



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact Factor: 6.078

(Volume 7, Issue 5 - V7I5-1305)

Available online at: <https://www.ijariit.com>

Fraud examination of Kingfisher Airlines

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ABSTRACT

This paper primarily dwells on the fraud examination of the legendary airline company, Kingfisher Airlines, led by the flamboyant Chairman of the United Breweries Group and hitherto Kingfisher Airlines, Mr. Vijay Mallya. For the purpose of examination of fraud, two financial models in relation to the topic were employed and tested, viz. Beneish Model and Benford's Law, while analysing, in brief, the quality of financial auditing done using the annual reports of Kingfisher Airlines Ltd. for the period of 5 years from the financial year 2008-2009 to 2012-2013. The three variable and the five variable models of the Beneish Model were employed to obtain a score <-2.2, indicating that it was ineffective in identifying fraud by Kingfisher Airlines. Benford's Law proved to be more effective. Due to the presence of abnormal data points or anomalies, a high chance of fraud was proved in the company's financials.

Keywords: Kingfisher Airlines; Beneish Model; Benford's Law; fraud examination; auditing efficiency.

1. INTRODUCTION

The current business world is changing as we breathe, which eventually brings in certain reporting requirements for all businesses in order to maintain transparency and integrity in today's corporate world. The entire financial system today revolves around two essential factors- 'The borrowers of capital and the lenders of capital.' Even though banks come into the broader definition of providing capital to companies, the entire amount of loan given to these companies is coming from the pocket of general consumers who deposit their savings in banks which are eventually given out as loans. India has faced too many corporate scams in recent times that have amounted to billions of rupees (Gupta & Gupta, 2015). With time, the government has introduced certain reporting standards which have to be followed by companies stringently (Selvam & Pavithran, 2020). However, there was misappropriation of funds done by bigger businesses even after the stringency in-laws.

One of the corporate scams uncovered way back in the year 2012, wherein the company- "Kingfisher Airlines," defaulted on bank loans and manipulated specific figures in its financials along with the inevitable misappropriation of funds (Narayan, 2017). Therefore, the prime motive of this paper is to analyze the fraud done by the Company Kingfisher Airlines by connecting the entire fraud to financial audit procedures being followed by the company during those days. The OR technique used in this research paper is- "The Benford's law and the Beneish Model."

The Benford law is a law of anomalous numbers, taking into account the frequency distribution of leading digits in many real lives sets of numerical data (Durtschi, Hillison, & Pacini, 2004). On the other hand, the Beneish Model is a mathematical model that aims at using financial ratios and eight variables in order to identify whether a company has manipulated its earnings or not (Buljubasic & Halilbegovic, 2019). It provides the Beneish M Score, which helps in analysing the financials the company has filed.

Using the Benford Law and the Beneish Model helps to analyse the financials of the company from a more statistical purpose after thorough consideration of the limitations auditing has (Jans, 2012). In a nutshell, auditing is all about giving an independent opinion about the financials of a company in order to infer whether a company has abided by all the reporting rules and regulations and if

the company is lawfully sound (Jonas & Blanchet, 2000). However, the major drawback of financial audit is the sampling aspect of it (ICAI). It is next to impossible for an independent audit team to go through lakhs of transactions happening in a company and make sure that every transaction has been recorded as per the accounting standards and if relevant laws have been considered by the company while preparing the financials (in case of statutory audit). Therefore, in this study, the researchers have used the financial statements of Kingfisher airlines and inputted their values in each Model to come up with certain inferences regarding the fraud that took place earlier.

2. LITERATURE REVIEW

The primary research paper from which reference was taken was (Mehta & Bhavani, 2017). The chief objective behind conducting this study was to uncover fraud in Toshiba Corporation of Japan's financial statements during a seven-year period, from 2008 to 2014, because there is evidence that fraud occurred during that time period. The selected forensic methods were applied to Toshiba's financial accounts during the sample period in order to discover the fraud.

The prime purpose of this particular study was to see how effective the Beneish M-Score, the Altman Z-Score, and Benford's Law were at detecting FFS at Toshiba Corporation and Compare the outcomes of the three tools and recommend the one that is most useful for the current task.

The alternate hypothesis for Altman's Z-Score was rejected in this study, indicating that the Altman's Z-Score was beneficial in identifying FFS by Toshiba. Some researchers discovered that Z-Scores, which measure the likelihood of bankruptcy, were helpful in diagnosing FFS. Unlike the Beneish M-Score, the Altman Z-Score was found to be very successful in diagnosing FFS in this investigation. This entire research paper has enabled the researchers to gain deep insights into the fundamental procedures to be followed while examining any fraud that has happened in the past. Toshiba fraud was examined by the researchers of this paper in such a manner that a thorough analysis of financials provides us with a fair idea about the fraud that happened and there has been an excellent reference to the audit procedures of the company while examining the fraud that happened in the company.

