Chapter 2
Review of Literature

Indeed, the concept of shareholder value is one of the oldest nostrum in business: a company creates value for the shareholders over a given time period when the return on invested capital is greater than its opportunity cost, or than the rate that investors could earn by investing in other securities with the same risk (Fiordelisi et al., 2006). The number of studies in the value-relevance literature is rather large. On the basis of different empirical aspects relating to EVA metric as well as the objectives of the dissertation, the review of literature has been categorized into three parts:

- Studies analyzing the relationship of Economic Value Added and conventional performance measures with Market Value Added
- Studies examining the determinants of shareholder value
- Studies analyzing the EVA disclosure practices prevalent and adopted by companies

The first part of the review of literature is devoted to those studies which provide a review of EVA’s conceptual underpinnings and the value-relevance of value based performance measures (especially EVA, the most popular) over traditional accounting measures (like EPS, ROI, ROCE etc). Adopting this criterion, the most credible conceptual and empirical work done since past has been described in the following paragraphs:

2.1 Studies analyzing the Relationship of Economic Value Added and Conventional Performance Measures with Market Value Added

The literature dealing with the relationship of EVA and conventional measures of corporate financial performance with Market Value Added involves a considerable debate. For more than two and a half decade, there is a heated debate among the practitioners as to whether the new value based performance measure (EVA) has a higher correlation with stock values and returns than do traditional accounting earnings. As EVA concept is advocated by New York based Consultancy Firm Stern Stewart & Company, most of the cited work and research on this topic is associated with the proponents itself along with their affiliates having interest in the EVA- metric such as “EVA: Fact and Fantasy” (Stewart, 1994), “EVA and Market Value” (O’Byrne and
Stephen, 1996), “EVA in Computer Industry” (Milunovich and Tsuei, 1996), “The 1996 Stern Stewart Performance 1000” (Ross, 1997), “Round table on EVA in Europe” (Stewart and Stern, 1999) etc. As far as the proponents Literature is concerned, these studies usually find that EVA is superior to traditional performance measures as it is found to better explain stock returns and firm values. In addition to this, a survey of the existing literature on this subject indicates that several other studies world over have identified that EVA better reflects MVA than other accounting based measures. Supporters of EVA include Uyemura et al. (1996), Moore (1999), Tortella and Brusco (2000), Hall and Brummer (1999), Ho et al. (2000), Weaver (2001), Grant (2003), Feltham et al., (2004), Liebenberg (2004), Medeiros (2005), Fiordelisi et al. (2006), Kumar and Pal (2008) etc.

Although EVA theory and empirical research is cautiously reasoned and drawn from analytical framework, yet its objectivity and merits are being questioned and criticized by a number of prominent researchers all over the world like Biddle et al., (1997), Kramer and Pushner (1997), Chen and Dodd (1998), Fernandez (2001), Peixoto (2002), Sparling and Turvey, (2003), Firer, (2004), Griffith (2004), Holler (2008) etc. In India too, the findings of the academic research on this issue are quite mixed resulting in two distinct camps. On one side are those researchers who found EVA to be one of the most prominent predictor of MVA like Banerjee and Jain (1999), Thenmozhie (1999), Mangala and Joura (2002), Misra and Kanwal (2004), Singh and Garg (2004), Bhatnagar et.al. (2004), Malik (2004), Kukreja and Giridhar (2005) etc. On the contrary, Researcher like Ramana (2004) Ramana (2007) and Kaur and Narang (2009) identified that earnings are better predictor of MVA amongst the other measures of performance.

This section presents an overview of studies conducted in India and abroad regarding association of EVA and various Traditional Performance Indicators with Shareholder Wealth Creation. The empirical studies conducted under this criterion of comparing EVA with traditional measures of performance in terms of their association with MVA, have been categorized into following two parts:

- Research in Support of EVA as the best driver of MVA (Studies in Support of EVA, MVA and link between EVA and MVA)
• Research disfavouring EVA’s superiority over traditional performance measures in terms of their association with MVA (Studies highlighting limitations of EVA and MVA)

2.1.1 Research in Support of EVA as the Best Driver of MVA

Stewart (1991) was the first person who studied the relationship between EVA and shareholder wealth with market data of 618 U.S companies and presented the results in his book “The quest for value”. He stated that EVA and MVA correspond with each other quite well among selected U.S companies. The study provided the first empirical evidence of EVA’s potential as a proxy for MVA and reported a $R^2$ of 0.97 between changes in EVA and changes in MVA for 25 groupings of firms over the period 1987-88. Only the relationship between negative EVA and negative MVA did not hold very well. According to Stewart it was because the potential of liquidation, recovery, recapitalization, or takeover used to set a floor on a company’s market value. The study found that MVA and EVA corresponded to each other best when changes in EVA and MVA were studied and not the absolute levels. Moreover, changes in EVA and MVA were not affected so much by accounting distortions and inflation than the absolute values. Further, Stern, Stewart, and Chew (1995) concluded that changes in EVA over a five-year period explained 50% of the change in MVA over the same period.

Stewart (1994) has expended that EVA is a powerful new management tool that has gained worldwide recognition as the standard tool of corporate performance. EVA presents an integrated framework of financial management and executive’s compensation. The adoption of EVA system by more and more companies throughout the world clearly depicts that it provides an integrated decision-making framework, can reform energies and redirect resources to create sustainable value for companies, customers, employees, shareholders and for management.

Milunovich and Tsuei (1996) reviewed the correlations between MVA and several conventional performance measures (including EVA) in the US computer technology industry for the period from 1990 to 1995. The study indicated EVA to have strong correlation with MVA than the other measures of financial performance. The coefficient of determination for EVA was found to be 0.42, for EPS growth 0.34, for ROE 0.29, for Free Cash Growth 0.25 and for Free Cash Flow 0.18. Clearly EVA demonstrated the best
correlation with MVA which indicated that as a company which can consistently improve its EVA should be able to boost its MVA and therefore its shareholder value. Milunovich and Tsuei argued that the relatively weak correlation between MVA and Free Cash Flows (FCF) was due to the fact that FCF can be a misleading indicator. The study revealed that a fast-growing technology start-up company with positive EVA investment opportunities and a loss-making company on the edge of bankruptcy can have similar negative cash flows. They concluded that growth in earnings is not enough to create value, unless returns are above the cost of capital. Moreover, EVA works best as a supplement to other measures when one is evaluating shares and that EVA sometimes works when other measures fail.

O’Byrne (1996) from Stern Stewart & Co used capitalized EVA as independent variable in a regression where market value divided by invested capital is the dependent variable. Using the nine-years data (covering the period 1985-1993) for the 6,551 company valuation years (sample based on the 1993 Stern Stewart Performance 1000), the study found that the level of EVA explained about 31% of the variance in market value, whereas the level of net operating profit after taxes explained only 17%. When looking at changes in EVA and market value O’Byrne found that changes in EVA explained 55% of variations in changes in market value. Changes in NOPAT explained only 33%. The research also showed that five-year changes in EVA explained 55% of the variation in five-year changes in market value, and ten-year changes in EVA explained 74% of the variation in ten-year changes. In contrast, the NOPAT model explained only 24% of the five-year changes, and 64% of the ten-year changes, in market value. Thus this study evidenced that EVA, unlike NOPAT or other earnings measures like net income or earnings per share, is systematically linked to market value. It does provide a better predictor of market value than other measures of operating performance.

Uyemura et al. (1996) from Stern Stewart & Co., defined the EVA measurement as it pertained to banks, and presented evidence of EVA’s stronger correlation with the banks, market values than traditional financial measures. To test the hypothesis, that the performance measure that best correlates with shareholder wealth maximization is EVA, the performance results for the largest 100 bank holding companies (as on December 31, 1995) were analyzed for the ten-year period i.e. 1986 through 1995. The statistical
correlations between MVA and a variety of performance measures like Earnings per Share (EPS), Net Income, Return on Equity (ROE), Return on Assets (ROA) and Economic Value Added (EVA) were evaluated. The study concluded that among all of the performance measures, EVA had the strongest correlation (40%) with MVA. On the contrary, the correlations between other performance measures and MVA were found to be relatively less strong i.e. ROA 13%; ROE 10%; Net income 8% and EPS 6%. Therefore, the empirical data strongly supported the concept that EVA provides the best operational performance measure.

Villiers (1997) studied the extent to which EVA is distorted by inflation, and found that it cannot be used for estimating actual profitability under inflationary condition. The paper developed an adjusted EVA (AEVA) calculation procedure which provided a better estimate of actual profitability under inflation. The study suggested that AEVA should be used instead of EVA for financial decision-making under inflation. Moreover, AEVA also provides an alternative to inflation accounting, and can be used under inflation to estimate actual profitability from conventional historical cost accounts.

Mäkeläinen (1998) attempted to clarify the concept of EVA especially from the viewpoint of business unit controlling. The objective of the study was twofold. Firstly, the study described the theory and characteristics of EVA. This provided the framework to discuss the main objective: How companies should use EVA considering both its favorable and unfavorable features? In this context, the study also offered some recommendations of how EVA should be used as a management tool. The study tried to bring together the relevant theoretical issues and controlling practice. The topics discussed in the study were found to be essential and current in the case-group as well as in many other companies implementing EVA-approach in their organizations.

Banerjee and Jain (1999) studied the relationship between shareholder wealth and certain financial variables such as Earning per Share, Adjusted Return on Networth, Capital Productivity, Labour productivity, EVA and Market Value Added by using multiple linear regression models. A statistical analysis of the Drugs and Pharmaceutical industry during the period 1990-91 through 1997-98 revealed that EVA was the most significant variable in every year except for 1991-92 and 1997-98. However it is to be
noted that this was undisclosed information. If companies were to disclose this information fully, there could be a direct link between share prices and EVA.

Hall and Brummer (1999) determined empirically which performance measures of a company correlate the best with its external performance measure as represented by MVA of the corporation. Based on a sample of 135 industrial companies listed on the Johannesburg Stock Exchange, an empirical analysis was conducted for 11 years time-period. The results showed that the highest consistent positive correlation coefficient obtained was between MVA and EVA with inflation adjustments to data. The very same pattern was obtained with discounted EVA. Slightly lower positive correlations were found between MVA and the other performance measures like ROA, ROE, EPS and DPS. These correlation coefficients were found to be higher when data with inflation adjustments were utilized.

