

# SUSTAINABLE ACCOUNTING CONTROL SYSTEM FOR AATMANIRBHAR BHARAT

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## **Abstract**

Recent business failures and corporate scandals, the world over, and particularly in India, point towards greed and financial irregularities by top leaders of these corporate entities. In the post-covid crisis scenario, when many businesses suffered because of lockdown, all that is needed is revisiting of governance model and make it more purposeful and achievable for a new beginning which is free from corruption envisioned by Prime Minister Modi for Aatmanirbhar Bhatat. Since manipulation of accounting practices and reporting are at the core of most of these frauds and they are committed by not only non-owner managers but also by owners, the corporate governance framework needs to be examined for the Sustainable accounting practices specially accounting control system. The study recognizes four most important entities- top managers, statutory auditors, members of audit committee and independent directors, who are most important entities in management and control by exercising internal control as well as external control. The methodology has been administered by developing a structured questionnaire to gather responses on perceptions and attitudes of the four entities. The principal component analysis and factor analysis gives the measurements of various significant factors of this framework. Four indices are constructed at two levels, the most important being Index of Accounting Control System (IACS). Major findings of the study suggest that Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT) are important factors of accounting control system for effective corporate governance. The main contribution of the study is, whereas extant literatures focus on internal control only, this study brings in the role of external control too in minimizing the fraud risk factors. Hence, the earlier studies done in the corporate

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governance framework do not explain the framework adequately; whereas the present study explains satisfactorily the framework of sustainable accounting control system for aatmamirbhar bharat.

Key words: Internal Control, External Control, Independent Directors, Members of Audit Committee, Statutory Auditors, Fraud Risk Factors.

## **1.0 Introduction**

Corporate scandals and failures have become a routine phenomenon in corporate affairs of India. Recent one to join the long list of such failures is Vijaya Mallya's Kingfisher Airlines. Vijaya Mallya, known as 'King of Good Times', is despised for his flamboyant lifestyle. He has a total debt of \$1.3 Billion from various banks. He is a recklessly selfish criminal, who misused money that does not belong to him (Nag, 2017).

The latest scandal discovered in 2018, has Nirav Modi at the centre of it who became the first Indian jeweller to be featured on the cover of Sotheby's and Christie's auction catalogues in 2010 has been involved in India's biggest banking fraud to the tune of Rs. 11,300 crore at Punjab National Bank. He with his uncle Mehul Choksi connived with certain bank officers for fraudulently issuing Letter of Undertakings which has prompted Serious Fraud Investigation Office (SFIO) to investigate the group companies for possible fund diversion (Business Today, 2018).

Not very long ago in 2009, failure of Satyam has been an example of how greed of individuals like Ramalinga Raju, resulted in India's biggest corporate fraud known till that date, to the tune of Rs. 7000 crores. This happened due to the falsification and window dressing of its (Satyam's) accounts. It was also a case of complete failure of Sustainable corporate governance (Bhasin, 2015).

As we discuss these scams, the concept of accounting malpractices comes into the forefront. This concept has become all the more relevant in the light of various scams world over including Enron and WorldCom in US and Satyam in India.

Through the extant studies, it appears that business practices have emerged from implications of corporate governance norms under Clause 49 of listing agreements and later the Listing Obligations and Disclosure Requirements (LODR) enactment. The available literature makes it appear that the legal framework makes corporate scandals happen and are still taking place because of ineffective

accounting practices. The problems of corporate failures are attributed to the conflicts between ownership and control which essentially may not be the case. It is assumed that non-owner managers do not look after the interest of owner non-managers. Whereas in recent times, the accounting scandals and the complete undermining of the accounting system has been done by the owners (Satyam is a case in point). At times there is an ethical breach on the part of the owners. With this background in view, this study attempts to look into the role played by top industry players- Top Managers, Independent Directors, Members of Audit Committee and Statutory Auditors in developing the Sustainable or Ethical Accounting Control System.

This study focuses the perceptions of top management and other three entities of accounting control system in particular as they are responsible for Sustainable corporate practices. To become sustainable, it essentially has to be ethical. The sustainable corporate practices include many dimensions, for example corporate governance, structural processes, legal aspects, accounting disclosure norms etc. We restrict our study to most important dimension of accounting practices, i.e., its accounting control system. The study is restricted to the four most important entities responsible for direction and control in the accounting control system, namely, Top Managers, Statutory Auditors, Members of Audit Committee and Independent Directors, who build the corporate governance framework.

