Reliability Analysis of Quality Determinants of Corporate Financial Reporting In India

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Abstract

Financial reporting is the process of preparing and distributing financial information to users of such information in various forms. In an era of increasingly stringent financial reporting requirements, timely and accurate financial information must be deliverable to anyone, anywhere, at anytime. The primary premise of financial reporting is to provide high-quality financial reporting information concerning economic entities, primarily financial in nature, useful for economic decision making. Providing high quality financial reporting information is important because it will positively influence capital providers and other stakeholders in making investment, credit, and similar resource allocation decisions enhancing overall market efficiency. The paper has scratched many of the indicators from the company's financial reports to know the status of the corporate financial reporting in Indian scenario. The study considers quality of financial reporting as explained variable and sixteen most influencing indicators of quality such as calculation of net profit, return on average net worth, Employees Stock Option Scheme (Sweat Capital), market capitalization; monthly returns etc as explanatory variables. The objective of the paper is to explore answer to the research question "Are all these indicators reliable to measure the quality of corporate financial reporting in India?" To measure it, Cronbach Coefficient Alpha of Reliability & Item Analysis is used to identify reliable measurement, to improve existing one, and to evaluate the reliability of indicators already in use. The analysis covered the data series of ten financial years of five companies from 2001-02 to 2009-10 of whose annual reports available on their websites and also registered on SEBI, are randomly selected. The paper ends with an outcome on the reliable quality indicators of financial reporting and highlighting the limitations of the study.

Keywords: *Financial reporting, Quality Indicators, Dummy variables, Reliability analysis, Cronbach alpha JEL Classification Codes: C3, M41*

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At the core of the corporate reporting, the financial reporting exists, consisting GAAP-compliant financial statements and accompanying notes (price water house coopers). Financial reporting may be defined as communication of financial information of a business enterprise to external world (i.e., third parties including shareholders, creditors, customers, governmental authorities & the public). It is the reporting of the accounting information of an entity (individual firm, company, government enterprise) to a user or group of users. Financial reporting information is to facilitate the efficient allocation of capital in the economy. It is an indicator of how well or poor a company has performed in a particular financial year. The main expected role of the financial reporting is to meet the external users' varying needs. Users of financial reports in general and particularly investors require useful information for their decision-making. Financial Reporting gives reader a summary of what happened in a company based purely on the records. These records tell the condition and performance of a business historically, currently and prospectively.

Present study is focused on the identification of the perfect set of variables influencing quality of corporate financial reporting. The paper is divided into five sections. First section gives brief description of financial reporting and its quality. Section two provides literature review based on conceptual framework of corporate financial reporting and its quality determinants. Section three presents the brief description of research

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methodology. Section four investigate the reliable variables influencing quality of corporate financial reporting through descriptive analysis and reliability and item analysis. The paper ends with fifth section by giving concluding remarks.

Section I: Financial Reporting And Its Quality

An understanding of the conceptual bases of the corporate financial reporting system and of the preparation of financial statements is essential prerequisites to be a good accountant or a financial analyst. In this way, the primary objective of financial reporting is to provide high-quality financial reporting information concerning economic entities, primarily financial in nature, useful for economic decision making. Providing high quality financial reporting information is important because it will positively influence capital providers and other stakeholders in making investment, credit, and similar resource allocation decisions enhancing overall market efficiency (Ferdy Van Beest, Geert Braam, Suzanne Boelens, 2009).

The very basic premise of financial reporting is to provide a fair, complete and well-informed view of the financial performance of a business, based on a well-defined set of standards, which are used consistently across a whole range of companies (Tanya Branwhite). Financial reporting is done by every business and organization to assess its financial performance. Currently, while internal financial reporting incorporates both financial and managerial accounting information, external financial reporting is comprised primarily of financial accounting information; hence, very little information in external financial reports relates to the decision-making (planning) function of management (Stanley C. W. Salvary, Canisius College, 1998). Companies report their financial and narrative/contextual information using a wide range of external communication channels, including presentations to analysts and corporate websites.