Moore (1999) developed a model that examined the relationship between firm strategy in terms of EVA, Customer Satisfaction (CS) and firm performance in terms of MVA. The combined data tracked the satisfaction scores of 95 publicly traded companies from 1994 to 1998. The data regarding MVA and EVA was collected from Stern Stewart & Company's performance 1000 database. The construct chosen to measure firm level customer satisfaction was American Customer Satisfaction Index (ACSI). Using a cross-sectional regression framework, the study found a positive and significant relationship between CS, EVA and MVA. It depicted that Interaction Effect of EVA and CS provide incremental information about the nature of MVA. Moreover, by using a matrix approach, the study identified four groups i.e. Integrated leaders, Cost advantaged, Differential advantaged and Competitive parity firms. It was hypothesized that the differential advantage based on high levels of ACSI would provide a larger benefit to MVA than the cost advantage based on EVA. The cost advantaged group was the second highest performer indicating that the market may be rewarding economic efficiency over long-term customer satisfaction building.

Thenmozhie (1999) explained the concept of EVA and compared it with some other traditional measures of corporate performance viz ROI, EPS, RONW, ROE, ROCE etc. Examining a sample of 28 companies from BSE Sensex, the study covered a period of three years ranging from 1996 to 1999. The study used the coefficient of determination to
demonstrate that the traditional measures do not reflect the real value of the shareholders, and thus EVA has to be taken into account to measure the value of shareholder’s wealth. For this purpose, the study at first described the concept of EVA in the Indian scenario with specific reference to companies like NIIT, Hindustan Lever and ITC. The study also referred to some of the shortcomings of the EVA concept and identified EVA to be a better measure of corporate performance as compared to the traditional measures.

Yook (1999) stated that as Stern Stewart & Co. claims that they use broad and specific adjustments to correct financial and accounting distortions, the algorithms are complex and costly both in terms of their data requirements and computational effort. Academic researchers and practitioners need an accurate approximation method using readily available data. For this purpose, the study illustrated one way to measure EVA using Compustat PC Plus (the software to compute EVA as per the methodology that Stewart has defined). It revealed a high correlation between author’s estimate (through the use of Compustat PC Plus) and Stern Stewart & Co.’s estimate and indicated that EVA can safely be approximated in that way (correlation between author’s and Stern Stewart’s estimates for EVA, capital and NOPAT was found to be 0.76, 0.92 and 0.93 respectively). The author clarified that a caveat for EVA calculations is the accuracy with which cost of capital can be estimated. Although the same theoretical framework to estimate the WACC is being followed yet the diverse approaches to estimate each component can lead to very different capital costs for the same company.

Young (1999) discussed why European managers turned towards the use of Economic Value Added as a performance metric in corporate decision making. The study explained the use of EVA by companies and the problems that typically arise in its implementation. It used the accounts of Rhone-Poulenc, a French chemical and pharmaceutical company, to demonstrate the calculation and interpretation of EVA numbers.

Banerjee (2000) discussed that market value of a company is deemed to be predicted well with stream of future expected EVAs and not only with current year EVA. Using a sample size of 200 Indian companies across 14 industries for 5 years period (1993-94 to 1997-98), this study examined whether the market value of a firm is best predicted by Expected EVAs. The basic model tested in the study was:
Market Value = \( a + b_1 \times \text{COV} + b_2 \times \text{FGV} \)

Where COV = Current Operational Value

\[ \text{COV} = \text{Invested Capital at the end of the first year (1993-94)} + \text{Capitalized value of current (1993-94) EVA.} \]

FGV = Future Growth Value

\[ \text{FGV} = \text{Present value of Incremental EVAs for the period 1994-95 till 1997-98} + \text{Present value of Residual Value.} \]

The regression results showed that COV and FGV significantly explain the Market Value of the sample companies. However, the Market Value of most of the firms in the sample reflected more of COV and less of FGV (as the coefficient of FGV was lower than that of COV). It also implied that the sample firms had less market implied growth potential.

Bhattacharya and Phani (2000) explained the concept of Economic Value Added (EVA) that is gaining popularity in India. The paper examined whether EVA is a superior performance measure both for corporate reporting and for internal governance. It relied on empirical studies in U.S.A. and other advanced economies. It concluded that though EVA does not provide additional information to investors, it could be adapted as a corporate philosophy for motivating and educating employees to differentiate between value creating and value destructing activities. This would lead to direct all efforts in creating shareholder value. Finally, the study also explained the dangerous trend of reporting EVA casually that might mislead investors.

Business Today-Stern Stewart EVA Study (2000) presented insights on shareholder value creation from India’s wealth club and ranked top 500 companies on the basis of their wealth created over a period of two years i.e. for 1998 and 1999. It claimed that although companies seemed to perform efficiently as reflected through various numerical indicators like sales, total market value, average market capitalization and the aggregate MVA yet the aggregate EVA decreased by 14.15% from Rs. -30,962.67 crore in 1997-98 to Rs. -35342.82 crore in 1998-99. The study revealed that a mere 71 companies in the BT-500 listing boasted a positive EVA in 1998-99, with Hindustan Lever Ltd. (now, Hindustan Unilever Ltd.) at the top with Rs. 290.64 crore EVA created. Moreover, among 71 companies, 52 had EVA less than Rs. 10 crore. It claimed that even after capitalizing expenditure targeting future (and not charging to current returns only), just
about 1 out of every 7 companies managed to generate returns in excess of their cost of capital: the other 6 in effect, eroded the shareholder value.

Analyzing from MVA perspective, almost 1 out of 2 companies managed to generate incremental MVA from 1997-98 to 1998-99. Here it is worth mentioning that out of the aggregate of Rs. 70,007 crore generated as incremental MVA by the 500 companies, Rs. 33,947 crore came from an increase in total capital employed. Even more significantly, a substantial chunk of this incremental MVA came from the sudden boom in the scrips of Infotech, Pharma and FMCG companies, which while indicative of the growth-potential of these sectors, did not, magnify the abilities of these companies to add shareholder value. Thus, providing the examples of various positive EVA companies, the study suggested that, Indian companies need to focus on growth and financial jurisprudence simultaneously in three ways. First, they need to explore emerging sources of finance that can lower their overall cost of capital. Second, they need to focus on ROCE i.e. current year’s ROCE should never be less than previous year’s ROCE. Third, they must understand that there is much higher need for value addition than mere generation of post tax profits.

Ho et al. (2000) contributed to the current debate between earnings and EVA by attempting to show empirically that EVA is a better predictor of firm performance in certain circumstances. They argued that the internet sector provided an appropriate research setting given its relatively high marketing, advertising and R & D expenses, which will result in the divergence between earnings and EVA measurements. Suspecting that some of the expenses that should have been capitalized in the balance sheet prompted them to hypothesize that EVA can better reflect the underlying market activity and the performance of the firms. In addition to the main regression test, two further tests on firm type effects and EVA response coefficient also proved EVA to be a better measure over other earning based measures.

Parasuraman (2000) identified the EVA position of India’s 14 major public sector banks, 7 new private sector banks, 5 old private sector banks and 2 foreign banks. Among the strength indicators; deposit, return on assets, interest income as a percentage of total assets and EVA were considered. The study concluded that EVA is an important measure to judge a bank’s performance in view of the current scenario of banks. EVA was found
to have a high degree of correlation with ROA but not with any of the other measures. It highlighted the fact that banks realize the importance of measuring EVA separately even if they do well in other fields. Some of the banks, which had higher net profit and otherwise ranked high, were actually having a negative EVA. The study anticipated that EVA will soon displace other measures of bank performance.

Kramer and Peters (2002) described that Economic Value Added and Net Operating Profit after Taxes (NOPAT) differed only by the charge for capital. Economic theory has stated that changes in market value should be more highly correlated with EVA, however, many studies had concluded otherwise. Therefore, the study tried to explore whether markets were inefficient or there was some error being made when calculating the charge for capital. This study examined Stern Stewart 1000 database for a period ranging from 1978 to 1996. The study reflected the problems relating to using a CAPM-based model for calculating the cost of equity component. It found that the CAPM underestimates the cost of capital for high-risk firms and overestimates it for low-risk firms.

Machuga et al. (2002) explored the relationship between EVA and EPS directly. They examined the association between EVA and future earnings and how analysts incorporated EVA into their forecasts of earnings. Their premise was that if EVA was a predictor of future EPS and analysts were excluding EVA from their prediction models, then the absence of EVA could explain part of the analysts’ forecast error. In general, they found that information about EVA used to add incremental value to a prediction model of EPS, and thus could explain analyst’s forecast errors. But the authors also noted that the relationship was reversed when the previous year’s earnings were not positive. In other words, the study concluded that EVA can be useful for predicting EPS in profitable firms, but the nature of the relationship is less precise and must be reversed for predicting EPS for firms losing money in the previous year.

Mangala and Joura (2002) supported Stern’s belief that EVA is the most important driver influencing the market value of share. So, if the company improves EVA by increasing its return on capital employed and lowering its cost of capital, its market value will increase. In this study, EVA of 15 companies among five industries (Fast moving consumer goods, Information Technology, Pharma, Automobile and Textile) was
computed for a period of 4 years ranging from 1996-97 to 1999-2000. The results obtained by using regression analysis confirm Stern’s hypothesis and conclude that the company’s Current Operational Value (COV) is more significant in contributing to a change in market value of shares in Indian context.

Ooi and Liow (2002) examined the implications of the corporation’s quest for value and the adoption of a new economic performance metric (EVA) on real estate corporate strategies. The rate of return, weighted average cost of capital and economic profit of Singapore’s 19 real estate companies were computed for eight-year study period ranging from 1992 to 1999. Overall, the results suggested that most of the property companies failed to generate enough periodic income to cover their cost of capital. Hence, the companies appeared to be destroying rather than creating corporate wealth. The discussion also highlighted some reasons why Economic Value Added (EVA) tends to underestimate the true economic performance of real estate, both as an investment and as a business unit.