The research paper (Buljubasic & Halilbegovic, 2019) talks extensively about the Beneish Model, Fraud triangle and forensic accounting. It provides a good understanding of the concepts by presenting them in the backdrop of Bosnia and Herzegovina (BH), analysing manipulation in the financial statements of the BH companies. The paper also talks about various types of fraud and how tests like the Beneish Model are a litmus test of financial fraud, encouraging forensic accounting to dig up the fraud. Tools used are primarily the Beneish m score model comprising the eight variables. The paper (Tarjo & Herawati, 2015) is majorly comprised of qualitative research followed by quantitative testing of data from BH companies. Using the data obtained by the paper, the research verifies the likelihood of BH companies to commit fraud, which is consistent with Schilit's seven shenanigans. The paper finds that 16% of the analysed companies are prone to manipulate earnings, with sales revenue and capitalisation of expenses being the two main areas of manipulation. The paper is structured with extreme simplicity with easy understandability and well laid out with no difficulty locating information. It provides insight into the application of the Beneish Model, which is used in this paper. The paper aims to show whether the Beneish m-score Model was able to detect fraud in the companies from the fraud Database of Sanctions of Issuer Cases Public Companies. The paper gives a brief about the drawbacks of the Beneish Model and talks about how there are various other methods like the usage of financial ratios and tips from interested parties. The paper primarily uses quantitative research to achieve the aim. The Beneish m score model is used thoroughly to detect fraud and data mining. All 8 variables are calculated and the result is compared to the data from the fraud Database of Sanctions of Issuer Cases Public Companies that was released by the Financial Services Authority, proving the reliability of the Beneish m score model. The analysis and usage of the ratios as provided in this paper are incredibly fruitful and can contribute to our research. The paper is minimal in terms of information regarding the Beneish m model and its variables. The paper is filled with bits of information about too many topics which are not appropriately discussed. Even, in conclusion, there is not a proper discussion regarding the findings, and there is only a mention of the result.

The application of Benford's Law is employed to effectively identify varying fraud risks in equity crowd funders' financial statements as provided to institutional investors in the paper (Cabarle, 2018). This research provides a complete analysis of the likeliness of non-conformity with Benford's Law and on whether it is higher in firms that have reported losses, in start-ups, or in relation to the offered size, by which the level of assurance and disclosure requirements is determined. This study emphasizes the high likelihood that these investments contain fraudulent information in their offers and should be approached with caution. Benford's Law is an analytical tool that can be used to predict financial statement fraud in equity crowdfunding campaigns by identifying data that is likely to contain misstatements. This research has discovered equity crowdfunding offerings that have been defrauded. Both compliant and non-compliant offerings were investigated to see if firm life cycle stage or firm losses are associated with fraud risk and if there is a link between fraud risk and funding targets. It assesses some of the risks associated with investing in an equity crowdfunding offer. Fraud in initial public company registrations and annual filings was effectively predicted by Benford's Law. This study looks for equity crowdfunding initial offerings that deviate from Benford's Law. The foremost reason for choosing this model is because it aids the detection of frauds that take place. In the research paper, we have used this Model of Benford's Law to showcase all the frauds of kingfisher airlines. This Model is a highly efficient model to analyse the detection of fraud.

In a very well-known paper, the researcher Nigrini extensively described the methodology of using Access, Excel and PowerPoint in a forensic statistical method. He also developed multiple statistical models based on techniques pertaining to descriptive statistics, time-series analysis, correlation, Benford's Law, etc., in order to examine and detect any fraud (Nigrini, 2011). These models are widely used by many researchers. For this paper also, Nigrini.xlsx would be downloaded and used for the application of Benford's Law.

(Ionescu, 2016) studied the frauds and errors accompanied by their methodology of dealing with the same in the audit of financial statements. A recommendation was provided to strengthen internal control mechanisms in order to streamline fraud risk management and the development/implementation of internal policies and procedures to enable an effective response to fraud. The study of frauds and errors in this paper can be identified as a means of fraud examination relevant to this paper also. The paper, as written in (Kruger, Steyn, & Kearney, 2002), illustrates and interprets a case study in which the methodology of Data Envelopment Analysis (DEA) was combined with regression analysis in order to ascertain the efficiency of an Internal Audit (IA) department over a period of twelve months, the results of which were then considered as one of the outputs to perform a multi-period DEA study. The potency of these audit projects is considered to be a crucial output of an IA department and an elaboration of the efficiencies would thus be helpful to reinforce insights gained from the methodology used, which can also contribute to this research paper.

The 2 researchers of the study (Pandey & Pandey, 2017) examined the Kingfisher Airlines crisis considering the perspective of Human Resources. The paper focuses on Kingfisher's industrial relations challenges, such as strikes, protests, lockouts, and other instances of industrial dispute, as well as their impact on the company's financial performance. The reactions of employees, as well as management answers, are highlighted. Following the financial crisis in November 2009, it was announced that Kingfisher Airlines would not extend the service contracts of roughly 100 pilots who had previously finished their probation due to high losses and capacity reduction, which were the first signs of an impending industrial relations crisis. The airline began laying off employees in stages. The airline began laying off employees in stages. The real issues came when the airline stopped paying its employees' salaries. It was not until March 2012 that the employees' issues were brought to light. The airline attributed the incident to the tax authorities suspending bank accounts, which finally led to dominoes falling for Kingfisher Airlines.

