

# EFFECTIVENESS OF EARNINGS MANAGEMENT CONTROL MECHANISMS IN INDIA: A DIAGNOSTIC STUDY USING STRUCTURAL EQUATION MODELLING

<sup>1</sup>Dr.Abdul Naser V, <sup>2</sup>Dr.P.Natarajan

<sup>1</sup>Assistant Professor, Dept. of Commerce & Centre of Research, P.S.M.O. College, Tirurangadi, Kerala

<sup>2</sup>Professor, Dept. of Commerce, School of Management, Pondicherry University, Pondicherry

## Abstract

The paper aims to analyse effectiveness of earnings management control mechanism in controlling earnings management activities in India. Specifically, effectiveness of corporate governance, external auditing and accounting standards in controlling earnings management practices are analysed. Primary data regarding auditor's and accountant's perception has been collected using structured questionnaire 205 respondents and analysed using descriptive statistics and Structural Equation modelling. The analysis shows that accrual based earnings management has significantly negative relationship with internal corporate governance, external audit and accounting standards. But real activity manipulations have significant negative relationship only with external audit. The findings of the research would pave a base for the regulators to strengthen the earnings management control mechanisms and other stakeholders could use the findings of the research to understand whether their interests in the companies are protected. This is the first study in India analysing auditors and accountants' perception regarding accrual based earnings management practices and real activity manipulations and effectiveness of earnings management control mechanisms to the best of authors' knowledge.

**Index Terms:** Earnings management control mechanism, Structural equation modelling, Accrual based earnings management, Real activity manipulation.

## 1. Introduction

Financial reports of companies are prepared to give useful information to the interested parties and the stake holders who use information reported by the corporates to decisions. Reported information will adversely affect the interested parties if it is low quality. Thus keeping quality of financial reports are at most important. According to Leuz, Nanda and Wysocki, (2003) activities of earnings management by executives with the financial statements will lead to inaccurate presentation of accounting figures and affect users ability to assess performance of corporates badly. Poor performance of management, weak internal corporate governance mechanisms, weak accounting profession and lack of external audit mechanism and less sophisticated users will influence quality of financial reports negatively. (Baralexix 2004). Levitt (1998) suggested to improve accounting framework, enhance external audit process, strengthen audit committee to reduce earnings management and hence to improve credibility of financial statements. Goncharov (2005) extents the view of Levitt (1998) by adding the factors such as political forces, culture, corporate governance and accounting standards.

The researchers analyse the level of implementation of earnings management control mechanism in India and impact of earnings management on the quality of financial reports. The researchers investigated effectiveness of internal corporate mechanism, accounting standard and external audit in controlling earnings management.

A corporate governance mechanism of a company supposed to be designed in a way to control management activities and make a balance between the interests of owners and all other parties who may be affected by the activities of business and to ensure maximum efficiency and profitability of the concern.

The corporate governance factors derived from previous literatures which have direct impact on earnings management analysed in the study are board of directors size, board of directors independence, board of directors meetings, ratio of shares of board of directors, duality of CEO, audit committee size, independence of audit committee, meetings of audit committee, remuneration committee size, nomination committee size, remuneration committee and nomination committee meetings, remuneration committee and nomination committee independence, tenure of CEO and concentration of ownership.

Accounting standards are guidelines for preparing and presenting financial accounting reports of business entities. When the accounting standards are more comprehensive and less flexible in nature, discretion of managers for interpreting the accounting numbers will be less and when accounting standards are flexible in nature, managers discretion over accounting numbers will be high and hence earnings management be the result (Gonchorov,2005). Ewert and Wagenhofer (2005) are in the opinion that the earnings management is less when accounting standards are made clear with less chance of managerial discretion for interpreting numbers.

The questionnaire provides three actions related with accountings standards such as issuing stricter accounting standards, issuing detailed accounting standards specific to country and increasing the level of disclosures. These actions may help to reduce earnings management activities.

Auditing is the process of systematic and independent examination of books of accounts or financial and non-financial reports of a firm in order to understand how far the disclosures present fair and true view of the concern. In other words auditing analyse and report the degree of correspondence between reported information and established standards. There for external auditing is very important to keep the financial reports' quality as it reports violation of the accounting standards or agreements to investors and other stakeholders of the financial reports. (DeAngelo, 1981).

External auditors are expected to give true and fair report about material and non-material transactions of the business as the users of the financial reports of the companies seek assurance from external auditors and consider them as high-quality auditors. The external auditing related factors considered in the present study which may help to reduce earnings management activities are “contracting with an independent and reputed external audit firm”, “contracting with a local audit firm affiliated with Big4” and “contracting with specialist auditor in Industry”.

## 2. Review of Literature and hypothesis development

### 2.1. EM techniques

Earnings management practices are very wide in the world economy. The cases like Worldcom, Enron, Satyam etc. shattered world economy. In 2018 such cases reported from Indian banks. All these accounting frauds are the result of earnings management practices of the companies for a number of years. From the literature it can be deducted that earnings of the companies are managed in two ways such as managing accounting choices and managing operating decisions

Dechow and Skinner (2000) examines various methods applied by managers and accountants for managing and earnings and try to explore the reason why academics and practitioners view earnings management differently. They distinguished earnings management from financial fraud as a way to explain the differences in views of various parties. They classify the accounting choices as “Conservative accounting”, “Neutral Accounting”, “Aggressive accounting” and “Fraudulent Accounting”. They group these accounting practices in to the following two categories such as “accounting choices within GAAP” and “accounting choices violates GAAP”. According to them accounting choices within GAAP and Real activity of Cash Flow choices are not financial frauds and that can be considered as earnings management. And if management apply accounting choices which violates GAAP are considered as financial fraud. But Mulford and Comiskey (2002) argues that there are no such classification of earnings management. According them some activities can be considered as earnings management techniques. They states that there

can be no presumption made the use of these techniques come with in the GAAP or outside the limit of the GAAP.

Nelson, Elliott, and Tarpley (2002). identify earnings management practices attempted by managers as managing reserves, managing revenue recognitions, managing business combinations, managing non R&D intangibles, managing fixed assets, managing investments, managing leases, managing accounting changes and prior period adjustments, managing compensations, managing consolidation and equity/cost methods, managing transfer of receivables, Managing cash flows, managing taxes, managing long term debt and managing pension amounts. According to Ortega and Grant (2003) earnings management techniques applied in America can be classified into four categories such as “revenue recognition”, “operating Expenses timing”, “unrealistic assumption to estimate liabilities”, “making voluntary business decisions”.

McKee (2005) is in different opinion. According to him “Earnings management is primarily attained by management actions that make it easier to achieve desired earnings levels through accounting choice from among GAAP, and operating decisions”. He analysed various methods of managing earnings through operating decisions. He gave some examples for using operating decisions of earnings management like implementing or not implementing special offers or discounts to increase sales. Increasing the sales giving such offers and discounts at the end may boost the earnings but these are not consistent. Another example given by him is taking decisions to incur or not incur discretionary expenses like investing in new equipment or project which may result in increasing or decreasing the number of employees. These decision will have an impact on operating profit and cash flow of the firms.

Noronha, Zeng and Vinten (2008) classified the techniques of earnings management applied in China as “adjusting accounts receivables or bad debt allowance such as increase or decrease allowance expense”, “gains or losses from disposals”, “postponing or advancing the time of completion”, “changing the depreciation method”, “other revenues and gains such rental, sale of property”, “adjusting investment operations such as expense method to equity method”, “related party transactions such purchase and sales, transference”, “operating revenue such as buy back, postponing or advancing the time of recognition”, “revenue from government subsidies”, “adjusting administrative expenses such as entertainment expense, officers’ salaries”, “adjust promotional expenses and advertising expenses”. From all these studies we can see that earnings management are practiced either through accrual adjustments or through manipulating real activities itself.

