# ECONOMIC VALUE ADDED: ITS VALIDITY AND CONTRIBUTION – AN EVIDENCE FROM PAKISTAN

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# CHAPTER 1

# INTRODUCTION

## 1.1. Economic Value Added

Economic value added is a metric that is used to evaluate the financial performance of the organization. It is a most appropriate measure in taking in to account the true economic profit of an entity. Even though in this current scenario, where the use of technology is at its peak, economic value added has been neglected in discussions by financial experts. As stakeholders are very particular about their concerns in an entity, they require very precise and exact solutions regarding their interests. The logic behind the use of economic value added is an established fact now, but the thing that is more important is that it brings attention towards how much economic value is added by the management to the shareholder's wealth.

Economic value added being the new approach to measure the performance of the firm provides us with more insight into the current status of the organization. It represents significant innovations in comparison to its traditional rival measures by taking into account the cost of capital and several accounting adjustments. In recent times the management struggle is all about creating value for the shareholders. Economic value added is the amount of economic value added for the shareholders. The established fact is that the accounting profit does not reflect the real value created for shareholders. However, accounting profits do require some adjustments in order to convert it into economic profit so that the distortion provided by accounting profits can be eliminated.

The general misconception that is escalating in the corporate world about economic value added is, as it has started to be perceived as a panacea for all the corporations' problems, that with one dosage it will cure all the issues related to the evaluation of the firm. Contrary to this economic value added strength is that it guides management to use cash

flows in an effective and efficient manner along with the incorporation of the cost of capital in an evaluation process. So that the true picture can be revealed to all the stakeholders, which will eventually result in defining the actual value of the firm. This disclosure of the actual position of the company will exert pressure on the management to increase their efforts, which will eventually result in shareholder's wealth maximization (Bhattacharyya & Phani, 2004).

Marshall (1890) for the first time brought the idea of economic profit, where (Marshall) argued that a firm is operating in loss unless it earns more than its cost of capital. The concept of economic value addition was initially proposed by Stern Stewart & Company in the 1980s. An organization performance measurement tool, economic value added claiming it to be a better solution in comparison to traditional accounting measures as far as shareholder value creation is concerned (Stewart, 1991). The same concept was applied well before by General Motors in 1920, but it was left unnoticed. Although economists do apply the same technique well before its official inception. Economic Value Added is a concept used in evaluating an organization's financial performance. It is based on leftover profits. In this technique cost of capital is deducted from Net Operating Profit after Tax (NOPAT). It can also be referred to economic profits. The founder of economic value added model (Stewart) claims that "earnings, earnings per share, and earnings growth are misleading measures of corporate performance [and that] the best practical periodic performance measure is economic value-added" (Stewart, 1991).

As a residual income model variant, Economic Value Added is getting popularity in recent days as a tool for financial management. The need for economic value added arises due to the limited perimeters of the traditional accounting measures i.e. Earnings per Share after Tax (EPSAT), Net Income (NI), Return on Total Assets (ROTA), Return on Capital Equity (ROCE), Operating Cash Flows (OCF), Debt to Equity (DE) etc. As advocated by Sharma and Kumar (2010) it is observed that the organizations which did not emphasize the creation of shareholder's wealth, are now found to consider stock holder's value creation the most important aspect. Along with economic value added, many financial consulting companies have developed performance measurement tools in order to shift the concentration from accounting earnings to cash flows. Accounting measures are facing a lot of criticism due to

their inability to incorporate the cost of capital and these measures provide a limited understanding of the actual performance as they are based on historical data/facts. Furthermore, as businesses are emphasizing more and more on the creation of shareholder value, it becomes necessary to find a niftier tool to measure the performance of management, out of which arises the need for performance-based measures. Although the superiority of economic value added over traditional measures is still under debate. However, it is still widely used for evaluating management performance (Bacidore, Boquist, Milbourn, & Thakor, 1997; Biddle, Bowen, & Wallace, 1997).

The approach used by economic value added is different from that of used by traditional performance measurement tools. The results that are generated by using traditional measurement tools are usually determined by the data produced by the accounting practices. The limitations of accounting practices are that it is generally based on historical data and generate misleading data, which does not reflect the actual position of the enterprise. On the other hand, economic value added adjusts the data produced by accounting in order to make it practical. It has been observed that by using conventional measurement tools an entity might be showing a profit but the real scenario is opposite to what is reported through conventional measures. The point of attention is that the entity might be paying taxes on the profits shown by traditional accounting measures. This intentional mala fide practice of paying taxes, to deceive shareholder regarding the company's performance, is very common in the corporate sector. Economic value added plays a role in rectifying this practice by identifying that the capital used is not free of cost. It also adjusts the misrepresentations of information that are established by conventional accounting measures.

The need for economic value added has increased in recent years as it helps in motivating the management of the organization in order to increase the value of the company (Dodd & Chen, 1996). The rule of thumb is that positive economic value added means shareholder’s wealth is created and vice versa (Stewart, 1991)**.** In fact, the concept of economic value added is same as that of the already existed residual income concept. The main difference between these two concepts is that economic value added has the ability to adjust accounting misrepresentation (Chen & Dodd, 1997). economic value added made 164

adjustments to accounting data, in order to remove the deceptiveness of the data (Blair, 1997; Stewart, 1991).

### 1.2. Performance Measurement

The decision of investing in a company or to continue with the company depends on the overall performance of the company. The financial rewards of management are often subject to the achievement of this goal of value maximization. Therefore, to opt for a performance valuation tool that best serves the firm is a crucial decision. It is necessary for successful operations that the performance measurement tool is simple, easy to use and able to attain results in a given time frame. In other words, the tool should provide a balance between cost associated with it in measuring the performance and its benefits as the complexity of the measurement process is subject to resources that is time and money. That's why constant efforts are made to develop a performance valuation measurement tool, which covers all the aspects of performance measurement and yet provide ease in the calculation of the evaluation process. Tug of war type of situation has arisen when it comes to the superiority of performance measurement tools. The performance is generally assessed on the basis of firms past figures in comparison to the other firm provided that both firms exposure to risk is the same. Consequently, to get to a significant valuable result the need for both cross-sectional and time series analyses are required to be used simultaneously. The established fact is that a firm is generating wealth only if it is able to generate earnings more than its cost of capital. The capital market is a yardstick to observe the performance of the organization, as it mirrors the performance. The investor’s perception of the company's performance and its future expectations about its performance are also revealed in the market. The future growth of a firm which is based on its returns on capital is a barometer, which governs the expectations of an investor. Even though performing well today cannot catch the eye of an investor unless the investor is able to perceive the future growth, and low growth no doubt has bad consequences on the value of the company. This is the reason why any performance measurement tool must have the ability to evaluate current performance along with incorporating the future growth prospects and magnitude of growth. The association between the performance measurement tool and the market should be strong enough in order to reflect the actual value of the firm. However, the perfect correlation between the measurement tool and the market is not possible, as other forces play a vital role in determining the stock prices. Still, a solution which provides

superior information will get an advantage over other metrics in superiority. The need for a superior performance measurement tool can be judged by the fact that the interest of all the stakeholders, as well as the company's, depends on this valuation process (Bhattacharyya & Phani, 2004).

### 1.3. History

The concept of economic value added is not new; it is just a new variant of Residual Income. Operating income, when charged with the cost of capital, becomes residual income. The original residual income concept was mentioned by Alfred Marshall in 1890. Marshall argues that subtracting the cost of capital from net profits will bring economic profit (Wallace, 1997)**.** The concept of Residual Income in the start of the 20$^{th}$ century appears in accounting theory literature e.g. by Church in 1917 and by Scovell in 1924. It also appears in management accounting literature in the 1960s. The academicians of Finland and financial press have also argued on the same residual income concept in the 1970 era (Dodd & Chen, 1996).

The Residual Income or Economic Profit did not catch the eyes of people in the start, the reason being that it is not promoted as required to get attention. Though economic value added, being the similar concept with dissimilar name and some adjustments, is increasing rapidly and has caught the attention of the investor (Nuelle, 1996; Wallace, 1997)**.** The reason for residual income not gaining acceptance can only be presumed, but the success of economic value added in recent days can be linked with its efforts to connect economic value added with market value added (MVA). While connecting economic value added with MVA they develop a theoretical base for market valuations (Bromwich & Walker, 1998). Stern Stewart and company proposed the concept of economic value added in the 1990s which was then implemented by various major business concerns as a financial measurement tool. The success stories emerged in the start, by using economic value added, helps in boosting the concept in the corporate world.

The studies carried, to determine the extent of the correlation between the Economic Value Added and market value in contrast to market value and traditional measures, determine that economic value added is systematically related to market value. It has the ability to forecast market value in a better way in comparison to other measures (O'Byrne, 1996). (Stark & Thomas, 1998; Uyemura, Kantor, & Pettit, 1996) also, support the notion provided by

(O'Byrne). On the other hand (Biddle et al., 1997) during their study find slight proof of economic value added superiority in its relation to stock returns over traditional measures. (Chen & Dodd, 1997) argues that economic value added has not proved to be the absolute replacement of traditional measures. Though it does provide more relative information of association of stock returns, on the other hand, it failed to provide more incremental information than these traditional measures.

The most important task of management is to create value for shareholders. Simply put, it is the primary objective of management to increase the wealth of shareholders. It has been proved that accounting profits don't truly reflect the value creation for shareholders. Although accounting profits not being able to reflect value creation can be a foundation stone for the calculation of value creation measurements. In simple words, it is required to alter accounting profit into a more useful tool i.e. economic profit. The inherited distortions of traditional accounting are required to be eradicated in order to get economic value added. (Stewart, 1990) defined economic value added as a net operating profit after tax less cost of capital. Economic value added is computed after covering a great deal of distance full of hurdles. The Net Operating profit is adjusted for distortions and cost of capital calculated as per Weighted Average Cost of Capital. The difference between these two calculations results in economic value added.

### 1.4. Return on Total Assets

The asset is a resource of a person or entity with an underlying value, expecting to be productive in future. The return on total assets is a ratio that reveals to which degree the company has earned in relation to its total net assets. This measure shows the ability of the entity that how well it is utilizing its assets. Return on Total Assets can be calculated by dividing earnings before interest and taxes by total net assets. Where earnings before interest and tax are equal to adding interest and taxes to net income.

### 1.5. Return on Capital Employed

Capital employed is the total amount of funds used by an entity in order to acquire profits. It can be referred to all the assets of the entity, put differently, the figure of capital employed can be obtained by subtracting short-term/current liabilities from total assets. The return on capital employed is a metric used to analyze to which degree an entity is earning

profits in respect to total capital invested. It shows the ability of the company that how efficiently it is utilizing its investment in order to generate earnings.

### 1.6. Debt to Equity Ratio

Debt to equity ratio shows the proportion of debt to stockholder's equity that is invested in the company to finance its assets. There are two components of this matric i.e. stockholder's equity and debt. Where stockholder's equity is the amount of money invested by entity's owners plus the partial amount of its earnings which are retained in the business and not distributed among stockholders. Subsequently, debt is the borrowed money, in order to finance the corporation's assets. Most of the time, debt is borrowed to finance huge procurements, which are not affordable to procure from the due course of business operations. Debt to equity ratio shows how much debt an entity is using to finance its assets in comparison to stockholder's equity.