The study (Kolte, Capasso, & Rossi, 2018) brings to view a critical analysis of the failure of Kingfisher Airlines and attempts to study the financial health of UB Holdings. The researchers also studied the banking sector's role in loan extension and recovery attempts. In conclusion, from the researchers' perspective, Kingfisher Airlines' financial accounts have not looked appealing from their inception. Financial statements made everything so apparent that traditional ratio analysis was unnecessary. According to financial statements, the company has amassed losses, a negative net worth, and higher costs than the industry. This analysis indicated that Kingfisher Airlines would not be a viable firm unless costs were drastically reduced or rates were increased. Banks continued to grant loans to enterprises despite their financial situation. Furthermore, predicting insolvency would have saved banks from Kingfisher Airlines' subsequent default. The primary drawback of this study is that it can only serve as a learning case for bank credit executives; more experiments and computations of financial data from enterprises in various industries must be carried out by academics and academicians.

With an aim to develop a common framework that would promote a common vocabulary and understanding about quality among audit committee members, management, and auditors for assessing the quality of financial reporting and auditing, (Jonas & Blanchet, 2000) believed that this would promote benchmarking among companies and encourage improvements in reporting by setting a high standard. The components of financial reporting are illustrated in the study. Their framework suggests that the quality of a company's financial reporting ultimately depends on the quality of each part of the financial reporting process and that the quality process would lead to quality results. This enabled a better understanding and interpretation of the financial standards providing better insight into the kingfisher fraud. (Shankaraiah & Amirib, 2017) is a study examining audit committee quality and its relationship with financial reporting quality and examines how the top management discharged their financial reporting responsibilities to ensure the financial reporting quality for 133 companies listed on the Bombay Stock Exchange (BSE). As the top management had a distinctive role to play in the Kingfisher Fraud, this has relevance to our paper.

3. OBJECTIVES AND HYPOTHESIS DEVELOPMENT

The objective of this study is as follows:

1. To examine fraud in the Kingfisher Airlines Ltd. employing the following financial fraud detection models:
 - a. Beneish 8 Variable Model
 - b. Beneish 5 Variable Model
 - c. Benford's Law
2. To determine the effectiveness of the Beneish Model and Benford's Law.

In relation to the above-mentioned objectives, the following hypothesis as illustrated in Figure 1 can be developed

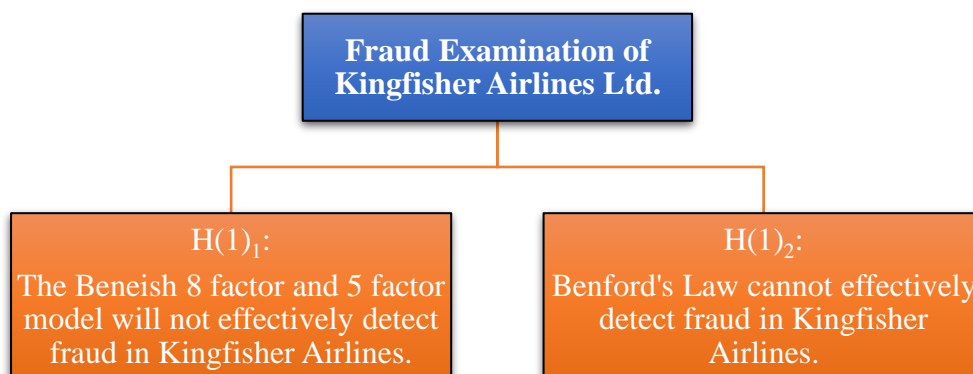


Figure-1: Hypothesis Development

4. ANALYSIS

4.1 The Beneish Model

The Beneish Model is a method of interpreting whether or not a company has misrepresented its income using financial ratios and specified variables built using the financial statements. Upon completion, the Model provides an M-score to describe the degree to which the earnings have been tampered with. There are two models in this, one consists of the eight variables and the other comprises only five variables.

Steps for the application of Beneish Model

- 1) Compute the variables as discussed below, catering either to the eight-variable or the five-variable Model.
- 2) Insert the computed variables into the Beneish M-Score equation in order to calculate the score.
- 3) Analyse the M-score on the basis of the -2.22 benchmark to interpret the company’s likeliness to manipulate their earnings. (GMT Research, n.d.)

The variables and the methodology of calculation are as follows:

Table- 1: Variables & Formulae of Beneish Model

VARIABLE		FORMULA	GENERAL INTERPRETATION
DSRI	DAYS,SALES IN RECEIVABLE INDEX	$[(CY \text{ receivables} / \text{Sales}) / (PY \text{ receivables}/\text{Sales})]$	An increased number of receivable days leads to the suggestion of the company indulging in accelerated revenue recognition to inflate profits.
GMI	GROSS MARGIN INDEX	$[(PY \text{ gross margin}) / (CY \text{ gross margin})]$	A falling gross margin indicates negative prospects of a firm creating an incentive to inflate prospects.
AQI	ASSET QUALITY INDEX	$[(CY \text{ noncurrent assets}/\text{Total assets}) / (PY \text{ noncurrent assets}/\text{Total assets})]$	This shows costs that are capitalised despite not needing to be capitalised.
SGI	SALES GROWTH INDEX	$[CY \text{ sales} / PY \text{ sales}]$	High-growth companies have higher chances of committing as the financial position and capital needs pressure the management.
DEPI	DEPRECIATION	$[PY \text{ dep}/ (\text{dep} + \text{PPE})] / [CY \text{ dep} / (\text{dep} + \text{PPE})]$	Decreasing depreciation could mean that increased the estimated useful life of fixed assets or has adopted a new method which is income increasing.
SGAI	SALES, GENERAL AND ADMINISTRATIVE EXPENSES	$[(CY \text{ SGA} / \text{Sales}) / (PY \text{ SGA}/\text{Sales})]$	A disproportionate increase in SGAI might create an incentive to inflate profits.
LEVI	LEVERAGE INDEX	$[(CY \text{ long term debt} + \text{current liabilities}) / \text{Total assets}] / [(PY \text{ long term debt} + \text{current liabilities}) / \text{Total assets}]$	An increase in Leverage means an increase in total debt to total assets. This might create a need to manipulate profits
TATA	TOTAL ACCRUALS TO TOTAL ASSETS	$[(\text{Income before extraordinary items} - \text{cash from operations}) / \text{Total assets}]$	High accruals give managers the ability to make discretionary accounting choices, increasing the likelihood of profit misappropriation.