## 2.2. EM Control mechanism

The previous section discussed the important studies related with earnings management practices. It gave an overview of techniques of earnings management control mechanism. This section gives an overview of three aspects EM control mechanism from the previous literature related with “corporate governance and earnings management”, “external audit and earnings management” and “accounting standards and earnings management”.

A corporate governance mechanism of a corporate must be designed in such a way to control management activities and make a balance between the interests of owners and all other parties who may be affected by the activities of business and to ensure maximum efficiency and profitability of the concern. Recent development in technology, liberalisation of economy and freeing up of financial markets demanded a comprehensive framework of corporate governance mechanism (Leuz & Wysocki, 2008).

There are substantial studies focus how the earnings management is related with corporate governance factors such as:-

- Effectiveness of board Characteristics
- Independence of Board
- Size of Board
- Meetings of Board
- Duality of CEO
- Nomination and remuneration committee
- Independence of Audit committee

- Size of Audit Committee
- Meetings of Audit Committee
- Internal corporate governance measurement

Independence of Board and independence audit committee are very important factors affecting financial report's quality. Klein (2002) and Ebrahim (2007) state that abnormal accruals are negatively associated with independence of board and audit committee. In the same line Iqbal and Strong (2010) also states that independence of board is inversely related with earnings management, but Big 6 auditors and institutional ownership play no significant role in reducing earnings management. Rahman and Ali (2006) at the same time, opine that the board size has no influence on earnings management but all other variable related with corporate governance influence earnings management and Ebrahim (2007) does not find any relationship between earnings management and duality of CEO. Epps and Ismail (2007) specify that positive discretionary accruals are directly related with 75 percent to 90 percent independence of board. Niu (2006) also claims that over all governance and discretionary accruals are inversely related and governance factors are positively associated with earnings return. Gerald (2011) examined the impact of board structure on the earnings management magnitude. The characteristics of board she considered for the analysis are board monitoring committee, size of board and composition of board and found that board characteristics like size of the board and board composition are related with earnings management and the earnings management is no way influenced by audit committee.

Xie, Davidson and DaDalt (2003) and Hashim and Devi (2015), Al-Thuneibat, Al-Angari, and Al-Saad (2016) are in the opinion that CEO non duality and board meetings are only corporate governance factors influence earnings management. They states that board independence and proportion of finance directors are not related with earnings management.

Anderson, Mansi and Reeb(2004) argue that size of the board and audit committee are inversely related with cost of debt and states that bigger audit committee and board provides better financial report monitoring. They also found that employment characteristics are negatively related with cost of debt.

From the conclusions of the above mentioned literature, following hypothesis has been developed

H1: Internal Corporate Governance negatively influence earnings management practices

The earnings management activities are curtailed when the accounts of the firms are audited by an external auditors (Becker, DeFond, Jiambalvo & Subramanyam, 1998). They found that the earnings quality the firms audited by Big6 is higher than that of non-Big6 auditors. Chen, Lin and Zhou (2005) also are in the opinion that earnings management in the firms which are audited by Big5 auditors are less than that of non-Big 5 auditors This opinions are supported by Bedard, Chtourou, and Courteau (2004) with their findings that expertise and independence of audit committee are inversely associated with earnings management. But Piot and Janin (2007) state in contrary to other studies that the earnings management of firms audited by Big5 auditors are not significantly different from that of audited by non-Big5 auditors. It should be also noted here the findings of Rusmin (2010) and Sun and Liu (2012) that the earnings management of corporates audited by non-specialists are higher when compared to the earnings management of firms audited by industry specialists.

From the conclusions of the above mentioned literature, following hypothesis has been developed

H: External audit negatively influence earnings management.

Earnings Management activities are taken place in a firm is due to discretionary power of managers over the accounting standards. Earnings management is less when accounting standards are made clearer with less chance of managerial discretion for interpreting numbers (Ewert and Wagenhofer, 2005)

Chen, Hemmer and Zhang (2007) found that when accounting information serves both stewardship role and valuation role, owners have incentives to manage earnings and introducing conservative accounting standards reduces the incentives for manipulating earnings and Chen, Tang, Jiang and Lin (2010) state that IFRS reduces earnings management of companies by limiting opportunities discretion in accounting numbers. But contrary to the common believe Ahmed, Neel and Wang (2013 and Paananen and Lin (2009)

and JeanJean and stolowy (2008) document that after the adoption of IFRS earnings management has increased and this arguments are supported by the findings of Tendeloo and Vanstaelen (2011) that the companies which adopted IFRS voluntarily and reported their accounting information according to IFRS standards do not show a higher quality of earnings or lesser earnings management than that of the companies which still follow GAAP to report their accounting information.

From the conclusions of the above mentioned literature, following hypothesis has been developed

H3: Accounting standards negatively influence earnings management practices

### 3. Research Design and Methodology

The purpose of this study is to analyse the effectiveness of earnings management control mechanisms from the perception of auditors and accountants in India. A structured online questionnaire was designed with five different sections to elicit the perceptions of Auditors and Accountants. The questionnaire contains four sections.

First section attempted to understand the perception of Auditors and Accountants regarding the techniques of earnings management apply by Indian corporates. In this section of questionnaire many techniques widely used by corporates are listed out deriving from previous studies. These questions include manipulating the valuation of Stock/Inventory, manipulating the amount of depreciation, manipulating the amount of receivable accounts, manipulating the amount of Sales by providing lenient credit terms or giving price discounts (Unsustainable sales), manipulating expenditure on Research and Development, manipulating the expenditure on advertisements, manipulating the amount of selling expenses, manipulating the amount of production cost/COGS, manipulating the amount of maintenance expenses, manipulating the general and administrative expenses. The above mentioned techniques are broadly classified in to Accrual based earnings management (AEM) and Real activity manipulation (REM).

Second section of the questionnaire attempted to understand the perception of respondents regarding effectiveness of earnings management control mechanism practiced in India. The control mechanism mainly classified in to three categories such as Accounting standards, Corporate Governance, External Audit. The questions related with control mechanism include meetings of board of directors, board size, proportion of shares owned by board of directors, concentration of ownership, size of audit committee, dual functions of CEO, CEO tenure, audit committee meetings, board independence, audit committee independence, increasing level of disclosure, issuing detailed accounting standards specific to country, issuing stricter auditing and accounting standards, contracting with an reputed and independent external audit firm, contracting with Big 4 affiliated audit local audit firm and contracting with industry specialist auditor

In third section of the questionnaire respondents' perception regarding level of implementation of various earnings management control mechanism, level motivations of earnings management and level of use of earnings management techniques after the implementation of control mechanism are sought.

The last section helps to know respondent's position, year of experience and educational qualification. This information will help the researcher to understand perception difference among different groups of respondents.

In this study the researchers used a closed questions as this type of questions gets high rate of response. All the questions in this study designed in a five point Liker scale. That is the perception of Auditors and Accounts on various aspects relating to earnings management are measured on an agreement disagreement scale. It ranging from 5= Highly Agree to 1= Strongly Disagree. The questionnaire designed as online questionnaire using Google form and sent to the respondents' e-mail.

To check the validity of the questionnaire before going for final survey a pilot study was conducted. Validity is the ability of the questionnaire to provide consistent responses. For this purpose, fifty questionnaires were distributed among Auditors and Accountants and personally met them. The pilot study enabled the researcher to collect many valuable responses and suggestions regarding inclusion some questions in the section of motivation and techniques of earnings management, removal of some irrelevant

questions, restructure of some questions, etc. After that the questionnaire is directly administered for this study. The figure shows the steps questionnaire construction.

One conceptual models is proposed as shown in Figure 1. The various constructs such as AEM, REM, CG, AS, and EA in the model shown in Figure 1 represents causal relationship among various earnings management control mechanisms such as corporate governance, accounting standards and external audits on earnings management techniques such as accrual based earnings management and real activity manipulations. All the constructs shown are constructs derived from the previous literatures and not explored by the researcher. Hence every constructs have been confirmed through confirmatory factor analysis.