Aatmanirbhar Bharat means we are trying to make India more self-reliant by recovering from corporate corruptions and failures. This will lead to ethical as well as sustainable model for healthy accounting practices. Developing sustainable model of accounting practices is essential for an Aatmanirbhar Bharat envisioned by our Prime Minister Narendra Modi. How the internal and external control of accounting control system (ACS) is tapped through the four entities for containing accounting frauds, what are the significant factors such as Fraud Risk Factors responsible for Protecting Organization Assets and measuring the impact of these factors will be the central theme of this study. However, this study is restricted to the Indian scenario as per the theme of self-reliant India.

Accounting control system is defined as methods, procedures that form the complete internal control system of an organization. This system is concerned with:

1. Ensuring compliance with accounting policies and procedures
2. Protecting the organization's assets.
3. Preparing reliable and timely financial reports (Business Dictionary, 2018).

The above definition takes into the narrow definition of accounting control system whereas this study takes into account the broader outlook of control which is two pronged, **internal** as well **external**.

The present study recognizes that sustainable accounting control system can be developed by taking into account both internal and external control. An important factor contributing to the integrity of the financial reporting process is the tone set by those in management and control of accounting information and internal and external framework of the accounting control system. It is dependent upon perception of the top management, independent directors, members of audit committee and statutory auditors (others not included for the purpose of this study). These perceptions are based on the organizational climate and culture created by these entities which in turn depends considerably on the code of ethics being created in the institution and not thereby dependent on their personal ethics.

### 1.1 Research Objectives

The specific research objectives examined in this study are drawn from the investigations discussed above.

The objectives are:

1. To identify the significant factors of minimizing fraud risk factors for Sustainable accounting control system.
2. To measure the significant factors of minimizing fraud risk factors for Sustainable accounting control system.

### 1.2 Literature Review

<b>Global Scenario</b>	
Cadbury Committee Report, UK (1992)	The first reference about the ethical or sustainable framework of accounting practices that we can find in literature is about Cadbury Committee report, UK, 1992. This report was published following the scams in late 80s and early 90s. Its objectives included: “(i) uplift the low level of confidence both in financial reporting and in the ability of auditors to provide the safeguards which the users of company’s reports sought and expected; (ii) review the structure, rights and roles of board of directors, shareholders and auditors by making them more effective and accountable; (iii) address various aspects of accountancy profession

	and make appropriate recommendations, wherever necessary; (iv) raise the standard of corporate governance; etc.”. (Cadbury, 1992) (p. 10)
Galloway (1994)	Galloway (1994) developed a control model which can be discussed in perspective of financial reporting. He defined control in a new way. He says that a control as a comprehensive term has foundation on three legs – process of control should be right; it should be done in a way to survive or it needs to be viable; and doing the right thing ethically. If auditors do so at local level, they play a vital role in avoiding bureaucratic problems of control. The complex problem is solved at the very level it belongs, i.e., at the local level (Galloway, 1994).
D’Aquila (2001)	The organizational climate created by top management and those in control is most important. “This tone should be communicated through management’s own actions as well as through management’s expectations of the employees” (D'Aquila, 2001) (p.236).
Sarbanes-Oxley Act (2002)	The enactment of Sarbanes-Oxley Act (2002) highlights the importance of internal control environment and the ethical aspect attached to it. It was only after this, that external auditors were expected to specifically design their audit procedures to detect all frauds (Wagner & Dittmar, 2006).
Castka & Balzarova (2008)	At the same time, farsighted organizational leaders recognize that lasting success must be built on credible business practices and the prevention of such activities as fraudulent accounting which contributes to sustainable development. At the same time, it encouraged the development of national standards that are more specific and more demanding (Castka & Balzarova, 2008).
Sinnet (2009)	Sinnett (2009), in his article “Does internal control improve operations and prevent fraud?” says that Sarbanes-Oxley Act, 2002, requires that a complying organization should identify a framework of internal control for its use. However, it was also felt that compliance had resulted in unintended consequences, such as excessive costs, diversion of management attention from running the business and a changed relationship with their external auditors.
ISO 26000 (2010)	Next important reference is about ISO 26000 which was brought in 2010. Organizations around the world, and their stakeholders, are becoming increasingly aware of the need for and benefits of socially responsible behavior. The objective of social responsibility is to contribute to sustainable development. Pressure to do so comes from customers, consumers, governments, associations and the public at large.
<b>Indian Scenario</b>	
Gupta (2009)	In the Indian Scenario, for over two decades since April 1998, releasing a Task Force report entitled “Desirable Corporate Governance: A Code”,