Grant (2003) explained in his book the conceptual, empirical, and practical role of EVA in determining the enterprise value of the firm and its outstanding stock. The book shed light on the empirical role of EVA in the cross section of U.S. companies and industries, along with the economy-wide influence of this economic profit metric. The book explained the application of economic profit principles in valuing companies and industries. In this context, the book showed how to; (1) estimate EVA with basic and advanced accounting adjustments, (2) capitalize economic profit to determine a company’s net present value (NPV), and (3) use published financial reports to estimate a company’s future EVA, and in turn, its current market value added. The book applied quantitative techniques like linear and nonlinear regression that can be used by investors to find the most attractive companies and industries in the capital market. Finally it concluded that EVA is a “top-down” approach of looking at the firm’s real profitability. Moreover, it does so in a way that is intrinsically related to the firm’s net present value.

Weaver and Weston (2003) identified four alternative performance metrics used in value based management (VBM) and compared the strengths and limitations of each performance measure. These were (1) Intrinsic Value Analysis (IVA), the Discounted Cash Flow (DCF) methodology, (2) Returns to Shareholder (RTS, capital gains plus
dividends) measured over appropriate time horizons, (3) Economic Profit (also called Economic Value Added) taken from the DCF free cash flow valuation and (4) The relationship between the market value of the firm’s financial instruments and the book value of the firm’s operating assets can be expressed equivalently as market value added (MVA), the q ratio, and the market-to-book ratio.

The study used data for Hershey Foods Corporation to quantify the comparisons and relationships. It tested the relationships of alternative financial accounting performance metrics with that of market metrics on a historical basis as well as on a prospective basis. The study found that the alternative financial performance metrics – discounted cash flow valuation, returns to shareholders, economic profit, the market to book ratio [equivalently, the q ratio and market value added (MVA)] were highly correlated. Moreover, the standard financial ratio analysis as expressed in the DuPont formulation was also significantly related to market performance metrics and in the implementation of VBM. In implementation, each approach to value based management (VBM) was found to get started with strategic planning processes, tied performance to incentive compensation, required top management involvement, as well as information and training programs for employees.

Bhatnagar et al. (2004) investigated the efficacy and appropriateness of EVA as a method of measuring profitability of a concern as compared to some traditional methods of measuring profitability like ROCE, NPV and EPS etc. The study was based on an analysis of data pertaining to 56 companies for 10 years ranging from 1988-89 to 1997-98. The year wise composite regression exercise indicated EVA to be the single variable, which was significantly related to MVA. The result proved beyond doubt that EVA is the most significant measure of corporate financial performance.

Feltham et al. (2004) examined updated EVA data with an objective to determine whether the results in Biddle et al. (1997) continued to hold. The study used the same statistical and econometric methods as applied by Biddle et al., but examined different set of companies, different time periods and different markets to assess the value relevance of EVA with respect to other measures. The results being inconsistent with the findings of Biddle et al. showed that EVA had greater power than earnings in explaining market
adjusted stock returns. In other words EVA and residual income outperformed earnings and cash flow from operations.

**Firer (2004)** studied the relative and incremental information content of value added and earnings in South Africa and found that the value added concept dominates earnings in terms of the relative information content, while earnings dominate value added in terms of the incremental information content. For the purpose of this study, a total of 127 companies in year 2000, 128 companies in 2001 and 125 companies in the year 2002 from Johannesburg Securities Exchange were included in the sample. The results showed that value added information can supply some of the explanatory power of company performance, which was previously the sole domain of earnings. The results argued for the disclosure of the underlying data needed to compute value added variables. The cost of reporting this type of data was relatively immaterial given the availability of the data resulting from the disclosure requirements of the South African reporting environment. This disclosure of value added information might constitute a definite improvement over the South African reporting system and could also contribute to the harmonization between business and labour.

**Hall and Geyser (2004)** examined the use of Economic Value Added (EVA) as a performance measure by South African agricultural co-operatives to determine whether value has been created for members. The study provided a detailed explanation of EVA and the methodology to compute EVA components. Further, the study computed EVAs of all the South African co-operatives and analyzed it over a time span of four years i.e. from 1998 to 2001. It was evident from the data that, over the four-year period under review, the WACC declined consistently (this was due to declining interest rates throughout the period, as well as to increased use of cheaper debt in the capital structure). Whilst this was a positive factor in the value creation process, it was virtually nullified by the fact that the rate of return declined, which resulted in a negative spread. In addition, more capital was committed to the enterprises. This could be observed as a recipe for value destruction which occurred in the majority of the cases. The study also indicated fruit and vegetable sector as a single constant value creator. The study insisted that in order to create value, the rate of return on invested capital must be greater than the cost of capital.
Liebenberg (2004) calculated EVA for South African agricultural co-operatives to determine whether their existed a correlation between EVA performances over the years under review and between the individual groups of co-operatives. The results revealed no correlation either between the EVA values over the period or between the individual groups of co-operatives. It means that EVA performance of co-operatives was not influenced by external factors, but was dependent upon the effective management and decision-making within the agricultural co-operatives. The study also calculated EVA values for all the groups of co-operatives under changing beta values to look at the sensitivity of EVA. As a result, most negative EVA values stayed negative and positive EVA values stayed positive after recalculating EVA. Hence, EVA was not found to be sensitive to the changing betas.

Malik (2004) examined empirically the nature of relationships between EVA- the new trendier value-based performance measure and some traditional performance measures such as Earning per Share (EPS), Return on Net Worth (RONW) and Return On Capital Employed (ROCE) to develop an understanding that how the traditional performance measures are comparable to EVA. For this purpose, a sample of 50 companies with different asset sizes but having a uniform accounting year was selected and the relevant data was collected for a period of 5 years ranging from 1998-99 to 2002-03. Correlating the traditional measures with EVA using Pearson’s coefficient of correlation (r), it was found that the relationship was very low with EPS and high with RONW and ROCE. The coefficient of determination ($R^2$) indicated that EPS explained EVA only up to the extent of 14%, RONW up to the extent of 61% and ROCE up to the extent of 69%. The study indicated that these traditional measures do not reflect the real value of shareholder’s wealth and thus EVA has to be measured to have an idea about shareholder value.

Mampane (2004) pioneered that EVA should take the commanding role, while the traditional measures can provide additional information. The study examined the applicability of EVA as a measurement tool of value creation by taking a sample of South African milk producers. Based on the calculations using traditional measures, it was found that only four out of six farms were profitable. Moreover, out of four profitable ones, three farms had low returns. Based on the EVA calculations, only one farm was found to have created value while the rest destroyed it. A comparison showed that EVA
gave the clearest results, while the results from traditional measures were misleading in case of three farms. So, the study suggested the use of EVA along with the traditional performance measures for better reflection of firms, financial performance.

**Misra and Kanwal (2004)** observed that market valuation of securities listed on the Indian Stock Exchanges is more aligned to the intrinsic value today than it has been in the past. Basic thrust of the study is to establish the supremacy of EVA as a measure of financial performance over the traditional measures. The hypothesis of this study is that among nine chosen independent variables, EVA is the single most significant explanatory variable in explaining the variation in the Market Value Added and it finds a better reflection in the market value of the share as compared to the traditional measures of financial performance. The above hypothesis is tested on the time series data of BSE-100 companies. The period of the study is 5 years i.e. from 1998-99 to 2002-03. Cross sectional analysis of the sample firms has been done for the period of study using Regression Analysis. The results show EVA (%) as the most significant determinant of MVA followed by ROTA. Hence, it concludes that relative measures of financial performance find a better reflection in the market value of shares.

**Singh and Garg (2004)** empirically examined the appearance of EVA as a concept, among the Indian corporate (Inc.) both industry wise and sector wise. For this purpose, a sample of 50 companies was chosen on the basis of their market capitalization, regular attendance in BSE Dollex and on the basis of multi-stage random sampling with industry wise stratification. It covered a period of 5 years ranging from 1998 to 2002. The study explored that one-third of the sample companies generated negative EVA throughout the period and another one-third generated positive EVA but it had been less than Rs. 50 crores. About 20% of the companies added value between 50 crores to 500 crores. Further, EVA based ranking of different industries put personal care, refineries, fertilizer industry at top 5. Sector wise EVA based rankings depicted that public sector had reported negative aggregate EVA in four out of five years. Moreover, different statistics had also been computed for understanding the central tendency and dispersion of EVA, NOPAT and WACC of sample companies. The study concluded that, the companies who are performing well would be benefited a lot by winning the market sentiments and others would learn to value the stakeholders by making some addition in their financial
interest in the corporate world. Finally, the study suggested that as in India, only a few companies are using EVA internally as a performance gauge, the competent authorities should issue wide ranging guiding principles for EVA computations and its practices in financial reporting. It would certainly make the Indian companies internationally competitive.

Anderson et al. (2005) observed that the significance of the difference between EVA® and residual income (RI) is dependent upon the impact of the accounting adjustments. If the accounting adjustments are not significant, EVA® converges to residual income and the argument that EVA® is a superior metric to explain corporate wealth creation relative to residual income or net income does not hold and EVA® may not be a meaningful basis for compensation. This study aimed to determine: (1) whether the suggested adjustments, given the approximately steady state nature of many firms, are even significant, (2) which accounting adjustments are most critical, and (3) what is the impact of accounting adjustments on the residual income or simply after-tax operating income less a charge for the capital employed in the operations.

Analyzing a sample of 317 companies from PC-Compustat and the Stern-Stewart 1000 listing for the period of 1988-1997, the study found that the two accounting adjustments (with the largest impact) i.e. R&D and LIFO, accounted for 92 percent of the total change in EVA® due to the five accounting adjustments. Moreover, the study also found instability of EVA adjustments over time, and the lack of statistical significance between adjusted and unadjusted EVAs. Therefore, it provided little justification for corporations to move from GAPP based accounting metrics to a non-GAPP based metric. Further, given the high degree of variability from year to year (i.e. different adjustments are required each year), the use of EVA® as a basis for compensation or as a measure of corporate wealth creation was also found to be limited. Thus, the study concluded with the statement that “Accounting adjustments for EVA are much to do about nothing.”

Ferguson et al. (2005) used event study methodology to investigate whether firms adopted Stern Stewart’s EVA system due to poor stock performance (i.e., poor profitability) and whether adopting EVA lead to better stock performance (i.e., greater profitability). For this purpose, the study examined 65 firms (that became Stern Stewart’s clients between 1983 and 1998) for a period of 121 months i.e. 60 months before
adopting EVA and 60 months after adopting EVA \((t = -60, \ldots, 0, \ldots, 60)\). The study found no sufficient evidence to conclude that poor stock performance lead firms to adopt EVA or that adopting EVA improved stock performance. Firms that adopted EVA appeared to have above average profitability relative to their peers both before and after the adoption of EVA. Further, there was some evidence that EVA adopters experienced increased profitability relative to their peers who have not adopted it yet.