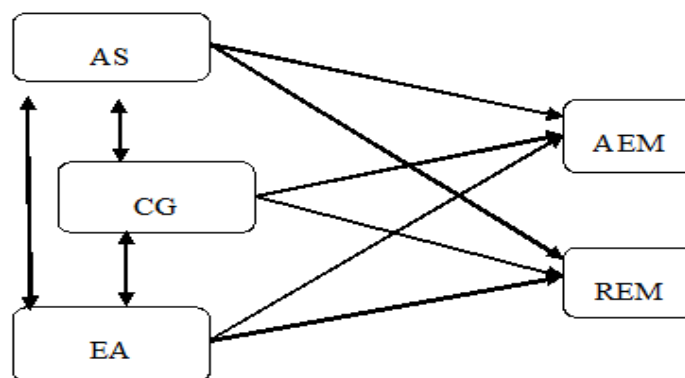


Figure.1 Conceptual model of relationship between EM control mechanism and EM techniques

Note: CG refers to Corporate Governance, AS refers to Accounting Standard, EA refers to External Audit and AEM and REM refer to use of Accrual based Earnings Management and Real Activity Manipulation after the implementation or application of control mechanisms.

SEM framework is used to test the proposed conceptual models. One conceptual models is proposed as shown in Figure 6.1 in this study. The constructs of earnings management techniques and earnings management control mechanism presented in the conceptual models are employed to test the causal relationship between earnings management control mechanism and earnings management techniques.

SEM framework consists of two components such as confirmatory factor analysis (CFA) and path analysis. CFA is employed to understand whether the data confirms theoretical constructs and path analysis is employed to test the causal relationship among the constructs.

#### 4. Sample Selection

The respondents chosen for this study were divided in to two groups such as Auditors and Accountants. The primary criterion for selecting auditors were that the auditors should be certified as forensic accountants by the Institute of Chartered Accountants of India (ICAI). The Accountants were selected on the criterion that they should be the registered accountants under The Institute of Cost Accountants of India which is statutory body under an Act of Parliament. These two group of respondents are engaging in the activities related with financial reports of the corporates and have the vital responsibility of the keeping the integrity of the financial reports of the company. The list and E-mail addresses of the respondents are collected from the official website of the ICAI and ICA respectively.

As the response rate for the online survey is less in India, the researcher send the questionnaire through E-mail to all the auditors and accountants registered under concerned body. 6405 questionnaires were issued through online among the auditors certified as forensic accountants and practicing accountants. Out of the 6405 questionnaire 2637 questionnaire were issued to auditors and 3768 questionnaire were issued to the accountants. That means sample is constituted of 41% auditors and 59% accountants. As the response rate was very less in the first phase of distribution, that the researcher could collect only 87 responses altogether form auditors and accountants, we resent the questionnaire to those who have not already responded. We continued this process for the third time also to get enough responses. To increase the response rate researcher also contacted some of the respondents personally over telephone. Finally the response rate of auditors increased to 3.5% and the accountant's response rate increased to 4%. Total

responses received is 205. i. e. 3.7% is total response rate. Out of the total responses received 45.4% responses are from auditors and 54.6% responses are from accountants.

**5. Result and Discussion**

CFA or measurement model of each construct namely, Corporate Governance, Accounting Standards, External Audit, Accrual based Earnings Management , Real Activity manipulations, shown from Figure 2 to Figure 4

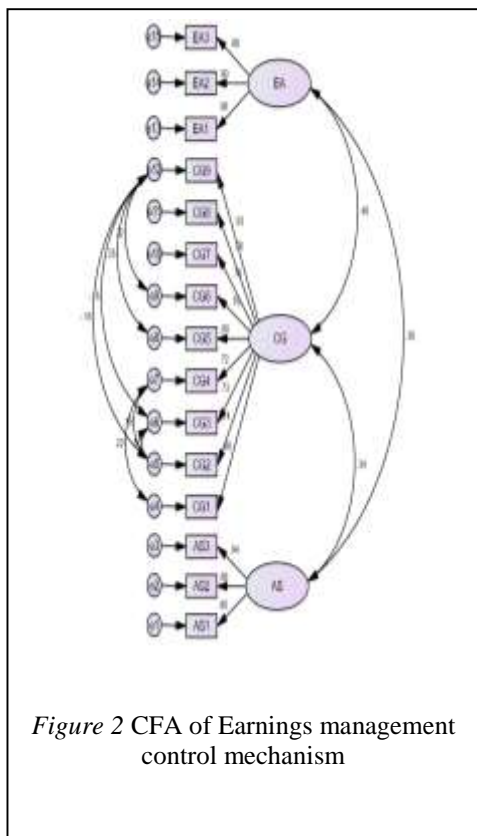


Figure 2 CFA of Earnings management control mechanism

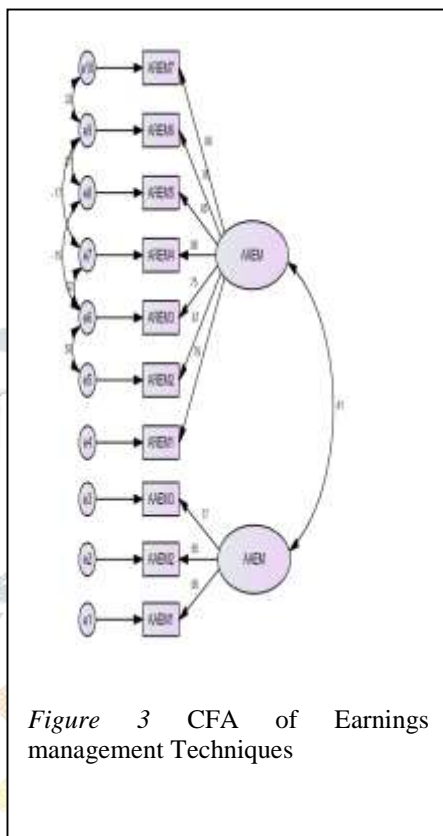


Figure 3 CFA of Earnings management Techniques

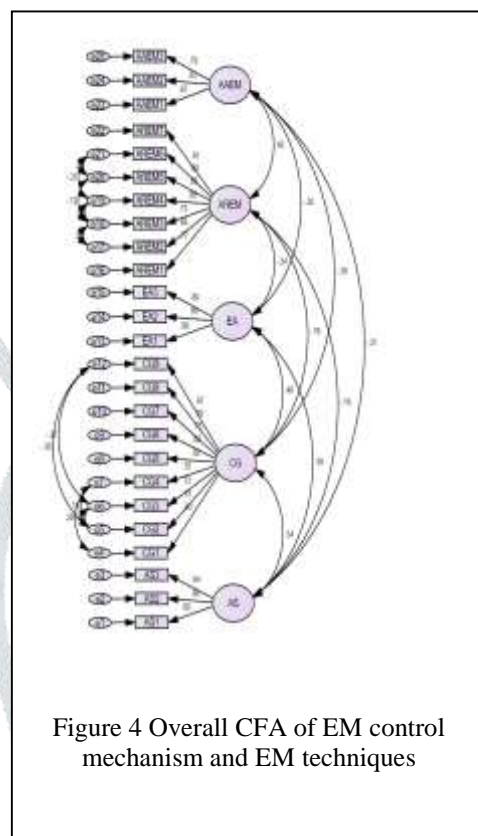


Figure 4 Overall CFA of EM control mechanism and EM techniques

The Figure 2, 3 and 4 show the models of confirmatory factor analysis of earnings management Control Mechanism, earnings management techniques and over CFA of EM control mechanism and EM techniques. Reliability and Validity of the Model

The construct reliability applied to measure the internal consistency of the factors as Fornell and Larcker (1981) opine that the construct reliability evaluates how rigorous observable variable in measuring latent items. The authors have propagated that the value of Average Variance Extracted should be than 0.5 so as to ensure the model has convergent validity. As shown in the table 1,2 and 3 Composite Reliability (CR) values of all the constructs are above 0.7. This values show that all the measurable items command the desirable composite reliability. Construct validity is checked through convergent validity and discriminant validity. The convergent validity is established if AVE is more than 0.5 and CR is higher than AVE. Here the values of AVE for all constructs are above the standard minimum value and these values are less than CR for all the constructs. Thus the convergent validity of the models are established.

