Journal of Advances and Scholarly Researches in Allied Education
Vol. XIV, Issue No. 1, October-2017, ISSN 2230-7540

Earnings Manipulation Detection in Telecom Sector in India: A Case Study Using Beneish M-Score Model

Meenakshi P. Kaimal*

M.Com Student, Department of Commerce, St. Stephen's College, Uzhavoor

Abstract – The primary goal of this study was to identify the earnings manipulation of 3 competitive firms (Bharti airtel, Idea, JIO). The recently used model for detecting earnings manipulation is Beneish m-score model. In this study 3 years financial statements are used. (2014-15, 2015-16, 2016-17). The model's variables are designed to capture either the effects of manipulation or preconditions that may prompt firms to engage in such activity. While the model is implemented the data can be extracted from an annual report of the company.

----------X----------

INTRODUCTION

Earnings are the amount of profit that a company earned (produced) during a specific period (quarter or a year)**.** Earnings are the after tax income of a company which is available to the share holders. Earnings determine the dividend of the equity shareholders and they can determine whether the business will be profitable in long run. The earnings are the main factor to determine the market price of the share. Earning helps to understand the company's performance during the period. Earning can be measured in varying degrees; they are earnings before tax, earnings before interest and tax, earnings available to shareholders. All the measures provide varying degree of profitability.

Earnings management is an accounting technique (act) which is done intentionally in the process of financial reporting to attain any private motives of an organization. It includes alterations in the actual data, using window dressing to mislead stakeholders and to obtain any hidden agenda of organization. It's a negative act of an organization. Earnings management can be also called earnings manipulation**.** It has a negative effect on earnings quality. It also reduces the credibility of a company's financial reporting. It's a process of masking the true consequences of management's decision said by Security Exchange Commission(Levitt, 2014). Earnings manipulation is not an intentional fraud, but it is the sum total of series of activities which is to attain a predetermined result. The companies use earnings management to smooth out fluctuations in earnings and present more consistent profits each period. Large deviations in profits are normal in usual operating of business but investors who prefer stable growth can't accept the fluctuations this result in earnings management.

Earnings management involves the manipulation of company earnings towards a pre-determined target. This target can be motivated by a preference for more stable earnings, in which case management is said to be carrying out income smoothing. Opportunistic income smoothing can in turn signal lower risk and increase a firm's market value. Other possible motivations for earnings management include the need to maintain the levels of certain accounting ratios due to debt covenants, and the pressure to maintain increasing earnings and to beat analyst targets.

Earnings management may involve exploiting opportunities to make accounting decisions that change the earnings figure reported on the financial statements. Accounting decisions can in turn affect earnings because they can influence the timing of transactions and the estimates used in financial reporting. For example, a comparatively small change in the estimates for uncollectible accounts can havea significant effect on net income, and a company using last-in, first-out accounting for inventories can increase net income in times of rising prices by delaying purchases to future periods.

Earnings manipulation is an instance where management violates Generally Accepted Accounting Principles in order to beneficially represent the firm's financial performance (BENEISH, 1999). In this scenario of earnings management the quality of earnings plays a crucial role. Quality of earnings can be defined as the amount of profit from core operations of business rather than accounting methods, extraordinary situations or earnings

management. If a company earns profit through cost efficiencies or any operational activity the company has high quality over its earnings. The quality of earnings precisely measures the ability of firm to exist in a market. The measure of quality of earnings is done by a third party or a stakeholder to know the stability quality and working of firm.

India is the world's second-largest tele-communications market, with over 1.2 billion subscribers as of September 2017. India is also the second largest country in terms of internet subscribers. The country is now the world's second largest smart phone market and will have almost one billion unique mobile subscribers by 2020. Revenues from the telecom equipment sector are expected to grow to US$ 26.38 billion by 2020. (TRAI, 2017). India has one of the lowest call tariffs in the world enabled by mega telecom operators and hyper competition among them. India's telecom sector is going through a period of stress owing to growing losses and rising debt, amid heightened competition due to the disruptive entry of Reliance Jio. (Economic Times, 2018). The newest market player Jio offering free data and voice calls from September 5, 2016 and Jio's plan lead to a tariff war between incumbent carriers including Bharti Airtel, Vodafone India, and Idea Cellular with Jio, which resulted in free voice calls for customers with free data.