Kukreja and Giridhar (2005) evaluated the financial performance of 23 selected companies from Indian Pharmaceuticals industry by using various new breed value based performance measures. It found that the companies that perform well on appropriate value based performance metrics are amply awarded by capital markets. Using 115 firm year observations, a correlation study was undertaken to see which metric (out of nine i.e RONW, ROCE, EPS, EVA, Current Operational Value, Future Growth Value, CFROI (%), Free Cash Flow and Residual Cash Flow) was more correlated with Market Value Added. The metrics that were significantly correlated to MVA were Future Growth Value, Current Operational Value, Free Cash Flow and EVA. Here, Future Growth Value which accounted for 71% variation in MVA.

Medeiros (2005) reported empirical evidence on the relationship between Economic Value Added and stock returns in Brazilian firms. The sample comprised of 6 Brazilian companies, which had disclosed their EVA for at least a four-year period (1996-1999). The hypothesis that EVA affected stock returns was tested through linear regression, using alternative models. Stock returns was taken as the dependent variable and one-year lagged change in EVA to be the independent variable. The study found that stock returns were influenced by the past behavior of EVA.

Verma (2005) presented Indian banks’ profile to demonstrate a direct correlation between the investment in stakeholder relationships and corporate performance. Many Indian banks seemed to have destroyed shareholder’s wealth over a period of time and only a few had positively contributed to their wealth. With the help of EVA (Economic Value Added) and MVA (Market Value Added) which tell what the institution is doing with investor’s hard earned money, the study examined an appropriate way of evaluating banks’ performance and also found that which Indian banks had been able to create (or destroy) shareholders’ wealth since 1996-1997 to 2000-2001. Further, the increase in
correlation between EVA and EV/IC (Enterprise value / Invested Capital) from 0.18 in 1996-97 to 0.56 in 1999-2000 clearly depicted that market has increasingly focused on value creation and rewarded the banks which increased shareholder value.

Zaima et al. (2005) argued that studies which examined the relationship of economic value added (EVA) to market value had not isolated the EVA effect in conjunction with controlling for the economic effect of the market. Since the EVA metric has been viewed as value-added apart from the market, operational managers will benefit from a procedure that separates the market driven versus firm driven (EVA) effects. The study examined the effects of the economy and EVA on Market Value Added by using the Stern Stewart & Co. data for a period of ten years i.e. from 1988 to 1997. The results of Regression Analysis indicated that EVA and Gross Domestic Product (GDP) significantly affect MVA implying that managerial decisions affect MVA after controlling for the systematic economic effect. Furthermore, the MVA-EVA relationship showed a systematic bias between the largest MVA firms and the smallest MVA firms. Finally, the results also provided corporate executives with a method to utilize the MVA-EVA-GDP relationship to determine a reward payout ratio where part of the manager’s bonus is paid out and the rest is “banked forward and held at risk”.

Fiordelisi et al. (2006) analyzed the information content of traditional (Net Income, ROE, ROA, Interest and intermediation margins) and innovative performance indicators (namely, Residual Income and EVA) in the light of creating shareholder value within the banking industry. The study examined both relative and incremental information content focusing on quoted European banks between 1996 and 2002. The results of Ordinary-Least Square (OLS) regression model suggested that the Economic Value Added (EVA) measure that accounts for the specifics of banking outperform all other performance measures. In contrast, the standard EVA did not seem to better explain the shareholder value creation than a wide range of simple accounting and other performance measures. These results showed that it is necessary to accurately consider the peculiar nature of capital as well as other accounting adjustments if accurate measures of bank performance are to be used.

Ghambari and Sarlak (2006) explained Economic Value Added (EVA) as an appropriate performance measure which evaluates the manner in which managerial
actions affect shareholders’ value. As maximizing shareholders’ value is fast becoming the new corporate standard in India, this study attempts to compute and review the trend of EVA in India’s 17 automobile companies. The results of Generalized Estimating Equations (GEE) population-averaged model (Panel data analysis) indicates that there is a significant increasing trend in EVA during the period of study and the firms in the automobile industry are moving towards the improvement of their firms’ value.

Maditinos et al. (2006) explained the concept of Economic Value Added (EVA) in the Greek context and provided an explanation on the utilization of both earnings and EVA in the companies listed with ASE (Athens Stock Exchange). The study interpreted results obtained from an analysis carried out on the basis of secondary financial data relating to the period 1995-2001. Since its inception, proponents of EVA provided evidence to establish this method as a superior performance measurement and incentive compensation system and claimed that it is really better to use EVA than traditional accounting performance measures such as earnings, EPS, ROI or ROE. However, studies focused on whether EVA is more highly related with stock returns than other performance measures provided mixed and controversial results. This study employed pooled time-series, cross sectional data of 163 companies listed in the ASE over the period 1995-2001 to examine whether EVA in comparison to earnings per share (EPS) is more strongly associated with stock returns. Both relative and incremental content approaches were tested. The relative information content approach was used to explore whether EVA outperformed EPS, while the incremental information content approach was employed to answer whether EVA added explanatory power to EPS. Relative information content tests revealed that stock returns are more closely associated with EPS than EVA. On the other hand, incremental information content tests provided evidence that EVA adds significant explanatory power to EPS in explaining stock returns.

Kumar and Pal (2008) described that measurement of shareholders’ value in an enterprise forms the core of corporate performance. Companies adopt different methods for measuring the wealth they create for their shareholders. However, the subject matter of the best method still attracts a great deal of discussion among academicians and corporate managers. This paper examined whether the concept of Economic Value Added (EVA) is well understood by corporate managers and compared it with the other
traditional financial performance indicators. For the purpose of analysis, this study relied on the information gathered through a primary survey in 18 out of 30 companies included in the BSE Sensex. According to this study, EVA has been ranked as the best indicator of performance, followed by Return on Capital Employed (ROCE), Rate of Return, Profit Margin, and Residual Income. It was also found that while some companies had already adopted the EVA technique to measure the shareholder value, a majority of the companies were aware of it, but yet to adopt this model.

Kaur and Narang (2009) attempted to investigate the wealth creating capabilities of India’s most valuable companies on the basis of two value based metrics of financial performance i.e. Economic Value Added (EVA) and Market Value Added (MVA). By computing these two measures for a sample of 104 companies, exactly as per the methodology developed by Stern Stewart & Company, the study identified that more than 50% of the sampled companies representing India’s wealth club undoubtedly destroyed the wealth of its shareholder. It also found that out of 12 years of study period i.e. from 1996-2007, the sample registered negative EVA for eight years consecutively (1996-2003). Thus, the study provided a fact base for the strategic investors, academic researchers, portfolio managers and corporate decision makers to dig below the surface numbers and interpret the economic realities of these big business houses. The study also ranked the sampled companies on the basis of shareholder value generated (or destroyed) by them and explained the possible circumstances when MVA of a company does not follow its EVA. Further, by applying the statistical technique of Regression Analysis, the study examined the relationship between EVA and MVA of the sampled companies and provided sufficient evidence to support Stern and Stewart’s claim that EVA generated by a company is an important determinant influencing the market value of its shares.

Shil (2009) made an earnest effort to explain theoretical foundation of EVA with its origination, definition, ways to make it tailored, adjustments required, scope and some other related issues. The methodology used was a type of theoretical mining of logics resulting in a step-by-step process required for EVA implementation. Highlighting the significance of the paper, the author explained that as a corporate house plans to move from traditional to value based performance measures, EVA would yield good result and the paper may become helpful to them to comprehend the methodology. The study
concluded that using just EVA in no case is a good decision. Rather, it should be used with other measures to take decisions more effectively. Companies may go for simulations over past several years’ performance to find out the areas where EVA as a managerial tool is stronger over others and where other tools show important correlations. Then, a set of tools can be used simultaneously in line with the philosophy of management.

After initial strong support for EVA metric, EVA’s criticisms have also been highlighted. Claims of EVA proponents regarding EVA’s superiority over traditional performance measures in terms of its association with firm value and stock returns have been challenged by a number of prominent researchers and academicians world over. These researchers have disapproved the claims of EVA supporters by providing empirical findings in support of long established traditional performance indicators. The studies coming under this category have been explained below:

### 2.1.2 Research Disapproving EVA’s Superiority over Traditional Performance Measures

**Biddle et al. (1997)** studied the value relevance of reported earnings, cash flow from operations, residual income and EVA for 773 firms included in the “1996 Stern Stewart Performance 1000 list” during the period ranging from 1983 to 1994. The primary objective of the study was to test assertions that Economic Value Added (EVA) is more highly associated with stock returns and firm values than accrual earnings. The second objective was to evaluate which components of EVA, if any, contribute to these associations. Relative information content test revealed that earnings ($R^2=12.8\%$) were significantly more highly associated with market-adjusted annual returns than residual income ($R^2=7.3\%$) or EVA ($R^2=6.5\%$) and that all three of these measures dominated cash flow from operations ($R^2=2.8\%$). Further, incremental test found that the EVA components estimated by Stern Stewart add only marginally to the information contained in cash flows and accruals, and that their contributions are likely to be economically insignificant. Considered together, these results do not support claims that EVA dominates earnings in relative information content, and suggest that earnings generally outperform EVA.
Kramer and Pushner (1997) attempted to test the relationship between EVA and MVA. The sample of the study was Stern Stewart 1000 database. Using the ‘Univariate Regression Model’ the study compared EVA with other measures in explaining MVA for the study period of 10 years ranging from 1982 to 1992. The study found no clear evidence to support the contention that EVA is the best internal measure of corporate success in adding value to the shareholders’ investments. Rather the market seemed to be more focused on the “profit” than EVA. While EVA may not be the key to short run MVA, it may still provide a good measure of value added. The study also tested the capacity of the independent financial predictors (EVA and NOPAT) in predicting MVA. On the basis of the empirical results, the study concluded that neither measure was well correlated in Present Value terms with MVA, although EVA had an advantage. Finally, in order to remove the influence of size of the sample companies on the results of the study each firm’s MVAs, EVAs and NOPATs were standardized. This analysis of Standardized predictors of MVA revealed that Standardised NOPAT explained more of total variation in MVA than in Standardised EVA.