Preparers of financial information should clearly indicate how changes in accounting have impacted their accounts, so users of financial reports have the opportunity to strip those changes back out (Tanya Branwhite). It is important to report financial information in a timely fashion. The longer a company waits to release its annual report and accompanying financial statements, the more stale the information is and the less useful it is.

Financial reporting affects the public interest in numerous ways. This results a widespread adoption of financial reporting, will produce a more efficient capital market, a more productive economy and a more prosperous society. (Paul B.W. Miller, April 2002)

Corporate financial report communicates economic impact of transactions and other events on the economic resources and the capital structure of the company. The aim is to provide information that is relevant for economic decision-making by investors and creditors. The information is also used to evaluate management in its stewardship function. It is expected that the information in financial report should be presented in such a manner that it is easy to comprehend and analyze. (Asish K Bhattacharyya, 2009)

Corporate financial reporting gives an overall view of the business performance in accordance with the business objectives. To achieve these objectives, financial data and related information is to be summarized into useful reports of the company so that primary and secondary users can use them in efficient manner. Relevant information will be those that have affected a company's development, performance and position during the financial year – as well as those likely to affect its future development, performance and position. There are no hard and fast rules dictating what forward-looking information a company must provide. Companies must decide which information to include – and which to leave out – on the basis of their own unique business dynamics and those of the industry sectors in which they operate.

Section II: Review Of Literature

Considerable literature has emerged in the last eighteen years that examines the corporate financial reporting. This section provides a review of both aspects i.e., conceptual framework of corporate financial reporting and its quality determinants.

Conceptual Framework of Corporate Financial Reporting
Stanley C. W. Salvary, Canisius College (1998) examine various theoretical issues in accounting in a historical

setting and provides some insight on the manner in which the accounting profession has responded to problems and suggested that the inclusion of managerial accounting information in financial reports would reduce the current level of uncertainty and should lead to increased efficiency in the setting of proper prices in the capital markets. Birgül Caramanolis-Çötelli, Lucien Gardiol, Rajna Gibson-Asner and Nils S. Tuchschmid (2000) investigate the role of the quality of a firm's disclosure policy and of the information channeling process by financial analysts on the stock price reaction around the publication of the annual reports.

McDaniel, Linda; Martin, Roger D.; Maines, Laureen A. (2002) investigate the extent to which financial experts make judgments about financial reporting quality that differ from those of financial literates and suggested that financial experts' frameworks for evaluating overall financial reporting quality for a set of financial statements differ from those of financial literates. They also indicate that experts and literates bring differing viewpoints to the identification and evaluation of specific financial reporting concerns. Stephen H. Penman (2003) questions the quality of financial reporting against the backdrop of the stock market bubble in 1990's. A number of quality features of accounting are identified. Inevitable imperfections due to measurement difficulties are recognized, as a quality warning to analysts and investors. A number of failures of GAAP and financial disclosures are identified that, if not recognized, can promote momentum investing and stock market bubbles.

Feng Li and Nemit O. Shroff (2009) examine the relation between financial reporting quality and economic growth. They developed the hypothesis and apply regression analysis. Their results show that there is no robust relation between the quality of financial reporting in a given country and its economic growth. Feng Chen, Ole-Kristian Hope, Qingyuan Li, Xin Wang (2010) examine the role of FRQ in private firms from emerging markets. They shows that financial reporting quality (FRQ) is positively related to investment efficiency for large U.S. publicly traded companies.