	<p>which outlined a series of voluntary recommendations, Confederation of Indian Industries (CII) has remained in the fore front of establishing corporate governance norms. Most of its codes were incorporated in SEBI's committee headed by Kumar Mangalam Birla and later in Clause 49 and Listing Obligations and Disclosure Requirements (LODR), 2015 of SEBI. The quality review board, set up by the government in July 2007 reviews the quality of services rendered by the members of the Institute of Chartered Accountants of India (ICAI) (Gupta, 2009). Securities and Exchange Board of India (SEBI) too works hand-in-hand to ensure effective governance. CII, Narayan Murthy Committee and Naresh Chandra Committee which all led to formation of famous Clause 49 Guidelines of Corporate Governance.</p>
Mandal (2012)	<p>According to Mandal (2012), there must be three elements in the ethical process for principle-based accounting: 'What to act', 'How to act' and 'By whom to act' of operating system. It is also important that value system and ethical standards of management people as corporate participants should be of high level. "The key elements of good corporate governance of corporate participants are honesty, integrity, mutual respect and transparency." (Mandal, 2012) (p.345) It is believed that Indian ethos of value-based ethics and spiritual approach is beneficial to all.</p>
Ravi (2016)	<p>KFA had many corporate Governance issues relating to number of board of directors, transparency in financial reporting, unpaid salaries of employees, non-compliance of Provident fund norms, non-compliance of deposits of TDS of income-tax authorities and many other corporate governance issues. The role of the banks in granting the loans to KFA seems questionable in many cases. Mallya according to reports provided 'personal' guarantee to SBI and Punjab National Bank by mortgaging Kingfisher Villa in Goa, his family home and Kingfisher House in Mumbai. But the value of the properties is so meagre that one wonders how commercial banks have extended such huge loans on such properties." (Ravi, 2016)</p>
Murthy (2007)	<p>The emphasis has been how managers can improve ethical leadership by learning about their own values. How they perceive their environment and effects of their perception on employees have been well documented. Most of these studies were talking about business ethics as personal ethics, until a path breaking study by Murthy (2007), "Business Ethics and Corporate Responsibility- A New Perspective". The paper stresses the need to understand business ethics as organizational ethics. It is this understanding of business ethics that has been used in this study. (Murthy K. V., 2007)</p>

### **1.3 Present study**

An important purpose of sustainable accounting practices is to provide structure that works for the benefit of everyone concerned by ensuring that the enterprise adheres to accepted ethical standards and best practices, as well as to formal laws and regulations. It also places emphasis on economic efficiency and catering to welfare of shareholders. These functions are prescribed by Company Law, regulations and codes of practices.

It has been found that even the best practices could not prevent the frauds as has happened in WorldCom, Enron, & Tyco at global front and Satyam-Maytas at domestic front in India make the Corporates Unsustainable in the long run. The root cause of corporate troubles lies in the problem of corporate governance, concerning ethics, morality and legality of governance.

Goals must be honest, inclusive of all stakeholders and the society where it operates. There could be a scenario where business may target faulty goals despite the best intentions of top executives and hence the business finds itself in trouble. Here is the role for Sustainable accounting practices to put a check on these faulty goals. Sustainable governance has been found to take care of compliance with legal system. The framework should be about ethicality of systems and resources being employed by the company; the quality and value system of the people who run the company; and the sensitivity of the board for its stakeholders and the society it serves.

The paper ponders over sustainable accounting control system by restricting the study to fraud risk factors which can prevent accounting failures and thereby scams.

