowest number appears more frequently.

Benford's Law explains that if a set of numbers from a collection of transactions meets Benford's Law, the first number of these numbers will appear with probability:

$$P(d) = log_{10}(d+1) = log_{10}(d+1/d) = log_{10}(1+1/d)$$

From the formula, it can be calculated that the probability of number 1 being the first number that appears is 0.301 (or 30.1 percent). Furthermore, the probabioity

of number 2 being the first number that appears is 0.176 (17.6 percent). In this case, Table 1 shows the probability of the first number that appears based on the above equation.

From this general law, it can be seen the significant probability of the occurrence of the next number. Monotonically there is a decrease in the probability of the frequency of occurrence along with the increase in the order of numbers.

As described above, Benford's Law also makes it possible to calculate the probability of meeting a number after the first, or to the n^{th} number, with the formula:

$$log_{10}(n+1) - log_{10}(n) = log_{10}(1+1/n)$$

From this general formula, Nugini further developed an analysis of the significance of the numbers that appear which can be used to find out the possibility of improper use of numbers in transactions, which will further be indicated as an indication of fraud in financial data, including:

1. Analysis of the First Number. This analysis compares the actual distribution of the first number frequency from a data set developed by Benford. This analysis will only identify the irregularities in the distribution of numbers.
2. Analysis of the Second Number. This analysis tests the appropriateness or reasonableness of the frequency of the distribution of numbers used to identify indications of problems in a data set.
3. Analysis of the First Two Numbers. This analysis combines the two previous theories to be able to identify mismatches or deviations in the distribution of numbers. According to Nugini, the results of this analysis are said to be more efficient because they have a smaller number of sample outputs than the results of the first number analysis or the second number analysis, so it is more suitable if used to select sampling for audits.

According to Nigrini (2000), there are a number of data set requirements that must be met in order to be analyzed using Benford's Law, such as:

1. The data to be analyzed is a complete and homogeneous unit;
2. The data is not within the maximum or minimum limits (between certain numbers);
3. The data is not the number that is deliberately formed or a symbolic number;
4. The data set collection from transactions is in the form of large numbers (≤100)
5. The data is the property of an entity which is unique and there is no duplication;

Table 1. **Probability of Occurrence of Each Number from the First Row to the Fourth Row**

Number (= d)	Appearance in the firs row = d_1	Appearance in the second row = d_2	Appearance in the third row = d_3	Appearance in the fourth row = d_4
0	-	0.11968	0.10178	0.10018
1	0.30103	0.11389	0.10138	0.10014
2	0.17609	0.10882	0.10097	0.10010
3	0.12494	0.10433	0.10057	0.10006
4	0.09691	0.10031	0.10018	0.10002
5	0.07918	0.09668	0.09979	0.09998
6	0.06695	0.09337	0.09940	0.09994
7	0.05799	0.09035	0.09902	0.09990
8	0.05115	0.08757	0.09864	0.09986
9	0.04576	0.08500	0.09827	0.09982

6. The Data, if sorted from the smallest to the largest value, forms a geometric sequence;
7. The data has a mean value greater than the median value;
8. The data has a positive skewness value.

However, according to Etteridge and Srivastava (1999), when it is found an unusual set of data in accordance with Benford's Law and after an audit is conducted, it may simply indicate inefficient operations or deficiencies in the system and not an indication of Fraud.

From the description above, it can be concluded that with Benford's Law, we believe that a collection of a variety of human expenditure transactions, when it is collected and analyzed for the appearance of the numbers, and it is not in accordance with Benford's Law, then it needs to be suspected that there is a possible role for humans to manipulate a transaction that results in the emergence of the numbers that do not comply with Benford's Law. And the object of the Audit is the transaction in which the alleged number appears.

Fraud

Fraud is a deliberate act with the intention of deceiving and taking advantage of other parties. Literally, the Institute of Internal Auditors (2009) in the Trisakti University Forensic Audit Module (2015) defines fraud as:

> "*every illegal action which is marked by deception, concealment, or violation of trust. This action does not depend on threats of violence or physical threats. Fraud is carried out by other parties and organizations involved to obtain money, property or services; to avoid payment or loss of services; or to secure personal or business profits*".