The discriminant validity is established if AVE is higher than Maximum Shared Variance (MSV) and Average Shared Variance (ASV). In the model of earnings management control mechanism, MSV and ASV of CG is 0.230 and 0.174 which are much less than the value of AVE of the construct. MSV and ASV of AS are 0.145, 0.131 respectively and that of EA are 0.230, 0.431 respectively. All these values are also less than AVE of concerned constructs. In the model of earnings management techniques the value MSV is 0.171. This value is much less than the values of AVE of AEM (0.5) and REM (0.665). As in this model there only two constructs there is nothing like average shared variance. . In case of the overall CFA, it is seen that for all the constructs AVE of AS, CG, EA, REM and AEM are 0.763, 0.633, 0.852, 0.668, 0.487

respectively and these values are much higher than MSV values of AS (0.144), CG (0.240), EA (0.240), REM (0.176), and AEM (0.419) and ASV of AS (0.097), CG (0.132), EA (0.132), REM (0.073) and AEM (-0.14) and hence discriminant validity of the model is established. The discriminant validity should also be verified by comparing the square root of AVE with inter-construct correlations. Correlation between the constructs should be lower than the value of the square root of AVE. Here in the model of EM control mechanism correlation between CG and AS is 0.342, CG and EA is 0.480 and AS and EA is 0.381 and square of AVE are 0.794, 0.874 and 0.924 for the constructs of CG, EA and AS respectively. In case of the model of EM techniques correlation between AEM and REM is 0.414 which is less than the square roots of AVE values of 0.7 and 0.815 for AEM and REM. When overall CFA is considered also, it seen from the Table 6 AVE for all the constructs are higher than inter-construct correlations. These values show that discriminant validity of the CFA is good. Thus all the models validated through construct reliability and construct validity.

Table 1  
Result of CFA of EM Control Mechanism

Results of Measurement Model (Confirmatory Factor Analysis)				
Variables	Standardised estimate	t – value	R <sup>2</sup>	Error variance
<b>Internal Corporate Mechanism</b>				
CG1	0.857		0.734	0.266
CG2	0.741	9.007	0.549	0.451
CG3	0.727	7.521	0.529	0.471
CG4	0.723	8.683	0.523	0.477
CG5	0.8	14.106	0.640	0.360
CG6	0.784	7.968	0.615	0.385
CG7	0.777	12.465	0.604	0.396
CG8	0.782	13.418	0.612	0.388
CG9	0.935	17.954	0.874	0.126
<b>Accounting Standards</b>				
AS1	0.804		0.646	0.354
AS2	0.877	10.335	0.769	0.231
AS3	0.936	10.338	0.876	0.124
<b>External Audit</b>				
EA1	0.983		0.966	0.034
EA2	0.902	9.266	0.814	0.186
EA3	0.883	9.647	0.780	0.220

Table 2  
Result of CFA of EM Techniques

Results of Measurement Model (Confirmatory Factor Analysis)				
Variables	Standardised estimate	t - value	R <sup>2</sup>	Error variance
<b>Accrual Based Earnings Management (AEM)</b>				
AEM1	0.679	7.236	0.461	0.539
AEM2	0.649	7.113	0.421	0.579
AEM3	0.766		0.587	0.413
<b>Real Activity Manipulation (REM)</b>				
REM1	0.787	14.217	0.619	0.381
REM2	0.673	11.135	0.453	0.547



REM3	0.753	12.919	0.567	0.433
REM4	0.884	17.488	0.781	0.219
REM5	0.854	16.418	0.729	0.271
REM6	0.85	18.781	0.723	0.278
REM7	0.883		0.780	0.220

Table 3  
Result of CFA of Overall CFA

Results of Measurement Model (Confirmatory Factor Analysis)				
Variables	Standardised estimate	t - value	R <sup>2</sup>	Error variance
<b>Accounting Standards</b>				
AS1	0.803	15.269	0.645	0.355
AS2	0.875	17.661	0.766	0.234
AS3	0.938		0.880	0.120
<b>Corporate Governance</b>				
CG1	0.834	19.142	0.696	0.304
CG2	0.734	12.946	0.539	0.461
CG3	0.719	12.445	0.517	0.483
CG4	0.702	13.219	0.493	0.507
CG5	0.824	18.561	0.679	0.321
CG6	0.816	18.123	0.666	0.334
CG7	0.755	15.216	0.570	0.430
CG8	0.778	16.217	0.605	0.395
CG9	0.966		0.933	0.067
<b>External Audit</b>				
EA1	0.984		0.968	0.032
EA2	0.900	24.830	0.810	0.190
EA3	0.882	23.112	0.778	0.222
<b>Real Activity Manipulations</b>				
AREM1	0.768	14.441	0.590	0.410
AREM2	0.653	11.076	0.426	0.574
AREM3	0.732	13.122	0.536	0.464
AREM4	0.881	18.559	0.776	0.224
AREM5	0.852	17.276	0.726	0.274
AREM6	0.897	18.939	0.805	0.195
AREM7	0.905		0.819	0.181
<b>Accrual based Earnings Management</b>				
AAEM1	0.668	7.587	0.446	0.554
AAEM2	0.629	7.316	0.396	0.604
AAEM3	0.787		0.619	0.381

Table 4  
Validity Statistics of CFA Of EM Control Mechanism

Correlation Matrix			CR	AVE	MSV	ASV
	CG	AS	EA			
CG	(0.794)			0.939	0.631	0.230
AS	0.342	(0.874)		0.906	0.764	0.145
EA	0.480	0.381	(0.924)	0.735	0.853	0.230

Table 5  
Validity Statistics of CFA of EM Techniques

Correlation Matrix		CR	AVE	MSV	ASV
	AEM	REM			
AEM	(0.700)		0.741	0.50	
REM	0.414	(0.815)	0.902	0.665	0.171

Table 6  
Validity Statistics of Overall CFA

Correlation Matrix					CR	AVE	MSV	ASV	
	AS	CG	EA	REM	AEM				
AS	(0.873)					0.906	0.76	0.144	0.097
CG	0.337	(0.795)				0.939	0.633	0.240	0.132
EA	0.38	.49	(0.923)			0.945	0.852	0.240	0.132
REM	-0.186	-0.163	-0.236	(0.817)		0.933	0.668	0.176	0.073
AEM	-0.312	-0.386	-0.295	-0.419	(0.697)	0.738	0.487	0.419	-0.14

### Model fit statistics

Three CFA models have been presented above such as EM control mechanism, EM techniques and overall CFA. The Goodness of Fit (GOF) values considering rule of thumb or standard will provide some assessment of fit of the models. Table 7 presented selected fit statistics from the output of CFA analysis. The Chi Square value of overall model of Control Mechanism 140.63 with 80 degrees of freedom. The Chi Square value of other two models such as EM techniques and overall CFA models are 56.28 with 29 degrees of freedom and 542.121 with 255 degrees of freedom respectively. The P value of all the three models rejects null hypothesis that observed covariance matrix are not significantly different from the estimated covariance matrix with in sampling variance. However, this value alone cannot be taken as assessment of fit of the model as this may happen when large size is used Hair, Black, Babin, Anderson and Tatham (2006). Other fit statistics are also should be examined to reach a conclusion on the fit of the model. In addition to Chi Square results, at least one absolute fit index and one incremental fit index should be checked. The value of RMSEA, an absolute fit index, are 0.06, 0.058 and 0.074 for the models of Control mechanism, EM techniques and overall model respectively. The values show for the all the three models are within the standard value of 0.08. Another absolute fit index measure is standardised root mean square residual (SRMR) values of the three models such as EM Control Mechanism, EM techniques and overall model are 0.047, 0.057 and 0.0544. This values are below the standard value of 0.08 and shows good fit of the models. Third absolute fit statistic is normed Chi Square. A number less than 5 are considered acceptable. In the models presented above normed chi square values are 1.758, 1.69 and 2.16 as shown in the Table 7. Goodness of Fit Index (GFI) is also a widely used absolute measure of model fit. GFI of CFA model of earnings management control mechanism is 0.916, earnings management techniques is 0.955 and for the overall model is 0.837. This values also confirms the fit of the models.