(Source: the author)

In Table 1, CY refers to Current Year variables and figures and PY refers to Previous Year variables and figures. It explains the ratios to be calculated for the determination of Beneish M-Score, along with the general interpretation and explanation of each variable.

The 8 Variable model takes into consideration all of the above-mentioned variables and the equation for calculation of the score under the 8 variable model is

Equation 1

$$\text{Beneish } M - \text{Score} = -4.84 + 0.92 \times DSRI + 0.528 \times GMI + 0.404 \times AQI + 0.892 \times SGI + 0.115 \times DEPI - 0.172 \times SGAI + 4.679 \times TATA - 0.327 \times LVGI \text{ (Corporate Finance Institute, n.d.)}$$

In the 5 Variable model, only five variables are chosen, barring SGAI, TATA and LEVI from the above list with the equation for its calculation as follows:

Equation 2

$$\text{Beneish } M - \text{Score} = -6.065 + 0.823 \times DSRI + 0.906 \times GMI + 0.593 \times AQI + 0.717 \times SGI + 0.107 \times DEPI \text{ (Corporate Finance Institute, n.d.)}$$

A benchmark of -2.22 is taken as the deciding score for the detection of manipulation. If the company has a score of less than -2.2, then it is not likely that the company is manipulating its earnings, whereas an M score of greater than 2.2 indicates that it is likely of the company to have its earnings manipulated (Corporate Finance Institute, n.d.)

4.2 Benford's Law

Benford's Law, also known as the first digit or leading digit paradox, basically asserts that the likelihood of the digit 1 appearing in a range of statistical data set is highest and decreases with each subsequent digit, with the digit 9 having the lowest frequency. The probability of 1 is roughly 30%, and the probability of 9 is approximately 11.1%. Analysing the data provided, is utilized to detect fraud. Regression models are constructed, and the rule is observed. All of the numbers are examined. Even if the first digit is correct, a difference in the 2nd and 3rd numerals might indicate fraud. Benford's Law is a helpful tool to get hints of fraud but is not to be used as proof or to make final decisions. In the scenario of Kingfisher Airlines, the following steps were followed in order to arrive at a vague idea pertaining to the possibility of fraud in the company backed by mathematical calculation.

Steps for the application of Benford's Law

- 1) Download the excel-based software program called "NigriniCycle.xlsx."
- 2) Go through the financials of the company in order to get a fair idea about the company's reported numbers.
- 3) Accumulate sufficient data from the financials in order to get substantial data points
- 4) Ignore immaterial information like dates or page numbers which might be present in the financials of the company. Also, ignore any data which does not add in information such as subtotals of expenses, revenue from operations, etc., as it is basic mathematical operations and hence cannot be manipulated.

Sources of obtaining Data from Kingfishers Airlines Annual Report: As the official website of Kingfisher is non-operational after being bankrupt, the legitimate Annual Reports for 5 years was obtained from the following third-party websites.

- 1) Money Control (Money Control, n.d.)
- 2) Yumpu (FLYKINGFISHER.COM, 2010)

5. FINDINGS

5.1 The Beneish Model

In order to detect the likeliness of manipulation of earnings for Kingfisher Airlines, a company in financial distress, both models under the Beneish Model, eight variable and five variable Model was implemented. As this company is already bankrupt, the official Kingfisher Airlines' website is non-operational; hence the annual reports for the years of analysis, from FY 2008-2009 to FY 2012-2013 was obtained from third-party websites in order to compute the ratios relevant to the Beneish Model. All the numeric data for the computation of these ratios was taken directly from Kingfisher Airlines' Annual Reports. The computed ratios; Beneish M Score, 8 Variable Version and Beneish M Score, 5 Variable Version is summarized in Table 2.