Fraud, according to *Standar Kompetensi Kerja Nasional Indonesia Bidang Audit Forensik* (the Indonesian National Work Competence Standards for Forensic Audit) /SKKNIAF established through the Decree of the Minister of Manpower and Transmigration of the Republic of Indonesia Number Kep. 46 / MEN / II / 2009, is an intentional or intended action to eliminate someone's money or property by means of guile, cheating or other unfair means.

From some previous definitions, it can be concluded that fraud is the deviation and illegal acts which are done intentionally for a specific purpose such as cheating or giving wrong information (mislead) to other parties committed by people inside or outside organization.

State Expenditure

Based on its type, state expenditure, according to the Law of the Republic of Indonesia Number 17 of 2003, consists of:

1. Employee expenditure, which is used to pay employee salaries or other rights;
2. Expenditure for goods, which is used to finance government operational activities;
3. Capital expenditure, which is used for expenditure in the form of fixed assets and other assets;
4. Payment of debt interest;
5. Other expenses, the expenses which are not included in the expenditure items above.

Infinancialmanagement,accountability for expenditue is a process that must be passed. The form of accountability for the implementation of expenditure is carried out administratively, substantially and materially.

Performance Audit, Internal Audit, and Government Internal Supervisory Apparatus (APIP)

According to Arens et al. (2014), audit is the accumulation and evaluation of evidence about information to determine and report the level of correspondence between information and the criteria esblished. Audit must be carried out by competent and independent people.

Based on the Regulation of the Minister of Utilization of the State Aparatus Number PER / 05 / M.PAN / 03/2008 dated March 31, 2008, concerning the Auditing Standards of the Government

Internal Supervisory Apparatus (APIP), performance audit is an audit of the implementation of the tasks and functions of government agencies consisting of the aspects of economy, efficiency, and effectiveness.

Based on Law Number 23 of 2014 concerning Regional Government article 1 paragraph 46, one of the Government Internal Supervisory Apparatus (APIP) is the Inspectorate General of the Ministry. One of the forms of internal supervision carried out by APIP is through an audit, which consists of:

1. Performance audit. Performance audit is an audit of the management of State finances and the implementation of the tasks and functions of Government Agencies covering aspects of economy, effectiveness, and efficiency.
2. Audit with specific purpose. This is an audit other than performance audits above.

The Audit conducted by APIP is called Internal Audit, which aims to ensure the implementation of orderly, effective, efficient and appropriate government affairs in accordance with applicable regulations, in order to realize the concepts of Good Governance and Clean Government.

From the description above, it can be concluded that the results of the performance audit provide an assessment of the 3E elements (economical, efficient, and effective), which emphasize the realization of work, so that the finding of small fraud remains a very strategic finding because it has an impact on the realization of work.

3. METHODS

This study uses descriptive qualitative research method and direct experiment (practice) on the implementation of Benford's Law. This study was conducted by researcher while conducting a performance audit.

Source of data (research population) is financial transaction data submitted by the Auditor which is confidential and limited. Therefore, according to the Government Auditor's Code of Ethics, the name of the Task Implementing Unit (UPT) and details of the transaction being examined will be kept confidential.

The use of Benford's Law only focuses on analyzing the first two numbers of financial transactions and the results are a list of transactions that are suspected of fraud. Furthermore, the list of transactions that are suspected of fraud due to non-compliance with Benford's Law will be proven through audit procedures and techniques in general (Arens et al. 1717), including:

a. analytical procedures, i.e., computer-assisted systematic procedures or systematic analysis
b. physical examination, i.e. a physical examination of the results of state expenditure
c. confirmation, i.e. confirmation of the third party involved in the transaction
d. documentation, i.e. the activity of collecting written evidence
e. inquiry of the client, i.e. a request for information directly to the auditee
f. Re-performance, i.e. the Auditor's reassessment of the data presented by the auditee
g. observation, i.e. an activity of observing the factual conditions of the auditing work environment

Researcher uses IDEA software to make it easier to analyze the financial transaction data in accordance with Benford's Law. Researcher chooses to use IDEA software over other audit applications because the results of Benford's Law analysis are displayed in graphs that are automatically added to the suspicious and highly suspicious categories, with yellow and red marks.

