E-ISSN: 1116 - 2619 P-ISSN: 3026-
MPRI-JHLAR | INTERNATIONAL JOURNAL OF HUMANITIES, LITERATURE AND ART RESEARCH
VOL. 07 NO. 6 – JANUARY, 2025

THE APPLICABILITY OF BENFORD'S LAW TO DETECT FRAUD IN THE FINANCIAL STATEMENT OF OIL AND GAS COMPANIES LISTED ON THE NIGERIAN STOCK EXCHANGE

BAKSHAK YERIMA SATI

Business Education Department, F.U.E., Pankshin

Corresponding Author:
princeyerima76@gmail.com

DOI: https://doi.org/10.70382/mejhlar.v7i6.017

Keywords: Benford Law, Receivable, Payable, Chi-square, First Significant Digit

Abstract

Fraud in financial statements of government and business organizations all over the world has a devastating effect on the individuals as well as the economy of the world. The purpose of this study is to apply Benford's Law to determine fraud in the financial statements of oil and gas companies in Nigeria from 2012 to 2022. To achieve the objective of the study two null hypothesis were constructed and tested. The study in the first place, employed Benford's First Significant Digit Distribution and the result show that most of the digits of receivables data and payable data deviated from the proposed Benford's First Significant Digit Distribution. To determine the significant relationship between the variables of interest, the study employed the Chi-square test. The findings of the study indicates that there is no significant relationship between receivable data of oil and gas companies listed on the Nigerian Stock Exchange and the proposed Benford's First significant digit. Similarly, there is no significant relationship between payable data of oil and

EDITOR-IN-CHIEF
Prof. S. T. Addo [GHANA]

gas companies listed on the Nigerian Stock Exchange. The lack of conformity of the receivable and payable data to Benford's Law implies that there is fraud. The study recommends that auditors should be employed to further investigate the identified figure of deviations.

Introduction

Financial statement fraud detection is a global issue that has become a serious source of concern to stakeholders. The Satyan, Enron and WorldCom Fraud issue, and the global financial crisis of 2008/ 2009 has devastating impact on the world economy (Shahan. et al 2023). Nigeria lost billions of Naira to fraud in 2020 (Emmanuel, 2022). Similarly, National Bank Surveillance Services (NBSS) provided that the amount of fraud in Nigeria as at 2019 was 2.9 billion naira. Accordingly, the financial sector lost 40.71 billion naira in the past five years (NBSS, 2023).

These fraudulent acts have continued to draw the attention of investors, government and regulatory authorities on financial statement fraud by business organizations worldwide. As a result, effective detecting financial fraud has always been an important and challenging task for accounting and auditing professionals considering the devastating economic and social consequences (Noorullah, 2020).

Financial statement fraud according to Association of Certified Fraud Examiners (ACFE) is "deception or misrepresentation that an individual or entity makes knowing that the misrepresentation could result in some unauthorized benefit to the individual or the entity or some other party", this implies that financial statement fraud is the intentional manipulation of the financial statement to inflate the profit of the firm. For instance, Energy Behemoth Enron surprised the world with it worldwide publicized bankruptcy. The firm committed financial statement fraud by creating off-balance sheet Special Purpose Vehicles (SPVs) which understated liabilities and inflated earnings. The firm did this just to improve the firm's financial outlook (Andrew, 2021)

. It is on record that in 2011 Nigeria lost about six billion dollars as a result of fraud committed by Eni and Shell in a controversial oil deal (Emmanuel, 2022). Similarly, National Bank Surveillance Services (NBSS) provided that the amount of fraud in Nigeria as at 2019 was 2.9 billion naira. Accordingly, the financial sector lost 40.71 billion naira to fraud in the past five years (NBSS, 2023). Another case of corporate fraud which has continued to cause concern to stakeholders is the fraud cases of Cadbury Nigeria Plc, Lever Brothers (Nig) Plc and African Bank Plc (Etim, 2024). Since then, investors have continued to doubt the credibility of financial report of corporate organizations in Nigeria.

However, Benford"s Law has been tested to have the ability to reveal these fabricated accounting entries as well as to inform auditors of the identified areas of fraud for further audit investigation (Singleton 2011 and Collins, 2019).