### 1.7. Earnings per Share

It is the allocation of net earnings to each share outstanding. It is another scale on which the profitability of the company can be assessed.

### 1.8. Operating Cash Flows

Operating cash flows are the measure of generating cash flows from its normal course of operations. It shows whether operations are generating sufficient cash flows or it will require additional finances for its expansion. OCF is not like EBIT, where non-cash items are also taken into account.

### 1.9. Research Problem

Corporate valuation is one of the prime consideration in the business world. As mentioned by (Copeland, Koller, & Murrin, 2000) that the maximization of shareholder wealth resulted in effective management as well as labor productivity, the creation of jobs and an increase in real GDP, but the same also have some benefits and drawbacks (Brealey & Myers, 2000; Damadoran, 2001). In developed economies like the USA and Europe, the importance of maximizing shareholder wealth has been recognized well before as the developing economies are still striving to bring this issue to a consideration. Thus this struggle for finding the best financial measurement tool upraised the need for evaluating the relationships between Economic Value Added and traditional accounting measures. Pakistan's corporate world, not

being much exposed to the concept of economic value added, needs to evaluate this relationship between EVA and Traditional Accounting Measures in perspective of Pakistan.

### 1.10. Research Questions

The following research questions are addressed in this study.

1. Does EVA outperform conventional performance measurement tools in providing relative information content?
2. Does EVA outperform conventional performance measurement tools in providing incremental information content?

### 1.11. Research Objective

This study attempted to find out whether economic value added provides more incremental and relative information content in comparison to its rival traditional accounting measures, in explaining stock prices. The forthcoming study revealed whether the economic value added approach has supremacy over the traditional accounting measures in explaining stock prices or it is just a myth. The study is tested on Pakistan's listed companies. As the concept of economic value added has not yet been applied to a large number of Pakistan Stock Exchange companies, so it gives a useful insight into the matter. It tested the EVA's relative and incremental information content in comparison to traditional rival measures i.e. ROCE, ROTA, EPSAT, OCF and D/E.

### 1.12. Significance

The beneficiary of the forthcoming research are the managers, investors, shareholders and other stakeholders as far as shareholder value creation is concerned. As:

- Managers are the beneficiary of this study.
- Investors can also take benefit from this study.
- Shareholders can also get benefited from this study.
- This study will also benefit the regulatory bodies.
- The policy makers also get benefited from this study.
- This research is also an attempt to fill gaps in that area.

### 1.13. Contribution

This research take into consideration, which evaluation method is better than the other (i.e. EVA or Traditional Accounting Measures), of firms listed in Pakistan Stock Exchange. As to best of my knowledge, a very little work has been done in Pakistan on the same topic which covered a very limited spectrum of Pakistan's economy. So this research provides a better insight into the role of economic value added in explaining stock prices. This research also contributes to the literature for further researches.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1. Introduction

Today the emphasis of corporate management has shifted towards the value creation. Value can only be created by realizing satisfactory earnings and increasing shareholder's wealth. Therefore, to get the desired results one is required to utilize all the available resources effectively and efficiently. The creation of value to shareholder's wealth cannot be produced by relying merely on the returns produced by accounting practices. As these accounting results produce distorted results, by not getting into account the cost an enterprise has to bear on its capital. In order to incorporate the cost of capital to calculate the returns, (Stewart) proposed a concept of Economic Value Added. Economic value added suggests that a value for shareholder cannot be created unless the earnings of the business exceed its cost of capital. economic value added is the latest variant of Residual Income model, that exists in the business world since (Marshall) proposed it in 1890 (Alsoboa, 2017).

Jakub, Viera, and Eva (2015) the basis of performance measurement tools used to create shareholder's value refer back to economic profit. The economic profit concept is based on the wide understood concept of opportunity cost. Nowadays the market value of the company is getting significant importance in comparison to traditional book value, while it comes to the valuation of the company. The ultimate goal of the enterprise nowadays is to create value for shareholders and maximize their wealth. Post World War 2, the discounted cash flows get the attention of the corporate world for the valuation purpose. Though discounted cash flows proved to be a handy tool to evaluate the projects. However, it has not earned a position in the business world, as a measurement tool to evaluate the performance of the organization, because of the unavailability of the data required for the valuation process. Instead, the evolution of new and more powerful valuation tools breaks into the market with

the passage of time like return on assets/equity/sales. In the same period, the interaction and integration of companies increased worldwide and also the new concept of capitalism emerged as an Anglo Saxon model, which raises a number of serious questions on the capability of the performance valuation tools. Thus this criticism puts immense pressure on the companies to eradicate any deficiencies of performance valuation tools. The main criticism on current performance measurement tools is that these measures are not subtle to the risk by not paying attention to the differences in the time value of money, by relying on the distorted profit ratios which can be easily manipulated and also by not considering the cost of capital. While addressing these issues (Stewart) come up with a more comprehensive performance measurement tool of economic value added. This new solution tried to explain the economic profit in real terms. Economic value added also addresses the risk associated in order to achieve the required performance.

### 2.2. A systematic way of conducting a literature review

The broad area of my research is Economic Value added: Its validity and Contribution – An Evidence of Pakistan. In order to accomplish this research, I have reviewed the literature review systematically. This process includes the classification and organization of existing literature on Economic Value Added and its comparison with its traditional rivals.

The literature review is divided into three categories i.e. the literature

- in favor of EVA: means the studies that prove the superiority of EVA to its traditional measures.
- against EVA or in favor of traditional accounting measures: means the studies that failed to prove the superiority of EVA to its traditional measures.
- mix approach: which means both methods have some inherent benefit.

### 2.3. Literature in Favor of EVA

The concept of economic value added theory and its applicability has been studied and tested by various researchers for over 20 years. It is still in the stage of development and yet debatable, specifically in advanced economies.

Stewart (1991, p. 224) Economic Value Added or EVA is a trademark of the Stern Stewart & Co. This company helps in maintaining the implementation of complete economic value added based financial management and incentive compensation system. This system assists managers in decision making, to create the shareholder's wealth, by providing superior information and motivation. This study describes economic value added: "the difference between the profits each unit derives from its operations (NOPAT) and the charge for capital each unit incurs through the use of its credit line".

Drucker (1995, p. 59) has suggested in a Harvard Business Review article that "until business returns a profit that is greater than its cost of capital, it operates at a loss." Regardless of the fact that it yet pays tax as it is gaining profit. It was Drucker observations that such firms are unable to return enough to the economy than they consume in resources. Rather than generating they are destroying wealth.

Kroll (1997) illustrated that for the success of a business it is mandatory that its profits are more than its cost of capital. It has been observed that for those companies which implemented EVA, a great deal of improvement in its performance is shown. As economic value added helps in improving a firm's performance, so it also helps in merger and acquisitions due to the awareness of the target firm value.

Shaked, Michel, and Leroy (1997)economic value added is a metric that searches to improve and measure efficiency and also create the value of a firm.

Bell III (1998)economic value added is a new variant of long-standing residual income concept recognized by Economists since 1770. Both these concepts explain the theory of shareholder's wealth creation, only if the profits left behind after the settlement of capital cost. Although economic value added has been adopted in recent days as a measurement tool for financial performance, its conceptual underpinnings are derived from strong economic literature on the subject of a link between firm earning and wealth creation.

Hall and Geyser (2004) consider economic value added to be the best performance evaluation among others, as it adds value to the performance. Economic value added describes whether a company is generating or ruining stockholder's wealth. Economic value added can be calculated by deducting the WACC from firms NOPAT. In this research ROCE and ROTA

has been taken as the performance measures of economic value added. The outcome of this research shows that the increase in gearing can destruct economic value added. It shows that in comparison to economic value added, the traditional accounting measures are not good performance evaluation indicators.

Fraker (2006) argues that economic value added is a tool used in measuring the performance of a bank. During his study, he analyzes a fictitious bank, in order to access its financial performance. The study found that economic value added is a significant metric to measure the performance of a bank as it takes into consideration the interests of shareholders.

Mittal, Sinha, and Singh (2008) during their research found that there is a positive relationship between economic value added and corporate social responsibility. They also found that usually a company with a strong code of ethics produces more profit and has a positive economic value added. They have shown this positive relationship between economic value added and CSR with the help of regression analysis. Their study provides a solid ground to the positive relationship between economic value added and CSR.

Holler (2008) says that nowadays the value creation of stockholder gets utmost importance. The stock return of a firm is also high when it has a positive economic value added. For the computation of economic value added regression analysis, WACC and NOPAT are used. Economic value added reflects a true earning of the firm. It also increases the monitoring capacity of the firm.

Zaima (2008) argues that economic value added is gaining acceptance all over the world nowadays. As the first portfolio of firms taken for the valuation of economic value added, EVA and MVA show unexpected annual returns that are more volatile than others.

Lin and Zhilin (2008) in their study of the listed companies in China found that the Economic Value Added is more useful than any other performance metric. In their study, they had made certain adjustments for the calculation of economic value added as per Generally Accepted Accounting Principles. As proposed by Stern Stewart & Co. economic value added is calculated on the basis of NOPAT and WACC. Instead of using a conservative approach of calculating economic value added proposed by Stern Stewart & Co., they have used a computer-based system i.e. neural networks. This computer system is widely used in the

management field. As per their study, integrated economic value added proved their benefits than any other method, as traditional methods have some integral limitations.

Houle (2008) The growing reputation of economic value added for the last two to three decades got a huge amount of consideration. Though economic value added being vastly applied to the performance evaluation process of the firms, yet it is striving to change the attitude of management towards itself. The reason being the approach used by economic value added is different from that to which managements are accustomed. The implementation of economic value added requires awareness to understand the concept, knowledge and effects of this measure. This understanding thus helps in successful implementation of economic value added. In order to support the claim that economic value added is a superior measure in comparison to other measures, (Stewart, Ellis, & Budington, 2002) collected data of the firms that fully implemented economic value added to their system. The implementation of economic value added proposed performance management, value-based planning and incentive compensation in the first five years after economic value added implementation has produced better results as compared to related market participants. Furthermore, during the period of 2000 to 2002, when the growth of the economy was crippling, the economic value added adopters has produced very high earnings of 36.5%. The matter of the fact is that economic value added does not help in getting striking results when applied to the system solely as a performance evaluation tool. The performance of economic value added is subject to it applicability as a basis for management and incentives. Those firms who have adopted economic value added as a whole function, provide better results, than that of those who have implemented it partially. Those who accept economic value added as a better solution believe that it is superior due to the fact that its results regarding cash flows are closer to actual cash flows, the calculation and understanding of this metric is relatively easy, it depicts a stronger relationship to market price and it also inspires management to act in the best interest of the shareholders.