We are looking at the possibility of preventing frauds and financial irregularity by developing a framework which focuses at protecting assets as pointed in the definition of accounting control system by minimizing fraud risk factors. This is done by gauging the perceptions of four important entities of accounting control system both internal as well as external control.

### **1.4 Basic Construct: The Questionnaire**

The questionnaire is designed to draw out responses from the four concerned entities- Top Managers, Independent directors, Audit Committee Members and Statutory Auditors. On the basis of their perception, experience and understanding, the attempt is to verify, test and validate the construct of

corporate governance framework as applied to accounting control system. The questionnaire is attached as an Appendix to this paper<sup>5</sup>.

## **Data and Sample**

The whole study is based on Primary Survey. For data collection and sampling, proportional sampling technique has been used to collect the data. The sample size is 100 entities representing top managers (CFOs/ Managing Directors/ General Managers/ Company Secretaries), statutory auditors, members of audit committee and the independent directors. About 25 samples from each of the four categories have been approached for taking responses on the questionnaire. Eventually 28 Top Managers, 24 Statutory Auditors, 24 Independent Directors and 24 Members of Audit Committee responded and total 100 responses received.

There is no source amongst whom the respondents belonging to these categories of entities can be drawn for study. They were chosen at random. Therefore, the sampling process attempted to minimize the purposiveness by not having a predetermined set of companies, though snowballing technique was also used in limited way. There was no particular bias either towards private sector or public sector companies. There was neither any bias in terms of larger and smaller companies. Furthermore, the responses have no bias in terms of choice of regions for respondents. Many of the respondents have responded through email as they were not present in NCR.

## **1.5 Methodology**

The methodology used for the analysis is Principal Component Analysis which tries to collate and draw meaningful results from the huge data collected from all the four entities, namely, Independent Directors, Top Managers, Audit Committee Members and External Auditors. Two very important analyses are done here:

1. Construction of Composite Indices
2. Impact of Composite Indices

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<sup>5</sup>The questionnaire used for this research paper is part of full questionnaire of thesis submitted by the authors.



In the context of present study, the Composite Index is a grouping of variables or other factors that combine in a standardized way to provide a useful statistical measure of overall responses for the Sustainable ACS.

Construction of Composite Indices helps in analyzing the data by combining the raw variables by a suitable technique. The technique used is Principal Component Analysis which further allows the Factor Analysis by allowing grouping of logically related variables.

The construction and analysis of Composite Indices becomes more meaningful when its impact (Index of factors developed through construction of Composite Indices) on Sustainable ACS is interpreted. The technique that can lead to meaningful interpretations is Regression Analysis.

### **1.5.1 Construction of Composite Indices**

The Construction of Composite Index involves step by step explanation of Principal Component Analysis, Factor Analysis and then constructing the Composite Indices (Murthy & Jha, 2006).

#### **Principal Component Analysis (PCA)**

Principal Component Analysis allows dealing with reduced number of variables or it can be said that it allows data reduction. For doing so, there is need to find a common thread. This thread is called a latent factor. The need of Principal Component Analysis arises because it helps in (i) data reduction and (ii) making the dependent variables uncorrelated with other. Unlike OLS wherein the procedure is to minimize the sum of the squares of deviations, in the case of PCA the procedure is to maximize the variance. The second feature of PCA is that it segregates inter-correlated variables into the separate orthogonal factors or principal components. (iii) Thirdly, PCA can be used for developing a composite index which collapses a set of variables into a single variable that represents a complex phenomenon like Corporate Governance framework.

### **1.5.2 Impact of Composite Indices**

A multidimensional phenomenon like Sustainable Accounting Control System can be measured by constructing a composite index as explained above. Further, the Indices of factors affecting them will also be developed. It will be interesting to draw meaningful interpretations out of it. One of the techniques to measure their impact is Regression Analysis.

## **Regression Analysis**

Regression estimates are used to describe data and to explain the relationship between one dependent variable and one or more independent variables. The Overall Composite Index is Dependent Variable whereas Indices of Factors are Independent Variables.

### **Interpretation through Regression Analysis**

The following terms are used in this analysis:

**Regression Coefficients:** Regression coefficients represent the mean change in the response variable for one unit of change in the predictor variable while holding other predictors in the model constant.