Chen and Dodd (1998) presented findings on the value relevance of Operating Profit (OP), Residual Income (RI) and EVA based on the Easton and Harris (1991) Model. Each variable was standardized by the beginning share price and the study was based on 6683 firm-year observations, for the period 1983 to 1992. Regarding EVA’s incremental information content, the authors stated that the inclusion of EVA in the regression model that contains RI and OP increases the explanatory power of stock returns, despite the fact that the increase in $R^2$ is not statistically significant. There is stronger evidence for the incremental information content of RI beyond the information content of these metrics. The author presented findings that OP has higher information content ($R^2=6.2\%$) than RI ($R^2=5\%$) or EVA ($R^2=2.3\%$) in explaining stock returns. It has been concluded that companies are probably better off making no adjustments at all, relying instead on unadjusted RI.

Biddle et al. (1999) summarized independent evidence regarding EVA’s alleged advantages. The study, at first, reviewed the theory that linked the underlying concept of residual income to shareholder value. Second, it discussed how Stern Stewart has modified residual income to produce its proprietary EVA metric and showed how median
EVA could be compared with residual income, net income and operating cash flows over the period 1988-97. Third, it examined the claim that EVA is more closely associated with stock returns and firm value than is net income. The evidence indicated that EVA does not dominate net income in associations with stock returns and firm values. Fourth, the study examined a second claim that compensation plans based on residual income motivate managers to take actions consistent with increasing shareholder value. Here, the independent evidence suggested that managers do respond to residual income-based incentives. Finally, the study discussed that how a metric such as EVA can be useful for internal incentive purposes even if it conveys little news to market participants regarding the firm’s valuation.

*Fernandez (2001)* in his study analyzed 582 companies out of 1000 American companies for which Stern Stewart provided data. The period of study was 1987-1999. The analysis was done using EVA, MVA, NOPAT and Weighted Average Cost of Capital (WACC). Correlations between the increase in MVA every year and each year’s EVA, NOPAT and WACC were computed for the period of 10 years which were found to be 16%, 21% and –21.4% respectively. The study asserts that it is impossible for accounting based measures, such as EVA, Economic Profit or Cash Value Added to measure value creation as these measures are based on accounting information, which is historic in nature. NOPAT has been found to have the most significant relationship with the MVA. The study also concludes that the firm’s EVA, EP or CVA increase does not mean that the firm is making value, as the shareholders value creation has very little to do with EVA. The study proposes the under mentioned alternative model of value creation:

$$\text{CSV} = \text{E} \times (\text{R} - \text{Ke})$$

Where, CSV = Created Shareholder Value

- E = Equity Market Value
- R = Shareholders’ Return (Shareholders’ Value Added / E)
- Ke = Cost of Equity.

*Kramer and Peters (2001)* tried to identify whether the level of capital intensity affects EVA’s ability to serve as an effective proxy of market value added? The study discussed that companies worldwide use Economic Value Added (EVA) as the financial metric to help them assess their financial performance. However, researchers speculate that EVA is
better suited to traditional manufacturing businesses than to knowledge-based businesses. Based upon Stern Stewart 1000 firms (SS-1000) database from 1978-1996, the study empirically tested the relation between capital intensity and EVA’s ability to serve as an effective proxy of market value added. The study found that EVA is no less “at home” in the information economy than it is in traditional manufacturing businesses. However, although EVA does not suffer from any industry-specific bias as a proxy for Market Value Added (MVA), it is consistently outperformed by Net Operating Profit after Tax (NOPAT), a readily available measure of financial performance. Moreover, the results also indicated that in most of the industries studied, the marginal costs of using EVA as a proxy for market value added are not justified by any marginal benefits.

As far as the suitability of EVA for new economy companies is concerned, Fixed Assets Turnover (FAT) measure was used as a determinant of the kind of company involved. The study evidenced that there was no support for the contention that EVA is less likely to capture the performance of knowledge based organizations.

Fernández and Reinoso (2002) quantified shareholder value creation for 276 American companies and provided the created shareholder value for each and every company for years 1998, 1999, 2000 and 2001. The market value of the 276 companies was 8,716 billion dollars in 2001 and 9,729 billion dollars in 2000. Further, after defining the created shareholder value, the study provided the ranking of created shareholder value for the 276 companies. It was found that in the year 2001, Microsoft was the leading shareholder value creator while Cisco was the top shareholder value destroyer.

The study also calculated the cumulative created shareholder value of selected American companies during the four-year period 1998-2001 in which Wal-mart Stores was at the top in creating shareholder value companies during the four-year period i.e. 1998-2001. In addition to the computations, the study also evidenced that EVA does not properly measure Wealth Creation. It compared EVA calculated by Stern Stewart and Company with created shareholder value of 269 companies. The correlation of EVA with created shareholder value was only 17.66%. Sixty companies had negative EVA and positive created shareholder value whereas 64 companies had positive EVA and negative created shareholder value. On an average, the difference of shareholder value creation minus EVA was –434% of EVA. The absolute value of the difference of shareholder value
creation minus EVA was 8972% of EVA. With this evidence, the study concluded that EVA does not properly measure Wealth Creation.

**Peixoto (2002)** emphasized that Economic Value Added is a value-based performance measure developed by Stern Stewart & Co. that offers a means of measuring and communicating performance and that may be used in setting performance targets, paying bonus, and valuing capital projects or companies. Based on a survey of Portuguese public companies listed on the Lisbon Stock Exchange, research was carried out on the awareness and the utilization of various performance measures. The results indicated that managers used to elect performance measures based on net income. Yet more sophisticated measures such as EVA or CFROI were being increasingly adopted. The major contribution of this study is the analysis of the information content regarding Operating Income, Net Income and EVA, based on a sample of 39 Portuguese public companies during the period from 1995 to 1998. The results suggested that EVA did not have more information content than traditional performance measures in explaining Equity Market Value. The relationship between EVA and Market Value Added (MVA), however, was found to be statistically significant.

**Ramezani et al. (2002)** used the data of 2156 US firms over a period of 11 years (1990-2000) to identify whether growth is synonymous with shareholder value creation. The study shed light on the relationship between growth and performance by addressing two broad questions. First, what is the relationship between corporate profitability metrics, such as EVA, MVA, ROE, or ROI, and the firm’s earnings (sales) growth rate? Second, does maximizing corporate profitability necessarily enhance shareholder value (as measured by Jensen’s alpha)? Using multivariate analysis, the study showed that while these measures generally rise with earnings and sales growth, there exists an optimal point beyond which further growth destroys shareholder value and hence, adversely impacts profitability. The analysis also showed that firms with moderate growth in earnings (sales) show the highest rates of return and value creation for their owners, supporting Fuller and Jensen (2002) warnings about the “dangers of conforming to market pressures for growth.” Thus, the empirical findings of the study emphasized that managers need to make a fundamental shift in their strategic orientation from “growth now, profitability later” to “profitable growth now”.

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Sparling and Turvey (2003) analyzed the strength of the relationship between EVA and shareholder value and examined the issues surrounding the use of EVA as a tool for valuing investments. Using the Stern Stewart Fortune 1000 data, the study examined two potential relationships for 33 food companies listed in the database. The first was between the absolute level of EVA in 2000 and 3-, 5-, and 10-year shareholder returns. The correlation in this case was found to be extremely weak. The second was between 3-, 5-, and 10-year mean percentage changes in EVA and 3-, 5-, and 10-year shareholder returns. The study found no significant relationship between changes in EVA and shareholder return over any horizon, with weak negative correlation for the three year horizon and weak positive correlation for the longer terms. Further the study also highlighted the factors that might explain why the relationship between EVA and shareholders’ return was not found to be as strong as between earnings and shareholders’ return.

Griffith (2004) highlighted that Stern Stewart & Company (SSC) developed the measure Economic Value Added (EVA), to reward employees for maximizing shareholder wealth. Financial analysts also used EVA to measure firm performance. This study used two samples from SSC publicly traded clients and assessed the performance of companies that had implemented the EVA-based compensation system. It questioned whether analysts should use EVA performance to forecast stock performance. The study revealed that before adopting EVA as a measure of performance, the firms underperformed both their peers and the market. Even after implementation of the EVA compensation system, the companies continued to underperform significantly. Moreover, neither EVA nor MVA was found to be a good indicator of firm’s performance and there was no correlation between firms adopting EVA and subsequent shareholder returns.

Ramana (2004) highlighted that the development in the Indian capital market has increased the pressure on the companies to consistently perform better. One of the indicators of such performance was found to be the market value added. This study empirically examined the relationship between MVA and EVA of Indian companies. It also tried to explain the relationship between MVA and other common accounting numbers. The study was based on the data of 243 companies for a period of four years ranging from 1998-99 to 2001-02. By using the technique of correlation and coefficient
of determination, the study did not find any strong evidence to support Stern Stewart’s claim that EVA is superior to the traditional performance measures in its association with MVA. The study clearly demonstrated that market responds to the accounting numbers (like PBIT & PAT) more than the numbers which are generated using some adjustments (NOPAT and EVA). So, companies should be careful in overusing the EVA as a proxy for MVA.

Warr (2004) argued that inflation has significant distorting effects on EVA as traditionally computed. The study provided evidence against the argument of EVA proponents who claimed that changes in the EVA metric accurately measure changes in the performance of a firm or business unit through time and therefore can represent a reliable measure of managerial effectiveness. The study, thus, identified that inflation distorts EVA through the operating profit, the cost of capital, and the capital base and these distortions have the potential to result in inefficient investment and compensation outcomes. Using an inflation-corrected EVA metric, the study measured the sensitivity of EVA to the level of, and changes in inflation for a large sample of US stocks (all US publicly traded stocks from 1974 to 2002) and found evidence of significant inflation induced distortions. Thus, it proposed the use of an alternative EVA metric “real EVA” which explicitly adjusts for the inflation induced distortions.