Reddy, Rajesh, and Reddy (2011)Value maximization and wealth maximization are the developed stages of the concept profit maximization and so is the economic value added, in order to evaluate whether a value is increasing or decreasing by the corporations. Economic value added tries to evaluate the creation and destruction of wealth by subtracting the cost of

capital from the cash returns generated on capital employed. Apart from traditional accounting measures, economic value added incorporates other factors like economy, accounting and market information in its evaluation process. This study has not attempted to test the real financial data, rather it attempted to describe how to calculate economic value added, in order to exhibit whether the businesses are destroying or creating wealth for shareholders. The results show that economic value added should be used alongside traditional accounting measures. As traditional accounting measures failed to express whether a firm is generating or ruining shareholder's wealth, on the basis of analysis it is established that the economic value added is the best performance measurement than any other performance measurement.

Al Mamun, Entebang, and Mansor (2012) Developed economies implemented the economic value added as an important performance measurement tool, which helps the rest of the world to recognize this new concept as a better performance measurement tool than traditional tools. Although there are mixed pieces of evidence regarding the superiority of economic value added, this study found that there is inadequate evidence against the claim that economic value added is a superior performance measurement tool than conventional tools. Still, the gap exists for the further study, in order to test the practicality of this concept.

Sirbu (2012) while studying Russian firms stated that as the emphasis are now a day on the creation of shareholder's wealth, and traditional measures are unsuccessful to grasp the attention of stakeholders as long as performance valuation is concerned. The traditional measures do not reflect the actual value created. This study is conducted to find whether economic value added provides a firm's value more accurate than its traditional rivals. The study reveals that economic value added is a better solution to the shareholder's value creation. Economic value added creates the synergy between the goals of shareholder and that of management of an organization. Economic value added is a measure which helps in improving the process of performance analysis and also improves the accountability.

Awan, Siddique, and Sarwar (2014) Performance appraisal is vigorously used to evaluate the performance of management, that how effectively and efficiently they are utilizing the capital. The return on investment is the primary consideration of any shareholder. economic value added being the performance tool is recognized as an appropriate tool to evaluate the operational capabilities of management. EVA is a key performance index that

stimulates management to find better solutions to enhance the effectiveness of capital use and yield better-operating results. The purpose of this is to evaluate the outcome of economic value added on share returns, for this purpose 59 companies of KSE-100 index are selected, which are listed in Karachi Stock Exchange. The data for the period from 2006 to 2010 are analyzed. The panel data technique is used in this study. The result of the study shows that stock value is affected by economic value added at a significant level. Though there are mix indications about the superiority of economic value added, this study shows that stock returns are affected by variable economic value added.

Panigrahi, Zainuddin, and Azizan (2015) Study found that economic value added has a considerable impact on shareholder's wealth creation. The empirical results showed that out of 28 firms only 10 firms are creating wealth whereas others are destroying it, as only 10 firms have positive economic value added. The other 18 firms have a high cost of equity which resulted in negative economic value added. This model proved that as a value-based performance tool, economic value added provides more insight into the value creation. Consequently, managers are advised to pay more attention to this performance measurement tool. The author also suggests that disclosure of economic value added in financial statements will increase the confidence level of a shareholder, which in long term will benefit the firm's survival.

Jakub et al. (2015) in his study of the Slovakian market argues that the continuous changes in the design of economic value added to make this evaluation tool to measure the performance more precisely. Even though there is a different point of view regarding the validity of economic value added due to continuous changes in accounting practices, tax legislation and financial market conditions in Slovakia. The need for an integrated method to evaluate the performance of the company, the importance of economic value added also increases in Slovakia. Economic value added over the years has proved to be the sole measurement tool to define the criteria of company performance, the efficacy of financial structure and provide a single reference rate for numerous corporation activities. The increasing interaction and integration of economies worldwide now require synchronized accounting practices and exclusive procedural foundations for evaluation of corporation's performance.

Ahmed (2015) relationship among earnings, economic value added and stockholder's value has been discussed in this study. Bangladesh's Islamic banks, that are listed in Dhaka Stock Exchange are analyzed for this purpose. To find out the relationship among variables correlation is used, and the impact of earnings and economic value added on stock prices are analyzed by regression. The study shows that the relationship among variables is very strong. This study also shows that economic value added explains stock prices more than other variables used in this study. However the determination of stock prices is not independent, it means that the factors other than the ones used in this study are found to affect/determine stock prices more than independent variables used in this study.

### 2.4. Literature against EVA

Biddle et al. (1997) Driven by the rise in the practice of economic value added the author has chosen to study the value relevance of economic value added and residual income in comparison to conventional measures i.e. earnings and CFO. The study does not support the claim of the Stern Stewart and company, that economic value added is a better performance measurement metric than conventional measures. As very little support was found during the research regarding the superiority of economic value added as far as stock returns are concerned. While testing relative information content, economic value added fails to outdo earnings despite in most cases earnings outdo economic value added. However, it was found that economic value added slightly incrementally important, but the variance is not economically significant.

Abdeen and Haight (2002) The world has observed a drastic change in the way of doing businesses and managing economies in last few years. The corporate world is facing extremely competitive and complex business environment. This changing business environment requires new way of doing business, for the reason innovative strategies and leadership creativity are replacing old school of thoughts. The increasing number of mergers and acquisitions of companies now a days are pushing managers to work out more in order to devise more effective and efficient system for the company’s operations. The adoption of modern technology and downsizing is helping companies to reduce their operational costs. Moreover reorganization of organizations way of doing things is rapidly taking place in order to provide their customers with best choices and customer services. The pre requisites of these developments, in order to align these changes with organization’s goal, is strategic

management control system. The basis for this strategic management control system are the performance measurement tools produced by accounting information. Keeping in view this evolution of business environment the companies required a more effective and refined metric for firms performance evaluation. The conventional way of evaluating firm's performance are become obsolete and do not manage to serve the purpose up to the standards of new modern business practices. This new developments gave arise to the introduction of new performance evaluation measures, which are more aligned with the changing environment. The purpose of these new developed performance evaluation metrics are to evaluate the performance of each business operation independently rather evaluating a firm's performance as a whole. The other reason for the development of new performance measures are to reduce the agency problem, by aligning the interest of the management with the interest of shareholders. The alignment of management interest with shareholders interest will influence management to perform more effectively and efficiently. As many performance measurement tools has been developed since but economic value added has got the most attention both by academicians in the fields of finance and economics as well as many prominent companies has adopted economic value added as their performance measurement tool. The assumption is that with the adoption of economic value added as a performance measurement tool the job requirement of individuals in finance and accounts department changes from book keeping to operational management of assets and capital. This study will attempt to understand the concept of economic value added and efforts will also be made to find the uses and limitations of economic value added. For the reason the companies in fortune, 500 which has reported economic value added as a performance evaluation metric in their financial disclosure, and compare their performance with those companies which do not use economic value added as a performance evaluation tool. The main purpose of this comparison is to find whether or not economic value added as a performance evaluation metric plays a role in increasing the output of management in order to create wealth for shareholders. Economic value added being the new variant of residual income model was proposed by a management consulting company Stern Stewart and Company. The idea behind economic value added is that the cost of capital should be incorporated while considering creating value for shareholders. The calculation of economic value added required some changes as its value is based on the figures produced by generally accepted accounting principles. The changes are made to accounting produced figures in order

to eradicate the inbuilt distortions in accounting. The example of the distortions in accounting are that many expenses incurred in current period but the benefits of which can be obtained in the future need to be capitalize and amortized instead of charging to the current year expense. The most important integral part of economic value added which requires utmost attention is the valuation of cost of capital. As cost of capital is the required rate of return of financiers in other words it is the opportunity cost of forgone option. The calculation of cost of capital initially required the individual estimation of different sources of financing and then the use of weighted average cost of capital brings a single value of cost of capital for the capital structure of the company. Even though economic value added is a popular performance evaluation metric but it inherent an issue while lies in its calculation. As to reach to the value of economic value added it requires several adjustments to be made to the value produced by generally accepted accounting principles. These adjustments are however difficult to make, which make this process complex. The breaking down of data in order to get the value of economic value added is difficult as well as in some cases it is also unattainable. Even though the calculation of economic value added is a complex process, yet the findings of the study reveals that economic value added proves itself to be a better performance evaluation technique in the partial fields. As the performance of the firms that adopted economic value added are found to perform better than that of those companies which do not use economic value added as their performance evaluation measure. The performance of the firms, that adopted economic value added as their performance evaluation metric and those which do not adopt economic value added, are tested on the basis of profits as a percentage of revenues, assets and stockholder's equity. On the other hand the performance of economic value added is found to be worst when it is tested performance of earning per share and total return to investors. The findings of the study bring us to a conclusion that in future the use of economic value added as the sole performance measurement tool will lost its popularity to the traditional accounting performance evaluation techniques and it will be used along with other traditional accounting measure in order to evaluate the performance of the firms. The use of economic value added along with other traditional accounting measures is also recommended by various previous academic researches. Therefore on the basis of the results of this study economic value added as a firm's performance evaluation metric is not recommended.

Machuga, Pfeiffer, and Verma (2002) now a days a new performance evaluation technique striving for its place as an alternative to traditional accounting measure earning per share. This new performance measurement tool is known as economic value added and it has got too much attention by the media and as well as in academics. The argument for its popularity can be judged by the fact that many companies had already adopted economic value added as a tool for the analysis of portfolio selection decision making and economic value added is also used for the self-correction of managers. One can find considerable amount of evidence form academic researches that primary objective is to find the superiority of economic value added as a better performance measurement tool in comparison to its traditional rivals accounting based measures. Although the emphasis in the previous studies are to observe the superiority of economic value added over traditional accounting measures in creating value for shareholders, we would rather evaluate economic value added in a bit different way. The primary objective of this research will be to examine the relationship between the economic value added and future earnings and the second goal of this study will be to observe the use of economic value added by the experts in their analysis while predicting earning per share. In today growing market where the consideration is shifting towards the alternative performance measurement tools, it is necessary to evaluate the prediction power of economic value added in describing earning per share. The importance of this can be judged by the fact that even though the emphasis is shifting towards alternative measures from traditional measures the earning per share still manages to take place in the central part of the stock evaluation process. The argument is that it is necessary that while evaluating equity the focus should not be only on the changes in stock prices, rather it should on the usefulness of earnings and non-earnings information (Bernard, 1995). The second importance of this evaluation will be to observe that while predicting earning per share by the analysts how much information of economic value added is reflected by these earnings forecasts. In this study while attempting to find, whether it is economic value added or earning per share, a relatively better performance measurement tool, the relationship between economic value added adjustments and change in earning per share in the future is analyzed. The finding of the study reveals that economic value added shows significant amount of incremental information content, while explaining changes in future earnings per share, which is more than that of cash flows and accrual components of earnings. On the basis of these findings an earnings per share

prediction model is developed and the findings of this study reveals that the model in which economic value added is incorporated provide more reliable and precise information in predicting changes in earning per share. As the study also attempted to find the experts forecasts of future earnings per share, the findings shows that there is a significant level of relationship between earning per share forecasts errors and economic value added. The reason for that non reflection of economic value added in future forecasts of earning per share is that, the concept of economic value added is relatively new to the analysts. So for the reasons the experts at that might not be very much familiar with the concept of economic value added. The analysts might also be not convinced with the assessment ability of economic value added, so for the reason the effect of economic value added is not reflected in their analysis.