Determinants of Corporate Financial Reporting

P.L. Joshi, Dr. Jasim Abdulla, (1993) make a critical examination of the present accounting standard setting process and current issues and practices of corporate financial reporting (CFR) in an Indian context by referring to 95 annual reports of large sized companies. It is found that Indian accounting standards have many alternative accounting choices which make financial statements of companies less comparable. A review of CFR shows a strong tendency for companies to follow strict legal requirements in the disclosure and preparation of financial statements, there is much diversity in voluntary reporting practice particularly with respect to value added accounting, reporting by segments, inflation accounting, human resource accounting, and corporate social performance reporting, and there has been a tendency towards minimum disclosure. Peter B. Oyelere, Fawzi Laswad and Richard Fisher (2000) examine the extent of IFR by New Zealand companies and the determinants of their WWW presence and IFR practices. They identify the following determinants: (1) size (2) performance (3) liquidity (4) internationalization (5) ownership spread and (6) industry. The results of the study indicate that firm size, efficiency and the spread of ownership motivates the provision of IFR.

Carol Ann Frost, Elizabeth A. Gordon and Grace Pownall (2005) examine associations between financial reporting and disclosure quality, and access to capital in global equity markets by 342 emerging market companies. They examine five proxies for financial reporting and disclosure quality: 1) the financial transparency and information disclosure component of Standard and Poor's Transparency and Disclosure (S&P T&D) index, 2) accounting principles used in the annual report to shareholders (home GAAP, International Accounting Standards [IAS], reconciliation to U.S. GAAP, and U.S. GAAP), 3) auditor (global versus domestic), 4) whether the annual report to shareholders is available in an English language version, and 5) a categorical variable representing the extent to which the company provides freely available financial and other investor-oriented information on its website. Researchers find strong support for the hypothesis that financial reporting and disclosure quality is positively associated with emerging market companies' global capital market access, after controlling for factors expected to influence emerging market companies' ability to raise capital globally.

Rodrigo S. Verdi (2006) studies the relation between financial reporting quality and investment efficiency on a sample of 49,543 firm-year observations between 1980 and 2003. Researcher considered payout, age, size and rating constraints as determinants and concluded the relation between financial reporting quality and investment efficiency is stronger for firms with low quality information environments. Ferdy van Beest, Geert Braam and Suzanne Boelens (2009) constructed a 21- item index in order to comprehensively measure the quality of financial reporting in terms of the underlying fundamental and enhancing qualitative characteristics i.e. relevance and faithful representation, understandability, comparability, verifiability and timeliness and contributes to improving the quality assessment of financial reporting information, fulfilling a request from both the FASB and the IASB (2008) to make the qualitative characteristics operationally measurable. Qingliang Tang (2008) proposes a system to measure financial reporting quality at country level. He develops quality indicators of five dimensions of financial reporting system: loss avoidance ratio, profit decline avoidance ratio, accruals ratio, qualified audit opinion ratio and non-Big 4 auditor ratio. The study calculates a financial reporting quality score based on these indicators.

Section III : Research Methodology

The methodology used in the present study includes the following:

Research Question: Are all these indicators reliable to measure the quality of corporate financial reporting in India?

Table 1: List of Variables

S.No.	Variable Name	Symbol
1.	Net Profit:	NP
2.	Return On Average Net Worth	RANW
3.	Employees Stock Option Scheme (Sweat Capital)	ESOP
4.	Market Capitalization	MC
5.	Monthly Returns	MR
6.	Contents	C
7.	Timeliness	T
8.	Economic Value Added	EVA
9.	Corporate Social Responsibility	CSR
10.	Corporate Governance	CG
11.	Risk Management Report	RM
12.	Consolidated Financial Statements	CFS
13.	Human Resource Accounting	HRA
14.	Environment Management	EM
15.	Related Party Disclosures	RPD
16.	Segment Reporting	SR

Database: In order to identify the perfect set of variables influencing quality of corporate financial reporting, it was necessary to locate the annual reports of Indian companies. The study is empirical in nature. Five companies whose annual reports of ten consecutive financial years from 2001-02 to 2009-10 available on their websites and also registered on SEBI, were randomly selected. These Indian companies named by (1) Bharat Heavy Electricals Limited (BHEL) (the largest engineering and manufacturing enterprise of India in the energy & infrastructure related sectors.); (2) Grasim Industries Limited (business in viscose staple fibre (VSF), cement, chemicals and textiles. Its core businesses are VSF and cement); (3) Hindalco (the leading producer of aluminium and copper); (4) Infosys Limited (the second largest information technology company in India); (5) Steel Authority of India Limited (SAIL) (the leading steel-making company in India) were selected.