West and Worthington (2004) assessed pooled time-series, cross-sectional data on 110 Australian companies over the period 1992–1998 to examine whether the trademarked variant of residual income known as economic value added (EVA) was more highly associated with stock returns than other commonly-used accounting-based measures. These other measures of internal and external performance included earnings, net cash flow and residual income. Relative information content tests revealed returns to be more closely associated with earnings than net cash flow, residual income and EVA® respectively. However, consistent with the construction of EVA®, incremental information content tests suggest that EVA® adds more explanatory power to earnings than either net cash flow or residual income. An analysis of the components of EVA® confirms that the capital charges and GAAP-related adjustments most closely associated with EVA® are significant at the margin in explaining market returns.
Wet JHvH de (2005) endeavoured to analyze the performance of companies listed on the JSE Securities Exchange of South Africa for the period from 1994 to 2004, by using market value added (MVA) as a proxy for shareholder value. The findings did not support the purported superiority of EVA and revealed that on a year-on-year basis, EVA did not show the strongest correlation with MVA. However, among other performance indicators chosen for the study, the changes in the standardised cash flow from operations (CFL/Beginning Invested Capital) explained the biggest percentage of changes in standardised MVA (38%). ROA came second best (15%) and standardised EVA (8%) third. Thus, the results suggested stronger relationships between MVA and cash flow from operations.

Another interesting finding of the South African study was the insignificant correlation between MVA and EPS, or between MVA and DPS (Dividend per share) concluding that the credibility of share valuations based on earnings or dividends must be questioned.

Kim (2006) tested the hypothesis that Economic Value Added (EVA) is more highly associated with firm values than with traditional performance measures. The objective was to provide empirical evidence on the relative and incremental information content of EVA and traditional performance measures like earnings and cash flow. For this purpose, a sample consisted of 89 publicly traded hospitality firms was studied over a period of 1995-2001. To test the information content of EVA, Regression analysis was used which indicated that earnings are more useful than cash flow in explaining the market value of hospitality firms. EVA itself was found to have a very little explanatory power. Incremental information content tests showed that EVA makes only a marginal contribution to information content beyond earnings and cash flow. Overall, the results did not support the hypothesis that EVA is superior to traditional accounting measures in association with equity market value.

Anastassis and Kyriazis (2007) investigated the relative explanatory power of the Economic Value Added (EVA) model with respect to stock returns and firms’ market value, compared to established accounting variables (e.g. net income, operating income), in the context of a small European developing market, namely the Athens Stock Exchange. The study examined 121 non-financial publicly traded Greek firms covering a period of eight years, from 1996 to 2003. Relative information content tests revealed that
net and operating income appear to be more value relevant than EVA. Additionally, incremental information tests suggested that EVA unique components add marginally to the information content of accounting profit. Moreover, EVA did not appear to have a stronger correlation with firms’ Market Value Added than the other variables, suggesting that - for Greek dataset - EVA, need not necessarily be more correlated with shareholder’s value than established accounting variables.

Cheremushkin (2008) revealed some substantial defects in the conventional method of calculating EVA’s essential component – Capital Charge. The study explained that presently the Capital Charge is derived as combination of market capital structure based WACC and accounting based Invested Capital, which is likewise joining apples with oranges. This cross-breeding deflects EVA from the Residual Income and the concept of Economic Profit, formulated by Alfred Marshall. The paper proved that the correct way to calculate Capital Charge is to use accounting WACC embracing relevant adjustments made to the Invested Capital. Properly calculated EVA reflects firm’s performance adequately compared with initial opportunity costs existed when the capital was contributed. However shareholders’ dollar amount opportunity costs at the moment of performance evaluation depend on the market value of capital and market WACC. The study also established the Residual Market Profit that is based on Market Profit and Market Capital Charge defined as Market WACC multiplied with market value of the firm. The Residual Market Profit effectively accounts for time value effects and evidence either the firm justifies market expectations about its performance or fails to satisfy them.

Holler (2008) revisited the value-relevance of EVA, Residual Income (RI), Earnings and Operating Cash Flows. After reducing survivorship bias and estimating independent firm-specific EVA data, a total of 2,147 annual observations from U.S. firms over the period 1995-2006 served to assess the capability of competing performance measures to explain the firm’s market value and stock returns. Reconfirming the stability of prior evidence (for instance, Biddle et al., 1997; Chen & Dodd, 2001), this study evidenced that earnings and its closest value-based measure RI continued to outperform EVA. Relative tests showed earnings’ and RI’s dominance over EVA; further, incremental tests found that solely earnings’ accruals provide considerable and significant additional information, while EVA’s accounting adjustments imply just marginal incremental
information. To conclude, findings did not support suppositions on today’s superiority of EVA but proved earnings’ enduring predominance over the last decade. Nevertheless, results advocated adoption of RI for management compensation, external communication and security analysis and disclosure of EVA and RI in financial reporting, to align management objectives with shareholders’ interests and facilitate value-based performance monitoring.

**A Synoptical View of Empirical Evidence**

On the basis of the abovementioned studies, a number of salient points emerge:

- Despite the relatively recent adoption of EVA as an internal and external financial performance measure, its conceptual underpinnings derive from a well-established microeconomic literature regarding the link between firm earnings and wealth creation and apart from the GAAP-related adjustments incorporated in EVA-type calculations, the measure itself is almost identical to the non-proprietary measure of residual income (Worthington and West, 2001).

- Almost all the studies found that EVA’s accounting adjustments add only marginally to the information content of accounting profit (Biddle et al., 1997; Chen and Dodd, 1998; Peixoto, 2002; Kim, 2006; Anastassis and Kyriazis, 2007; Holler, 2008). The logic is explained by Worthington and West (2001) as the GAAP-related adjustments themselves accordingly comprise the most unique and controversial aspect of EVA. These adjustments are argued to produce earning figures that are closer to cash flows and correct. Thus, amongst other things, for purported ‘biases’ in the treatment of intangible assets and depreciation, they are often criticized for having little importance, being difficult to understand, and costly. Paradoxically, the removal of some accruals through these adjustments is argued to reduce, rather than increase, the information content of EVA.

- When examining existing theoretical and empirical research in this area, it is also apparent that the evidence surrounding the usefulness of EVA metric is somewhat mixed. It appears that there are two groups of studies: those carried out by practitioners (sometimes EVA promoters) and the remainder undertaken by academics. According to practitioners, EVA dominates traditional measures in explaining stock return and firm value; but academicians found traditional
measures too equally important in explaining market value of shares (Pal, 2007). Regarding the academic literature, the superiority of EVA is usually not verified: most of the studies (given in section 2.1.2) generally found that traditional measures are not empirically less related to stock returns than EVA and other value added measures.

- The econometric techniques adopted are common to most studies. An Ordinary Least Square (OLS) regression model is usually employed to the test the relationship between various performance indicators (i.e. predictor variables) and a measure expressing the shareholder value (added) created (Fiordelisi et al., 2006). While using regression model, most of the studies have applied Multiple Regression Analysis (Stewart, 1991; Biddle et al., 1997; Chen and Dodd, 1997; Hall and Brummer, 1999; Feltham et al., 2004; Ramana, 2007 etc.) except a few studies that have used Univariate Analysis (Kramer and Pushner, 1997; Misra and Kanwal, 2004). Moreover, a few studies have also used Panel Data Techniques like Fixed Effects Regression (Peixoto, 2002; Worthington and West, 2004 etc.) and Generalised Methods of Moments (GMM estimator) by Pandey (2005). In addition, Biddle et al. (1997) applied Sensitivity Analysis in his research on the same issue whereas Firer (2004) used Simultaneous Model. Thus, from the review of these empirical studies it is quite clear that except a very few studies, most of the research in value-relevance literature has applied OLS Regression to obtain the comprehensive findings.

- Fiordelisi et al. (2006) stated that although the studies have adopted quite similar statistical techniques, the variables adopted (as predictors, but especially as response variables) are heterogeneous. Some studies (such as O’Byrne and Stephen, 1996; Chen and Dodd, 1997; Biddle et al., 1997 and 1999) attempted to evaluate different performance measures, including accounting earnings and residual income measures such as EVA and Residual Income, by examining their degree of correlation with market raw returns or market adjusted returns on the grounds that the best measure is the most highly correlated with stock returns. Some other studies (Stewart, 1991; Uyemura et al, 1996; Moore, 1999; Bhatnagar et al., 2004; Ramana, 2004; Singh and Garg, 2004) compare financial measures
looking at the degree of correlation with MVA, considered by EVA practitioners the “ultimate measure of shareholder wealth creation”.

- As far as the selection of the dependent variable is concerned, the studies have used MVA, Market to Book Ratio, Annual Stock Returns, and EVA to capture the shareholder value (added) created over a given time period.

- Moreover, it has been observed that the bulk of the empirical evidence on this issue has not established the supremacy of EVA vis-à-vis Earnings (and other traditional measures of performance). In contrast, majority of the studies have been conducted in context to Indian corporate sector (except Ramana, 2004; Ramana, 2007 and Kaur and Narang, 2009) have supported proponents’ claims’ that EVA beats Earnings in its association with Market Value Added. The review of literature related to those studies evidences certain crucial mistakes that have not been given due-attention while making EVA calculations. For instance, the major mistake that researchers have made is in the calculation of equity shareholders’ funds. As per formula, equity shareholders’ funds represent equity plus reserves and surplus less losses. But many studies have used just paid up equity capital in that formula ignoring the requirement to include reserves & surplus available. Thus, with understatement of equity capital, cost of equity is understated resulting in the reduction in overall cost of capital and overstatement in EVA numbers. Secondly, there are hardly a few studies that have made the adjustments for equity equivalents, thus whatever those studies have calculated in their studies is rather Residual Income and not EVA.

- Moreover, a number of studies in India have used flat beta values over a longer span of time. By using a flat rate, variation in risk profiles of firms have been ignored.

Thus, the review of literature evidences both the popularity of EVA in India and difficulties in measuring the same that result in the irregularities and inconsistencies in EVA measurement.

2.2 Studies Examining Determinants of Shareholder Value

The studies which tried to identify the value drivers have emphasized to associate shareholder value with specific financial or strategic attributes only. The studies
examining the determinants of shareholder value have been discussed in the following paragraphs:

Naccour and Goaied (1999) investigated the value creation process in the Tunisia stock exchange using the data of a sample of 28 companies (including more than 90% of the listed companies) for the period covering 1990 to 1996. In order to find out the determinants of the value creation of selected companies, the study used the random probit model estimation procedure with unbalanced panel data. The future value creation in the Tunisian stock exchange was regressed on factors accounting for dividend policy (Pay-out), financial policy (Debt), and profitability (ROA) of the listed companies. The results indicated that the probability of creating future values is positively and significantly correlated with dividend policy and profitability factor. The results also suggested that the value creation is neither affected by industry patterns, nor by size. Finally, empirical results signaled non observed heterogeneity between firms (such as quality of management) that seemed to be significant in the analysis of the value creation of companies in the Tunisia Stock exchange.