Kim (2006) driven by the growing reputation and use of economic value added in the world, (Kim) studied the association between economic value added and equity market value. Regression analyses were used to test the claim that economic value added is a superior performance measurement in comparison to traditional accounting measures. Although the findings from the literature show a mixed approach regarding the superiority of economic value added. Some authors are agreed to the point that economic value added is comparatively a better measure and helps in creating value for shareholders. While some reject the claim of economic value added superiority in relation to increasing shareholder's wealth, and they still consider traditional measures a better option for evaluation purpose. However, the study contradicts the claim of economic value added superiority over its rival measures, as no proofs of economic value added outperforming the traditional accounting measures were found in testing relative information content. Contrary to economic value added superiority net operating profit after tax and future cash flows show better correlation when it comes to market value. The outcome of the study supported the results of (Biddle et al., 1997; Clinton & Chen, 1998) that economic value added does not perform better than the traditional accounting measures in relation to value creation while keeping in mind the fact that there might be some other reason due to which economic value added fails to develop a strong relationship during the study. First reason might be the all the adjustments required to be made to the net operating profit after tax and invested capital are not made. Though researchers believe that the effect of those adjustments have a very nominal effect but it could have a considerable effect on the final results. The reason for not incorporating those adjustments are the unavailability of data

for the valuation period. The second reason might be the failure of recognizing the benefit of economic value added reporting in the period the research is carried out. As the market value of stocks are usually subjective to the future expectations of the investor, while economic value added is related to the historical values. The extension of the analysis period in the future will reveal that whether market now gives weight to economic value added or not. The third reason is that this research is based only on present-day realization of performance measures. Thus it does not consider future expectations while evaluating the businesses. As both present level of economic value added and expectations of future growth of economic value added are constituting the market price of a stock. In order to increase the market value of shares, the rise in the current level of economic value added and a change in market expectations need to be integrated together. Other than this it is not necessary that during the valuation process, cost of capital and accounting adjustments are being paid attention by the market participants and also market might not have even considered economic value added during this valuation period.

Visaltanachoti, Luo, and Yi (2008) Economic value added can be described as a firm's performance measurement tool, proposed by Stern Stewart and company. The proposed concept of economic value added is claimed to be a better performance evaluation metric in explaining stock returns in comparison its conventional rivals traditional accounting measures by Stern Stewart and Company. In addition (Stewart, 1991) also claim that eventually economic value added will replace traditional accounting measures when it comes to the evaluation of firm's performance. In order to test the claim of (Stewart, 1991) various academicians make their efforts to find the fact behind the claim. The results of the studies previously carried out to test the claim of (Stewart, 1991), come up with mixed results. Some studies results are found to be in favor of the claim that economic value added is a better performance evaluation metric in comparison to traditional accounting measures when it comes to explaining stock prices. The research study conducted by (O'Byrne, 1996) strongly advocated the claim of economic value added supremacy over its conventional rivals. On the contrary many studies have found no evidence of economic value added supremacy over traditional accounting measures. Among these studies one of the exemplary work done by (Biddle et al., 1997) rejects the claim of economic value added superiority over traditional accounting measures in explaining stock prices. Unlike this study the previous research

work done on the subject of economic value added supremacy over traditional accounting measures mainly focus on the relationship between economic value added and stock returns on individual stock. This study strive to address the subject matter, of a relationship between economic value added and stock returns, in a different manner. This research is an attempt to find whether economic value added is a superior performance evaluation metric than traditional accounting measures in explaining sector returns, rather than explaining individual stock returns. The purpose of this study is to observe the relevance of economic value added at an industry level, unlike the previous studies our aim is to take an additional insight into the subject matter. To carry out this study of observing economic value added and its association with sector returns, the data of 90 sectors in USA for the period of 2003 to 2005 is gathered. This study attempts to find the association between sector returns being the dependent variable and operating cash flows, earnings before interest and taxes, residual income and economic value added being the independent variable and to observe whether economic value added beat other independent variables in explaining sector returns or not. In order to observe the association of economic value added and other variables on sector returns, relative information content test is conducted. The reason for testing relative information content is to observe whether economic value added provide more relative information content than operating cash flows, earnings before interest and taxes, residual income or it is just a myth. In addition to observe the relative information content, incremental information of economic value added, operating cash flows, earnings before interest and taxes, residual income are also tested in order to find out whether economic value added contribute towards provide any incremental information content in explaining sector returns.

While testing relative information content of economic value added, operating cash flows, earnings before interest and taxes, residual income in explaining sector returns. The results of the study shows that earnings before interest and taxes explains sector returns more than that of economic value added. To test the incremental information content the economic value added is then divided into four parts (i.e. cash flow from operations, operating accruals, after tax interest expense and capital charge) in order to find which component of economic value added plays a vital role in

explaining sector returns. The results of the study shows that accruals provide the most incremental information content in explaining sector returns than all the other variables. On the basis of results of the study it is concluded that earnings before interest and tax outperform economic value added in explaining stock returns.

Kumar and Sharma (2011)in their study found that economic value added though getting a great deal of popularity failed to prove itself as a better performance measurement tool. The empirical results of the study revealed that economic value added is not found to be a better solution, as far as performance measurement is concerned, in comparison to its rival measurement tools. The relative information content test showed that NOPAT and OCF are better measurement tools than economic value added. In incremental information content test, economic value added did contribute to some extent, other than those traditional accounting measures, in explaining the market value of the firm. However, the study rejected the claim of Stern-Stewart and Company, that economic value added is a superior performance measurement tool in explaining the market value of the firm. The results of the research showed that economic value added does not explain more than 23% variations in the market value of the firm. Which means that there are other factors that determine market value and which should be taken into account.

Khan (2012) during the study of 60 non-financial firms registered in Karachi Stock Exchange argued that traditional accounting measures i.e. OCF and NI outperform economic value added in predicting stock returns. The study showed that economic value added is not contributing towards increasing shareholder's wealth as expected by investors. Rather OCF played a significant role in predicting stock returns. A higher OCF shows the company's ability to generate more cash flows from operations, which advocates in higher payout ratio potential. OCF also outperformed NI in explaining stock returns, as NI also account for non-cash accounts receivables, which do not contribute towards dividend payout. The economic value added though also have some inbuilt qualitative characteristics, which due to lack of ability to measure was not taken into account.

Bhasin (2013) Creation of value for shareholders is the most dominated goal for enterprises all over the world. In order to get this goal, it is necessary to devise a mechanism that is compatible with the goal of shareholder value maximization. Among many value-based measures of performances, economic value added is getting much popularity as the evidence

of its popularity is that more than 500 companies have adopted this value based measurement tool since it is proposed in 1982 by Stern Stewart and Company. In a market-driven economy, most of the firms destroy wealth in comparison to the ones that create it. Organizations need to work on their financial performance by considering the value addition of shareholders' wealth. Economic value added being the measure of value and performance provide more insight into the firm's ability to create wealth. Economic value added manages to increase the market value of the organization by tracking share prices more closely than EPS or ROE. A continuous and persistent increase in economic value added will result in the value creation of shareholders. On the other hand, economic value added also put emphasis on taking into consideration the shareholder's value as a top priority. Use of excessive capital gets severe burdens while using economic value added as a measurement tool. The net cash returns on investments are emphasized in the organizations that use economic value added as a performance measurement tool, in order to observe whether a corporation is earning on their cost i.e. creating wealth for their shareholders. Otherwise speaking, economic value added is an indicator to assess whether a firm is earning enough to cover its cost of capital, it means whether it is creating wealth or destroying it.

In this study ANOVA, Trend analysis and Regression analysis are used as analytical tools in order to analyze the value creation strategies. In this regard, they compare economic value added and conventional accounting measures to study which of these performance measures describe the market value of the firm in a more enhanced way. The results of the study showed that there is no evidence of economic value added superiority over traditional accounting measures in explaining stock prices which concludes that there are other factors that determine the market value of the company. All these factors should be taken into account for value creation or for performance measurement.

Khan, Aleemi, and Qureshi (2016)in their quest they compare Economic Value Added and its traditional rival i.e. traditional accounting measures, in order to find out which performance measurement tool outperform another. They analyze the relative and incremental information content of these two approaches in explaining stock prices. The empirical results show no evidence of economic value added supremacy over traditional accounting measures, however, economic value added is outperformed by accounting measures.

Altaf (2016) this paper attempts to test the claim of Stern Stewart & Company, that economic value added is a superior performance measurement tool in comparison to traditional accounting measures in explaining stock prices. After analyzing 325 Indian companies out of 170 being the manufacturing concerns while rest belong to the service industry. The results show that economic value added has a weaker but positive relationship with market value added. However, the results of the study are not aligned with the claim of Stern Stewart and Company, that economic value added is a superior measure of performance in comparison to traditional accounting measures. On the other hand, traditional accounting measures describe market value added better than economic value added. Moreover, among these measures, operating income proves to be more relevant measure, in both sectors, in explaining the market value added. However, all the measurement tools found to have a significant positive relationship with MVA, but operating income explanatory power is almost three times greater than that of economic value added for both sectors. Besides operating income, all the other traditional accounting measures explanatory power is higher than that of economic value added. The reason being for non-effectiveness of economic value added in the Indian economy can be the adjustments that are made to net operating profit after tax. It suggests that the Indian economy can still rely on traditional accounting measures in explaining the market value added.

**2.5. Literature having Mixed Approach**

Bacidore et al. (1997) in a struggle to find optimal financial performance proposed refined economic value added, which they called refined economic value added (REVA). They suggested that REVA is more effective as far as a firm's financial performance measurement is concerned. As REVA is calculated as (NOPAT – WACC x adjusted book value of net capital) i.e. the market value of capital employed. Whereas economic value added only takes into consideration the book value of capital employed. Economic Value Added is now known as an integral performance measurement tool in management. It has got more acceptance in developed economies as a corporate strategy. However, there are still doubts in its superiority over its conventional rivals.

Wood (2000) economic value added should not be misperceived as an internal performance evaluation tool or a base to management rewards. It is a complete financial management system if employed in true entirely. It is a solution to the decision-making

process, incorporating planning and control activities. The economic value added being a value creation tool aligns the objective of both the management and shareholders closely. It also provides the basis for providing incentives to the management which is subject to the performance of the management. In South Africa, this association of incentives with performance are highly appreciated, as this act is considered as bringing transparency to the system. Beside from economic value added advantages, it does inherit some limitations, like other performance measurement metrics economic value added is also not a complete metrics in itself. As it cannot curtail management of the organization in engaging in ineffective conducts. It is recommended to use economic value added along with other metrics typically non-financial measurements. It is also necessary to link performance incentives to group performance rather than individual performance, in order to address the deficiencies of this metric. Furthermore, the economic value added must not be considered a cheap and short-term process. In the meantime, from top management, it requires total commitment and their will to empower low management in order to make this evaluation process fruitful. In South Africa more than 400 companies are already using economic value added as their performance evaluation tool and since it has earned a reputation of productive metric for stock price analysis. The strong positive relationship between economic value added and stock prices movement earned it that position. The signs show that it will again gain its reputation as a better solution in the coming future.