The application of Benford's Law to detect financial statement fraud in Nigeria is timely and appropriate considering the alarming rate of corporate fraud by many organizations. The interest of this study is that from the previous study little or none have applied Benford's Law to detect financial statement fraud in oil and gas companies listed on the NGX in Nigeria. This study will use current data for the analyses in order to capture the changes that have taken place after the previous studies. Finally, the will contribute immensely to the existing literature in this field of study.

The study is written in sections. Section 1 is the introduction aspect. Section 2 will consist of the literature review starting from conceptual frame work empirical review and the theory underpinning the study. The methodology is written in section 3. Section 4 is the presentation of data and analysis as well as discursion of findings. Section 5 consists of the summary of findings, conclusion and recommendations.

In order to achieve the research objectives, the following null hypothesis were constructed;

1. There is no significant relationship between Benford's First Significant Digit and Receivables data of oil and gas companies listed on the Nigerian Stock Exchange

2. There is no significant relationship between Benford' First Significant Digit and Payables data of oil and gas companies listed on the Nigerian Stock Exchange.

Scope of the Study

This research work is restricted to the applicability of Benford's law to detect fraud in the financial statements of oil and gas companies listed on the Nigerian Stock Exchange. The study will only use the First Significant Digit of Benford's Law to compare with receivable and payables of the oil and gas companies. There are many methods of analyzing the relationship between Benford's law and financial statements of oil and gas companies listed on the Nigerian Stock Exchange. The study will employed chi-square out of the appropriate methods, to determine the significant relationship between Benford's Law and financial statements of oil and gas companies listed on the Nigerian Stock Exchange under the energy sector

Conceptual Framework:

Financial Statement Fraud Detection

Association of Certified Fraud Examiners (ACFE) in 2012 defined financial statements fraud as the intentional misrepresentation of an enterprise's financial condition through the purposeful omission of amounts from the financial statement of the organization in order to deceive financial statement users.

Financial Statement fraud is defined by the American Institute of Certified Public Accountants (AICPA) as "purposeful conduct that results in a serious falsification of the financial statements" in SAS No. 99, "Consideration of Fraud in a Financial Statement Audit," published in 2002. Gupta (2013) financial statement fraud is the intentional attempt by corporations to defraud or mislead readers of published financial statements, particularly investors and creditors, through the preparation and distribution of materially misstated financial accounts.

Wells (2017), financial statement fraud is the intentional misstatement or omission of financial statement quantities or disclosures with the intent to deceive users of financial statements, notably creditors and investors.

Benford's Law

According to Nathan & Betsy (2023) Benford's Law which is also referred to as first digit law could be defined as an observation that is linked to the frequency distribution of leading digits in numerous sets of real-life numerical data. Benford's Law Assumes that in the collection of various real-life sets of numerical data, 1 appears as the leading significant digit about 30% of the time, whereas 9 appears at less than 5% as a larger number.

Jim (2024) described Benford's Law as the relative frequency distribution for leading digits of numbers in a data set. Accordingly, smaller number 1 occurs more frequently as leading digits than larger number 9. Benford's Law states that small number 1 occurs at about 30% while, larger number 9 occurs at less than 5%.

Amo &Theodore (2011) Stated that Benford's Law is same as Newcomb-Benford's Law of anomalous numbers or the first-digit law. They put forward the meaning of Benford's Law as an observation involving several real-life numerical data set, the small number 1 appears to be the leading significant digit as it occurs at about 30% of the time, whereas 9 occurs as the leading significant digit at less than 5% of the time

Empirical Literature

Benford's Law and Receivables

Adeyemi et al (2017) examined the significant relationship between Benford's digit distribution law and accounts receivable in Nigeria covering the period from 2010 to 2015. The data for the study was obtained from the Anuual reports of 20 Nigerian companies. The methodology employed for the study is the chi-square test. The findings show that receivables data does not conform to the prosposed Benford's digit distribution Law.