Analysis tools: Researchers have scratched many of the variables from the company's financial reports to know the status of the corporate financial reporting in Indian scenario as explained above. And, then, draw descriptive statistics of selected variables to find their range, minimum and maximum value, mean and standard deviation. As the variables are dummy coded, there is no need to calculate skewness or kurtosis. Are all these variables reliable to measure the quality of corporate financial reporting in India? To measure it, Cronbach Coefficient Alpha of Reliability & Item Analysis may be used to identify reliable measurement, to improve existing one, and to evaluate the reliability of variables already in use.

Variables Coding: Researchers have identified some of the determinants (financial and non-financial) that focus on the corporate financial reporting, with consideration of the related literature and also from their own opinion as a way of emphasizing the quality of corporate financial reporting in Indian competitive environment. These determinants are coded as 0 and 1. The dummy coding of the variables are as follows:

Table 2:
Dummy Coding of the Variables

S.No.	Variables	Dummy Coding
1.	NP	If computation of net profit in accordance with section 349 or 198 or 309 (5) of the Companies Act, 1956 = 1; otherwise = 0
2.	RANW	If provided = 1; otherwise = 0
3.	ESOP	If employees alloted shares under ESOP scheme = 1; otherwise = 0
4.	MC	If market capitalization is included in the computation of The Bse-30 Sensitive Index (Sensex), The BSE Dollex, S&P CNX Nifty Index And NASDAQ-100 Index = 1; otherwise = 0
5.	MR	If provided = 1; otherwise = 0
6.	C	If provided = 1; otherwise = 0
7.	T	If reports are provided on the time = 1; otherwise = 0
8.	EVA	If provided = 1; otherwise = 0
9.	CSR	If provided = 1; otherwise = 0
10.	CG	If provided = 1; otherwise = 0
11.	RM	If provided = 1; otherwise = 0
12.	CFS	If provided = 1; otherwise = 0
13.	HRA	If provided = 1; otherwise = 0
14.	EM	If provided = 1; otherwise = 0
15.	RPD	If provided = 1; otherwise = 0
16.	SR	If provided = 1; otherwise = 0

Section IV:
Analysis And Results

This section presents results derived from descriptive analysis and reliability and item analysis.

Descriptive Analysis

Table 3 presents descriptive statistics for the selected explanatory variables.

Table 3:
Descriptive Statistics

Variables	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Dev Statistic
NP	50	1	0	1	.58	.499
RANW	50	1	0	1	.44	.501
ESOP	50	1	0	1	.18	.388
MC	50	1	0	1	.10	.303
MR	50	0	0	0	.00	.000
C	50	1	0	1	.98	.141
T	50	0	1	1	1.00	.000
EVA	50	1	0	1	.26	.443
CSR	50	1	0	1	.44	.501
CG	50	0	1	1	1.00	.000
CFS	50	1	0	1	.84	.370
HRA	50	1	0	1	.02	.141
EM	50	1	0	1	.68	.471
RPD	50	0	1	1	1.00	.000
SR	50	1	0	1	.80	.404
RM	50	1	0	1	.44	.501
Valid N (listwise)	50					

The above table presented the descriptive statistics for sixteen dummy predictor variables. All the predictor variables for five companies are concerned of ten financial years from FY 2001-02 to FY 2009-10. The N column indicates that all the variables have complete data. The valid N (listwise) is 50, which also indicates that all the predictor variables had data for each company for every year. The range column shows that variables are coded as 0 or 1. The minimum column showing "0" for a minimum and the maximum column showing "1" for a maximum are good because they agree with the codebook. There are four exceptional variables named MR, T, CG and RPD do not follow the required values and hence not showing the any deviation. All the remaining variables show some deviation i.e., more or less, so it is clear that these variables response to quality of financial reporting.