Kakani (2001) studied the relationship between ownership distribution and shareholder value creation among 600 listed Indian firms for a period of 3 years i.e. from 1997 to 2000 and found a strong negative relation between a firm’s shareholder value (as measured by tobin’s q ratio) with both Domestic Institutional Investors and Retail Investors. The results indicated that one should prefer those stocks in which owners and managers have good management record and have invested more of their time and money and also hold a larger stake in the firm. Thus, investors should avoid investing in stocks wherein dispersed retail investors and/or domestic financial institutions hold a large amount of stock, since, good monitoring by these stakeholders was not visible in the study.

Kakani et al. (2001) attempted to study the determinants of Indian firms’ financial performance across various dimensions like shareholder value, accounting profitability and its components, growth and risk of sample firms. The study used financial statements and capital market data of 566 large Indian firms over a time frame of eight years divided into two sub-periods (viz., 1992-96, and 1996-2000). It revealed that even on the same data, the determinants of market based performance measures and accounting-based
performance measures differ due to influence of Capital Market Conditions. It found that size, marketing expenditure, and international diversification had a positive relation with a firms’ market valuation. As far as the determinants of shareholder value in Indian firms were concerned, the study identified age, leverage, market expenditure and international diversification as significant determinants of firm value studied across shareholder value dimension.

Pavelkova and Knapkova (2001) found Economic Value Added (EVA) as an important success criterion of companies’ activities and an indicator of newly created value for the owners of the company. The study identified the main factors influencing the creation of EVA as the amount of operating profits, the amount and structure of the used assets and capital and the amount of costs of the used capital. The sources of the EVA creation were also identified on the basis of comparing companies operating in the plastic processing industry in different geographical regions namely USA, Scandinavia and the Czech Republic. The study found that there were differences between developing regions and regions with developed market economies. It evidenced that the main problem in companies that did not generate EVA was a small profit margin or possibly high costs of capital. At the same time, in the sample from the Czech Republic it was observed that companies with foreign investors had markedly better economic results. It discussed that the participation of foreign investors opens the possibility of a better utilization of markets, less expensive and more accessible capital and, what is even more important, the access to know-how and to modern management methods. Finally the study concluded that a higher managerial creativity, mainly increased ability to accept and apply advanced management method was the main factor for the creation of EVA.

Anand (2002) surveyed 81 CFOs (Chief Financial Officers) of Indian companies to find out their corporate finance practices vis-à-vis capital budgeting decisions, cost of capital, capital structure and dividend policy decisions. It examined the relationship of the executives’ response with characteristics like firm size (on the basis of sales, assets and market capitalization), profitability (on the basis of ROCE, EVA, and WACC), leverage, P/E ratio, CFO’s education and the sector (private and public). By testing whether responses differ across these characteristics, the study highlighted the implications of various finance theories concerning firm size, risk, and growth. The survey allowed for a
richer understanding of CFOs’ responses in the context of EVA and non-EVA firms. It observed that more than 75% of the respondents considered the objective to maximize the spread between return on assets (ROA) and WACC, i.e., EVA maximization as highly important. It found that large firms based on sales and assets had negative economic value added and large firms based on market capitalization had higher proportion of export sales to total sales and positive EVA. The growth firms had higher proportion of export sales in total sales. The highly profitable firms based on ROCE and EVA were found to have low ratio of long term debt to total funds.

**Hall (2002)** examined 147 companies listed on JSE Securities for a period of 10 years ranging from 1991 to 2000 to address the issue of shareholder value creation through EVA model. As a starting point, EVA was dissected into various building blocks or components (value drivers). Using multiple regression analysis the study found that initially profitability (income statement) ratios are the most important factor in the wealth creating process. However, as companies become established wealth creators and keep improving their performance, profitability ratios become less important. Efficient financing of the balance sheet, efficient fixed assets and working capital management become top priorities in creating shareholder value.

**Ramezani et al. (2002)** considered the influence of certain firm attributes on EVA of 2156 US Companies over a period of 11 years ranging from 1990 to 2000. The research indicated that volatility (the standard deviation) of growth is indicative of operational risk which contributes negatively to management’s ability to enhance EVA. Larger corporate cash holding also decreases EVA, as most firms realize a lower rate of return on their cash holdings than other internal and external investments opportunities. Firm size positively contributes to EVA. All else being equal, EVA increases with the market-to-book and the price-to-earning ratios, as well as the firm’s current cash flow and acquisition expenditures. R & D expenses to sales ratio, which is a measure of financial distress costs, negatively influences EVA. Higher values of operational flexibility ratio (Fixed Assets/ Net Assets) signify lower flexibility and lower EVA. The regression coefficients support the hypothesis, as firms that pay dividends or have high net profit margin have higher EVA. Access to credit markets lowers cost of debt leading to higher amount of long and short term debt which in turn negatively impacts EVA.
Spivey and McMillan (2003) examined the relationship of numerous non-market measures of value creation with the market based value creation measure (shareholder return) for a sample of 3279 small publicly-traded businesses. For this purpose, each company’s shareholder return was estimated using stock price and dividend information. The study used three different dimensions of non-market value creation measures like accounting profitability measures (EPS, ROE, ROIC, ROA, Asset Utilization, Net Profit Margin and EVA), cash flow performance measures (cash flow per share and cash flow return on sales) and growth measures (like growth rates for capital employed, EPS and sales). The study revealed that relationships between certain non-market measures of value creation and small entrepreneurial types of businesses do exist. Statistically significant positive correlations were found between shareholder return and the profitability measures of ROE, ROA and ROIC. However, these relationships were found to exist only for companies that reported positive earnings. Stronger relationships were found to exist between shareholder return and the cash flow performance measures of earnings growth and sales growth. Further, the sales growth measure was found to be correlated for companies that had positive earnings and companies that reported negative earnings.

Wet and Hall (2004) made an attempt to derive a formula (given certain assumptions) to predict what effect a particular change in volume (sales) would have on EVA and MVA. They also tried to evaluate the impact of different levels of operating and financial leverage on profits, EVA and MVA. For this purpose, a spreadsheet model was used to illustrate how financial managers can use the leverage effects of fixed costs and the (fixed) cost of capital to maximize profits and also to determine what impact changes in any variable like sales or costs will have on the wealth of shareholders. The results indicated that the size of the total level of leverage including EVA is determined by all three elements causing the leverage. However, there was no difference in the total leverage including EVA for scenarios where only the financial gearing differed. The analysis showed that the effect of high financial leverage is offset perfectly by the lower cost of own capital (EVA leverage). Stated differently, the total leverage including EVA is the same for all scenarios with the same fixed costs (only if WACC remains constant). Further the study also recommended that a further research could focus on the effect that
other factors, such as changes in the financial structure and costs, would have on EVA and MVA.

Venkateshwarlu (2004) attempted to analyze the relationship between non-market value performance indicators and market value, with a view to understand the value creation process in Indian enterprises. The companies selected for the study were firms either listed on Bombay Stock Exchange (BSE) or National Stock Exchange (NSE), and all these companies were widely-held, profit making, frequently traded and included in the sector-specific indices of these exchanges. The study found that there exist relationship between certain non-market value creation measures and market value. The study examined accounting profitability, cash flow and growth as the three non-market dimensions of shareholder performance and identified cash flow per share as an important determinant of market return of any firm. However, there were other parameters, which showed strong correlation with market return in particular sectors. In FMCG sector, EPS and return on sales had appreciable correlation whereas in case of IT sector, ROIC was more significant. Surprisingly, no significant relation was observed between market return and other non-market performance measures.

Pandey (2005) empirically explored the significance of profitability and growth as drivers of shareholder value, measured by market-to-book value (M/B ratio). The study used data of companies listed on the Kuala Lumpur Stock Exchange for the period from 1994 to 2002. Profitability was defined as economic profitability i.e. spread between return on equity and risk-adjusted cost of equity. Using panel data and employing GMM (Generalized Method of Moments) estimator, the findings showed a strong positive relationship between economic profitability and M/B ratio. Growth, on the other hand, was negatively related to M/B ratio. However, the economic profitability-growth interaction variable had a positive coefficient indicating that growth associated with economic profitability influenced shareholder value positively. This finding was further supported when the analysis was done separately for the positive spread firms and negative spread firms. Moreover, the results also indicated negative relationship between M/B ratio and firm size and positive relation with business risk, financial risk and capital intensity.
Boubaker et al. (2008) examined the impact of corporate diversification and firm size on the value creation over a period ranging from 1997 to 2005 for 25 non-banking firms listed on Tunis Stock Exchange. The results of generalized least squares (GLS) estimates confirmed previous studies on the ground that shares of diversified firms sell at a discount. It indicates that increase in shareholders’ equity following corporate diversification is not primarily a source of value creation. The study also identified that the corporate diversification decreases the value regardless of the firm’s size. As far as size factor is concerned, it documented that value creation increases with firm size, either on full sample or sub-samples. Thus, value creation was found to be positively associated with larger firms.

Ghosh (2008) examined the effect of past dividend policy, leverage and profitability on the probability of increase in future value of the firm (in terms of market to book value ratio (MBVR) for an emerging economy, India. It aimed to identify the answers of two questions i.e. (1) How the probability of future value creation is affected by firm’s profitability, financing pattern and the dividend pay-out policy? (2) Whether the firms belonging to business groups have different effect on probability of value creation? For this purpose, the study used fixed effect logit model to predict the probability of increase in future value of the S&PCNX500 firms, from 1989-90 to 2001-02. It found that there is a non-linear relation between leverage, profitability and probability of increase in future value of the firm. Probability of increase in future value of firm reduces exponentially with the increase in leverage, whereas, it increases with the raise in dividend payout and profitability of the firm. Among the companies from different ownership groups, foreign standalone firms have larger probability to create better future value than group-affiliated firms.