Similarly, Okafor et al (2017) investigated the relationship between Benford's digit distribution law and accounts receivables of Nigerian banks covering the period from 2010 to 2015. The data for the study was collected from the financial statements of 15 Nigrian banks. Z-test was adopted for the study. Their findings show that there is no significant relationship between Accounts

receivables of Nigerian banks and the expected Benford's digit distribution law.

Akinwunmi (2018) investigated the significant relationship between the accounts recievables and Benford's digit distribution law in Nigeria covering the period from 2010 to 2015. Data were sourced from Annual reports of 15 Nigerian insurance companies. Chi-square test was employed as the methodology to determine the significant relationship between accounts receivables and the proposed Benford's digit distribution law. Their finding indicates that accounts recivables of Nigerians insurance companies do not conform to the proposed Benford's digits distribution law.

Olanrewaju et al (2018) evaluates the significant relationship between accounts receivables and Benford's digit distribution law in Nigeria covering the period from 2010 to 2015. The data for the study was obtained from the financial statements of 15 food and beverage companies. To determine whether there is a significant relationship existing between the variables of interest, their study employed Z-test. Their findings indicates that there is no significant relationship existing between accounts receivables of food and beverages companies in Nigeria and the proposed Benford's digit distribution law.

Benford's Law and Payables

Olowe et al (2018) examined the significant relationship between accounts payables and Beford's digit distribution law in Nigeria covering the period from 2012 to 2017. The data for the analysis was sourced from the financial statements of 25 Nigerian companies. Z-statistics was adopted to determine whether there is a significant relationship that exists between the variables of interest. Their findings indicate that accounts payables deviated from the expected Benford's digit distribution law. Therefore, the study concludes that there is not significant relationship between the accounts payables of Nigerian companies and the proposed Benford's digit distribution law.

Another study conducted by Uwuigbe et al (2019) in Nigeria convering the period from 2012 to 2017 investigated the relationship between accounts payables and Benford's digit distribution law. The data for the study was

obtained from the Annual reports of 20 Nigerian Manufacturing companies. Chi-square was employed to determine the significant relationship between the variables of interest. Their findings show that accounts payables deveiated from the expected Benford's digit distribution law. Therefore, there is no significant relationship that exits between accounts payables of Nigerian manufacturing companies and the expected Benford's digit distribution law.

Similarly, Oladele et al (2019) evaluates the relationship between Benford's digit distribution law and accounts payables of construction companies in Nigeria covering the period from 2012 to 2017. The data for the study was sourced from the financial statements of 20 Nigerian construction companies. Z-statistic was employed to ascertain the existence of relationship between the variables of interest. Their study proved that there is no significant relationship existing between accounts payables of Nigerian construction companies in Nigeria.

Theoretical Framework

Agency Theory

Jensen and Meckling propounded Agency theory in 1976.The theory explains the relationships between agents, and principals. In this context, the agent represents the principal in a particular business transaction. The agent is expected to work in the best interests of the principal and not for his selfish self-interest. Some agents not holistically work for the benefit of the Principal. Thus, this difference in interest may result to conflict between the agent and principal. In the case of a company the crisis between agents and principals is always very common. The shareholders always feel that the agents are not working to their best interest but for their personal selfish interest. They are of the view that managers can manipulate figures for their selfish gain. Information asymmetric Is mostly the reason for the misunderstanding between agents and principals. The possible solution may be the certification of the quality of information provided by the agents to the principal through an external auditor. The continuous misunderstanding between agent and principal may result to business loss (Investopedia, 2019).

This theory best explains the contractual engagement between owner(s) of a company and management. The owner(s) are the shareholders who have agreed to give contractual mandate to the managers who are the management to represent them to their best interest. The managers managed the company un behalf of the owner(s). By this, the managers are expected to provide financial details to the owner(s) and other interested investors for the investment decision. It is possible that managers could use the opportunity of full representation for their selfish interest. Therefore, it is more appropriate for the company to employ an internal auditor who will be in control of the internal system. The services of the internal auditor may increase the company's financial performance as well as improve their strategic business plan. Though the internal auditor is an employee of the company any may be bias in carrying out his responsibilities for fair of intimidation or molestation by his employers who in this case are the managers. Therefore, the owner(s) of the companies may not have confidence in the information provided by the internal auditor.