Reliability and Item Analysis

From the above description of variables, it is felt that there is a requirement to check the reliability of the selected variables. So, researcher has devised a sixteen-variables statement with which they hope to measure how quality of corporate financial reporting shift in this competitive edge in Indian complex. In order to understand whether the variables in this statement all reliably measure the same latent variable i.e., quality, a Cronbach's coefficient alpha was carry on.

There are five companies who respond to variables for ten financial years, and then compute the variance for each item, and the variance for the sum scale. We can estimate the proportion of 1 score variance that is captured by the variables by comparing the sum of variable variances with the variance of the sum quality of corporate financial reporting. Specifically, we can compute Cronbach's coefficient alpha ( ):

$$\alpha = \left(\frac{k}{k-1}\right)\left[1 - \frac{\sum s_i^2}{s_{sum}^2}\right]$$

Cronbach Alpha Test for Quality of Corporate Financial Reporting

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale: Quality of Corporate Financial Reporting	5.76	4.676	2.162	12
Variables	**Scale mean if item deleted**	**Scale variance if item deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
NP	5.18	3.702	.378	.578
RANW	5.32	3.814	.312	.594
ESOP	5.58	4.412	.070	.638
MC	5.66	4.147	.354	.593
C	4.78	4.461	.327	.611
EVA	5.50	4.010	.265	.604
CSR	5.32	3.732	.357	.583
CFS	4.92	3.749	.551	.552
HRA	5.74	4.604	.085	.626
EM	5.08	4.851	-.191	.696
SR	4.96	3.794	.456	.566
RM	5.32	3.487	.500	.547
Reliability Coefficients for variables 12			.623	Standardized Item Alpha = .635

Revised Cronbach Alpha Test for Quality of Corporate Financial Reporting

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale: Quality of Corporate Financial Reporting	5.08	4.851	2.202	11
Variables	**Scale mean if item deleted**	**Scale variance if item deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
NP	4.50	3.847	.386	.668
RANW	4.64	3.827	.394	.667
ESOP	4.90	4.663	.022	.722
MC	4.98	4.183	.464	.662
C	4.10	4.663	.274	.691
EVA	4.82	3.987	.377	.669
CSR	4.64	3.786	.417	.662
CFS	4.24	4.104	.406	.666
HRA	5.06	4.751	.128	.699
SR	4.28	4.083	.370	.671
RM	4.64	3.541	.561	.631
Reliability Coefficients for variables 11			.696	Standardized Item Alpha = .688

Internal reliability of sixteen variables was assessed using the Cronbach's Alpha technique. Variables such as MR, T, CG and RPD have zero variance and removed from the determinants of quality of corporate financial reporting scale. Now the reliability test considers only twelve variables. The scale produced an alpha of .623. Inspection of the table suggested that variable named EM should be eliminated because of its low and negative correlation with the test as a whole and the indication that its removal would increase internal reliability. A repeat Cronbach's Alpha test minus variable named EM then produced an alpha of .696, which is more acceptable for quality of corporate financial reporting scale.

SectionV : Conclusion

To provide greater clarity and granularity on critical elements of the financial reporting, researchers have focused on some of the key areas such as net profit, net worth and its returns, employees stock option scheme (sweat capital), market capitalization, monthly returns, contents, timeliness, value added statement, corporate social responsibility, corporate governance, consolidated financial statement, human resource accounting, environmental disclosures, related party disclosures, segment reporting and risk management report that have an effect on the corporate financial reporting in a direct or indirect way.