The list of suspicious transactions according to IDEA software is a list of transactions that occur not in accordance with the expectations of Benford's Law, with the value of the difference between expectations and actual conditions that appear (difference), greater than 3.99 and

less than or equal to 10, while the list of highly suspicious transactions according to the software IDEA is a list of transactions that occur not in accordance with the expectations of Benford's Law, with the value of the difference in expectations with the actual conditions that appears greater than 10.

4. RESULTS AND DISCUSSION

Types of state expenditure that can be analyzed using Benford's Law

Benford's Law applied to audits is a more complex form of data analysis by looking at the account as a whole to determine whether transactions occurred are in accordance with the pattern of recording transactions based on Benford's Law.

Most accounting-related data can be expected in accordance with Benford's transaction patterns, and thus will be an appropriate candidate for data analysis (Hill 1995). This is because a typical account consists of transactions that result from a combination of numbers. For example, accounts receivable is the amount of goods purchased multiplied by the price per item. Likewise, debt accounts and most income and expense accounts are expected to be appropriate. The size of the account, or the number of entries or transactions, is also important. In general, the results of the Benford analysis are more reliable if the entire account is analyzed rather than the account sampling. This is because the greater the number of transactions or items in the data set, the more accurate the analysis.

Based on the description of previous literature review, there are certain criteria so that a transaction data set can be analyzed with Benford's Law, as follows:

- The data to be analyzed is a complete and homogeneous unit;
- The data is not within the maximum or minimum limits (between certain numbers);
- The data is not a deliberately formed number or a symbolic number;
- The data set as the collection from transactions is in the form of large numbers (≤100)
- The data is the property of an entity that is unique and there is no duplication;
- The data, if it is sorted from the smallest to the largest value, forms a geometric sequence;
- The data has the mean value greater than the median value;
- The data has a positive skwness value.

Table 2. **Analyzed using Benford's Law**

Type	Explanation	Conclusion
Goods Expenditure	Data set collection of many transactions Homogeneous data Data in which the limit value is unknown The numbers formed are not fixed	Can be analyzed using Benford's Law
Employee expenditure	Data set collection of many transactions Homogeneous data Data in which the maximum values can be known The number formed is fixed (employee salary)	Cannot be analyzed using Benford's Law
Capital Expenditure	Data set collection of many transactions Homogeneous data Data in which the maximum value can be known The number formed is fixed (contract terms)	Cannot be analyzed using Benford's Law
Debt Payment	Including rare activities Homogeneous data Data in which the limit value is unknown The number formed is not fixed	Cannot be analyzed using Benford's Law

Source: Primary Data

Based on the criteria above, it can be determined that the right type of expenditure to be analyzed by Benford's Law is Goods Expenditure, with the following explanation Table 2.

The results of using Benford's Law to determine state expenditure transactions that are indicated fraud

Due to the Auditor's code of ethics, the author cannot present all the results of his test and the detailed results of his audit in the 3 Work Units of the Ministry of Transportation. The summary of the results and discussion are described as follows:

1. **Office A in East Kalimantan**

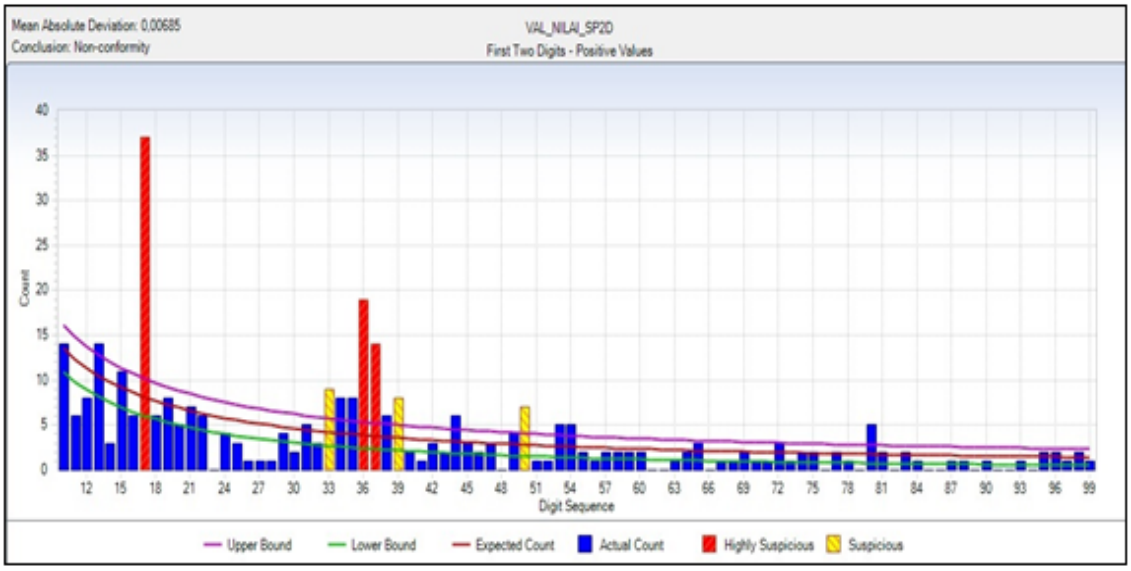
   In the performance audit of Office A, an examination of 181 goods expenditure transactions was carried out, with the results as follows (Figure 1).

   It can be observed in the Chart of Office A that there are uses of the first two numbers in the transaction value which are deemed incompatible according to Benford's Law. Assisted by IDEA software, the yellow color is as suspicious transactions and the red color is highly suspicious transactions.

From the table above it can be explained as follows:

a. Transactions with the first two numbers 17 are known to appear 37 times. According to Benford's Law, it may appear 8.14 times (difference = 28.86), so that the 37 transactions are included as allegedly fraudulent transactions and after being audited only 24 transactions which are proven to occur fraud;
b. Transactions with the first two numbers 33 are known to appear 9 times. According to Benford's Law, it may appear 4.25 times (difference = 4.75), so that the 9 transactions are included as allegedly fraudulent transactions and after being audited only 1 transaction that is proven to occur fraud;
c. According to Benford's Law, it may appear 3.8 times (difference = 15.1), so that the 19 transactions are included as fraudulent transactions and after being audited 3 transactions are proven to occur fraud;
d. Transactions with the first two numbers 37 are known to occur 14 times. According to Benford's

Figure 1. **Chart of Office A**



Source: Primary Data

Table 3. **Number of Transactions**

The first two numbers	Number of Transactions				
	expectations according to Benford	the actual value that appears	the difference between the expected value and the actual value that appears	suspected fraud (suspicious)	Proven indications of fraud
17	8.14	37	28.86	37	24
33	4.25	9	4.75	9	1
36	3.9	19	15.1	19	3
37	3.8	14	10.2	14	3
39	3.61	8	4.39	8	0
50	2.82	7	4.18	7	1
			Total	**94**	**32**

Source: Primary Data

Law, it may appear 3.8 times (difference = 10.2), so that 14 transactions are included as transactions that are suspected of fraud and after being audited only 3 transactions that are proven to occur fraud;

e. Transactions with the first two numbers 39 are known to appear 8 times. According to Benford's Law, it may appear 3.61 times, so that the 8 transactions are included as transactions that are suspected of fraud and after being audited there are no transactions that are proven to have occurred fraud;
f. Transactions with the first two numbers 50 are known to appear 7 times. According to Benford's Law, it may appear 2.82 times (difference = 4.18), so that 7 transactions are included as transactions that are suspected of fraud and after being audited only 1 transaction that is proven to have occurred fraud in the process of its activities;
g. From the list of transactions that have proven fraud, there are problem conditions that do not comply with the provisions, with the following summary:
   - Most are direct procurement activities, which are known in the procurement process. There are stages that are not in accordance with the applicable laws and regulations;
   - There is no document on the inspection of work results;
   - Complete documentation of work implementation is not made before and after the work is carried out;
   - The work drawing is not made for the work with the category of civil works;
   - For the work in the category of procurement of spare parts, there are no technical attachments and / or pictures of goods to be purchased;
   - The work is not actually realized (fictitious)
h. Audit results of Office A indicate that a list of transactions are allegedly indicated fraud because its appearance is not in accordance with Benford's Law and has been proven to occur fraud as many as 32 transactions (34.04%), while for the other 60 transactions there is not enough evidence and information to declare fraud detrimental to the country's finances.