This theory is more appropriate and relevant to apply in this study. In the case where the owners and the managers are having conflict of interest, external auditors report will help to resolve such problem. Therefore, the need for an effective and efficient tool for fraud dictation becomes inevitable. The recommendation for the adoption of Benford'law as a tool for fraud determination in accounting data is very important as it does not only detect fraud but more importantly identify the exact area of manipulation that needs auditor's further investigation. The method does not require much from the auditor; it is simple, effective and efficient. Many researchers in developed countries such as U S A, UK, Germany, etc have tested Benford's law to be effective and efficient in fraud dictation in accounting data.

Methology

The objective of the study is to apply Benford's Law to detect fraud in the financial statement of oil and gas companies listed on the Nigerian Stock Exchange. The research design employed for the study is the descriptive research design. This research design is appropriate for this type of study because it involves the use of secondary data collected from previous works

of individual that are similar to the topic of study. The study is empirical in nature because it also involves the collection of secondary data as well as the analysis of the data to determine its conformity with the Benford's Law.

The data for the study is obtained from the financial statements of 9 oil and gas companies listed on the Nigerian Stock Exchange under the energy sector. The variables of interest for the study are receivables and payables which are the dependent variables and the Benford's first significant digit distribution as the independent variable.

Model Specification

The model use for this study is adopted from Ngirini (2018). The empirical model could be written as follows:

BFSD =F (REV, PAY)

REV = Receivables

PAY = Trade and other Payables

$BFD_t = \beta_o + \beta_1 REV_t + \beta 2 PAY_t + \varepsilon_t$ (1.1)

Where;

$BFSD_t$ = is Bendford's First Significant Digits distribution,

REV_t = is Receivables

PAY = is payables

ε_t = is the error term which we sort to minimize,

β_o is the constant, and β_1 and β_2, in the equation represent the coefficients of all the dependant variables respectively in the model.

Benford's First Significant Digit Equation

Nigrini (2012) states that the probability of occurrence of the first digit is obtained by means of a mathematical formula:

$P(D_1 = d_1) = \log 1 + 1/ d_1$ (1.2)

Where:

P = probability

D1 = first column in probability

d_1= First digit

Log = base 10 logarithms.

EDITOR-IN-CHIEF
Prof. S. T. Addo [GHANA]

Our numerical system uses digits from 0 to 9. If we take the number 582 for example, the first digit is 5, the second digit is 8 and the third digit is 2 in the number (Warshavsky, 2010).

Nigrini argues that the first digit test is best used for larger numbers containing six or more digits (Hickman & Rice, 2010). The likelihood that a digit appears on the first four digits of the number is shown below.

Table 1: Benford's First Significant Digits distribution Percentages

Numbers	1	2	3	4	5	6	7	8	9
$Pr(D_1 = d)$	30.103	17.609	12.494	9.691	7.92	6.695	5.799	5.115	4.576

Source: Jamaian (2001)

Based on the above table, 1 is expected to occur at 30.1%, 2 at 0.17% in a reducing mode down to 9 in a randomly collected datasets.

Chi-square (to determine significance)

The empirical distribution of the expected first and second digits may not conform exactly to the Benford's law first and second digits. The statistical test of significance of deviation as well as the X^2 goodness-of-fit is often employed.

Chi-square examines whether the sum of the squared deviations between the observed relative frequencies (h_d) and the probabilities under the null (p_d) are significantly different from zero. Denoting the sample size by N, the test statistic has an approximate X^2 distribution with 8 (9) degrees of freedom when test the nine first digits as well as the ten second digits.