Among the incremental fit indices, the comparative fit index (CFI) and normed fit index NFI are the most widely used indices. CFI value greater than 0.9 is considered good and value between 0.8 and 0.9 is considered as acceptable. The CFI value model EM Control Mechanism is 0.977, CFI value of EM technique is .987 and for the model overall CFA, CFI value is 0.937 and this value is considered well fit.

Among Parsimony fit indices. Adjusted Goodness of Fit (AGFI) is widely used index. As in case of GFI and CFI a value greater than 0.9 is considered good and value between 0.8 and 0.9 is considered as acceptable in case of AGFI also. Values of AGFI for the CFA model of earnings management control mechanism, earnings management techniques and overall CFA are 0.874, 0.912 and 0.80 respectively. Thus

it can be concluded that all the three models fit well on the basis of all the three absolute fit indices, incremental fit indices and parsimony fit index.

Table 7  
Model Fit Statistics of CFA

Model	EM Control Mechanism	EM Techniques	Overall CFA	Recommended Value
$\chi^2/df.$	1.758	1.690	2.126	<5
P-Value	0.000	0.013	0	>0.05
GFI	0.916	0.955	0.837	>0.9
AGFI	0.874	0.912	0.8	>0.9
CFI	0.977	0.987	0.937	>0.9
NFI	0.948	0.968	0.881	>0.9
RMSEA	0.061	0.058	0.074	<0.8
SRMR	0.047	0.057	0.0544	<0.8

### 5.1. Relationship EM techniques and EM control mechanisms

The strength of relationships among earnings management control mechanisms and earnings management techniques has been presented in the Figure 5 to Figure 8 given below. The Figure 5 and Table 8 show that there are three relationships between accounting standards and earnings management techniques. First relationship is between accounting standards and accrual based earnings management activities. The coefficient value is -0.234 with a 't' value of -3.75. This value is statistically significant as the 'P' value is less than 0.05. Thus it can be interpreted that when accounting standards are implemented, accrual based earnings management are reduced at least by 23.4%. As per the result shown in the Table 8 accounting standards have no role in reducing real activity manipulations in Indian companies. The researchers first checked the relationship without considering any mediation effects and found a negative significant relationship with accounting standards and real activity manipulations with regression coefficient of -0.167 and 't' value of 0.01. But the modification indices (MI) suggests mediating effect between AEM and REM. When the relationship between AEM and REM is established, the researcher found that there is a significant relationship between AEM and REM as shown in the table 8. Thus from the result it can be concluded as when the tendency of accrual based earnings management increases it is most likely that there is real activity manipulations also.

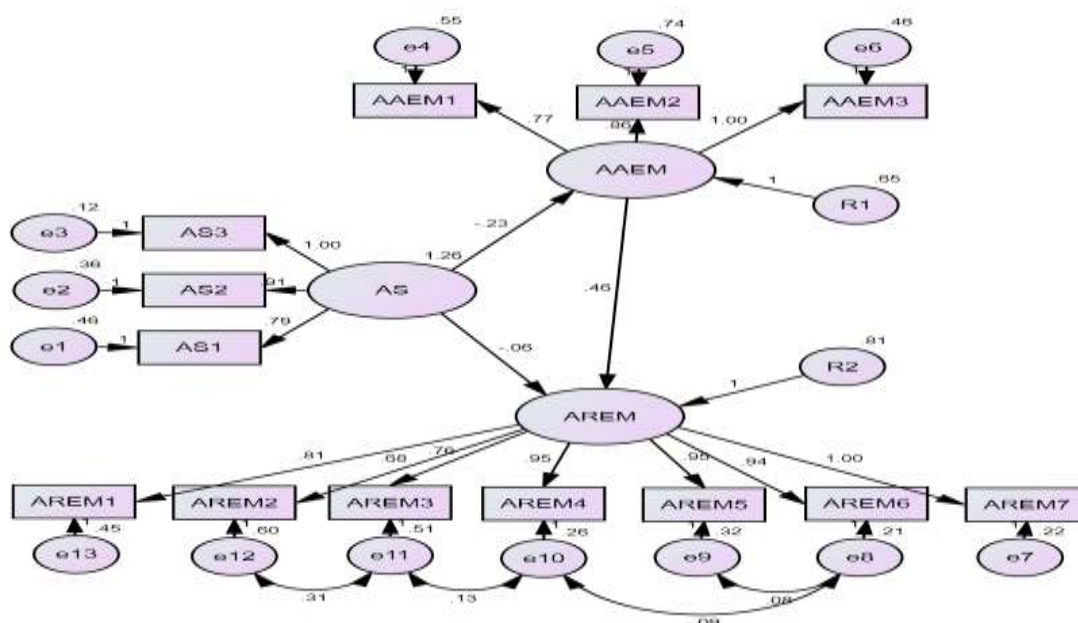


Figure 5 Structural model between accounting standards and earnings management techniques

Table 8  
*Relationship of EM Techniques and Accounting Standards*

Independent Variable	Dependent Variable	Path coefficient	Standard Error	T-value	P-value
AS	AAEM	-0.234	0.063	-3.75	0.000
AS	AREM	-0.55	0.066	-0.840	0.401
AAEM	AREM	0.458	0.105	4.365	0.000

Table 9 shows the model fit of the path model. All the values related with various fit indices are within the acceptable limit as shown in the table. Though the value of AGFI is less than 0.9, it can be considered as acceptable as the value is higher than 0.8. This confirms that the available data set aptly fits into the proposed structural model.

Table 9  
*Model Fit Statistics of the Model of Accounting Standards and EM Techniques*

Statistics	Study model	Recommended value
Normed $\chi^2$	1.82	<5
P-Value	0	>0.05
GFI	0.928	>0.9
AGFI	0.888	>0.9
CFI	0.975	>0.9
NFI	0.946	>0.9
RMESA	0.063	<0.8
SRMR	0.058	<0.8

## 5.2. Relationship between EM techniques and external audit

The Figure 6.9 shows path model of relationship between external audit and earnings management activities. It shows three types of relationship in the model. First relationship is between external audit and accrual based earnings management. As it is seen in the Table 10 external audit accrual based earnings management has significant negative relationship. The regression coefficient is -0.185 and which is statistically significant at 5% level. That means when the external audit are increased accrual based earnings management are reduced around by one fifth. The second relationship is between external audit and real activity manipulation. The researcher first analysed the direct relationship between external audit and real activity manipulation without including any mediation affect. The result showed the regression coefficient of -0.17 is statistically significant at 5% level. But as the modification indices showed a strong relationship between accrual based earnings management and real activity manipulation, researcher included mediation of accrual based earnings management between external audit and real activity manipulation. The affect of mediation shows that there is a significant positive relationship between AEM and REM with a regression coefficient of 0.44 and statistically significant at 5% level and direct affect of external audit on real activity manipulation reduced and become statistically insignificant. Thus it is clear that when there is adoption external audit factors accrual based earnings management will reduce as well as real activity manipulation will also reduce along with real activity manipulation. Thus as shown in the Table 10 the third relationship shown in the figure is relationship between AEM and REM.