Banerjee (2000) the maximization of shareholder's wealth is a well-recognized concept in the business world, but thanks to the economic value added which has provided a new direction to the corporate world. Economic value added developed and registered by Stern Stewart and Company has gained immense popularity and acceptance in the recent days. Therefore, many of the firms in the US has adopted economic value added as a performance measurement tool since its inception and the number of its adopters are increasing. As (Wallace, 1997) claims that more than three hundred companies with approximately a trillion dollars revenue have adopted economic value added as a solution to financial management and management incentive compensation. The attractiveness of economic value added is that it compels its user to best possible utilization of invested capital (Tully, 1993)

The utilization of capital effectively and efficiently does not mean to hold back growth. The point is that as long as a firm is earning more than its cost of capital, the growth is subject

to no boundaries. The concept of economic value added refers back to the concept of shareholder value theory. This theory debates that while analyzing the economic performance the topmost priority should be given to the shareholders. While calculating the shareholder value, the estimated cash flows are required to be discounted at the rate of cost of capital (Rappaport, 1986)**.** These discounted cash flows will be a base for returns, dividends and an increase in share prices. The difference between the economic value added and shareholder value creation is that economic value added propose some adjustments to accounting profits. The understanding is that the discounted expected EVAs in addition to the initial capital invested make the value of the firm. The economic value added metric required incorporation of the concept fully to the system in order to get the best results. Specifically, the management system should be fully integrated, as without it is not possible to get the desired results (Stewart, 1991).

Worthington and West (2001) their research on the subject provided a close review of the conceptual foundations of economic value added. They use 110 companies listed in Australia, in order to evaluate the utility of economic value added in comparison to other traditional measures. Their conclusion was that the observed evidence has been mixed as far as the supremacy of the economic value added is concerned. They suggested that there is a stronger need for research that consists of a longer time period frame which will prove better evidence of empirical certainty of economic value added as a firm measurement performance.

Tortella and Brusco (2003) economic value added nowadays growing vigorously due to the fact that it positions itself as the best measure to calculate shareholder's wealth, consequently, it also provides help in the decision-making process. The assumption is that the success of economic value added lies in its perspective of management incentive compensation. Many studies have already examined the information content of economic value added and the results are mixed regarding the superiority of economic value added. However, this study makes an attempt to evaluate the market reaction to the firms that have adopted economic value added as a performance evaluation technique. The event study methodology was used in order to observe sixty-one companies for a period of sixteen years that is from 1983 to 1998. The results show no substantial reaction of the market towards economic value added application to the system. The results of this study are however not in

accordance with the results of the study proposed by (O'Byrne, 1997; Walbert, 1994), where their results suggest a strong correlation between economic value added and stock returns. The possible reason for this contradiction might be the period in which these studies are carried out, as the bullish trend prevailed in the market during this period. This is a possibility that stock returns reacted to this prevailing bullish trend in the market rather to economic value added. The results of this study, however, supports the findings of (Biddle et al., 1997; Chen & Dodd, 2001) that the correlation between stock returns and earnings are stronger than that of economic value added. Other than the market reaction to economic value added adoption we also analyze the effects of economic value added an application on the firm profile. The main purpose of this part of the study was to analyze the growth of the firm over a longer period in order to assess that whether economic value added has a positive impact on operating profits, the cost of capital and investments (Prober, 2000; Stewart, 1991). In order to analyze it, the three types of variables are tested that are performance, investments and cash flow variables. While testing performance it is found that the adoption of economic value added follows the firm's poor performance for a long time. Subsequently, after the adoption of economic value added performance does not progress in the short run, however, it shows positive signs in the long run. The test of the second variable, which is the investment, shows growth as well as an increase in earning after the introduction of economic value added to the system. Cash flows are always in consideration in economic value added perspective. While testing cash flows, it is revealed that economic value added also affects cash flows in a positive manner. As with the adoption of economic value added the cash flows margin and earnings before interest, depreciation, taxes and amortization show positive results. The reason for this positive impact on these three variables might be due to the linking of management compensation with the firm's performance. In order to check this proposition, we analyze the impact of management compensation with cash flow growth, by analyzing both firms that adopt economic value added as a management compensation and those which do not opt for this option. The results show that there are no significant changes observed with the adoption of economic value added as management compensation to the system. However, any strong recommendations cannot be made on the basis of the analysis of a very small sample size.

Bhattacharyya and Phani (2004) The economic value added, as a performance measurement tool, stands on a very solid theoretical footing with a narrative that increases in

shareholder's wealth and is also subjected to earnings in excess to cost of capital. Though there are some discrepancies in economic value added calculations which reduce its ability to provide valuable information. However, it should be given the credit of reminding the long disregarded essential economic concept of incorporating the cost of capital to the evaluation process. In India, internal reporting use of economic value added has grown in order to evaluate the performance of the company, but on the other hand, the reporting of economic value added in external reports are not being addressed properly yet. As in external reports, economic value added is reported casually, which might lead to deception of the stakeholders.

Ferguson, Rentzler, and Yu (2005) deducting the cost of capital from net operating profit after tax is a Stern Stewart and Company proposition which they named economic value added. The purpose of this study was to examine whether economic value added is adopted when the stocks are performing poorly or after adopting economic value added stocks start to perform better. The findings are not able to clear the situation that poor stock performance is followed by economic value added introduction to the system and also no significant evidence is found that after the adoption of economic value added the stocks have started to perform better. Although the findings show that the firms are already doing better, as far as profitability is concerned in comparison to its competitors, both before and after the introduction of economic value added to the system. However, there is some evidence that comparatively the profitability of the firms increased in comparison to its competitors after the adoption of economic value added.

de Wet (2005) many studies and researches specifically Stern Stewart and Company has a claim that economic value added is a better performance measurement tool than any other conventional measurement tool when it comes to shareholder's value creation. The other studies on the basis of their empirical results contradict the claim that economic value added is a better performance measurement tool than conventional accounting measurement tools. The critics of the economic value added argue that conventional accounting measurement tools are better metrics than economic value added when it comes to shareholder's wealth creation. While studying the listed companies of Johannesburg Stock Exchange of South Africa in order to find out which performance measure is a better solution in creating shareholder's wealth.

The eighty-nine companies from the industrial sector were selected for analysis from the period of 1994 to 2004 in order to test that which performance evaluation tool produce comparatively better results in explaining the market value added. Market value added is a proxy for the shareholder's value. There are limitations to the study as the sample size do not represent all the sectors of the Johannesburg Stock Exchange of South Africa. However, the results denied the claim of economic value added being the most superior performance measurement tool. As cash flows from operations and returns on assets, it beats economic value added by explaining the market value added more comprehensively than the economic value added. The cash flows from operations explain the market value added more than any other measure; it explains the market value added by 38 percent, and the second metric in explaining the market value added the most is the return on assets as it explains the market value added by 15 percent. The economic value added being the claimant of a superior measurement tool in creating shareholder's value only manages to explain the economic value added by 8 percent. Put the matter another way, the findings of the study reveal that the association of earnings per share and dividend per share to market value added is insignificant. As both of these measures are extensively used for the valuation of share prices. On the basis of the findings of the results of this study, it is proposed that at least for the valuation of share prices of South African firms, these two variables earnings per share and dividend per share should be avoided as it will provide distorted results.

Tsuji (2006) the reason for carrying out this research is to find the effectiveness of economic value added, as it is getting popularity in Japan as far as evaluation of the firms is concerned. The consideration of a firm's evaluation in finance is of utmost importance. The participants of the USA market have realized this importance than those of Japanese. As this early realization brings USA to a better and stronger economy. USA being the originating country of economic value added and economic value added yet thoroughly tested in USA only, any extension to economic value added testing in Japanese economy will provide a major contribution to the comparison of two different types of economies. The increase in the value creation of shareholder's wealth has not only affected the performance of the firm in a positive manner but it also has resulted in an increase in productivity of the labor. It also increases the opportunity of jobs and as well as enhances the real per capita GDP. As the Japanese are also attracted by the concept of economic value added, the fact is that economic value added is also

subjected to some pros and cons. After empirically testing the effectiveness of economic value added, the results show that there is a correlation between corporate values, which create or destroy shareholder's value and economic value added. However, this correlation is weaker than that of traditional accounting measures. The cash flows are found to have the strongest correlation with corporate values. Hence the results of this study do not support the claim of economic value added being the superior performance evaluation tool than that of the conventional measurement tools.

Ismail (2006) the rates of returns produced by accounting measures are always criticized due to its inability to calculate economic profit. The major issues with these rate of returns are the embedded distortions in these measures. This issue is highlighted by many research studies which give rise to the need for developing a better performance measuring technique. The focus shifted towards other performance measures like operating cash flows and economic profit in a strive for getting a better option to measure performance management.

Economic Value Added came to birth during this struggle of finding a better solution for performance measurement. Economic value added is a new variant of economic profit by making some adjustments to the accounting measures that are governed by Generally Accepted Accounting Principles in order to revise residual income model into a more meaningful measure. The economic value added is the claimant of providing the best solution as far as the shareholder's value creation is concerned. Many studies had been conducted on the subject of the best solution for creating shareholder's value, by empirically testing the superiority of economic value added and comparing it with other measures. Most of the studies carried out to test the efficacy of performance measurement tools had focused on the US firms. The results of the studies showed mixed results as some studies found no evidence of economic value added creating value to shareholder's wealth, while other recommended that economic value added had played a vital role in creating value to the shareholder. Some of the studies had recommended the use of economic value added along with other traditional accounting measures in order to get better results. Most of the previous studies carried out were found to use the ordinary least squares regression model for cross-sectional time series data. The (Gujarati, 2003) has argued that such kind of arrangement produced biased results. Therefore, he recommends the use of panel data regression instead of ordinary least square

regression in order to avoid inadequacy and biasedness in the results. Furthermore, the previous studies analyzed the US markets only, therefore by extending this research to the UK market we believe it will contribute considerably towards the literature enrichment. The technique used to analyze this data will also be a more reliable statistical tool in comparison to the tools used earlier to carry out the same kind of researches. The firm-year observation of 2552 for the period of eight years, that is from 1990 to 1997, was tested to examine whether economic value added as per its claim outperformed traditional accounting measures or not. The results of the study do not support the claim of economic value added being a superior performance measurement tool, hence it supports the findings of (Biddle et al., 1997; Chen & Dodd, 1997, 2001) that earnings are more correlated with stock returns than both economic value added and residual income. As the net income and net operating profit after tax proved to be more associated with stock returns in comparison to economic value added and residual income. The changes in independent variable are used rather than levels to confirm the relative information content, yet the newfound results are in accordance with previous results. While analyzing the incremental information content it is found that other than that of a unique component of economic value added i.e. adjustments to the accounting measures, all other components are highly significant. The unique component of economic value added, which is accounting adjustments, has less incremental information content than that of accruals and operating cash flows.