The study ascertained the level of significance of deviation ($\alpha = 0.05$). The study will accept or reject the null hypothesis base on set significance level. The critical values of the Chi-squared test (theoretical) are taken from the Chi-squared distribution table, and in addition to the chosen degrees of freedom considered. The Chi-Square is calculated using the below formula:

$$X^2 = N \sum \frac{(h_d - p_d)^2}{pd} \qquad (1.3)$$

Where:

H_d = Observed relative frequency

EDITOR-IN-CHIEF
Prof. S. T. Addo [GHANA]

P_d = the probability under null
N = sample size
Notably, the chi-square test provides a P-Value to help determine the correlation if any between the variables.
Degree of freedom:

$$Df = N - 1 \quad (1.9)$$

Decision Rule:
Accept null hypothesis when the P-value at 0.05% is greater than X^2
Rejects null hypothesis when the P-value at 0.05% is less than X^2
(https://www.cuemath.com/en-gb/about-us/ retrieved 15/04/2024)

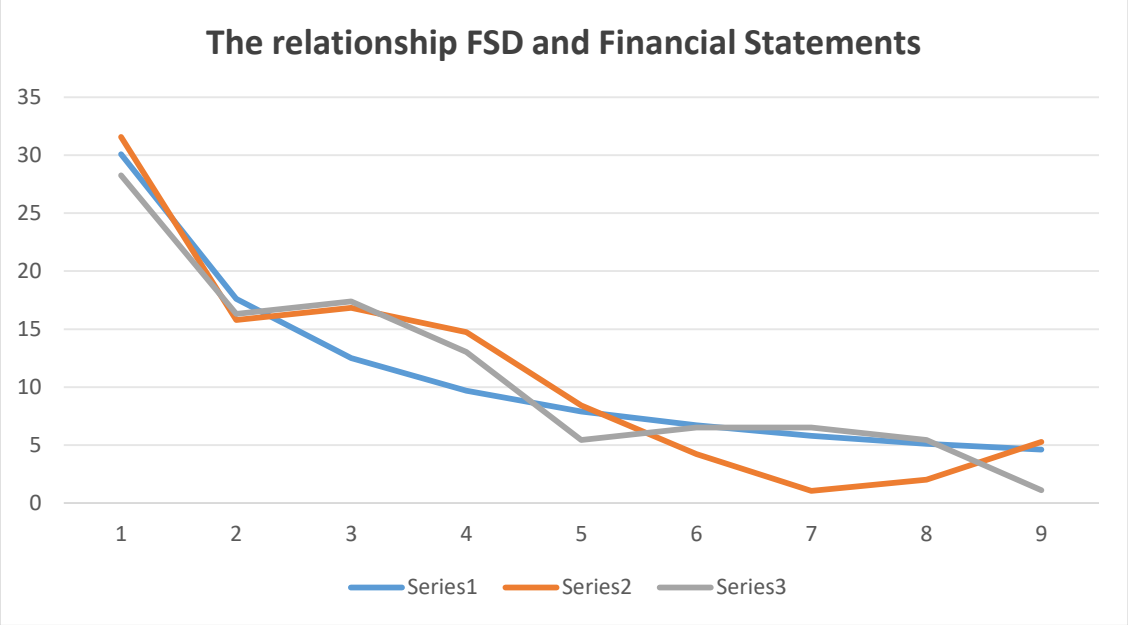
Data Presentation and Analysis

Table 5 Benford's First Digits Distribution Law

	Receivables			Payables			BL	
Digit	**No of Observations**	**Frquency**	%	**No of Observations**	**Frequency**	%	**Frequency**	%
1	30	0.3158	31.58	26	0.2826	28.26	0.301	30.1
2	15	0.1579	15.79	15	0.163	16.3	0.176	17.6
3	16	0.1684	16.84	16	0.1739	17.39	0.125	12.5
4	14	0.1474	14.74	12	0.1304	13.04	0.097	9.7
5	8	0.0842	8.42	5	0.0543	5.43	0.079	7.9
6	4	0.0421	4.21	6	0.0652	6.52	0.067	6.7
7	1	0.0105	1.05	6	0.0652	6.52	0.058	5.8
8	2	0.02	2.00	5	0.0543	5.43	0.051	5.1
9	5	0.0526	5.26	1	0.0108	1.09	0.046	4.6

Sources: Researcher's Computation

The Analysis using Benford's Law started with the count of the frequency of each digit. Table 1 represents the first digits of Receivables, Payables



The highest variation is seen in leading digit 3 (16. 84% > 12.5%), 4 (14.74% > 9.7%) 7(1.05% < 5.8%) and 8 (2.10% < 5.1%) respectively. Similarly, the first digit distribution of payable data varies from the expected Benford's first digit distribution law. We can see the variation in the leading digit 1, 3, 4, 5 and 9; leading digit 1 appears at about 28.26% less than the expected value occurrence of 30.1%. Leading digit 3 appears at 17.39% greater than the expected valued occurrence of 12.5 %. Similarly, leading digit 5 occurs at 5.43% less than the expected value occurrence of 7.9% and leading digit 9 occurs at 1.09 less than the expected occurrence of expected value of 4.6%.