The Indian government was formulating a new telecom policy (NTP), where issues of regulatory and licensing frameworks impacting the sector, connectivity for all, quality of services, ease of doing business and absorption of new technologies like 5G and IoT will be addressed. The government plans to bring out this policy by April 2018.

The changes in the telecom sector play a crucial role in prices of shares in the market. Even the introduction of Jio vanish away all existing profit making tariff plans of market players like Bharti Airtel, Vodafone India and Idea cellular they manage to keep same price levels for their stock. In this context itis important to analyze whether any type of earnings management was done in their financial reports to maintain their market share.

The M – Score model is a earning manipulation detection model introduced by Messod D Beneish on 1999. This model is widely used in recent yers for earning manipulation detection. M- Score model is probabilistic model. There are other recently proposed models for earning manipulation, even though the M-Score model widely accepted mathematical model.

STATEMENT OF PROBLEM

The beneish model is used to detect fraud in financial statements. As per the past studies, Beneish Model is used in competitive sectors to identify their earning manipulation. In India the recent competitive sector is telecom sector due to the introduction of JIO by Reliance on 5 September, 2016. As the report of TRAI the telecom sector is the fast growing and competitive sector in India. After the introduction of JIO the market changes came to the sector is very vast. The introduction of new plans, 4G speedy network by other market players also, and changes in the new subscriptions are some of the changes among them. The other companies selected in this study are Bharti Airtel, and Idea cellular the leading market players in the sector. The other market players' existence is a big question after the introduction of JIO to the market by its low tariff and speedy network. The study focus on the accuracy of financial reports of the company presented for past 3 years.

India is the world's 2nd largest telecommunications market, with 1.206 billion subscribers as of September 2017 with 70 per cent of the population staying in rural areas, the rural market would be a key growth driver in the coming years.The recent trends in the sector are introduction of Jio by Reliance JIO Infocomm Limited, The Vodafone and Idea, India's second and third largest operators have decided to merge. Airtel's acquisition of Tata Teleservices' mobile business was given approval in November 2017

There was a change in the market of telecom sector on last year, introduction of JIO by the Reliance India Limited. The introduction of JIO with high speed network force the others to introduce same speedy wide range of network. JIO captured the market soon and the market demand for other telecom companies declined. But still the others stick on the field without much damage. This study is based on probability that there was fraud in the financial statement of the telecom sector firms. According to ACFE (2014), financial statement fraud is a deliberate fraud performed by a manager or employee with no reports on actual financial statement information. In this case study 3 years financial statements are studied so that we can understand their profit ranges on before and after the changes in the market. Beneish model is the proven model to detect the manipulation in the earnings.

METHODOLOGY

a) **Nature of Data:** Secondary data**.** The data used for the study is published financial statements of companies. The financial statements from 2014-15 to 2016-17 is taken for the study.

b) **Selection of companies:** Reliance JIO, Bharti Airtel, Idea are the leading market players as the study of India Brand Equity Foundation on December 2017.

c) Variables of the study:

- Days Sales in Receivables Index
- Gross Margin Index
- Asset Quality Index
- Sales Growth Index
- Depreciation Index
- Sales General and Administrative Expenses Index
- Leverage Index
- Total accruals to Total Assets

The variables are identified from financial statements of the companies selected.

d) Tool for Data Analysis: Beneish M-SCORE model

BENEISH M- SCORE MODEL

The beneish M-Score model is recently using earning manipulation detecting technique in forensic accounting. The recent studies in the field have stated that this model is very efficient in detecting earning manipulation. "The findings provide support for the application of the Beneish M-Score model by the management of the company to check for any irregularities in firms' financial report so that adjustment can be made before submission to Bursa Malaysia to prevent from any potential backlash that could damage firm reputation. In addition, the findings suggest that the model can be applied by researchers, auditors, and enforcement agencies as an effective detection tool to signal potentially fraudulent reporting companies in Bursa Malaysia for further investigation and enforcement action" (M.Kamal, M.Salleh, & Ahmad, 2016).This model was proposed by Messod Daniel Beneish on 1999 by analyzing 74 firms that consist of manipulators and non manipulators. He identified 8 variables from the study to identify the manipulations in the financial statements.