2. Office B in North Kalimantan

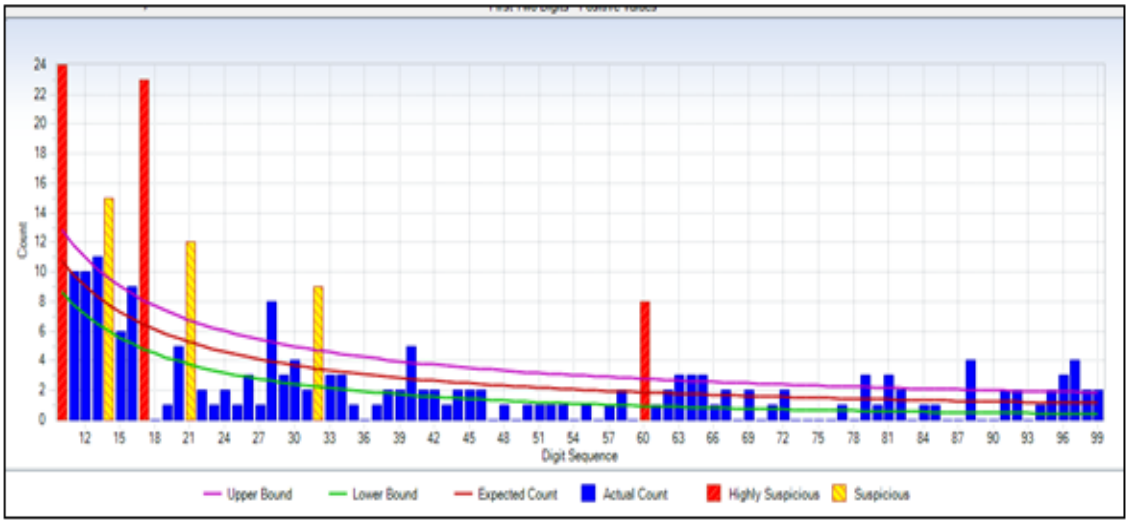
In conducting a performance audit at Office B, an examination of 261 goods purchase transactions is carried out, with the results as follows (Figure 2).

It can be observed in the Chart of Office B that there are uses of the first two numbers in the transaction value which are deemed inappropriate according to their appearance under Benford's Law. Assisted by IDEA software, the yellow color is as suspicious transactions and the red color is as highly suspicious transactions.

From the table above, it can be explained as follows:

a. Transactions with the first two numbers 10 are known to appear 24 times. According to Benford's Law, it may appear 10.8 times (difference = 10.8), so that 24 transactions are included as transactions that are suspected of fraud and after being audited only 5 transactions are proven fraud;
b. Transactions with the first two numbers 14 are known to appear 15 times. According to Benford's Law, it may appear 7.82 times (difference = 7.18), so that 15 transactions are included as transactions that are suspected of fraud and after being audited,

Figure 2. **Chart of Office B**



Source: Primary Data

Table 4. **Number of Transactions**

The first two numbers	Number of Transactions				
	Expectation based on Benford	Actual values that appear	Difference between expected value and actual value (difference)	Suspected fraud indication (suspicious)	Proven fraud indication
10	10,8	24	13,2	24	5
14	7,82	15	7,18	15	4
17	6,48	23	16,52	23	12
21	5,27	12	6,73	12	0
32	3,49	9	5,51	9	0
60	1,87	8	6,13	8	0
			Total	**91**	**21**