The chart above shows that receivables data and payables data deviated from the proposed Benford's First Significant Digit. However, the study cannot conclude at this level that there is no significant relationship between Benford's law and the financial statements of oil and gas companies listed on the Nigerian Stock Exchange.

Chi-square Results

Table 2 Chi-square findings:

Variables	X^2	T-value
Receivables	9.78	15.51

EDITOR-IN-CHIEF
Prof. S. T. Addo [GHANA]

Papayables	10.18	15.51

Sources: Researcher's computation

DISCUSSION OF RESULTS

Null hypothesis 1: that there is no significant relationship between Benford's Digit Distribution Law and Receivables data of oil and gas companies list on the Nigeria Stock Exchange.

The decision rule is that where the t-value is greater than the X^2 value at 0.05% significant level, we fail to reject the null hypothesis. The findings from the chi-square analysis in table 2 shows that the X^2 value of the first digit distribution of receivables data is 9.78 is less than the t- value of 15.51, Therefore, the study fail to reject the null hypotheses meaning that there is no significant relationship between receivable data and the expected Benford's First Significant Digit

Null hypothesis 2: There is no significant relationship between payables data of oil and gas companies listed on the Nigerian Stock Exchange and Benford's First Significant Digits.

Looking at table 2, we can see that the X^2 value of the first digit distribution of payable data is less than the t- value (10.18 < 15.51. therefore, the study fail to reject the null hypothesis meaning that there is no significant relationship between payables data and the first significant digit of Benford's Law.

Discussion of Findings

The objective of the study is to apply Benford's Law to detect fraud in the financial statements of oil and gas companies listed on the Nigerian Stock Exchange covering the period from 2012 to 2020.

Secondary data were collected from the financial statements of 9 oil and gas companies listed on the Nigerian Stock Exchange under the energy sector.

Two null hypotheses were raised for the study and tested.

The study indicates that there is no significant relationship between receivables data of oil and gas companies listed on the Nigerian Stock Exchange.

Similarly, the study indicates that there is no significant relationship between payables of oil and gas companies listed on the Nigerian stock exchange.

The findings are in line with the agency theory underpinning the study. There is also the issue of information asymmetric in the relationship between the agent and the principal where only an external person can interfere. In this case management (agent) could manipulate the financial information for their selfish interest without the knowledge of the shareholders who are their principals. The deviation of receivables and payables data from the proposed Benford's Law implies fraud. Therefore, auditors need to further investigate the financial statements of oil and gas companies listed on the Nigeria Stock Exchange under the energy sector.

These results are in line with the findings of Adeyemi et al, (2017), Okafor et al, (2017), Olowe et al, (2018) and Oladele et al, 2019)

Conclusion

The study shows the ability of Benford's Law to determine fraud in the financial statements of oil and gas companies listed on the Nigerian Stock exchange. The method is simple, clear and very effective in terms of fraud detection in accounting data.

Recommendations

The study recommends the following:

i. Nigerian auditors should embrace Benford's Law for investing fraud in accounting data instead of the traditional method of auditing.
ii. Auditors should be trained through workshops and seminars on Benford's Law as an analytical methodology for fraud detection.

iii. Benford's Law should be introduced into Nigerian University system must especially in the field of accounting and auditing**.**

Reference:

ACFE (Association of Certified Fraud Examiners). (2020). 2020 *ACFE Report to the Nations*. Retrieved 4 December 20204 from https://www.acfe.com/report-to-the-nations/2020/

Adeyeni, S.B & Olowokere, K. (2017). "Benford's Law and Accounts Receivable: A study of Nigerian Companies" Journal of Accounting and Financial Management, 3(1), 1-2

AICPA, 2012). American Institute of Certified Public Accountants (AICPA). (2002). *Statement on Auditing Standards (SAS) No. 99. Consideration of Fraud in a Financial Statement Audit*. New York: AICPA.