I. METHOD

This section discusses the estimation of the earnings manipulation detection model and the model's variables. The model is written as follows:

$$Mi = \beta' Xi + \tilde{\varepsilon}$$

where M is a dichotomous variable coded 1 for manipulators and 0 otherwise, X is the matrix of explanatory variables, and $\tilde{\varepsilon}$ is a vector residuals.

II. VARIABLES IN THE MODEL

The model includes eight variables. The variables are measured using data from the fiscalyear of the first reporting violation, e.g., the first year for which the firm is subsequently required to restate. He designates seven of the eight variables as indices because they are intended to capturedistortions that could arise from manipulation by comparing financial statement measures in theyear of the first reporting violation to the year prior. The variables are thus not measuredcontemporaneously with manipulation discovery since, in line with Feroz, Park, and Pastena(1991), manipulation becomes public on average 19 months after the end of the fiscal year of thefirst reporting violation. The measurement of each variable, and how it expect to affect the likelihood of manipulation.(BENEISH, 1999)

1. Days Sales in Receivables Index (DSRI):

DSRI is the ratio of days sales in receivable in the first year in which earnings manipulation is uncovered (year t) to the corresponding measure in year t-This variable gauges whether receivables and revenues are in or out-of-balance in two consecutive years. A large increase in days sales in receivables could be the result of a change in credit policy to spur sales in the face of increased competition, but disproportionate increases in receivables relative to sales may also be suggestive of revenue inflation. Thus expect a large increase in days sales in receivables to be associated with a higher likelihood that revenues and earnings are overstated.

2. Gross Margin Index (GMI):

GMI is ratio of the gross margin in year t-1 to the gross margin in year t. When GMI is greater than 1, it indicates that gross margins have deteriorated. Lev and Thiagarajan (1993) suggest that gross margin deterioration is a negative signal about firms' prospects. If firms with poorer prospects are more likely to engage in earnings manipulation, expect a positive relation between GMI and the probability of earnings manipulation.

3. Asset Quality Index (AQI):

Asset quality in a given year is the ratio of non-current assets other than property plant and equipment (PPE) to total assets and measures the proportion of total assets for which future benefits are potentially less certain. AQI is the ratio of asset quality in year t, relative to asset quality in year t-1. AQI is an aggregate measure of the change in the asset realization risk analysis suggested by Siegel (1991). If AQI is greater than 1 it indicates that the firm has potentially increased its involvement in cost deferral.

Thus expect a positive relationbetween AQI and the probability of earnings manipulation. An increase in asset realization risk indicates an increased propensity to capitalize and thus defer costs.

4. Sales Growth Index (SGI):

SGI is the ratio of sales in year t to sales in year t-1. Growth does not imply manipulation, but growth firms are viewed by professionals as more likely to commit financial statement fraud because their financial position and capital needs put pressure on managers to achieve earnings targets (National Commission on Fraudulent Financial Reporting (1987), National Association of Certified Fraud Examiners (1993)). In addition, concerns about controls and reporting tend to lag behind operations in periods of high growth (National Commission on Fraudulent Financial Reporting (1987), Loebeckke et al. (1989)). If growth firms face large stock prices losses at the first indication of a slowdown, they may have greater incentives to manipulate earnings. To this effect, Fridson (1993, pp. 7-8) states: "Almost invariably, companies try to dispel the impression that their growth is decelerating, since that perception can be so costly to them." Thus expect a positive relation between SGI and the probability of earnings manipulation.