Table- 2: Beneish M-Score of Kingfisher Airlines

Variables	2012-2013	2011-2012	2010-2011	2009-2010	2008-2009	Mean
DSRI	0.1100230	0.4831877	1.1106197	0.5445943	0.9530957	0.6403041
GMI	0.0661745	0.3956769	1.7765870	1.0999143	-1.3165153	0.4043675
AQI	4.9337684	1.1316344	1.1382205	1.4557276	0.9016721	1.9122046
SGI	0.0912696	0.8812891	1.2299681	0.9673481	1.1078453	0.8555440
DEPI	0.8627844	1.3188110	1.0196120	0.9357773	1.4457163	1.1165402
SGAI	6.9443980	4.2202197	0.7982091	0.9341921	1.0807956	2.7955629
LVGI	3.5912484	1.1497892	0.9415265	1.1612856	0.1775923	1.4042884
TATA	-1.7084424	-0.9845232	-0.9548321	-0.9006248	-0.9711434	-1.1039132
Beneish M Score: 8 Variable	-12.8925403	-8.5000393	-6.1187943	-6.9540604	-7.9274907	-8.4785850
Beneish M Score: 5 Variable	-2.8310140	-3.8647970	-1.8754218	-2.9633133	-4.9896568	-3.3048406

(Source: the author)

The interpretation of the individual scores for each variable is as follows:

- **DSRI:** A <1 value of DSRI implies that the receivables of the company is unable to grow as a percentage of the sales over the years, suggesting either an upturn in the economic conditions of Kingfisher or leniency in auditing procedures such as recognition of revenue after it is earned.
- **GMI:** GMI <1 indicates that the company's gross margin is not deteriorating on average. However, it is irregular in each year as the gross margin has deteriorated in three years. Moreover, research indicates that public companies with declining profits, in this case, Kingfisher Airlines, are more likely to manipulate their earnings.
- **AQI:** AQI>1 indicates an increase in the company's noncurrent assets such as goodwill, intangibles, etc., as a percentage of total assets. Since Kingfisher Airlines' score is relatively higher than 1, it depicts an excessive amount of these soft assets of uncertain quality, which has grown higher in comparison to the current tangible assets. An excessive expenditure capitalization can result in decreased asset quality which could possibly be a sign of the deteriorating fundamentals of the company.
- **SGI:** A <1 score for SGI depicts a indicates that the company's sales are decreasing year over year, which is viewed as a negative indicator, and hence typically, companies would not engage in manipulation to achieve this. However, a low sales growth is projected at times to maintain a high level in growth of sales and engaging in manipulation to do so.
- **DEPI:** DEPI>1 indicates that the company's effective depreciation rate has slowed over the year. However, with the value being about 1.12, which is close to 1, it can be interpreted that a significant decrease was not observed. This has a negative interpretation as it suggests that the company has increased its estimate of the depreciable asset's useful life in order to understate the recognition of non-cash expenses.
- **SGAI:** SGAI>1 implies an increasing SGA expense as a percentage of sales, indicating that the efficiency in administrative and marketing functions is declining. Kingfisher Airlines' SGAI is quite higher than 1, depicting a decreasing efficiency.
- **LVGI:** Increasing leverages is denoted by a >1 score of LVGI, indicating an increased amount of debt in the company, which ultimately leads to tightening debt constraints, giving a reason for manipulation.

- TATA: The measurement of the difference between accounting profit and cash profit, when divided by total assets, makes the financials' variables comparable between different sized companies and large accruals is associated with increased likeliness to manipulation. However, Kingfisher Airlines' TATA is in the negatives, thereby associating a lower likeliness.

In the individual figures as shown in Table 1.1, the mean Beneish M Score for both the versions is below -2.2, denoting that Kingfisher Airlines is unlikely to indulge in the manipulation of their financials. Beneish's M Score for 5 Variable is higher than -2.2 in only one year, 2010-2011, denoting an insignificant likeliness of manipulation. However, a report by Serious Fraud Investigation Office (SFIO) claimed that Kingfisher had tweaked its accounts to understate losses by ₹7,151 Crores for the years 2008-2009 to 2001-2010. The report elaborated multiple discrepancies in Kingfisher's accounts on the lines of incorrect and outdated accounting methods and standards. The practice of capitalising expenses incurred for "Major Maintenance" of aircraft under intangible assets is typical for airlines. However, it is incorrect for Kingfisher as the aircrafts were taken on lease, as reported by SFIO. Additionally, SFIO reported many other changed accounting practices across various accounting heads, like the accounting of losses incurred on novation, accounting of the initial cost of leased assets, etc., because of which they were able to highly understate losses (Narayan, 2017). Thereby, the primary method of fraud in Kingfisher was manipulation of the accounting standards and not particularly the values posing as a drawback for not the Beneish Model being unable to detect the likeliness of fraud.

5.2 Benford's Law

In the current study, the financial statements of Kingfisher Airlines were obtained from the year 2009 to the year 2013, that is, before the fraud came into the news and media. Even though Benford's Law might not be very efficient in detecting fraud, it might still be a great tool to analyse the possibility of fraud in the company being considered. A substantial amount of data has been taken in order to make our analysis concrete and increase accuracy.

Table- 3: Analysis of Benford's Law on Kingfisher Airlines

Digits	Range	Conclusion
First Digits	0.000-0.006	Close Conformity
	0.006-0.012	Acceptable Conformity
	0.012-0.015	Marginally Acceptable Conformity
	Above 0.015	Non-Conformity
Second Digits	0.000-0.008	Close Conformity
	0.008-0.010	Acceptable Conformity
	0.010-0.012	Marginally Acceptable Conformity
	Above 0.012	Non-Conformity

(Source: the author)

Table -4: MAD of First Two Digits

Mean Absolute Deviation	
First Digits	0.03842807
Second Digits	0.01760667

(Source: the author)

On analysing the results obtained after the input of in financials of Kingfisher Airlines into the Model, the values of MAD for the first digit's test is obtained, as shown in Table 4, it depicts a value of 0.03843, which is above the upper limit of 0.015 for non-conformity by a substantial margin of almost 0.02343 as shown in Table 3. Figure 2 shows the diagrammatic representation of the difference between the anticipated and the actual values of financials post-audit.