**Standard Error:** The standard error of the estimate is a measure of the variability of predictions in a regression. A low value of Standard Error means that there is a consistent pattern.

**T-stat:** The t statistic is the coefficient divided by its standard error. The standard error is an estimate of the standard deviation of the coefficient, the amount it varies across cases. It can be thought of as a measure of the precision with which the regression coefficient is measured. There is a T 2 rule, a rule-of-thumb of  $|t| \geq 2.00$  to determine whether or not a variable is statistically significant.

**P-value:** The p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low p-value ( $< 0.05$ ) indicates that the null hypothesis can be rejected. In other words, a predictor that has a low p-value is likely to be a meaningful addition to this model because changes in the predictor's value are related to changes in the response variable. Conversely, a larger (insignificant) p-value suggests that changes in the predictor are not associated with changes in the response.

**R-square:** R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determinations for multiple regressions. It varies from 0%-100%. 0% indicates that the model explains none of the variability of the response data around its mean. 100% indicates that the model explains fully the variability around its mean. It is also called Goodness-of-fit statistics.

**Adjusted R-squared:** Adjusted R-squared is a measure that tells goodness of fit adjusted for degrees of freedom. It gives the net picture. The adjusted R-squared is a modified version of R-squared that

has been adjusted for the number of predictors in the model. The adjusted R-squared increases only if the new term improves the model more than would be expected by chance. It decreases when a predictor improves the model by less than expected by chance (Minitab, 2013).

## 1.6 Analysis and Interpretation of Components of Accounting Control System:

There is need to find which components of Accounting Control System are important constituents for sustainability. This is further analysed through factor analysis. With the help of highest representation in each factor, a composite index is developed.

### 1.6.1 Principal Component Analysis

1. The first step involves testing for sampling adequacy and sphericity. For this the KMO and Bartlett's Test is estimated.

Table No. 1: **KMO and Bartlett's Test- Fraud Risk Mangement**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.876
Bartlett's Test of Sphericity	Approx. Chi-Square
	757.836
	Df
	78
	Sig.
	.000

In the case of nominal determinants, the KMO measure is 0.876 which is on higher side. Bartlett's Test is highly significant. On the whole, the test indicates that PCA is applicable.

2. Selection of principal variables: PCA was applied on independent variables. The principal components to be retained are determined. In this step, the Kaiser criterion is used to retain six principal components where eigen values were greater than one. Three variables are selected in the descending order beginning with the largest component.

**Table No. 2:** Total Variance Explained- Fraud Risk Factors

Components	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.251	48.081	48.081	3.273	25.174	25.174
2	1.804	13.876	61.957	3.207	24.669	49.843
3	1.090	8.388	70.345	2.665	20.503	70.345

**Error! Reference source not found.**shows the total variance explained by the extracted principal component. It is evidenced that 70% of the information is captured by the retained component.

3. Rotation of components: With the help of Varimax rotation with Kaiser Normalization the components were rotated. This was done with a view to obtain the clear interpretation of the components. This resulted in a set of component scores with respect to the three retained components.

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9. Table No. 3 reports the rotated component scores matrix.

**Table No. 3:** Rotated Component Matrix<sup>a</sup> – Fraud Risk Factors

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
E.3.1. (xiii)	.869		
E.3.1. (xii)	.829		
E.3.1. (xiv)	.798		
E.3.1. (xv)	.705		
E.3.1.(iv)		.794	
E.3.1.(iii)		.743	
E.3.1.(ii)		.738	
E.3.1.(x)		.708	
E.3.1.(i)		.705	
E.3.1.(vi)			.791
E.3.1.(v)			.695
E.3.1. (vii)			.685
E.3.1.(xi)			.541

Extraction Method: Principal Component Analysis.  
Rotation Method: Varimax with Kaiser Normalization.