5. Depreciation Index (DEPI):

DEPI is the ratio of the rate of depreciation in year t-1 vs the corresponding rate in year t. The depreciation rate in a given year equals is equal to depreciation/(depreciation + net PPE). A DEPI greater than 1 it indicates that the rate at which assets are depreciated has slowed down--raising the possibility that the firm has revised upwards the estimates of assets useful lives or adopted a new method that is income increasing. Thus expect a positive relation between DEPI and the probability of manipulation.

6. Sales General and Administrative Expenses Index (SGAI):

SGAI is calculated as the ratio of SGA to sales in year t relative to the corresponding measure in year t-1. The variable is used following Lev and Thiagarajan's (1993) suggestion that analysts would interpret a disproportionate increase in sales as a negative signal about firms future prospects. It expect a positive relation between SGAI and the probability of manipulation.

7. Leverage Index (LVGI):

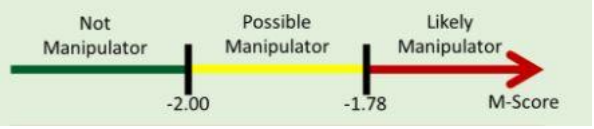
LVGI is the ratio of total debt to total assets in year t relative to the corresponding ratio in year t-1. A LVGI greater than 1 indicates an increase in leverage. The variable is included to capture debt covenants incentives for earnings manipulation. Assuming that leverage follows a random walk, LVGI implicitly measures the leverage forecast error. It use the change in leverage in the firms' capital structure given evidence in Beneish and Press (1993) that such changes are associated with the stock market effect of default.

8. Total Accruals to Total Assets (TATA):

Total accruals are calculated as the change in working capital accounts other than cash less depreciation. Either total accruals or a partition thereof has been used in prior work to assess the extent to which managers make discretionary accounting choices to alter earnings (see for example Healy (1985), Jones (1991). It use total accruals to total assets to proxy for the extent to which cash underlies reported earnings, and expect higher positive accruals (less cash) to be associated with a higher likelihood of earnings manipulation.

The explanatory variables in the model are primarily based on year-to-year changes and thisintroduces a potential problem when the denominator is small. To deal with this problem, the model winsorized the data at the 1% and 99 % percentiles for each variable. In addition, there wereinstances where the denominator of the Asset Quality Index variable was zero as assets in thereference year (period t-1) consisted exclusively of current assets and PPE. Since in such cases the Asset Quality Index was not defined, Messod D Beneish set its value to one (its neutral value) instead of treating the observation as missing. Similarly, the model set the Depreciation and SGA indices to values of one, when elements of the computation amortization of intangibles, and SG&A were not available on the COMPUSTAT tapes. The model found that estimating the model after excluding those observations yielded similar results.

The score of the model can be between -1.78 and -2.22. if the score is above -2.22 the company is possible manipulator and if the score is >-1.78 the company is likely manipulator.



The equations of each variable are as follows:

$$DSRI = (\text{Receivables}_t / \text{Sales}_t) \div (\text{Receivables}_{t-1} / \text{Sales}_{t-1})$$

$$GMI = \frac{\text{SALES}_{t-1} - \text{COSTS OF GOODS SOLD}_{t-1}}{\text{SALES}_{t-1}} \div \frac{\text{SALES}_t - \text{COSTS OF GOODS SOLD}_t}{\text{SALAES}_t}$$

$$AQI = 1 - \frac{\text{CURRENT ASSETS}_t + \text{PPE}_t}{\text{TOTAL ASSETS}_t} \div 1 - \frac{\text{CURRENT ASSETS}_{t-1} + \text{PPE}_{t-1}}{\text{TOTAL ASSETS}_{t-1}}$$

$$SGI = \text{Sales}_t / \text{Sales}_{t-1}$$

$$DEPI = \frac{\text{DEPRECIATION}_{t-1}}{\text{DEPRECIATION}_{t-1} + \text{PPE}_{t-1}} \div \frac{\text{DEPRECIATION}_t}{\text{DEPRECIATION}_t + \text{PPE}_t}$$