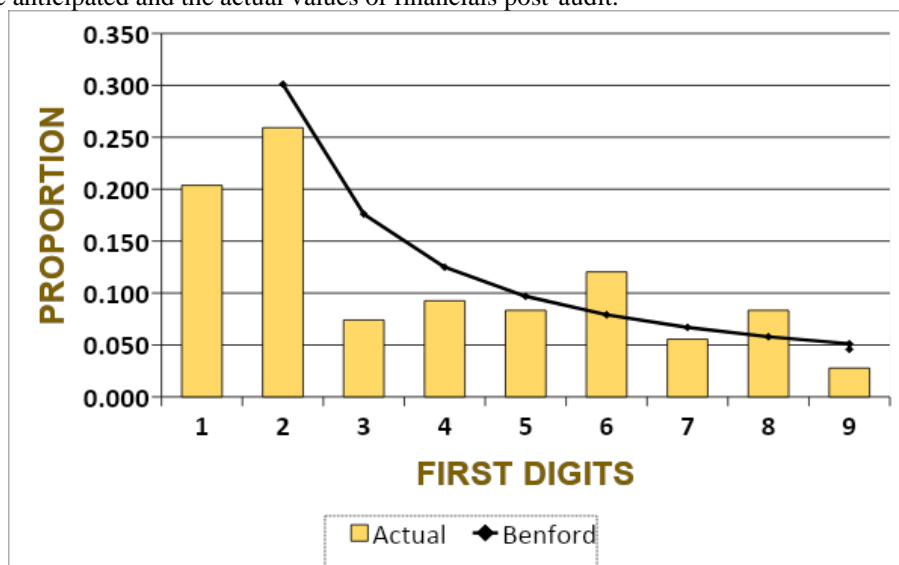


Figure- 2: The results of First Digits Test (1-9)

Talking about the Second Digits MAD, just like the situation scene in the case of first digits MAD, a similar scenario is observed in the latter case. In Second Digits, there has been a considerable difference and wide gap between the anticipated or expected MAD and the actual MAD, making it a part of the “non-Conformity.” With reference to the values provided by calculation in Table 4, a MAD value of 0.01761 has been created, which is approximately higher by a value of 0.00561 as compared with the expected value depicted in Table 3. As seen in the case of First Digits, the is plotted for Second Digits as well, as shown in figure 3. and it clearly shows that the audit procedures which were to be followed, we not in line with the protocols which the Benford Model follows, hence there is a wide margin or a gap between the anticipated and the actual value of MAD. This wide margin tells us that there is a huge possibility that the financials were manipulated to a great extent (Mehta & Bhavani, 2017)

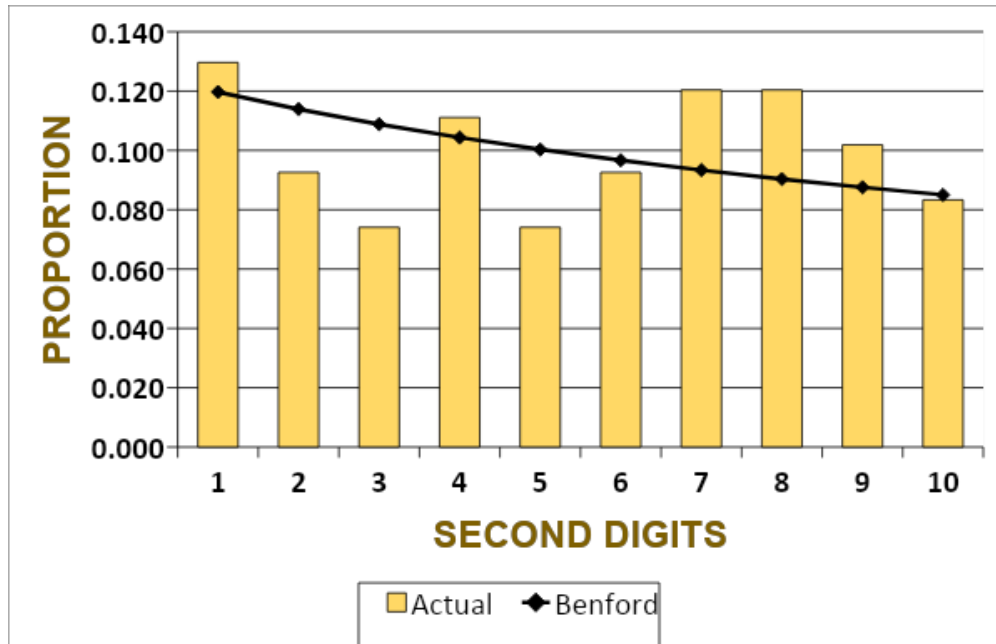


Figure-3: The results of Second Digits Test (0-9)

In order to identify fraud, the overall analysis must be considered comprising of the First 2 digits taken together, and plot a graph of this that depicts the digits that occur for a specific number of times and its comparison with the anticipated values as obtained from the Benford Model. If we analyse Figure 4, it is clearly visible that there is a vast difference between other values and the values between the digits “20-30”. This again signifies there is a strong chance of fraud in the company’s financials due to the presence of abnormal data points or anomalies.