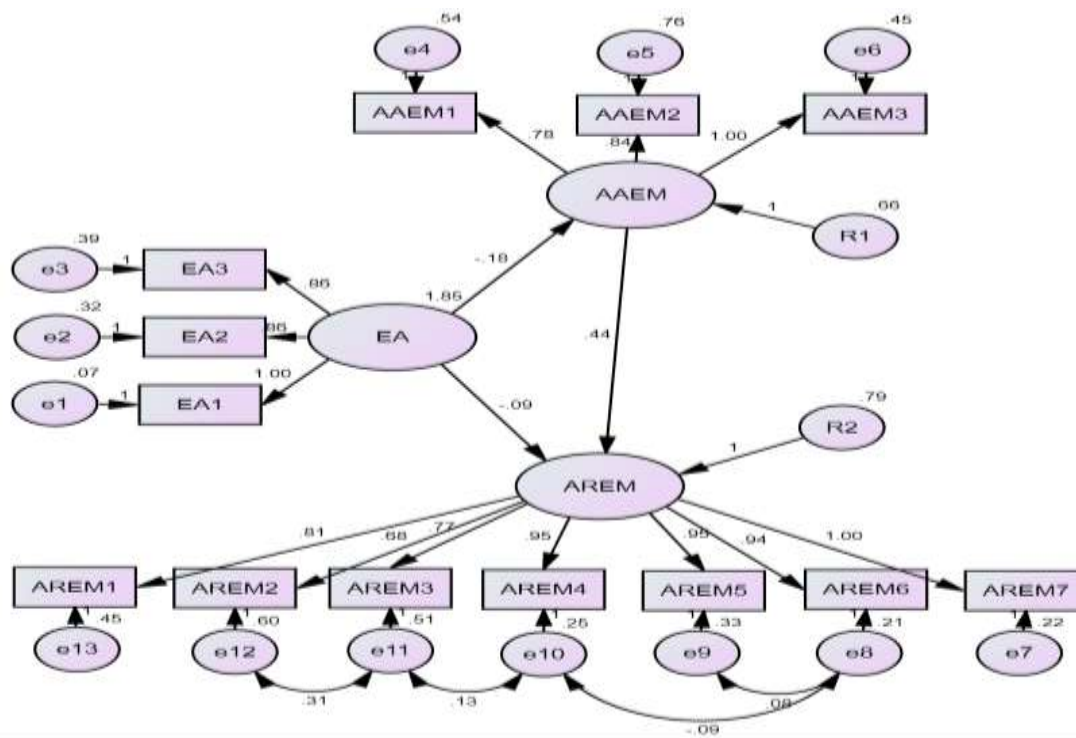


Figure 6 Relationship between External audit and EM techniques

Table 10  
Relationship between External Audit and EM Techniques

Independent Variable	Dependent Variable	Path coefficient	Standard Error	T-value	P-value
External Audit	AAEM	-0.185	0.052	-3.647	0.000
External Audit	AREM	-0.089	0.052	-1.690	0.09
AAEM	AREM	0.44	0.102	4.293	0.000

Table 11 shows the model fit statistics of the path model showing relationship between earnings management techniques and external audit. The ‘P’ of the  $\chi^2$  is supposed to be not significant or it should be more than 0.05. But the model fit shows that ‘p’ value is less than 0.05 it rises concern about the model. But other indices of absolute fit indices, incremental fit indices and parsimony fit indices like normed  $\chi^2$  (2.181), GFI (0.920), RMSEA (0.072), SRMR (0.0524), CFI (0.967), NFI (0.942) and AGFI (0.874) show the model is statistically good fit.

Table 11  
Model Fit Statistics of Model of Relationship Between External Audit and EM Techniques

Statistics	Study model	Recommended value
Normed $\chi^2$	2.181	<5
P-Value	0	>0.05
GFI	0.92	>0.9
AGFI	0.874	>0.9
CFI	0.967	>0.9
NFI	0.942	>0.9
RMESA	0.076	<0.8
SRMR	0.0524	<0.8

### 5.3. Relationship between EM techniques and corporate governance.

The Figure 7 shows path model showing relationship between earnings management techniques and corporate governance. As seen in the Figure 12 it depicts three relationships. As already explained in the case accounting standards and external audit researcher first developed a model with direct effects of corporate governance on earnings management techniques. The researcher found that direct effect of corporate governance on both type of earnings management techniques are negative and statistically significant. The regression coefficient of the direct relationship between corporate governance and real activity manipulation before including any mediation affect is -0.158 and is statistically significant. But as the modification index showed strong mediation of AAEM between real activity manipulations and corporate governance, researcher included mediation affect. After including the mediation affect the direct relationship between corporate governance reduced and become statistically insignificant.

The indirect effect corporate governance on real activity manipulation through accrual based earnings management is statistically significant. Thus as the Table 12 shows corporate governance has a significant negative relationship between accrual based earnings management with a regression coefficient of -0.31 and it is statistically significant at 5% level. There is no direct significant relationship between corporate governance and real activity manipulation as the 'p' is not less than 0.05. But the relationship between accrual based earnings management and real activity manipulation is statistically significant at 5% level with a regression coefficient of 0.49. That shows when corporate governance become stronger accrual based earnings management get reduced and indirectly real activity manipulations are also get reduced.

Table 12 Relationship Between Earnings Management Techniques Corporate Governance

Independent Variable	Dependent Variable	Path coefficient	Standard Error	T-value	P-value
Corporate Governance	AAEM	-0.309	0.062	-4.954	0.000
Corporate Governance	AREM	-0.01	0.071	-0.013	.99
AAEM	AREM	0.491	0.113	4.353	0.000

The Table 13 shows the model fit of the path model showing relationship between earnings management techniques corporate governance. As in case of other two models explained above the 'p' value of  $\chi^2$  is significant when it is not supposed to be significant and hence it demands looking for other model fit indices. Absolute fit indices like normed  $\chi^2$  (2.356), GFI (0.859), RMSEA (0.072) and SRMR (0.0525) show that absolute fit of the model has no concern and statistically fit good. Incremental indices like GFI (0.939) and NFI (0.899) show that incremental fit also has no concern. Finally the parsimony fit index like AGFI (0.827) also show the fit of the model. As all these fit indices are par with the acceptable level, it is concluded that the model path model showing relationship between earnings management techniques and corporate governance are statistically good fit.

Table 13

Model Fit Statistics of Model of Relationship Between Earnings Management Techniques and Corporate Governance

Statistics	Study model	Recommended value
Normed $\chi^2$	2.356	<5
P-Value	0	>0.05
GFI	0.859	>0.9
AGFI	0.827	>0.9
CFI	0.939	>0.9
NFI	0.899	>0.9
RMESA	0.072	<0.8
SRMR	0.0525	<0.8