$$SGA = \frac{\text{SGA EXPENSE}_t}{\text{SALES}_t} \div \frac{\text{SGA EXPENSE}_{t-1}}{\text{SALES}_{t-1}}$$

$$LVGI = \frac{\text{LONG TERM DEBT}_t + \text{CURRENT LIABILITIES}_t}{\text{TOTAL ASSETS}_t} + \frac{\text{LONG TERM DEBT}_{t-1} + \text{CURRENT LIABILITIES}_{t-1}}{\text{TOTTAL ASSETS}_{t-1}}$$

$$\text{ACCRUALS TO TOTAL ASSETS} = \frac{\text{NET INCOME} - \text{CASH FLOW FROM OPERATIONS}}{\text{TOTAL ASSETS}}$$

't' in the equations refer to the first year in which earnings manipulation occur and 't-1' refers to the proceeding year of 't'

Therefore the M-Score of the model can be calculated as follows:

5 VARIABLE MODEL

$$M = -6.065 + .823DSRI + .906GMI + .593AQI + .717SGI + .107DEPI$$

8 VARIABLE MODEL

$$M = -4.840 + .920DSRI + .528GMI + .404AQI + .892SGI + .115DEPI - .172SGAI + 4.679ACCRUALTOTALASSETS - .327LVGI$$

DISCUSSION OF RESULT

The research subject of this paper is analyzing the fraud involved in the telecom sector in the recent years in India. In this study 3 years financial statements of each company are analyzed to detect any type of manipulations have done by them. The earning manipulation can be detected by several techniques of forensic accounting. The widely used technique for finding earnings management is beneish model. In the literature review conducted it is clear that the model is sufficient to analyze the earnings manipulations. The model analyses eight variables which has been derived from financial statements of the companies selected.

The primary objectives of this paper are:

- To compute a probability of manipulation in the telecom sector
- To understand the presence of fraud in the financial statements using M- score model.

The study finally reveals:

- Bharti Airtel Limited have M-Score of 16.9 on 5 variables model and 8.55 on 8 variables model in the year 2016-17, and in the year 2015-16 the M-Score is -2.16 on 5 variables model and -1.07 on 8 variables model. The score show that the company is an earnings manipulator, when compared to score on 2015-16 the rate of manipulation is higher on the year 2016-17.
- The M-Score of Idea Cellular Limited is -2.40 on 5 variables model and -4.17 on 8 variables model in the year 2015-16, and in the year 2016-17 the score is -2.82 on 5 variables model and -2.75 on 8 variables model. The score states that the company is not an earnings manipulator.
- Reliance JIO Infocomm Limited have M-Score of -0.80 on 5 variables model and -0.74 on 8 variables model in the year 2016-17, and in the year 2015-16 the M-Score is -3.45 on 5 variables model and -2.99 on 8 variables model. The score shows that the company is an earnings manipulator as on 2016-17.

CONCLUSION

The beneish M-Score model is a recently used model for detecting earnings manipulations. The study can be concluded that Bharti Airtel Limited has done some kind of manipulations in the earnings. The M-Score obtained in the study on 2015-16 says the company is a possible manipulator in 5 variables model and likely manipulator in 8 variables model. And the score obtained on 2016-17 says that the company is a likely manipulator. The beneish M-Score model says that Idea Cellular Limited is not an earnings manipulator. The M-Score of the Reliance JIO reveals that the company has done earnings manipulation in the year the company introduced the service to the public. The major limitations of the study is that the unavailability of information regarding cost of goods in the financial statements of Idea cellular and Reliance JIO and also the founder of the model states that it's a probabilistic model.

SUGGESTIONS

- The company should reveal all the information regarding each items in the financial statements in its notes, which will be helpful for further analysis done by a stakeholders. The absence of information will lead to incorrect conclusions in the analysis.
- Through our study we can found 2 financial reports for a year, one is not audited and other is audited, the company should state which report is audited. It will helpful make further analysis.
- Earnings management is an incorrect method to increase the market value of a company. So company should adopt strict measures to improve market value without earnings manipulations.
- Company should develop strict audit department and is to take strict measures to avoid earnings manipulations in financial reports.