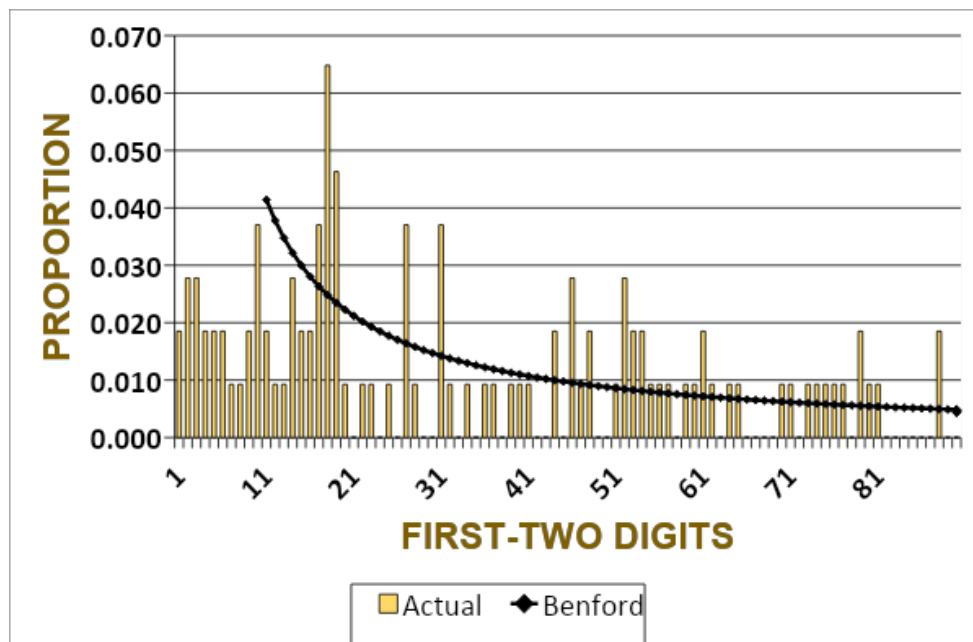


Figure -4: Comparison of First Two Digits' Test

5.3 Analysis of Z statistic followed by Benford Model Analysis:

In the case of analysing Z statistic, an interpretation of the size of deviation between the actual and anticipated values in the financials can be derived so that fraud can be detected more efficiently. A decent Z statistic would be a value lesser than or equal to 1.96 since 1.96 is the approximate value of 97.5 percentile point of a standard normal distribution. In the demonstration of the First digit test, there have been 3 values of Z stat, which are more than 1.96, indicating the possibility of fraud in the financials starting with that

digit. This means that there was a substantial difference between the actual and expected frequencies of the digit concerned. However, surprisingly, there were no values greater than 1.96 in the case of the Second Digit Test, indicating that there was not any significant difference between the anticipated financials and expected financials.

Table- 5: Analysis of First Digits

First	Count	Actual	Benford	Difference	AbsDiff	Z-stat
1	22	0.204	0.301	-0.097	0.097	2.100
2	28	0.259	0.176	0.083	0.083	2.143
3	8	0.074	0.125	-0.051	0.051	1.453
4	10	0.093	0.097	-0.004	0.004	0.152
5	9	0.083	0.079	0.004	0.004	0.160
6	13	0.120	0.067	0.053	0.053	2.029
7	6	0.056	0.058	-0.002	0.002	0.108
8	9	0.083	0.051	0.032	0.032	1.300
9	3	0.028	0.046	-0.018	0.018	0.664

(Source: the author)

Table- 6: Analysis of Second Digits

Second	Count	Actual	Benford	Difference	AbsDiff	Z-stat
0	14	0.130	0.120	0.010	0.010	0.170
1	10	0.093	0.114	-0.021	0.021	0.545
2	8	0.074	0.109	-0.035	0.035	1.005
3	12	0.111	0.104	0.007	0.007	0.073
4	8	0.074	0.100	-0.026	0.026	0.747
5	10	0.093	0.097	-0.004	0.004	0.144
6	13	0.120	0.093	0.027	0.027	0.799
7	13	0.120	0.090	0.030	0.030	0.920
8	11	0.102	0.088	0.014	0.014	0.355
9	9	0.083	0.085	-0.002	0.002	0.062

(Source: the author)

6. CONCLUSION

The primary objective of this study was to see how effective the Beneish M-Score and Benford’s Law were in the Fraud Examination of Kingfisher Airlines. This paper is subject to the general limitations of the Beneish Model and Benford’s Law. The Beneish Model is a method for determining whether a company has misrepresented its income by analysing financial ratios and specified variables derived from financial statements. When the Model is completed, it generates an M-score that indicates to what degree the earnings have been tampered with. The Beneish Model only indicates income overstatement and may not be as helpful in circumstances where a lower earnings prediction is advantageous to the company. This Model, once again, is merely a tool to aid in the detection of earning manipulation and does not serve as proof of fraud. Benford’s Law, also known as the first digit or leading digit paradox, states that the probability of the digit 1 appearing in a set of statistical data sets is highest and decreases with each subsequent digit, with the lowest frequency being the digit 9. The probability of 1 is approximately 30%, and the probability of 9 is approximately 11.1%. This is used to detect fraud by analysing the data provided. Regression models are constructed, and the rule is observed and all of the numbers are scrutinized. Even if the first digit is correct, a discrepancy between the second and third numerals could be a potential indication of fraud. In order for Benford’s Law to work in large data sets, the data must be right skewed and have no maximum or minimum limits. Only the indication of fraud can be detected using this method, not the exact location of the fraud. Moreover, both these methods can only detect digit manipulation and cannot detect adherence to accounting standards.