The findings of our research do not support the claim that economic value added is a better option than other traditional accounting measures in explaining stock prices. Alternatively speaking, it is also found that the economic value added as a single variable, do not represent variation in stock returns, as more than 20 to 24 percent are leaving while 76 to 80 percent is unexplained. Which means that there are other factors that explain the rest of 76 to 80 percent of the variation in stock returns. The results of the study made us believe that there are factors other than earnings and economic value added that determine share prices. These factors other than earnings and economic value added are required to take into consideration for creating value to a shareholder, measuring performance and management compensation. It is believed that incorporation of these missing factors that holds the major part of explaining stock returns will enhance the explanatory power of the regression model. However, it is also worth mentioning that the other most important factor that affects the stock

returns is the future expectation of investor that will still be missing. The essence of economic value added is that while selecting any project the incorporation of the cost of capital as a charge to net operating profit after tax is very important. In simple words, the projects with positive net present value should be selected for investment. In order to incorporate the future expectations of a positive net present value will increase the explanatory power of the model. The solution of incorporating those factors that define 76 to 80 percent of stock returns does not lie in any of the existing metrics, hence a need for the development of a better financial system is required.

Maditinos, Sevic, and Theriou (2006) study the Athens Stock Exchange of Greek market in the context of economic value added and implications of both economic values added and earnings to Athens Stock Exchange. The requirement was to test the claim of economic value added that it is a better solution in explaining stock prices than its traditional rivals that is traditional accounting measures. However, no one has been able to establish the fact that which performance evaluation metric is a better option in describing stock returns. The results of the study reveal that in a relative information content economic value added metric shows no sign of its superiority over earnings in explaining stock prices. The results based on Athens Stock market are consistent with numerous studies carried out pertaining to an international market. This shows that the relative information content provided by earnings is more than that of economic value added. Hence it does not support the prerogative that using economic value added as a sole performance evaluation tool is a better option.

Although it is revealed while testing incremental information content, that the introduction of economic value added to earnings per share model increases the explanatory power of economic value added. As the explanatory power of the model is increased by 4.3 percent that is from 1.5 percent to 5.8 percent. This shows that economic value added surely adds a significant amount of information to the model in explaining stock prices. In their findings (Chen & Dodd, 1997) explains that both economic value added and traditional accounting measurement tools are unable to address more than forty-seven percent of changes in stock returns, however in their later study (Chen & Dodd, 2001) reveals that earning per share and economic value added explain 23.49 percent change in stock returns.

It is recommended on the basis of this study that other than economic value added and earning per share, other traditional measures and performance-based measures should also be incorporated for a better result in order to test relative information content and incremental information content. Introduction of behavioral finance to the subject could help in obtaining better results in this regard.

Kyriazis and Anastassis (2007) the concept proposed by Stern Stewart and Company in 1990 was a newly developed version of (Marshall, 1890) concept of economic profit. Where (Marshall) argues that the real profit is beside all the other operating/related costs, cost of capital should be covered by the profit. A firm can only create value when the profits are in excess of its cost of capital along with other operating costs. Thus this new idea of economic value added shows a different direction to the corporate world in comparison to traditional accounting measures. As in traditional accounting, decisions are based on the facts provided by accounting or on ratios which are also calculated on the basis of data provided by accounting. The major difference arises between these two measures due to the reason that traditional measures do not consider the cost of capital as a charge to earnings. For instance, in traditional accounting measures, the return on equity of two firms which are equal will be considered equal firms as far as returns on equity are concerned. However, the matter of fact according to economic value added objection is that if the cost of capital of these firms is not equal then it should not be considered equal in terms of return on equity. In simple words, it negates the concept of economic profit or residual income.

The economic profit provides the base for the development of economic value added. The only difference between these two concepts is the difference in calculating profits and invested capital. The Stern Stewart and Company devised changes in financial statements of the firm in order to deviate from the accounting profits. The reason for this deviation is to avoid distortions in accounting generated figures and to get near to the economic or real profit. The intention behind the concept of economic value added was that these adjustments made to the accounting profits will help in removing the distortions in traditional accounting generated figures. It will eventually result in real profit rather than distorted profit and this real profit will create the value for the firm. Thus it will enable management to reconsider the use of invested capital and try to use capital more effectively and efficiently in order to increase the value creation for shareholders. The (Stern, Stewart III, & Chew Jr, 1996) also

recommend not to consider economic value added only as a performance measurement tool, rather consider it as an integral part of the financial system. This incorporation of economic value added to the financial management system of an organization will help in decentralizing the decision-making process. Therefore, the application of economic value added should indirectly bring changes in management, which will consequently increase the value for shareholders. The increase in the value of many US firms has been observed, after the introduction of economic value added to their management performance system. That is to say, the criticism on the basis of empirical results by different academic researchers negates the superiority of economic value added in creating the value for the firm. The main emphasis of this study is to analyze the relationship between economic value added and stock returns of firms by calculating the relative information content and incremental information content. As the empirical studies, which contradict the superiority of economic value added while studying developed US market firms, are indecisive in taking into consideration dissimilar background and with changed features. The reason behind the selection of the stock market of Greek is to address the issue that dissimilar markets have dissimilar attributes. The main focus of choosing Greek market was to compare economic value added with traditional accounting measures in explaining the explanatory power of economic value added, with regards to small evolving market with different characteristics and standards in comparison to developed US and European markets. To put it simply the reason for this study is to test whether the results of the small evolving markets are also in accordance with the results of developed markets. The reason to conduct this study is to analyze the period from 1996 to 2003 when the Greek market was in the transition phase. As the market was striving towards a developed market from the relatively underdeveloped market. This analysis of the market shift will be another breakthrough for economic value added adoption if it proves to have an explanatory power more than the traditional accounting measures in explaining stock prices. The third reason for studying the Greek market is its unique ownership structure. As firms in Greek have different ownership structure than that of firms in the US and UK. The ownership of the Greek firms mostly comprises of family businesses and a small number of owners as opposed to firms in the US and UK, where ownership of the firms belongs to a large number of shareholders. This difference of ownership structure has the implication of different agency costs and less

possibility of hostile takeovers. Whereas in the US and UK markets the practice of hostile bids is a common factor. As the (Stern et al., 1996) argues that economic value added should enable management to use corporate resources more effectively and efficiently and it should also motivate managers to act as shareholders for the best interest of the company instead of playing their role merely as an agent of the firm. So it will help in reducing the likelihood of an external control mechanism of the market.

In this struggle of analyzing economic value added and two traditional accounting measures i.e. net income and operating income, we can check which measure provides more relative and incremental information content. The results of the study, on the basis of Athens Stock Exchange data, are not in congruence with the claim of (Stewart) that economic value added has a stronger relationship with stock returns in comparison to traditional accounting measures. Rather net income and operating income prove to provide more relative information content as long as both abnormal returns and raw stock returns are concerned. The results of net income and operating income are consistent throughout most of the sensitivity analysis. On the other hand, the distinctive constituents of the economic value added model i.e. the cost of capital and (Stewart) adjustments fail to provide relatively greater incremental information content. So economic value added in this regard has also not been able to provide significant value to the economic value added measure. In this way, the results obtained through the analysis of emerging small market support the results proposed by (Biddle et al., 1997; Chen & Dodd, 1998) while analyzing the developed US companies. In order to find out the reason why economic value added has failed to establish a strong significant relationship, we arrived at a conclusion that the following four arguments might be the possible reasons. The first reason is that the market participant's assumptions while calculating the betas, cost of debt and the weighted average cost of capital might be different than that of used in this study. The second reason is the adjustments proposed by Stern and Stewart Company might not be considered by market participants while extracting information from the published financial reports. The third reason might be the period during which this study is conducted, as the investor might not consider the importance of cost of capital. Hence not recognizing the importance of economic profit or residual income might have adversely affected the efficacy of economic value added by not reflecting EVA's impact in the analyzed data. The fourth reason seems to be that economic value added

reflects the current real or economic value, however, market returns are subject to change with expectations of future cash flows.

Though during our study of the economic value added model, it does not prove itself as a better performance measurement tool than other traditional accounting measures in explaining stock returns of Greek stock market. However, the results reveal some of its explanatory power. On the basis of our study, we come to the conclusion that for a better investment decision making the economic value added should be used along with traditional accounting measures.

(Issham et al., 2008) The primary objective of any business entity is to create value for its shareholders. Reaching to this objective is not that easy without making proper arrangement for the implementation of best available performance evaluation mechanism. Selecting a performance measurement tool that helps in creating value for the shareholder's is still under debate, as which measurement tool is better than the other. Along with income based measurement tools there are other various performance measurement tools available in the market, claiming to be the best solution for the shareholder's value creation. This study attempts to find the superiority of a new variant of residual income model called economic value added. Economic value added being a useful tool in predicting performance of the company, the study will also attempt to compare non-government linked companies and government linked companies in Malaysia by applying economic value added as performance evaluation metric. It is observed that government linked companies have played important role in the development of economies, specifically when it comes to countries with developing economies. However government linked companies apart from playing their role in the development yet also proved to be less efficient than that of non-government linked companies. It is also witnessed that economies with government linked companies in abundance face problems in economic growth, as congenital inefficiency in government linked companies pulls down the economic growth. The inefficiencies in government linked companies are found to be due to a reason of competition it do not face.

The performance of government linked companies in Malaysia are found to have less values of economic value added in comparison to those companies which are not linked with government. The Malaysian government had invested in companies either to bail it out from bankruptcy or protected those companies which represent the image of the country. The reason

of helping out these companies are to protect the interest of the people. The performance of these government are as expected less than that of non-government linked companies, which primary objective is to create wealth. As per general observation the performance of the government linked companies are not as efficient as that of non-government linked companies, and the same rule apply to Malaysian companies without any exception. There are reasons that are partially responsible for this not up to standard performance of government linked companies. The first reason is its ownership structure that is found to be responsible for its inefficiency, the other prominent reason is the absence of competition for the government linked companies. The government linked companies are always expected to have political and social concerns as their primary objective rather than focusing only on wealth generation. The other primary objective of Malaysian government is to protect the interest of its native people and to ensure that they actively participate in the state's development activities. One of the other reasons that supplement the underperformance of government linked companies is the policy, which requires at least thirty percent of the equity share should be by the bumiputera for any new listing in Bursa Malaysia. Other than the above mentioned factors that are responsible for the underperformance of the government linked companies are the transparency in the hiring process of the companies. As it is observed that in comparison to non-government companies the problem with government linked companies are that of political interference in hiring rather than making hiring process transparent and recruit right person for the right job. Other than hiring people on political interference the perks and benefits of government linked companies are not compatible with the non-government linked companies, which also play a negative role in profit maximization. The results of the study also shows that the there is a negative impact on the economic value added value due to massive size of the companies. Specifically the companies with colossal size and owned by government are found to have more inclination towards lower value of economic value added. Even though the government linked companies only got five percent share in the Malaysian listed companies, yet it account for about thirty six percent market capitalization. It is also found that the increase in firm's size and having government as its stakeholder tends to destroy shareholder wealth, rather than creating it. On the basis of the findings of this study it is observed that the government interest in the companies failed to create wealth for its shareholders, as its economic value added value is negative.

Shil (2009) Economic Value Added contained both advantages and limitations. Generally it is not recommended to use economic value added as the only tool for measuring the performance of the company. Rather past data should be tested to find out that for whatever specific area which tool best describes the performance of the firm. On the basis of these tools mix set of tools should be used in order to get the optimum results. Economic Value Added is the utmost significant measure for performance. They also propose that it has a significant effect on the stock market. They have used regression analysis and come to the conclusion that economic value added is not the sole performance measure. Every performance measurement tool has its own significance in performance measurement.