### **1.6.2 Factor Analysis**

At this stage, the components scores are isolated and factors of Accounting Control System are identified:

**Table No. 4: Constituents of Fraud Risk Factors**

Component	Variables	Identifier	Factor
1	E.3.1. (xiii)	Industry standard wage structure	Company specific positive attributes
	E.3.1. (xii)	Happy employees	
	E.3.1. (xiv)	Less pressure on target	
	E.3.1. (xv)	Solvent company	
2	E.3.1.(iv)	Proper documentation	Adequately safeguarded assets
	E.3.1.(iii)	Adequately safeguarded assets	
	E.3.1.(ii)	Clear Job Description	
	E.3.1.(x)	Strong internal audit	
	E.3.1.(i)	Minimum pilferage	
3	E.3.1.(vi)	Simplified transactions	Simplified transactions
	E.3.1.(v)	Few related party transactions	
	E.3.1. (vii)	Simplified valuation	
	E.3.1.(xi)	Small span of control	

This results in identifying three latent factors of Fraud Risk Factors, namely, Company specific positive attributes, adequately safeguarded assets and Simplified transactions.

Company specific attributes following industry standard wage structure, happy employees, solvent companies and putting less pressure to achieve targets.

By adequately safeguarded assets, we intend proper documentation of assets, clear job description of assets, minimum pilferage and their strong internal audit.

By simplified transaction is meant the few related party transactions, easy valuation of assets and where the span of control for supervision is small.

### 1.6.3 Composite Index

Following the method suggested by Murthy and Jha (2006), composite Index for System of Ethics is constructed with the help of Factor Analysis/ Principal Components and Rotated Component Matrix as follows (Murthy & Jha, 2006):

**Table No. 5:** Composite Index Constituents- Fraud Risk Factors

Component	Retained Variable No.	Highest Loading Factor	Retained Variable Identifier
1	E.3.1.(xiii)	.869	Industry Standard Wage Structure
2	E.3.1.(iv)	.794	Proper Documentation
3	E.3.1.(vi)	.791	Simplified Transactions

On the basis of retained components, the highest component scores are selected. By using highest loading factor as weights and variable identifiers given in Table No. 5, the index of dependent variables is constructed as follows:

$$Index = \sum_j^n w_j x_j$$

Two sets of composite Indices are developed:

1. Composite Index of Accounting Control System (IACS):

IACS= Industry Standard Wage Structure\* 0.869 + Proper Documentation\*0.794+ Simplified Transactions\*0.791

$$IACS = N2 * 0.869 + E2 * 0.794 + G2 * 0.791 = 9.128486$$

2. Thereafter, composite index is constructed for each factor of Accounting Control System in the context of Fraud Risk Factors. These Indices are: Index of Company Specific Positive Attributes (IcspA), Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT).

Index of Company Specific Positive Attributes (IcspA)

$$= N2 * 0.869 + M2 * 0.829 + O2 * 0.798 + P2 * 0.705 = 11.301$$



Index of Adequately Safeguarded Assets

$$(IasA)=E2*0.794+D2*0.743+C2*0.738+K2*0.708+B2*0.705=15.404$$

Index of Simplified Transactions (IsT)=G2\*0.791+F2\*0.695+H2\*0.685+L2\*0.541=8.29

Similarly, Composite Indices are obtained for all 100 respondents.

### **1.6.4 Analysis through Construction of Composite Indices and Findings**

PCA is applied on independent variables of Accounting Control System using Kaiser Criteria and three principal components are retained which explain 70% of variation by rotated sum of square loadings.

These 15 variables extracted 3 principal components. With the help variable identifiers three latent factors are isolated and identified. The data reduction technique is based on the following selection criterion:

- (i) Eigenvalue should be greater than 1.
- (ii) There should be at least three coefficients in each retained factor.
- (iii) Coefficient value should be at least 0.5.
- (iv) There should not be any sub-item having value less than 0.

In the first iteration of running PCA, 4 Principal Components are found with a component having only two coefficients. After dropping these one by one and running PCA, 3 Principal Components are obtained. After running the PCA again, 13 variables and 3 principal components are extracted and retained which satisfy the above-mentioned criterion.

Further, two sets of composite indices are obtained:

1. Composite Index of Accounting Control System (IACS) is found by using the method of Jha& Murthy (2006). The three variables so selected are included in the formula for composite Index. These variables are: Company specific positive attributes, adequately safeguarded assets and Simplified transactions.
2. Thereafter, composite index is also developed for each Principal Component or factor of Accounting Control System: Index of Company Specific Positive Attributes (IcspA), Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT).