The alternate hypothesis of the *Beneish Model* was supported by the study, indicating that it was ineffective in identifying fraud by Kingfisher Airlines. Following a careful examination of both the five-variable and eight-variable versions of the Model, it was discovered that the mean Beneish M Score for both versions was less than -2.2, indicating Kingfisher Airlines’ aversion to financial manipulation. A report articulated by the Serious Fraud Investigation Office (SFIO) for the years 2008-2009 to 2001-2010 claimed that Kingfisher had altered its accounts to understate losses by a whopping ₹7,151 Crores. The audit detailed a number of discrepancies in Kingfisher’s finances, citing incorrect and obsolete accounting processes and standards as the source of the errors. As a result, the primary method of fraud in Kingfisher was the manipulation of accounting standards rather than values, posing a drawback in the Beneish Model’s ability to detect the likelihood of fraud.

The alternate hypothesis of *Benford’s Law* was not supported in this investigation, indicating that Benford’s Law was beneficial in detecting fraud by Kingfisher Airlines. In order to detect fraud, the first two digits must be examined simultaneously in the complete analysis. Following that, charting a graph of the digits’ outcomes shows the digits that occur for a specified number of times, as well as a comparison to the predicted values generated using the Benford Model. The researchers noticed a significant difference between other values and the values between the digits “20-30” after examining the plotted graph. Due to the presence of abnormal data points or anomalies, there is a high chance of fraud in the company’s financials. The Benford Analysis, out of the two methodologies used, produces the most accurate results.

Overall, the findings of the Kingfisher Airlines study show that, while both methods of fraud detection have inadequacies, they are capable of offering insight into how fraud detection procedures may be carried out on financials. Even after full statutory auditing by a reputable audit company, the researchers were able to examine the red flags implicated in the published financial reports using the two methods of fraud detection. Further comparisons with other fraud detection approaches, such as Altman's Z Score, can be made to acquire more accurate results.

7. LIMITATIONS

- This paper uses Benford's Law and Beneish Model for the examination of fraud in Kingfisher Airlines. Thereby, it is subject to the general limitations of Benford's Law and Beneish Model. Benford's Law works effectively in large data sets. Data should be right-skewed and must not have maximum or minimum limits. The exact location of the fraud cannot be determined by this method and only the indication of fraud can be detected.
- The Beneish Model only denotes the overstatement of income and may not be as effective in cases where a lesser earnings' projection can be beneficial for the company. Again, this Model is simply a tool to assist the identification of earning manipulation and it fails to serve as proof of fraud.
- Moreover, only digits manipulation can be recognised by these methods and the adherence to accounting standards cannot be detected. The quality of auditing is also another aspect that cannot be assessed in this method.

8. RECOMMENDATIONS AND SUGGESTIONS

One objective of the entire research was to analyze the fraud detection procedures with respect to the financial statements of Kingfisher Airlines by means of performing Benford Analysis and using the Beneish Model. The results of the entire analysis state that even though both methods of fraud detection have certain shortcomings, they still can provide a small gist of how fraud detection procedures can be performed on the financials. Out of the 2 methods used, the Benford Analysis provides the most accurate results. Even though it cannot be said with certainty that the results obtained from the Benford Model are 100% accurate, it provides an overall idea about the manipulation which was done by the company, which portrayed an understatement of losses by nearly ₹7151 Crores. Using the 2 methods of fraud detection has helped the researchers analyze the red flags involved in the published financial reports even after thorough statutory auditing by a reputed audit firm. Specifically talking about the second digit test under the Benford Model with close reference to the Z-Stat, the results obtained were redundant in nature since there was not any substantial difference between the anticipated financials and the actual financials. However, the first digit test was equally effective since it showed a wide difference between the actual and anticipated financials.

Surprisingly, the Beneish Model has not provided imperative results regarding the fraud since the primary cause of the fraud was manipulation of accounting standards and not precisely any set of values. Therefore, using a combination of the Beneish Model and Benford Model can be less accurate in nature. However, in order to increase the accuracy of our overall fraud detection analysis, it was the correct step to take more data so that more exposure of the company's financial records would be inputted into the Model and a more efficient result can be expected.

In a nutshell, the Benford Model has partly matched the results with the actual scenario; however, using the Beneish Model, in this case, would bring to view an opposite opinion about the fraud involved in Kingfisher Airlines. Additionally, to obtain more accurate results, these models can be piled with other fraud detection methods like Altman's Score.

DISCLAIMER: All the analysis was done on the basis of the financial data obtained straight from Annual Reports of Kingfisher Airlines for financial years 2008—2012. These findings and analysis are not subjected to any bias or personal judgments of the students.

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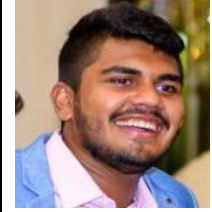

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