Ismail (2011) Measuring corporate performance is a way to achieve ultimate goal of organization that is to create value for shareholders. The issue is that which corporate performance measurement tool best serve the purpose, as choosing one among many is a difficult decision. Many proposed performance measurement tools claim to be the ultimate solution for organization's performance evaluation. Among these performance evaluation metrics economic value added is getting attention by both media and financial analysts. Economic value added is proposed by Stern Stewart and Company in 1991, claiming it to be the ultimate solution for corporate performance evaluations. This study focuses on the predicting power of positive economic value added and negative economic value added, when it comes to explain stock returns. The point of observation in this study is whether positive economic value added outperform negative economic value added in explaining stock returns as positive economic value added is considered as value creator and negative economic value added is considered as value destroyer. The two sets of data is used for the purpose of comparison between positive economic value added and negative economic value added in order to explain stock returns. The first data set comprises of 10 years data from 1993 to 2002, it contains 750 observations and the second data set covers the period of six years from 1997 to 2001 and contains 1440 observations. The results of the study reveals that both the variables positive economic value added (value creator) and negative economic value added (value destroyer) has no impact on the stock returns, as no relationship is found between value creator and value destroyer and stock returns. The results of both the models are found to be statistically insignificant. In the second part of the study the relation between positive economic value added and negative economic value added and earnings are tested. As the

earnings represent the earning per share and net operating profit after tax. The result of this regression analysis shows that positive economic value added (value creator) has a better association with earnings in comparison to negative economic value added (value destroyer). Which means positive economic value added is a better earnings multiplier than negative economic value added. In other words positive economic value added has the tendency of creating accounting profit at a higher rate, in comparison to that of negative economic value added. In the third part of the study where the performance of economic value added is observed on the basis of time period. Which means that whether economic value added performance is better when observation covers longer period of time or economic value added performs better when observations comprises of short period of time. The findings of the study shows that when the time period of observation is longer economic value added explain stock returns better, and when the observation time period is shorter then economic value added do not have a better relationship with stock returns.

Vijayakumar (2011) Measuring corporate performance is getting utmost attention in the corporate world due to increase in competitiveness and complexity of the market. The growing importance of corporate performance also caught the attention of academicians in the field of finance and economics. Many studies has attempted to find the factors affecting the stock price of the firm, or in other words what factors determine the value creation for the shareholders. The matter of fact is that the corporate performance of the firm is subject to change due to many factors ranging from company specific to industry specific, various economic variables also plays a vital role in the determination of corporate performance. The established fact on which all the stakeholders are agreed is that the main goal of every business enterprise is to maximize the value of the company or create shareholder's wealth. Even though the all the stakeholders agree to the fact that maximizing shareholder's wealth is the primary objective of the firm, but the matter is still under debate that what is the best possible way to get to this primary objective. As the holders of debt securities of the company, limit their exposure to risk by contract, so this objective of shareholder's wealth maximization further narrow down to the creating wealth for shareholders. This objective is further narrowed down to increase the market price of stocks when the market is efficient, apart from being the narrowest objective as far as value creation of shareholders wealth is concerned, yet it is the most predominant choice for the analysts. The stock prices got the

most attention when it comes to shareholder's value creation analysis. Since the share price is considered to be the predictor of real value of the firm, yet the stockholder's has the right of selling it in the open market. The management of the organization are considered to be responsible for value creation of the firm, considering share prices the yardstick of firm's value. This is a great concern as the argument is that share prices are not in control of the management of the firm, there are many other market forces outside the firm which determine the value of the share prices.

This study include the automobile sector of India. The sample consists of those automobile companies which are in existence on or before year 1996-97. The data for these automobile companies are selected from the period of 1996-97 to 2008-09. There were total twenty six companies which fulfill this criterion of sample selection, but out of those twenty six companies only twenty companies' complete data was available, as the financial data of other six companies was not available. The sample comprise of more than seventy three percent of Indian automobile sector. The results of the study revealed that the companies having negative economic value added value are fifty three percent to that of seventy six percent. The factor analysis results shows only three variables out of eight explain approximately 70 percent change in variance. Moreover the results shows that sales and profit after tax have strong association with economic value added than any other variable.

Ray (2012) in his efforts to find, when it comes to business performance if economic value added performs better or not. In his study, he found that Economic Value Added certainly provides the basis for the measurement of efficiency as well as helps efficiently in the use of funds by motivating managers. On the other hand, he also negates the argument that economic value added contributes to the stock returns. He argued that the investor weighs provision of dividend to shareholder more than increasing the overall value of the firm.

Sharma and Kumar (2012) the share value depends on a number of factors, but the most important element which determines the value of shares are the expected returns of shareholders from their investments. It is the deficiency of traditional measures that they do not provide any benchmark for comparison. In order to fill the gaps/shortcomings of

traditional accounting measures, many new performance measurement tools have been introduced. Among these new tools, economic value added has attracted the attention of investors. The reason for shifting of this attention from traditional accounting measures to economic value added is the ability of economic value added to evaluate performance measures better than that of traditional accounting measures. The reason for this study is to observe whether economic value added is an appropriate tool to be used for evaluating performance measures. This study has to compare traditional investment analysis tools with economic value added, in order to prove which performance measurement tool is a better option for an investment decision. The stakeholders such as investors, policymakers and researchers have been attracted to value-based financial performance measures in recent times because these measures reflect the true value of the company. Nowadays financiers, while evaluating firm's worth, are emphasizing more on value-based measures like economic value added rather than sticking to the traditional performance measures. It is suggested that the investors should rather use a mix of both performance measures for firm valuation and devising investment strategy then instead of using only one performance evaluating measure i.e. economic value added or traditional accounting performance measures which they found to be the case while analyzing the listed manufacturing concerns of India.

Alam and Nizamuddin (2013) the launch of economic value added was successful by getting popularity among the press when introduced by Stern Stewart and Company back in 1990. Since then it has been successful in finding space in the corporate world as a measurement tool. Its success can be judged by its induction to the financial system by many firms. The main concept of economic value added is that a business can only be able to create value unless the earnings generated by it are in excess of its weighted average cost of capital. The acceptance of economic value added is high due to the fact that it positively affects both shareholder and management because it addresses the concerns of shareholders by providing them with useful information regarding value creation. Simply put, management will have the incentives by efficient utilization of resources and creating value for the shareholders. Economic value added is being kept simple in order to implement it easily because if it is not accepted in the beginning, it is not able to produce anything. Like all the other performance measurement tools Economic Value Added also inherent some limitations. The main limitations are due to the reliance on the data produced by accounting, which generally

produces time-barred data. Therefore, the challenge that prevails all the time with economic value added is its calculation. To address this issue it has a solution of altering it as per requirement through the economic value added team, in order to implement it in a way that it becomes productive. The economic value added team makes sure to remove all the discrepancies and adjusts it in a way so that it produces economic profit and aids in creating value. The matter of fact is that economic value added possesses both benefits and shortcomings. However, using only economic value added for performance evaluation is in no way a good idea. Efforts are required by the management to determine the areas where economic value added outperforms other performance measurement tools and where other metrics produce better results. Therefore, using economic value added along with other tools simultaneously is fruitful in order to get better results.

Abdoli, Shurvarzi, and Farokhad (2012) in their study they attempt to compare residual income with economic value added in order to find out that which metric is more correlated with shareholder's value creation. The results show that both the metrics economic value added and RI have a significant relationship with created shareholder's value. The point is now to find out which measurement tool is more significant than the other. However, the results were opposite to that of expectations, as residual income metric was found to be more related to CSV in comparison to economic value added. The reason in this case for economic value added underperformance could be the adjustments made to net operating profit tax, as NOPAT is the main component of this evaluation process. So these adjustments might have an adverse effect of the efficacy of economic value added. Moreover, the other reason might be the non-publishing of economic value added reports externally, due to which investor is not able to use its decision making. It is also observed in Iran that due to reasons, the cost of capital does not get consideration in the performance evaluation process. It is therefore recommended to consider the cost of capital in the evaluation process, as well as the criteria of residual income also require some attention in a management evaluation process.

Sahoo and Pramanik (2016) performance measurement is a routine operation for corporate managers and it is also considered an important tool for corporate performance. The standard practice in the corporate sector nowadays is to offer an incentive to the achievers and to raise questions on the performance of nonachievers. Many techniques have been established to discuss performance, and every technique has its own framework and conceptual base.

Conceptualization of techniques with their boundaries and trials are of greatest importance before its use. This study focuses on comparing economic value added with other performance measurement tools in order to clear the concept of economic value added for the readers. economic value added has been recommended as a better measurement tool as Net Present Value. Use of economic value added helps a company to get a rate of return which is higher than its cost of capital. economic value added is a more valuable tool than NPV of DCF, even though both tools provide the same results for a longer period of time. It is also argued that economic value added is the best proxy as long as value creation is concerned, but strict care is needed when applying this measure. economic value added particularly is a perfect tool for developed companies and industries. In cash sensitive companies or companies still in the growth phase, where liquidity is the main concern, Cash Value Added could be a better solution.

Khan, Nouman, TENG, Khan, and Jadoon (2017) while studying determinants of financial performance of Pakistan's financial sector, they recommend economic value added as a performance measurement tool for the financial sector.

Bhasin (2017) is an attempt to evaluate the claim of economic value added being a superior performance measure in comparison to traditional performance measures, in terms of corporate disclosure and internal governance. Ultimately after a long gap, the businesses in India have started emphasizing on value creation for shareholders, by starting to adopt value-based performance measures. This practice of adopting value-based performance measures starts pushing managers to align management actions with organizations preferences. The adoption of economic value added as a performance evaluation tool is growing rapidly nowadays. The reason for this growth is its inbuilt ability to avoid an issue of window dressing in reporting figures. Many leading companies of India have already incorporated economic value added as a performance measurement to their system, but still, some firms are reluctant to adopt economic value added as a performance measurement tool and to make a shift. This hesitation of shifting to economic value added from conventional accounting measure have a valid reason, as yet there is no concrete evidence found which can prove economic value added as a better performance measurement tool from that of its traditional rivals'

conventional measurement tools. This study attempts to evaluate the value-based performance measures in order to analyze which metric better describes the market value of the firm.