Akinwunmi A. A., & Olowokere, K (2018). " Benford's Law in Accounts Recievable. A case of Nigerian Insurance Companies" Journal of Accounting and Financial Management, 4(1), 1-10.

Amo, B and Theodore, P. H (2011). Benford's Law Strikes Back. No Simple Explanation in Sight for Mathematical Gen. GATXUWWYDFFHN4SK64F6H3X6UVUCRGMR6BXJ4JAPT2MMG5QI5VRQLQNE. Retrieved 8th November, 2024

Andrew, B (2021). Detecting Financial Statement Fraud: Investopedia.

Collins, C. (2017). Using Excel and Benford's Law to Detect Fraud. Journal of Accountancy, *Contemporary issues,* 13(2), pp. 59 – 88.

Emmanuel P (2022) Fraud in Nigeria (https://techpoint.africa/2021/02/22/nigeria-lost-5b-fraud-2020/ Retrieved on 29/11/2023).

Etim, E. O., Daferighe, E. E., Inyang, A. B., & Ekikor, M. E. (2021) application of benford's law and the detection of accounting data fraud in nigeria.

Gupta, S., Singh, V. K., & Banshal, S. K. (2024). Altmetric data quality analysis using Benford's law. *Scientometrics*, 1-25.

Hickman, M. J., & Rice, S. K. (2010). Digital analysis of crime statistics: Does crime conform to Benford's law?. *Journal of Quantitative Criminology*, 26, 333-349.

Jim F, (2024) Benford}s Law Explained With Examples. https://statisticsbyjim.com/probability/benfords-law/#:~:text=Benford's%20law%20describes%20the%20relative,5%25%20start%20with%20a%209. Retrieved on the 8th November, 2024.

Nathan, M and Betsy (2023) Benford's Law/Process, Uses & Examples. https://study.com/academy/lesson/benfords-law-definition-history-

examples.htmNathanl#:~:text=What%20is%20Benford's%20law%20in,digit%20to%20occur%20by%20far. Retrieved: on the 8th November, 2024

Nigrini, M. J. (2018). Round Numbers: A Fingerprint of Fraud. Journal of Accountancy. Retrieved from *https://www.journalofaccountancy.com/issues/2018/may/fraud-round-numbers.html*

Okafor, C. A., & Olowokere K (2017). " An Investigation of Benford's Law in Accounts Receivable of Nigerian Banks. Journal of Accounting and Financial Management.

Oladele, k. O., & Uwigbe , U. (2019). " An Investigation of Benford's Law in Accounts Payable of Nigerian Construction Companies" International Journal of Accounting and Financial Management 7(2), 1-12.

Olanrewaju N. O., & Olowokere K. (2018). "An Examination of Benford's Law in Accounts Receivable of Nigerian Food and Beverage Companies" *Journal of Accounting and Financial Management 4(2), 1-10.*

Olowe, R. A., & Olowokere, K. (2018). "An Examination of Benford's Law in Accounts payable of Nigerian Companies" International Journal of Accounting and Financial Management, 6(1), 1-10.

Shahana, T., Lavanya V and Aamir R (2023). State of the art in financial statement fraud detection: A systematic review. Journal of Technological Forecasting and Social Change. Volume 192, July, 2023, 122527.

Singleton, T. W. (2011). Understanding and Applying Benford's Law. *ISACA Journal, 3, 4.*

Uwuigbe, U., & Olowokere K. (201). "Benford;s Law aand Accounts Payable: A study of Nigerian Manufacturing Companies" *International Journal of Accounting and Financial Management 7(1), 1-12*

Wells, J. T. (2013). Corporate Fraud Handbook: Prevention and Detection (4 edition). Hoboken: Wiley.

EDITOR-IN-CHIEF
Prof. S. T. Addo [GHANA]