### 1.6.5 Analysis through Regression Analysis and Findings

Regression of Independent variables: Index of Company Specific Positive Attributes (IcspA), Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT) on Dependent variable- Index of Accounting Control System (IACS) is explored to find significant factors out of the three factors.

**Table No. 6:** Regression Analysis- Accounting Control System

Dependent Variable - Index of Accounting Control System (IACS)

Regression Statistics	
Multiple R	0.907713342
R Square	0.823943512
Adjusted R Square	0.818441747
Standard Error	1.738917716
Observations	100

	Coefficients	Standard Error	t Stat	P-value
<b>Intercept</b>	-9.466077449	1.39330495	-6.79397	<b>9.14E-10</b>
IcspA	0.051289416	0.086178383	0.595154	0.553141
<b>IasA</b>	0.73366162	0.110092618	6.66404	<b>1.68E-09</b>
<b>IsT</b>	1.145206162	0.120644105	9.492434	<b>1.83E-15</b>

#### Regression Equations

1. Functional Relationship:

$$IACS = f(IcspA, IasA, IsT)$$

2. Estimating Equation:

$$IACS = \alpha + \beta_1(IcspA) + \beta_2(IasA) + \beta_3(IsT) + \varepsilon_i$$

3. Estimated Equation:

$$IACS = -9.47 + 0.05(IcspA) + 0.73(IasA) + 1.14(IsT)$$

Intercept: Its coefficient being -9.47, higher Standard Error, higher t-stat and very significant P-value make it a significant factor. At the same time this coefficient has negative impact. There are some unaccounted factors that are not measured by this regression model.

Index of Simplified Transactions: This factor has highest coefficient (1.12), lower Standard Error, higher t-Stat and very significant P-value. This is the most significant factor among the three factors.

Index of Adequately Safeguarded Assets: The magnitude of adequately safeguarded assets to Accounting control system is 0.73 which is high. It has relatively lower Standard Error, high t-Stat and very significant P-value. This factor is very important in making its impact in corporate governance in accounting control system.

Index of Company Specific Positive Attributes: Its coefficient is 0.05 which is low, lower Standard Error, somewhat low t-Stat and insignificant P-value. This factor is not as important in comparison to other two factors.

The overall assessment is Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT) are important factors of minimizing fraud risk factors for effective accounting control system and Index of Company Specific Positive Attributes (IcspA) is relatively less important factor based on the direction, significance and magnitude. Intercept or some unknown factors are also important and negatively related. The significance of simplified transactions is largest. It indicates to have effective corporate governance in accounting control, it's better to have few related party transactions, simplified valuation of assets and to keep the span of control for supervision small. It is also good to have proper documentation of assets, clear job description and strong internal control system.

$R^2$  measures how good the regression line fits the actual data. A high percentage indicates that a model has good fit.  $R^2$  here is 0.82 which means 82% of the variability in composite Index of Accounting Control System (IACS) is explained by independent variables: Index of Adequately Safeguarded Assets (IasA), Index of Simplified Transactions (IsT) and Index of Company Specific Positive Attributes (IcspA). Adjusted  $R^2$  is 0.81 which is even better.

## **1.7 Conclusion and Practical Implications**

The accounting control system which is observed through compliance of internal control or rules and regulations is not adequate for sustainable development. To fill the gap external control is also required which can be provided by other entities of accounting control system such as Independent Director, Member of Audit Committee and External Auditor.

Principal component analysis helped in identifying three latent factors for minimizing fraud risk factors: adequately safeguarded assets factor, simplified transactions factor and company specific positive attributes factor.

This led to creation of two sets of composite Indices as suggested by Murthy and Jha. In all four Composite indices were formulated: IACS, IasA, IsT and IcspA.

The Regression analysis helped in identifying significant factors: Simplified transactions factor and company specific positive attributes factor.

The overall conclusion is Index of Adequately Safeguarded Assets (IasA) and Index of Simplified Transactions (IsT) are important factors of accounting control system for sustainable corporate governance and Index of Company Specific Positive Attributes (IcspA) is relatively less important factor. The significance of simplified transactions is largest. It indicates to have effective sustainable accounting control, it's better to have few related party transactions, simplified valuation of assets and to keep the span of control for supervision small. It is also good to have industry standard wage structure, proper documentation of assets, clear job description and strong internal control system.

