Identifying Manipulated Financial Statement and Detection of Frauds: A Case Study of Atlas Cycles Limited

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Abstract: Traditional methods of dealing with financial shenanigans have proved ineffective with the advent of globalization. As a result, identification, investigation, and prevention procedures are critical in the case of fraud. While anomalies or red flags serve as signs for the auditor, management, and other responsible parties to determine whether there is real fraud, auditing and statistics continue to be the primary methods of investigation for detecting fraud. The present study focuses on detecting fraud and testing the financial distress in the financial statements of Atlas Cycles Ltd during seven years, from 2013‒2019, to detect the fraud and financial distress Benford Law and Altman Z-score model, forensic tools were applied to Atlas Cycle's financial statements for the sample period. Mean Absolute Deviation (MAD), Chi-Square, Aderson Darling Test, statistical tools have been used for the analysis.


BACKGROUND

Forensic accounting is a fast-growing branch of accounting that focuses on detecting and preventing financial fraud and white-collar crime. In the book "Financial Investigation and Forensic Accounting," George A. Manning defines forensic accounting as the science of gathering and presenting financial data in a way that a court of law can accept as evidence against perpetrators of economic crimes. Forensic Accounting is a specialization that focuses on discovering or preventing accounting fraud through the integration of accounting, auditing, and investigation abilities. The word forensic accounting refers to a financial fraud investigation that includes the analysis of accounting data to prove or refuse financial fraud, as well as serving as an expert witness in court to do so. Thus, forensic accounting is the application of accounting to legal issues. Forensic accounting is a valuable tool for detecting, investigating, and preventing fraud. Whether its stock market fraud, bank fraud, or cybercrime, forensic accounting has become a crucial investigative tool. There have been many financial frauds in various areas of the global economy in recent years. India has suffered from a number of corporate scandals, such as those involving Harshad Mehta in 1992 and Satyam computers in 2009 as well as Ketan Parekh in 2008 and the Kingfisher Airlines Credit Card scandal in 2007. Ramalinga Raju is accused of making fake financial statements and false corporate reporting in the Satyam crisis. Following the above scams, forensic accounting has gained more momentum. The use of forensic accounting will help to improve corporate governance and efficiency in both the corporate and non-profit sectors. The field of forensic accounting is still in its infancy. It will continue to increase at a steady rate in the future because, following the Satyam scandal, every organization wants to know what are the early warning signs of a Satyam-style fraud. It will be useful in the future for uncovering financial crimes and errors. It will help in the protection of stakeholders', customers', employees', and suppliers' interests who are directly associated with the companies.

OBJECTIVES OF THE STUDY

1) To study the possibilities of detection of manipulated financial statements.
2) To determine the application of Benford’s Law in forensic accounting investigation.
3) To examine the financial distress status or financial health of a sample company.
SAMPLE DESIGN

One Sample Company i.e. Atlas Cycles Ltd is selected for the purpose of this study. This research is based on secondary data acquired from publicly available sources i.e. Annual reports of the sample company and from the website www.yahoo finance.com, for the period of seven years (2013-14 to 2018-19).

LIMITATION OF STUDY

(1) The source of data is secondary in nature and hence whatever deficiencies are there in secondary data the same will reflect in the results of the study.
(2) The technique used for study is based on certain assumptions that may not be relevant to the selected companies or situations.
(3) The technique has certain limitations and the same are applied to this study also.
(4) The study is restricted to the variable used as a sample for analysis.

HYPOTHESIS OF THE STUDY

HISTORICAL EVIDENCES AND RESEARCH

Financial statement manipulations, according to Skousen et al. (2009), can result in millions of dollars in losses and damage investor confidence in the marketplace. The more safeguards and checks in place to prevent and detect fraud, the safer and more efficient the global economy will be. The Fraud Score Model supports the process of fraud detection by using information from companies' public financial documents, and so offers market participants with a valuable resource.

Rittenberg et al. (2010) the primary focus of forensic accounting is the well-structured examination of corporate crimes and corruptions.

Through a case study of Indian Oil Corporation, Ranjanbal et al. (2013) advised investors to be cautious when analyzing financial statements and to use more modern techniques when making decisions. In addition, all investors must read the notes to account and changes in accounting policy.

Li (2014) investigates the construction industry's use of Altman's bankruptcy model. The 5-set variable has been enlarged to a 14-set variable. The result is that Altman's model is both valid and successful in predicting bankruptcy in the sample examined.

In their research work, Amiram et al. (2015) assess the data quality. They created a firm-year metric to quantify the extent of error in financial statements for this purpose. They showed that restated financial statements in the same firm-year comply more closely to Benford's Law than misstated versions, and that as divergence from Benford's Law increases, earnings persistence falls.

Celli (2015) discovered that the Z-score degree of reliability is rather high and still works well in predicting the failure of publicly traded industrial companies in Italy. It proved to be an extremely useful tool in detecting a company's operating and financial troubles up to three years before default.

Mahama (2015) to measure the level of financial soundness of ten companies listed on the Ghana Stock Exchange (GSE), the author used Altman's Z-Score model on their financial statements. The data for the study came from ARG's website, and it covered the years 2007 to 2013. Six companies were judged to be financially sound and not in risk of financial distress, two companies were found to be in financial distress, and the remaining two companies were in a condition of deterioration and most likely to face financial distress, according to the study.