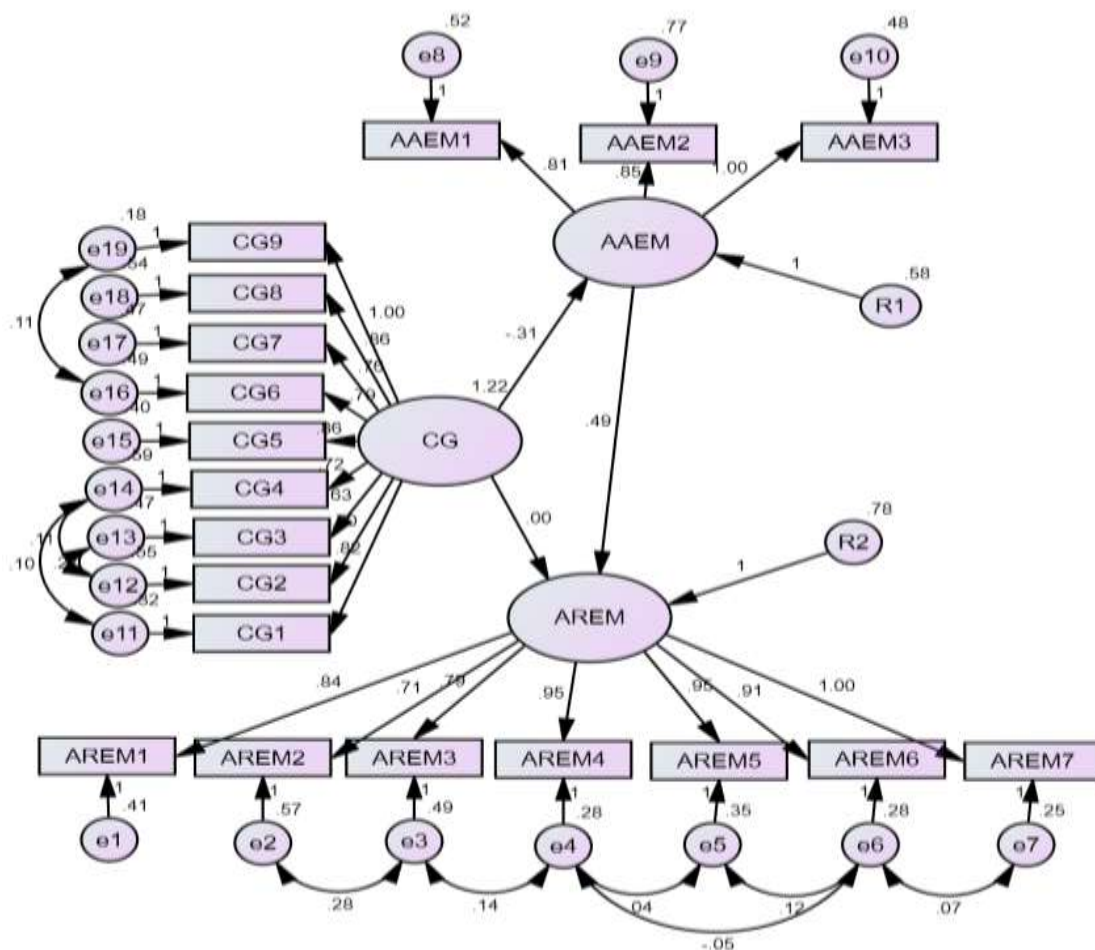


Figure 7 Relationship between earnings management techniques and corporate governance

**5.4. Overall relationship among EM techniques EM control mechanism**

Figure 8 shows the path model of showing overall relationship among factors of earnings management control mechanisms and earnings management techniques. As seen in the Figure 8 and Table 14 corporate governance mechanism negatively related with earnings management techniques. Accounting standards has negative significant relationship with accrual based earnings management with a regression coefficient of -0.14 and with real activity manipulations earnings management control mechanism is negatively related but the relationship is not significant. External audit also has negative relationship with earnings management techniques. The regression coefficient of the effect of external audit on -0.102 and is statistically significant at 5% level. Corporate governance also has significant negative relationship with earnings management techniques. The regression coefficient of the effect of corporate governance on accrual based earnings management is -.0.158 and it is statistically significant at 5% level.

This results show that earnings management control mechanisms has direct and significant relationship between accrual based earnings management. But earnings management control mechanism doesn't show significant relationship with real activity manipulations. The researcher first analysed effect of earnings management control mechanism on earnings management techniques without including mediation effect. But the relationship was not statistically significant and modification indices demanded a mediation relationship of accrual based earnings management. Thus the researcher included accrual based earnings management as mediation between earnings management control mechanisms and real activity manipulations as already done in all other sub models showed above. The relationship between real activity manipulations and accrual based earnings management is positive and significant with regression coefficient of 0.59 and statistically significant at 5% level. This shows that regulators can reduce real activity manipulations making earnings management control mechanisms stronger though the control mechanism has no direct significant influence on real activity manipulations.

Table 15 shows the model fit statistics of the path model showing relationship between earnings management control mechanism and earnings management techniques. All the model fit statistics are perfectly fit in this model. Thus it can be considered that the path model is statistically fit good.

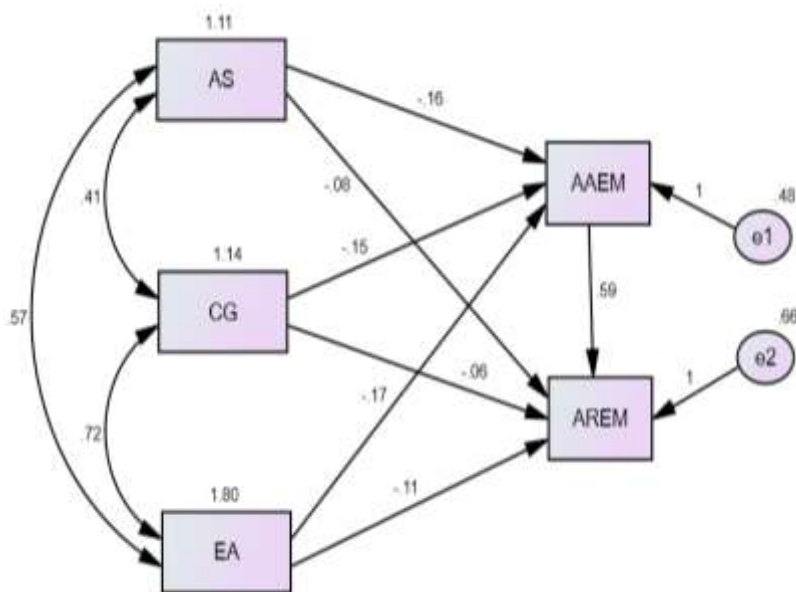


Figure 8 Relationship among EM control mechanism and EM techniques

Table 14  
Relationship Between EM Control Mechanism and EM Techniques

Independent Variable	Dependent Variable	Path coefficient	Standard Error	T-value	P-value	R <sup>2</sup>
AS	AAEM	-0.158	0.054	-3.79	0.000	0.31
CG	AAEM	-0.147	0.046	-3.167	0.002	
EA	AAEM	-0.165	0.052	-3.168	0.000	
AAEM	AREM	0.59	0.085	7.009	0.000	0.24
AS	AREM	-0.077	0.067	-1.157	0.247	
CG	AREM	-0.058	0.07	-0.828	0.408	
EA	AREM	-0.106	0.046	-2.304	0.023	

Table 15  
Model Fit Statistics of The Model Relationship Between EM Control Mechanism and EM Techniques

Statistics	Study model	Recommended value
Normed $\chi^2$	0.938	<5
P-Value	0.091	>0.05
GFI	1	>0.9
AGFI	0.998	>0.9
CFI	1	>0.9
NFI	1	>0.9
RMESA	0	<0.8
SRMR	0.0089	<0.8

The structural model explores two causal relationships such as relationship between earnings management control mechanism and accrual based earnings management and relationship among real activity manipulation, earnings management control mechanism and accrual based earnings management.



In the first causal relationship accrual based earnings management (AEM) is dependent variable and accounting standards, corporate governance and external audit are independent variable. The result shows that 31% of the total variation in AEM is explained collectively by the earnings management control mechanisms. The result shown in Table 6.32 reveals that 15.8% of the AEM is reduced by accountings standards while 14.7% of AAEM reduced by corporate governance and 16.5% of AEM is reduced by external audit and all these values are significant at 5% level. Thus this values suggest that accrual based earnings management can be controlled effectively by improving accounting standards, corporate governance and external audit.