Source: Primary Data

4 audits transactions proven to be fraudulent;

c. Transactions with the first two numbers 17 are known to appear 23 times. According to Benford's Law, it may appear 6.48 times (difference = 16.52), so that 23 transactions are included as transactions suspected of fraud and after being audited only 12 transactions that were proven to have occurred fraud;
d. Transactions with the first two numbers 21 are known to appear 12 transactions. According to Benford's Law, it may appear 5.27 times (difference = 6.73), so that the 12 transactions are included as transactions that are suspected of fraud and after being audited there is no transaction that is proven to be a fraud;
e. Transactions with the first two numbers 32 are known to appear 9 times. According to Benford's Law, it may appear 3.49 times (difference = 5.51), so that 9 transactions are included as transactions that are suspected of fraud and after being audited there is no transaction that is proven to be a fraud;
f. Transactions with the first two numbers 60 are known to appear 8 times. According to Benford's Law, it may appear 1.87 times (difference = 6.13), so that the 8 transactions are included as transactions that are suspected of fraud and after being audited there is no transaction that is proven to be a fraud;
g. From the list of transactions that have proven fraud, there are similarities in the condition of problems that are not in accordance with the provisions, consisting of:
   - Most are direct procurement activities which are known in the procurement process. There are stages which are not in accordance with the provisions of the applicable laws and regulations;
   - Work drawings are not made for the work in the category of civil work, work drawings, making it difficult for the Auditor to measure the realization;
   - There is a mismatch in the technical specifications between the work results and the work agreement.
h. Audit results in Office B show that a list of transactions that are allegedly indicated fraud because their appearance is not in accordance with Benford's Law. The detection shows that fraud occurs in as many as 21 transactions (23.08%), whereas for 70 other transactions there is insufficient evidence and statement to declare fraud that is detrimental to state finances.

3. Office C in Southeast Sulawesi

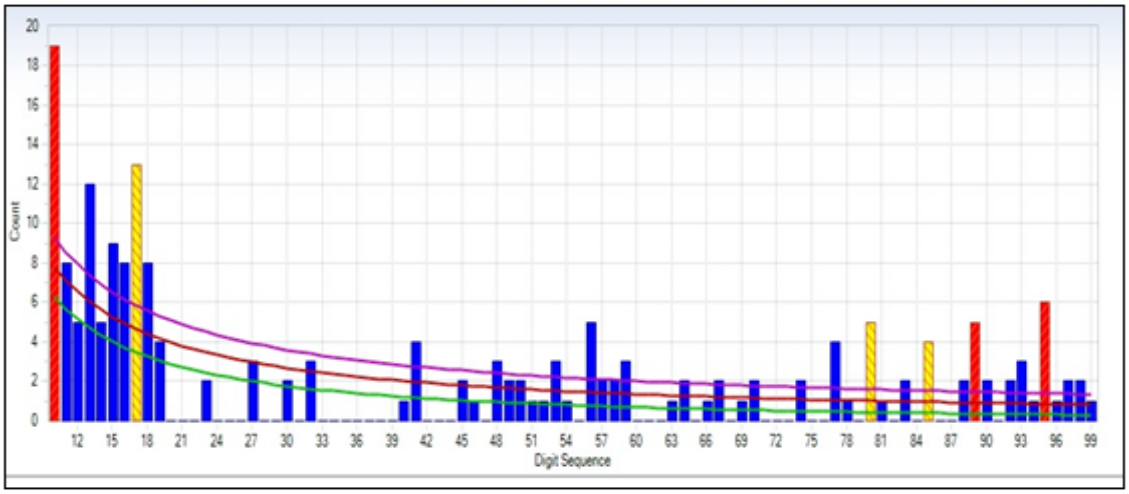
During the performance audit at Office C, 189 goods purchase transactions were examined, the results are as follows (Figure 3).

Based on information in the Office C chart, there are uses of the first two numbers in the transaction value which are deemed incompatible according to Benford's Law. Assisted by IDEA software, the yellow color is as suspicious transactions and the red color is as highly suspicious transactions.