From the entire analysis, researchers have concluded that all the selected variables are true representative of corporate financial reporting except monthly returns, timeliness, corporate governance, related party disclosures and environmental disclosures. Finally the study is based on lingering eleven indicators which show instant effect on quality of corporate financial reporting. It was also noticed that drastic improvements have taken place in the quality of corporate financial reporting from the FY 2005-06 in India because many of the companies have started to involve the new reporting aspects like value added statement, corporate social responsibility, human resource accounting etc in their annual reports. In present scenario, companies give an overall view of their business performance in accordance with their business objectives. It helps companies to well run on the basis of comprehensive and accurate information about all aspects of their operations and nothing to fear from providing forward-looking information. Even now they have an opportunity to secure significant competitive edge.

References

- *Admin (2009, January 10). Elements and Components of a Complete Set of Financial Statements. Retrieved on October 30, 2011, from http://businessaccent.com*
- *Asish K Bhattacharyya. Complexity in Corporate Financial Reporting. Business Standard, retrieved on June 15, 2009, from http://business.rediff.com*
- *Beest, Ferdy van, Braam, Geert & Boelens, Suzanne (2009). Quality of Financial Reporting: Measuring Qualitative Characteristics. Nijmegen Center for Economics (NiCE), Institute for Management Research, Radboud University Nijmegen, NiCE Working Paper 09-108, from http://www.ru.nl/nice/workingpapers*
- *Caramanolis-Çötelli, Birgül, Gardiol, Lucien, Gibson-Asner, Rajna & Tuchschmid, Nils S. (2000). Are Investors Sensitive to the Quality and the Disclosure of Financial Statements? European Finance Review 3, 131–159*
- *Chen, Feng, Hope, Ole-Kristian, Li, Qingyuan & Wang, Xin (2010). Financial Reporting Quality and Investment Efficiency of Private Firms in Emerging Markets. From http://www.nd.edu/~carecob/Workshops/10-11Workshops/HopePaper091010.pdf*
- *Corporate Reporting, Retrieved on October 30, 2011, from http://www.pwc.com/corporatereporting*
- *Frost, Carol Ann, Gordon, Elizabeth A. & Pownall, Grace (2008). Financial Reporting and Disclosure Quality, and Emerging Market Companies' Access to Capital in Global Markets. Working Paper Series, available at SSRN: http://ssrn.com/abstract=802824*
- *Frost, Carol Ann, Gordon, Elizabeth A. & Pownall, Grace (2005). Financial Reporting Quality, Disclosure and Emerging Market Companies' Access to Capital in Global Equity Markets. Working paper, School of Accountancy, Singapore Management University*
- *Joshi, P.L. & Abdulla, Dr. Jasim (1993). Accounting Standards and Corporate Financial Reporting in India. Asian Review of Accounting, 3(2), 105 – 124.*
- *Li, Feng & Shroff, Nemit O. (2009). Financial Reporting Quality and Economic Growth. From http://www.isb.edu/AccountingResearchConference/File/FinancialReporting.pdf*
- *McDaniel, Linda; Martin, Roger D.; Maines, Laureen A. (2002). Evaluating Financial Reporting Quality: The*

Effects of Financial Expertise vs. Financial Literacy. Accounting Review

- *Miller, Paul B.W. (2002). Quality Financial Reporting. Journal of Accountancy*
- *Oyelere, Peter B., Laswad, Fawzi & Fisher, Richard (2000). Corporate Financial Reporting: Firm Characteristics and the Use of the Internet as a Medium of Communication. Lincoln University, Commerce Division, Discussion Paper No. 81.*
- *Salvary, Stanley C. W. (1998). Accounting and Financial Reporting In a Changing Environment: Historical And Theoretical Perspectives. Essays in Economic and Business History, volume XVI 1998:307-329*
- *Tang, Qingliang (2008). Financial Reporting Quality In Developed And Emerging Markets Tenth. Annual International Conference on Accounting and Business 2008, Shanghai, June 6-8*
- *Tanya Branwhite,Quest for True Performance Information. From http://www.ifac.org*
- *Verdi, Rodrigo S. (2006). Financial Reporting Quality and Investment Efficiency. From*
- *http://www.gsb.stanford.edu/facseminars*
- *Statsoft electronic statistcs toolbox*
- *www.corporatereporting.com*