The second causal relationship in the model, real activity manipulation (REM) is the dependent variable and external audit and AEM are the independent variable. As seen in the Table 6.32 24% of total variance in REM are explained by the independent variables together. As seen the in the Table 6.32 10.6% of real activity manipulations are reduced through external audit. AEM and REM are related positively that 59% of REM are controlled when AEM are reduced by 100%. Both these values are significant at 5% level. Thus this results suggests that in order to control real activity manipulations corporates should implement external audit mechanisms and also should abstain from all kinds of accrual based earnings management.

### 5.5. Discussion of Path Model and Testing Results

From the result, the relationship between earnings management control mechanism and earnings management practices are very well understood. Generally, earnings management practices of companies are controlled through implementing stricter and comprehensive accounting standards, corporate governance and external audit mechanism. The Table16 shows that the relationship of corporate governance with real activity manipulation are not significant and the hypotheses are not rejected. The hypothesis relating to relationship of external audit with earnings management practices is rejected at 5% level as the result show that accounting standards are significantly related with accrual based earnings management and the hypotheses are rejected at 5% level. But in case of real activity manipulation there is no statistical evidence to reject null hypotheses. From the Table 16 it is clear that external audit is significantly related with accrual based earnings management, real activity manipulations and the null hypotheses are rejected at 5% level.

Table 16  
*Path Analysis Result of Structural Models*

Relationship	Path coefficient	T-value	P-value	Hypotheses
Accounting Standard → AEM	-0.158	-3.79	0.000	Rejected
Corporate Governance → AEM	-0.147	-3.167	0.002	Rejected
External Audit → AEM	-0.165	-3.168	0.000	Rejected
AEM → REM	0.59	7.009	0.000	Rejected
Accounting Standards → REM	-0.077	-1.157	0.247	Not rejected
Corporate Governance → REM	-0.058	-0.828	0.408	Not rejected
External Audit → REM	-0.106	-2.304	0.023	Rejected

### 6. Conclusion

This study is the first of kind conducted in Indian context to testing the causal relationship between earnings management control mechanism and earnings management practices through SEM framework. The main objective of this study has been to investigate effectiveness earnings management control mechanism in reducing earnings management practices of Indian corporates. The effectiveness of the control mechanism was analysed through the perceptions of Auditors and Accountants practicing India. A total of 205 usable questionnaire were collected out of 6405 questionnaires distributed among respondents through online. Perceptions of respondents were sought regarding effectiveness of three types of control mechanism such as accountings standards, corporate governance and external audit. The first part of the questionnaire sought

perception of respondents regarding general opinion towards various control mechanism factors and second part sought perception of respondents regarding level of implementation of control mechanism in the companies they work and the use of earnings management techniques and prevalence earnings management motivations even after implementation of such earnings management control mechanisms.

## Reference

- Abdul Rahman, R., & Haneem Mohamed Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, 21(7), 783-804.
- Ahmed, A. S., Neel, M., & Wang, D. (2013). Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence. *Contemporary Accounting Research*, 30(4), 1344-1372.
- Van Tendeloo, B., & Vanstraelen, A. (2005). Earnings management under German GAAP versus IFRS. *European Accounting Review*, 14(1), 155-180.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6).
- Al-Thuneibat, A. A., Al-Angari, H. A., & Al-Saad, S. A. (2016). The effect of corporate governance mechanisms on earnings management: Evidence from Saudi Arabia. *Review of International Business and Strategy*, 26(1), 2-32.
- Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2004). Board characteristics, accounting report integrity, and the cost of debt. *Journal of accounting and economics*, 37(3), 315-342.
- Baralexis, S. (2004). Creative accounting in small advancing countries: The Greek case. *Managerial Auditing Journal*, 19(3), 440-461.
- Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary accounting research*, 15(1), 1-24.
- Bedard, J., Chtourou, S. M., & Courteau, L. (2004). The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of Practice & Theory*, 23(2), 13-35.
- Chen, H., Tang, Q., Jiang, Y., & Lin, Z. (2010). The role of international financial reporting standards in accounting quality: Evidence from the European Union. *Journal of International Financial Management & Accounting*, 21(3), 220-278.
- Chen, K. Y., Lin, K. L., & Zhou, J. (2005). Audit quality and earnings management for Taiwan IPO firms. *Managerial Auditing Journal*, 20(1), 86-104.
- Chen, Q., Hemmer, T., & Zhang, Y. (2007). On the relation between conservatism in accounting standards and incentives for earnings management. *Journal of Accounting Research*, 45(3), 541-565.
- DeAngelo, L. E. (1981). Auditor independence, 'low balling', and disclosure regulation. *Journal of accounting and Economics*, 3(2), 113-127.
- Dechow, P. M., & Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting horizons*, 14(2), 235-250
- Ebrahim, A. (2007). Earnings management and board activity: an additional evidence. *Review of Accounting and Finance*, 6(1), 42-58.
- Epps, R. W., & Ismail, T. H. (2009). Board of directors' governance challenges and earnings management. *Journal of Accounting & Organizational Change*, 5(3), 390-416.
- Ewert, R., & Wagenhofer, A. (2005). Economic effects of tightening accounting standards to restrict earnings management. *The Accounting Review*, 80(4), 1101-1124.
- Geraldes Alves, S. M. (2011). The effect of the board structure on earnings management: evidence from Portugal. *Journal of Financial Reporting and Accounting*, 9(2), 141-160.
- Geraldes Alves, S. M. (2011). The effect of the board structure on earnings management:
- Goncharov, I. (2005). *Earnings management and its determinants: Closing gaps in empirical accounting research* (Vol. 5). Peter Lang Pub Inc.
- Hashim, H. A., & Devi, S. (2008). Board characteristics, ownership structure and earnings quality: Malaysian evidence. *Research in Accounting in Emerging Economies*, 8(97), 97-123.
- Iqbal, A., & Strong, N. (2010). The effect of corporate governance on earnings management around UK rights issues. *International Journal of Managerial Finance*, 6(3), 168-189.
- Jeanjean, T., & Stolowy, H. (2008). Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption. *Journal of accounting and public policy*, 27(6), 480-494.
- Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of accounting and economics*, 33(3), 375-400.
- Leuz, C., & Wysocki, P. D. (2008). *Economic consequences of financial reporting and disclosure regulation: A review and suggestions for future research*.
- Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: an international comparison. *Journal of financial economics*, 69(3), 505-527.
- Levitt Jr, A. (1998). The numbers game. *The CPA Journal*, 68(12), 14.
- McKee, T. E. (2005). *Earnings management: an executive perspective*. South-Western Pub.
- Mulford, C. W., & Comiskey, E. E. (2011). *The financial numbers game: detecting creative accounting practices*. John Wiley & Sons.

- Nelson, M. W., Elliott, J. A., & Tarpley, R. L. (2002). Evidence from auditors about managers' and auditors' earnings management decisions. *The accounting review*, 77(s-1), 175-202.
- Niu, F. F. (2006). Corporate governance and the quality of accounting earnings: a Canadian perspective. *International Journal of Managerial Finance*, 2(4), 302-327.
- Noronha, C., Zeng, Y., & Vinten, G. (2008). Earnings management in China: an exploratory study. *Managerial Auditing Journal*, 23(4), 367-385.
- Ortega, W. R., & Grant, G. H. (2003). Maynard manufacturing: An analysis of GAAP-based and operational earnings management techniques. *Strategic Finance*, 85(1), 50.
- Paananen, M., & Lin, H. (2009). The development of accounting quality of IAS and IFRS over time: The case of Germany. *Journal of International accounting research*, 8(1), 31-55.
- Piot, C., & Janin, R. (2007). External auditors, audit committees and earnings management in France. *European accounting review*, 16(2), 429-454.
- Sun, J., & Liu, G. (2012). Auditor industry specialization, board governance, and earnings management. *Managerial Auditing Journal*, 28(1), 45-64.
- Xie, B., Davidson, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of corporate finance*, 9(3), 295-316.