Issham et al. (2008) discussed EVA as a useful tool for assessing company’s performance and combined factors such as economy, accounting and market information in its assessment. This study employed EVA in an attempt to compare the performances of GLCs (Government-Linked Companies) and non-GLCs. Based on a 4-year pooled panel data of 37 GLCs and 208 non-GLCs, the results showed that companies with government as their stakeholders exhibited lower EVA scores than the companies without government stakeholders in Malaysia. These results contradicted the view that
companies with government holding exercise better corporate governance and are better monitored. Larger size companies were found to have lower EVA values. Companies which had both the characteristics i.e. larger in size and owned by government, were found to get most adversely affected. The study found that any increment in the size of company for GLCs would decrease or destroy the value of the company, and to a greater degree, than companies without government holding.

Clearly, the available literature on the subject reveals the need for a comprehensive study to explore the relationship between firm-specific attributes and their contribution to shareholder value which is covered in the third main objective of the dissertation.

2.3 Studies Concerning EVA Disclosure Practices and EVA-Adoption

Most of the studies dealing with EVA literature have focused on the comparison of traditional measures of financial performance with that of the value based measures (Biddle et.al. 1997; Kramer and Pushner, 1997; Misra and Kanwal, 2004 and Ramana, 2007). Besides this, studies have also been conducted to examine the relationship between EVA and stock prices/returns (O’ Byrne and Stephen, 1996 and Lehn and Makhija, 1996). Research has also favored the use of EVA in corporate decision making, management’s performance evaluation and incentive payment (Ittner and Larcker 1998; Zimmerman 1997 and Wallace 1998). The review of the existing research identifies a research gap as far as studies relating to corporate EVA reporting practices are concerned. A few studies that have tried to explore this prominent recent issue are briefly discussed below:

A. Studies Conducted Abroad

Riahi-Balkaoui and Fekrat (1994) described that the American Accounting Association (AAA) Committee on Accounting and Auditing Measurement (1991) had recommended that value added be considered for mandatory disclosure in the US in addition to the income and cash flow statements. Therefore, this study examined empirically the relative merits of derived performance indicator numbers each from cash flow accounting, accrual accounting and value added reporting i.e. cash flow per share, earning per share and value per share. The results of Median Rank Correlation showed that the derived performance indicator numbers based on net value added had lower variability and higher persistency than corresponding numbers based on either earnings or cash flows of 673
US firms for the 1981–1990 period. These results and other related considerations argued strongly in favor of the recommendation of the AAA Committee.

Dodd et al. (1999) conducted a survey on 88 US corporations (with 37 EVA-adopters and 51 EVA non-adopters) to examine the use of various performance measures by EVA adopting companies and non-adopting companies. Their statistical analysis found that 13 of the 38 measurement variables were significantly different between the two groups. Each of these 13 variables was more frequently used by non-adopters than by EVA adopters. As expected, traditional financial measures (like cash payback, contribution margin, market return to shareholders, return on investment, return on sales) were used more frequently by non-adopters. Moreover, from analysis of the sample companies, it appeared that when companies adopt EVA, a subtle movement away from customer related measure may occur. It suggested that EVA adoption may foster an environment in which pursuit of higher EVAs overshadow the pursuit of quality and fulfillment of customer needs.

Tortella and Brusco (2000) analyzed the market reactions of 65 events/firms for a period ranging from 1983 to 1998 regarding economic value added (EVA) adoption. Additionally they also analyzed the effects over the main company variables, looking at the evolution before and after EVA adoption of the three sets of company variables; profitability, investment and cash flow variables. The study also observed that the EVA introduction did not generate significant abnormal returns, either positive or negative. It showed that firms adopted EVA after a long period of bad performance, and performance indicators improved only in the long run after EVA adoption. With respect to the investment variables, it was found that EVA adoption provided incentives for the managers to increase firm investment activity. However EVA adoption affected the cash flow measures positively and significantly.

Weaver (2001) observed that over the past decade; consultants, the popular business press, a number of companies, and a few investment analysts have indicated Economic Value Added as a new financial performance metric. In theory, it is net operating profit after tax (NOPAT) less a capital charge for the invested capital (IC) employed in the business. This survey bridged the gap between “theory” and “practice” by detailing how EVA proponents measure EVA. This survey was important because its fieldwork
identified significant inconsistencies in the measurement of EVA and its major components. This study explored that although all of the 29 respondents to the survey had applied a consistent philosophy, none of the companies measured NOPAT, IC or cost of capital (COC) in the same way. Moreover, even if all respondents were found to use Capital Asset Pricing Model (CAPM) to calculate cost of capital, divergences occurred related to market risk premium, market versus book weightings and current versus targeted capital structure. Hence the disparity of measurement techniques yielded significantly different values of EVA, making it a limited tool that cannot be used for competitive analysis.

Abdeen and Haight (2002) focused on the uses, benefits and limitations of economic value added (EVA) as a value creation measure. The study revealed that calculation of the EVA measure is complicated because of the many adjustments needed to convert the Generally Accepted Accounting Principles (GAAP) based income to economic income. The study compared the performance of EVA user companies with EVA non-user Fortune-500 companies for the years 1996 and 1997. Using simple averages, it showed that EVA users’ performance means regarding profits as percentage of revenue, assets and stockholders equity were higher than the means of non-users. It was found to be worse for the EPS, EPS growth and total return to investors. Although the paper provided a strong idea about future research in the direction of comparison between EVA users and EVA non-users, it failed to justify its findings with the help of any suitable statistical technique. The study concluded that EVA will become less popular as far as it is used as a measure of value creation and hence should be applied in combination with the long established traditional measures of financial performance. Therefore, this research work did not support EVA to be used as a measure of value creation to stockholders.

Ghani et al. (2005) examined a sample of 269 firms that mentioned EVA in their public disclosures. The study found that EVA was found in a cross-section of the industries and proxy statement was identified as the most commonly used source of disclosure. Majority of the sample firms tend to use only one metric i.e. EVA and applied it at the corporate level alone. Three-fourth of the sampled firms indicated the use of EVA as incentive compensation tool. Most firms applied EVA and other metrics only at the executive level for compensation and performance evaluation. Two common modes of compensation
using EVA determinants were bonus plan and stock option. The study also suggested that along with EVA disclosure firms should also report their own estimate of cost of equity capital to reduce the valuation error when it is estimated by investors themselves. Further, the results of the study found that in US, firms have been steadily adopting EVA as one component of their value management system.

**B. Studies Conducted in India**

Literature on the corporate EVA reporting practices in India is not well developed till date. All the Indian studies dealing with EVA disclosures are the company-specific case studies as discussed below:

**Bhattacharya (2000)** revealed certain important shortcomings in the EVA statement of Infosys Technologies Ltd. regarding the absence of any GAAP based accounting adjustment and uniformity of Beta variant over a period of four years. Moreover, the study also questioned the subjectivity involved in the estimations of its company’s market premium and cost of equity and brought to attention the dangerous trend of reporting EVA casually. The paper concluded that EVA should at least be adapted as a corporate philosophy for motivating and educating the financial statements users to differentiate between value creating and value destructing activities.

**Sangameshwaran (2002)** emphasized that the beauty of EVA is in its implementation in the company, not mere calculation for the same. Alignment of shareholder interest with that of employees is one of the primary objectives of EVA implementation. The study provided the steps that Tata Consultancy Services (TCS), India’s leading software company, followed to implement EVA. Given the complexity of the exercise, TCS set up a 15-member working committee to debate on everything that had to be done to implement EVA. In 2000-01, the company familiarized employees with the ground rules through a pilot exercise. EVA techniques were used to set variable pay for one segment of employees, and when it seemed to work, company spread it across the whole organization.

In March 2001, TCS began setting targets of an EVA based compensation system by creating a corpus of funds that could later be distributed to employees. The idea behind this was to let employees know what EVA targets they were going to work for, the rules of the game, and how it could affect them every time they took a value-creating decision.
Clearly, it stated that how the shareholders’ goal of value creation is linked to their employees’ performance incentives.

**Dhamija (2008)** discussed that the mandatory financial position disclosure in annual reports is dictated by the requirements of the Companies Act, 1956, the Listing Agreement and Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI). In addition to these mandatory disclosures, companies are making voluntary disclosures for improved transparency. Economic Value Added (EVA) is fast emerging as an area of voluntary disclosure in the annual reports by companies in India. This study attempts to understand the disclosure practices being followed by Indian companies in reporting EVA. A detailed case analysis of EVA reporting by Hindustan Unilever Limited (HUL) has also been incorporated.

**Kaur and Narang (2008)** attempted to analyze and compare the EVA statement as disclosed by Satyam Computer Services Ltd., with the actual EVA created by the company after providing for GAAP based accounting adjustments given by the founders of EVA concept. The study found much divergence between the reported and calculated EVA figures and discussed the need to provide more reliable view of its value addition. The study suggested companies and accounting professionals to prepare EVA statement scientifically and then publish it in the annual reports. In addition, the study also compared the financial performance of Satyam as depicted by the traditional performance parameters like ROCE, RONW, EPS, Growth in EPS, with the new value-based performance measure called EVA. The study concluded that traditional measures do not reflect the real value of shareholders wealth and thus EVA has to be measured scientifically to have a real idea about shareholders value.

**Vishwanath (2009)** discussed the implementation of EVA financial management system at Godrej Consumer Products Ltd. (GCPL), a leading FMCG company in India in 2001. Six group companies of Godrej (Godrej Consumer products, Godrej Sara Lee, Godrej Foods, Godrej Industries, Godrej properties and Godrej Agrovet) implemented EVA. This was facilitated by Stern Stewart & Company. GCPL implemented the EVA programme at all non-unionized levels. The program covered 2500 employees. The study explained three elements of EVA program followed by GCPL i.e. a) EVA centers, b) operational practices of EVA drivers which improve EVA results and c) EVA-based
incentive program for bonus-eligible managers. The steps involved in the EVA implementation at GCPL were (1) EVA of various businesses was measured and the implications of the numbers understood, (2) Targets on EVA improvement were then set over a three year time frame and (3) An exhaustive manual was made about what each function could do to improve the EVA of the business. This was a detailed task involving the consultants, the functional heads and HR department.

In addition, this case study also highlighted the motivations, benefits, mechanics, limitations and issues in implementing EVA.

The existing literature reveals the research gap as far as answers to certain crucial queries are concerned like to what extent EVA metric is being used by Indian companies and what are the factors that can influence the Indian companies’ EVA-disclosure choices. Thus, it addresses the need for a detailed study that specifically explores the EVA usage and reporting practices adopted by Indian companies.