From the table above it can be explained as follows:

a. Transactions with the first two numbers 10 are known to appear 19 times. According to Benford's Law, it may appear 7.82 times (difference = 11.18) so that 19 transactions are

Figure 2. **Chart of Office C**



Source: Primary Data

included as allegedly fraudulent transactions and after being audited there are only 11 transactions that are proven to occur fraud;

b. Transactions with the first two numbers 17 are known to appear 13 times. According to Benford's Law, it may appear 4.69 times (difference = 8.31) so that 13 transactions are included as allegedly fraudulent transactions and after being audited there are only 9 transactions that are proven to occur fraud;
c. Transactions with the first two numbers 80 are known to appear 5 times. According to Benford's Law, it may appear 1.02 times (difference = 3.98), so that the 5 transactions are included as allegedly fraudulent transactions and after being audited there are only 3 transactions that are proven to occur fraud;
d. Transactions with the first two numbers 85 are known to appear 4 times. According to Benford's Law, it may appear 0.96 times (difference = 3.04), so that the 4 transactions are included as allegedly fraudulent transactions and after being audited there are only 3 transactions that are proven to occur fraud;
e. Transactions with the first two numbers 89 are known to appear 5 times. According to Benford's Law, it may appear 0.92 times (difference = 4.08), so that the 5 transactions are included as allegedly fraudulent transactions and after being audited there is only 1 transaction that is proven to occur fraud;
f. Transactions with the first two numbers 95 are known to appear 6 times. According to Benford's Law, it may appear 0.86 times (difference = 5.14), so that the 6 transactions are included as allegedly fraudulent transactions and after being audited there is only 1 transaction that is proven to occur fraud;
g. From the list of transactions that have proven fraud, there are similarities in the condition of problems that are not in accordance with the provisions, such as:
    - Most are direct procurement activities, which are known

Table 5. **Number of Transactions**

The first two numbers	Number of Transactions				
	Expectioan based on Benford	Actual value that appear	The difference between expected value and actual value (difference)	Suspected fraud indication (suspicious)	Proven fraud indication
10	7,82	19	11,18	19	11
17	4,69	13	8,31	13	9
80	1,02	5	3,98	5	3
85	0,96	4	3,04	4	3
89	0,92	5	4,08	5	1
95	0,86	6	5,14	6	1
			Total	**52**	**26**

Source: Primary Data

in the procurement process, there are stages that are not in accordance with the applicable laws and regulations

- There is no document on the inspection of work results;
- Complete documentation of work implementation is not made before and after the work is carried out;
- The work drawing for the work in the category of civil work is not made, making it difficult to measure the realization by the Auditor
- For the work in the category of procurement of spare parts, there are no technical attachments and / or pictures of goods to be purchased;
- There is a lack of volume of work to be done; or
- There is a mismatch in the technical specifications between the work results and the work agreement

h. Audit results in Office C show that from a list of transactions it is suspected of being indicated fraud because its appearance is not in accordance with Benford's Law. It has been proven fraud in 26 transactions (50%), while for the other 26 transactions there is not enough evidence and information to declare fraud that is detrimental to state finances

5. CONCLUSION

Based on the results and discussion above, it can be concluded as follows: 1) Not all types of state expenditures can be analyzed using Benford's Law. It is more appropriate for goods expenditure only because the number of transactions is large (> 100) and the range of transaction values has no limit because the transaction numbers formed are not fixed. 2) Benford's Law can be used in performance audits to determine state expenditure transactions that are indicated fraud, especially the type of goods expenditure, with a success rate of identifying fraud at the range between 20% and 50% of the list of transactions that do not comply with Benford's. However, whatever small the fraud finding, it remains a very strategic finding because it shows non-compliance with applicable regulations. This study is only limited to transactions with the value of difference of > 4, which is grouped into suspicious and highly suspicious transactions by IDEA Software, in which based on the analysis Benford's Law, the difference value of > 0.1 can be considered not complying with Benford's law. Therefore, further research needs to be done. There are differences in

the results of transactions that are proven to have occurred fraud at every Office, in which the value is relatively influenced by the difference in the adequacy of time to gather evidence and information taking into account the allocation of time for the assignment.

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