Self-reliance built upon strong corporate structures will increase levels of economic activity. Strong corporate structures will promote ethical and sustainable accounting control system which can be achieved by protecting assets through minimizing fraud risk factors. Ethical accounting practices will result in social and economic links with local communities and thereby lead to Aatmanirbhar Bharat. In the post-covid crisis scenario, when many businesses suffered because of lockdown, all that is needed is revisiting of governance model and make it more purposeful and achievable for a new, firm and sustainable beginning. It should be ensured that managers employ the principles of value-based management that protects the interest of all stakeholders. In the backdrop of interdependence of

notions for economic and social growth, there may be many ways to do so, but the chosen way should be ethically sustainable in the interest of all stakeholders.

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## APPENDIX 1: QUESTIONNAIRE

		<b>Questionnaire</b>								
S. No.	Q. No.									
		<b>Instructions for questions based on 5-point scale:</b>								
		<p>1. The verbal and interval scale would help you in identifying the number from 5 to 1 (where 5 is the highest in order and 1 is the lowest).</p> <p>2. The most appropriate and in-depth response can be expressed by referring to all three scales. For instance, if your response is "Fully Aware", you should tick on '5' in case you feel that "Fully" means within the range of 81% - 100%.</p>								
		Ordinal Scale	5	4	3	2	1			
		Verbal scale	Fully Aware	Somewhat Aware	Cannot Say	Somewhat Ignorant	Completely Ignorant			
		Interval Scale	100%-81%	80%-61%	60%-41%	40%-21%	20%-1%			
<b>Section II</b>										
	<b>E</b>	<b>Accounting Control System</b>								
		In the context of ethical framework of Accounting Control System, mark the options as per the given scale:								
	<b>E.1</b>	<b>Attitude</b>								
	<b>E.2</b>	<b>Knowledge</b>								
	<b>E.3</b>	<b>Protecting Assets (Fraud Risk Factors)</b>								
	E.3.1	Fraud Risk Factors can be minimized by managers.				5	4	3	2	1
	E.3.1.(i)	Fraud Risk Factors can be minimized by managers when there is minimum pilferage of valuable assets.				5	4	3	2	1
	E.3.1.(ii)	Fraud Risk Factors can be minimized by managers when there is clearly defined job description.				5	4	3	2	1
	E.3.1.(iii)	Fraud Risk Factors can be minimized by managers when there are adequate physical safeguards to assets.				5	4	3	2	1
	E.3.1.(iv)	Fraud Risk Factors can be minimized by managers when there is proper documentation of assets.				5	4	3	2	1
	E.3.1.(v)	Fraud Risk Factors can be minimized by managers when there are few related party transactions.				5	4	3	2	1

E.3.1.(vi)	Fraud Risk Factors can be minimized by managers when the nature of a company's business involves simplification of transactions.	5	4	3	2	1
E.3.1.(vii)	Fraud Risk Factors can be minimized by managers when the valuation of assets is easy.	5	4	3	2	1
E.3.1.(viii)	Fraud Risk Factors can be minimized by managers when there is decentralization of decision making power.	5	4	3	2	1
E.3.1.(ix)	Fraud Risk Factors can be minimized by managers when there are more automated operations.	5	4	3	2	1
E.3.1.(x)	Fraud Risk Factors can be minimized by managers when there is strong internal audit function.	5	4	3	2	1
E.3.1.(xi)	Fraud Risk Factors can be minimized by managers when the span of control is small.	5	4	3	2	1
E.3.1.(xii)	Fraud Risk Factors can be minimized by managers when the employees are happy with the company.	5	4	3	2	1
E.3.1.(xiii)	Fraud Risk Factors can be minimized by managers when the wage structure is commensurate with the industry standard.	5	4	3	2	1
E.3.1.(xiv)	Fraud Risk Factors can be minimized by managers when there is less pressure on meeting targets.	5	4	3	2	1
E.3.1.(xv)	Fraud Risk Factors can be minimized by managers when the company is solvent/ bouyant.	5	4	3	2	1
<b>E.4</b>	<b>Ensuring Compliance of Policies and Procedures</b>					
<b>E.5</b>	<b>Preparing Reliable and Timely Report</b>					