COMPANY PROFILE

Atlas Cycles - a name that became a synonym for bicycles in India. Jankidas Kapoor created the Sonipat facility in 1951 as the company's first unit. In just 12 months, Atlas Cycle Industries Ltd grew from a small tin shed in Sonepat to a 25-acre production complex. It soon became India's largest bicycle manufacturer, and in 1982, it served as the official bicycle supplier for the Asian Games in the national capital. In 2014, the company began making losses and its first plant in Malanpur was shut down in December of that year. The losses persisted, and in February 2018, the company closed its second factory in Sonipat, Haryana. The financial crisis faced since 2014 has become worse in the last year and a half, and the coronavirus lockdown has only compounded it.

TOOLS AND TECHNIQUES USED IN DETECTION OF FRAUD AND MANIPULATION

Forensic accounting employs a variety of instruments and approaches to detect financial statement manipulation. Various
ratios, indices, statistical tools, and other tools are used in the procedures. These methods have been shown to be effective in detecting manipulation to a large extent. In this study, Benford’s Law and Altman Z-Score are used. And to check variability Mean Absolute Deviation, Graph, Chi-square and Aderson Darling Test statistical technique are applied. Analysis has been done using Excel.

a) BENFORD’S LAW

Frank Benford formulated Benford’s Law. Benford’s Law states that the distribution of numbers is not uniform. Real data was used by Frank Benford when he created Benford’s Law. Benford’s Law is expected to apply to daily sales volume, cash disbursements, accounts receivable and payable reports, and invoice listings (Nigrini, 2012). Number 1 as a first digit is 0.30 percent likely; 2, 3, and 4 as first digits are 0.17, 0.12, 0.09, respectively, according to Benford’s Law. There are a few numbers that aren’t used very often, such as 9. When the sample size is too small, Benford’s Law may not work well. To determine whether sample data has been artificially created, forensic accountants use Benford’s Law. To test for conformity or reasonableness, a second-digit test can also be used. Compared to expected first digit proportion, expected second digit proportion is less skewed. A data set’s potential problems can be identified quickly using this technique.

Table 1: Benford Law Second Digit Analysis

<table>
<thead>
<tr>
<th>Expected Values</th>
<th>Actual Value</th>
<th>Absolute Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1197</td>
<td>0.1449</td>
<td>0.0252</td>
</tr>
<tr>
<td>0.1139</td>
<td>0.1164</td>
<td>0.0025</td>
</tr>
<tr>
<td>0.1088</td>
<td>0.1330</td>
<td>0.0242</td>
</tr>
<tr>
<td>0.1043</td>
<td>0.0974</td>
<td>0.0069</td>
</tr>
<tr>
<td>0.1033</td>
<td>0.0831</td>
<td>0.0202</td>
</tr>
<tr>
<td>0.0966</td>
<td>0.0808</td>
<td>0.0158</td>
</tr>
<tr>
<td>0.0934</td>
<td>0.1021</td>
<td>0.0087</td>
</tr>
<tr>
<td>0.0994</td>
<td>0.0546</td>
<td>0.0458</td>
</tr>
<tr>
<td>0.0876</td>
<td>0.1116</td>
<td>0.0240</td>
</tr>
<tr>
<td>0.085</td>
<td>0.0750</td>
<td>0.0090</td>
</tr>
<tr>
<td>MAD</td>
<td></td>
<td>0.0072</td>
</tr>
<tr>
<td>CHI-SQUARE</td>
<td></td>
<td>16.9475</td>
</tr>
<tr>
<td>ANDERSON-DARLING TEST</td>
<td>1.10681</td>
<td></td>
</tr>
</tbody>
</table>

MAD (Mean Absolute Deviation) was calculated to check the variations in the observed frequencies. A higher MAD indicates a larger average difference between the actual and expected proportions. The value of the Second Digit MAD was above 0.0172 which signals non-conformity (Ikbale, 2016). When Figure 1 is observed, it is found that there are several peaks and troughs which also indicate deviation from the Benford frequency distribution.

The calculated value of the Chi-Square statistic is 16.947 which is greater than the critical value of 16.918 at the 5% level of significance and 9 degrees of freedom. This indicates that the null hypothesis “Observed frequency distribution follows the expected distribution” is rejected.

The calculated value of the Anderson-Darling test statistic is 1.106 which is smaller than the critical value of 2.376 at the 5% level of significance. This indicates that the null hypothesis “Observed frequency distribution follows the expected distribution” is accepted.

b) ALTMAN Z-SCORE MODEL

Professor Edward Altman created the Z score in 1967, and the professor has continued to enhance it throughout the years. Altman examined the financial data of about 320 organizations from 1969 to 1999 and came to the conclusion that the Z score was accurate between 82 and 94 percent of the time. The score is generated using five financial ratios that assess a public limited company's financial strength and likelihood of insolvency. Altman used five ratios to calculate the Z-Score.

\[ Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5 \]

Altman defines 3 zones of discrimination
CONCLUDING REMARKS

Financial statement manipulation has always posed a severe threat to the economy. Because of the rising number of scams in India, it is essential to have forensic professionals to deal with financial fraud and scam. Due to a lack of adequate monitoring and control measures, fraud has been rapidly increasing in India. Forensic accounting is a specialized branch of accounting that assures that a company’s financial statements are prepared in accordance with applicable accounting standards and principles. The flexibility of various reporting standards is closely connected to the degree of manipulation. Various stakeholders are becoming more aware of the importance and demand for forensic auditors. According to the findings of this study, forensic accounting combined with various laws will disclose accounts that should be red flagged. It will also recommend that these laws be used to predict a company’s financial soundness before the Bank offers credit to it.

REFERENCES:

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