BIBLIOGRAPHY

1) Anh, N. H., & Linh, N. H. (2016). Using the M-score Model in Detecting Earnings Management : Evidence from Non-Financial Vietnamese Listed Companies. VNU Journal of science economics and business.

2) Aris, N. A., Othman, R., Arif, S. M., Malek, M. A., & Omar, N. (2013). Fraud Detection: Benford's Law vs Beneish Model Fraud Detection : Benford ' s Law vs Beneish Model. SHUSER.

3) BENEISH, M. D. (1999). THE DETECTION OF EARNINGS MANIPULATION. FINANCIAL ANALYSTS JOURNAL, 24-36.

4) Beneish, M. D. (2001). Earnings Management A perspective managerial finance.

5) Beneish, M. D., Lee, C. M., & Nichols, D. C. (2012). Fraud Detection and Expected Returns.

6) Beneish, M. D., Lee, C. M., & Nichols, D. C. (2013). Earnings Manipulation and Expected Returns. Financial Analysts Journal.

7) Bešlić, I., Bešlić, D., Jakšić3, D., & Andrić, M. (2015). Testing the Models for Detection of Earnings. INDUSTRIJA.

8) Crumbley, D. L., Heitger, L. E. & Smith, G. S. (2005). Forensic and Investigative Accounting. CCH Group.

9) Dechow, P. M., Sloan, R. G. & Sweeney, A. P. (1995). Detecting Earnings Management. THE ACCOUNTING REVIEW.

10) Dechow, P. M., Sloan, R. G. & Sweeney, A. P. (1995). detecting earnings management. The accounting review.

11) DIKMEN, B., & KÜÇÜKKOCAOG˘, G. (2010). The Detection of Earnings Manipulation: The Three-Phase Cutting Plane Algorithm Using Mathematical Programming. Journal of forecasting.

12) Economic Times. (2017).

13) IAS1, S. (2007). Presentation of Financial Statements. International Accounting Standards Board.

14) India Brand Equity Foundation . (2017). Telecommunication. IBEF.

15) Jones. (1991).

16) Kaur, R., Sharma, K., & Khanna, D. A. (2014). Detecting earnings management in India: A sector - wise study. European Journal of Business and Management.

17) KÖRPİ, M., KARA, E., & UĞURLU, M. (2015). Using Beneish Model in Identifying Accounting Manipulation: An Empirical Study in BIST Manufacturing Industry Sector. Journal Of Accounting, Finance and Auditing Studies.

18) Levitt, A. (2014). SEC.

19) M.Kamal, M.Salleh, & Ahmad, A. (2016). Detecting financial statement fraud by Malaysian public listed companies: The reliability of the Beneish M-Score Model. Jurnal Pengurusan.

20) Omar, N., Koya, R. K., Sanusi, Z. M., & Shafie, N. A. (2014). Financial Statement Fraud: A Case Examination Using Beneish Model and Ratio Analysis. International Journal of Trade, Economics and Finance.

21) Repousis, S. (2016). Using beneish model to detect corporate financial statement fraud in Greece. Journal of Financial Crime.

22) Shahzad, A. (2016). Detecting Earning Management and Earning Manipulation in BRIC Countries;A Panel data analysis for post global financial crisi period. International journal for accounting research.

23) Tarjo, & Herawati, N. (2015). Application of Beneish m- score model and data mining to detect financial fraud . ELSEVIER.

24) TRAI. (2017, dec). HIGHLIGHTS OF TELECOM SUSCRIPTIONS DATA . DELHI.

25) White, G. I., Sondhi, A., & Dov, F. (1998). THE ANALYSIS AND USE OF FINANCIALSTATEMENTS. John Wiley & Sons, Inc. ISBN 0-471-11186-4.

Corresponding Author

Meenakshi P. Kaimal*

M.Com Student, Department of Commerce, St. Stephen's College, Uzhavoor

pmeenakshi2696@gmail.com