The concept of corporate performance measurement has been garnering much attention from the researchers around the world. The determinants of the market value of a firm are still under debate as which performance measure describes the market value of the firm better than the other, whether it is economic value added or conventional accounting measures. In other words, which performance measure is superior to others in explaining the market value of the firm? The performance of the corporation is subject to change due to various factors, out of which some are company specific, some are industry-specific and other are economic variables. Economic value added is a measure of performance that relates itself directly with the intensive creation of shareholder's wealth. Economic value added is the only metric that helps the investor in identifying new opportunities as well as it also encourages management to act in the best interest of an organization (Bhasin, 2008). As it is proposed that there are four main reasons that make economic value added a superior metric than the other performance measures because economic value added represents real cash flows more than any other measure. The calculation and understanding of economic value added are much easier as compared to the other performance measures as it represents the market value of the firm more than any other performance measurement tool, and lastly, it encourages managers to make decisions in the best interest of shareholders by implying the management incentive proposition to the system. This whole process results in reducing the agency problem of the organization. In simple words, the strong correlation of economic value added with market evaluation and shifting management related agency problems into shareholder's value creation is a clear indication of economic value added superiority over other conventional measurement tools. However, the results of the study conducted by other researchers (Alipour & Pejman, 2015) show no signs of economic value added superiority over its conventional rivals i.e. traditional accounting measurement tools in explaining market value of the shares. The use of economic value added as an internal performance evaluation tool is not acceptable along with conventional measurement tools by the firms due to the reason for its weak association with stock prices. The concept of economic value added is bargained on consideration of economic profit and economic capital to provide a basis for reaching a conclusion whether economic value added is increasing shareholder's wealth or it is destroying it. The adjustments are

required in the values provided by conventional accounting measures, in order to reach to the point where accounting profit and economic capital can be extracted from the values provided by conventional accounting measures. However, the required adjustments have positively shown some inherited inconsistencies as per many studies. The economic value added is a basis for making the best decisions in the interest of the firm and shareholders. Economic value added is a measure which enables management to evaluate the value of the firm correctly, and secondly, economic value added make arrangements for management incentive compensation in order to motivate managers to act in best interest of the firm and shareholders. Hence it will create value for shareholders. This study is a struggle to study the impact of economic value added as a performance measurement tool.

Economic value added is the most misread concept in the corporate world. The claim of the economic value added is that it is a better performance measurement tool in capturing the true value of economic profit than any other performance measurement tool. This ability of economic value added, to capture the real value of economic profit better than any other performance measure, enables managers to take up to the mark decisions and it also motivates management to perform better and in accordance with the interest of the shareholders, in order to create the value for the firm. The reason, for it being not widely known like other conventional performance measures, is that it is not mandatory to report economic value added in the disclosure of financial reports of the firm. However, if it is calculated and disclosed in the financial statements, it will increase the confidence level of shareholders, which will turn out to be beneficial in the long run for the survival of the company. Besides, many factors that are not in favor of the economic value added can still judge the worth of economic value added from the fact that many large companies with enough resources have adopted economic value added as their performance evaluation tool. The introduction of a new concept to the system with the narrative of creating shareholder's value with the ability to translate economic profit more than any other performance measurement tool has attracted more than 500 firms towards its viewpoint. As in the economy of India, there are numerous players and when we analyze their output the fact is that some of them are increasing shareholder's value while some are not yet succeeded in creating value for the firm. The requirement for the firm is now to improve their performance and specifically their financial performance, and the need for this performance improvement is in the perspective of shareholder's wealth creation. Putting it

differently, the dissatisfaction will arise among the investor with the non-performance of economic value added. The investor dissatisfaction in return will reduce the mobilization of equity in the market which will adversely affect the market. The matter of fact is that economic value added is not the sole metric of measuring performance, it also has the ability to measure the value of the firm. In this study, the findings do not find any evidence of economic value added superiority over other performance measurement tools in describing the market value of the firm. The results show that there are other factors that determine the market value of the firm, it is therefore required to consider those factors in a firm's evaluation process, in order to create value for shareholders as well as to measure the performance of the firm. At this point, it is suggested to use both conventional performance measurement tools and economic value added simultaneously in order to assess the impact of value-based tools. The use of a single measurement tool, whether conventional measurement tools or value-based measurement tools in order to measure the improvement in performance and value creation, is not recommended. The introduction of economic value added has provided the choice in selecting performance evaluation tools. The fact is that organizations are still making investments in unprofitable projects, which has eventually resulted in the destruction of shareholder's wealth (Sakthivel, 2010). The prevailed practices of performance evaluation in India today require improvement. The economic value added is the hottest debate in corporate sectors nowadays and it is getting more popular day by day in India. This concept of economic value added has been disregarded and overlooked by both the government as well as by the professionals. Even though the marginalization of the concept of economic value added, yet some companies disclose this performance measurement tool in their annual financial statements as a supplementary disclosure. The issue is that the transparency in the disclosure of financial information is still lacking. This research has attempted to evaluate the value creation strategies of the firms listed in the Indian market in order to analyze that which measure, whether a conventional measure or economic value added, has the ability to explain market value better. That is to say, this study is conducted to analyze the superiority of economic value added in explaining market value. On the basis of this research, it can be recommended that the Indian market should focus on the improvement of their respective firm's performance by taking into account the cost of capital. Many researchers on the basis of the findings of their study agree upon the claim of economic value added and consider it to be

a better financial measurement tool, as it has better predictive power than conventional performance evaluation tools as far as financial performance measurement is concerned. The economic value added got popularity in developed economies of the western world by getting a place in the process of management innovation and analysis of the stock market. The acceptance of economic value added somehow has not managed to attract Indian market participants. As in India, only 17 companies are found, out of a sample of 500 companies, to have adopted economic value added for their performance measurement and decisions making. However, some firms on a continuous basis report their economic value added statement in their annual financial reports. On the other hand, many companies are not yet ready to use economic value added as a measure to evaluate the performance of their organizations, the reason for not using economic value added is that it is difficult to compute. The other reason for non-disclosure of economic value added is the cost associated with it, as it comes with the cost of consultation fee and legal fee in order to solve the complexity in its methodology. It is also observed on the basis of many studies that it is difficult to find a relationship between stock prices and economic value added in a developing economy like India. Furthermore, on the basis of these findings in Indian market investment decisions that are based on economic value added undeniably face some hurdles. However, the value creation and increase in shareholder's wealth should require prioritization.

The business community of India have started to realize the worth of economic value added and have also started to calculate economic value added and to disclose it in their annual financial reports. Furthermore, some leading companies also start calculating economic value added for the purpose of their internal management measure of performance. The hope is that the economic value added will manage to make its place in the organization of internal management control and in the planning of the decision-making process in the future. It has also been proposed to the regulatory bodies of India to make the disclosure of the economic value added mandatory in the annual financial reporting so it can bring more transparency to the business. It will also help in boosting the confidence of the investors in the business corporations. This boosting of investors' confidence will eventually result in the revival of the overall economy.

## 2.6. Findings from the literature

There are mix opinions in the literature as far as the superiority of Economic Value Added is concerned. Some researchers consider economic value added to be a superior performance measurement tool in comparison to traditional accounting measurement tools such as ROTA, ROCE, EPSAT, OCF etc. The school of thought also exists that contradicts the superiority of Economic Value Added approach. Both doctrines are supported by empirical results, which they have gathered after analyzing both the tools. However, there are some researches which suggest using both economic value added and traditional accounting measures performance measurement tools in parallel rather than relying on a single performance measurement technique.

## 2.7. Hypotheses

Following are the hypotheses that have been developed which are based on the proposed theoretical framework.

$H_1$: Relative information content provided by EVA is superior to conventional accounting measures.

$H_2$: Incremental information content provided by EVA is higher than conventional measures.

# CHAPTER 3

# METHODOLOGY

The data used in this research was collected from secondary published sources. Panel Pool data of 279 firms listed in Pakistan Stock Exchange over the period of 2009 to 2016 is selected. The non-financial firms listed on the Pakistan Stock Exchange are analyzed for this study, the reason for excluding financial firms is because of the difference in their nature. Financial Statements Analysis of Non-Financial companies listed in Pakistan, published by State Bank of Pakistan, is the main source of data. However, the Karachi Stock Market Data Portal is used for obtaining year-end stock prices data.

Since the present study uses original data and if we are normalizing the data it will then disturb the true connection of mentioned variables. Therefore the actual data is used which give us the true picture of the overall model. As explained by (Osborne, 2002) that transformation of data "might be undesirable if the original variables were meant to be substantively interpretable (e.g., annual income, years of age, grade, GPA) because the variables become more complex to interpret due to the curvilinear nature of the transformations. Researchers must therefore be careful when interpreting results based on transformed data."

Individual Regression Analysis is applied to test the relative information content, and in order to test the incremental information content, multiple regression model is used which are proposed by (Ismail, 2006), (Kumar & Sharma, 2011)&(Khan et al., 2016).

## 3.1. Total Population

Total population for this study was 422 non-financial firms listed in Pakistan Stock Exchange as on June 30, 2016 and listed in Pakistan Stock Exchange from or before July 01, 2009.

### 3.2. Sample Selection

Sample selected for this study was 279 firms which were listed in Pakistan Stock Exchange from July 01, 2009 to June 30, 2016. The selection criteria was based convenience sampling as it is subject to the availability of data of these firms for the period from 2009 to 2016. Initially all the 422 firms were selected for the analysis form 2006 to 2016, but later the firms were reduced to 279 and also initial three years from 2006 to 2008 were excluded from the sample due to unavailability of data. Mostly the data of operating cash flows were missing in in the initial three years.

### 3.3. Regression Models

#### 3.3.1. Relative Information Contents Model:

$$MVS_{it} = \beta_0 + \beta_1 EVA_{it} + \varepsilon_{it} \quad (1)$$
$$MVS_{it} = \beta_0 + \beta_1 ROTA_{it} + \varepsilon_{it} \quad (2)$$
$$MVS_{it} = \beta_0 + \beta_1 ROCE_{it} + \varepsilon_{it} \quad (3)$$
$$MVS_{it} = \beta_0 + \beta_1 DE_{it} + \varepsilon_{it} \quad (4)$$
$$MVS_{it} = \beta_0 + \beta_1 EPSAT_{it} + \varepsilon_{it} \quad (5)$$
$$MVS_{it} = \beta_0 + \beta_1 OCF_{it} + \varepsilon_{it} \quad (6)$$

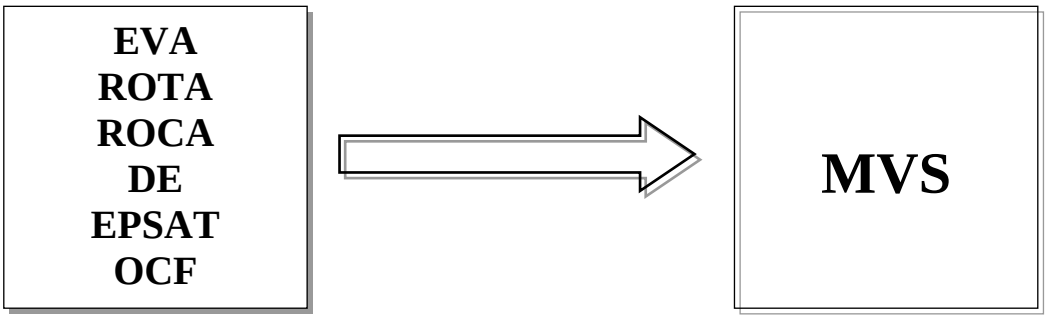
#### 3.3.2. Incremental Information Contents Model:

$$MVS_{it} = \beta_0 + \beta_1 EVA_{it} + \beta_2 ROTA_{it} + \beta_3 ROCE_{it} + \beta_4 DE_{it} + \beta_5 EPSAT_{it} + \beta_6 OCF_{it} + \varepsilon_{it} \quad (7)$$

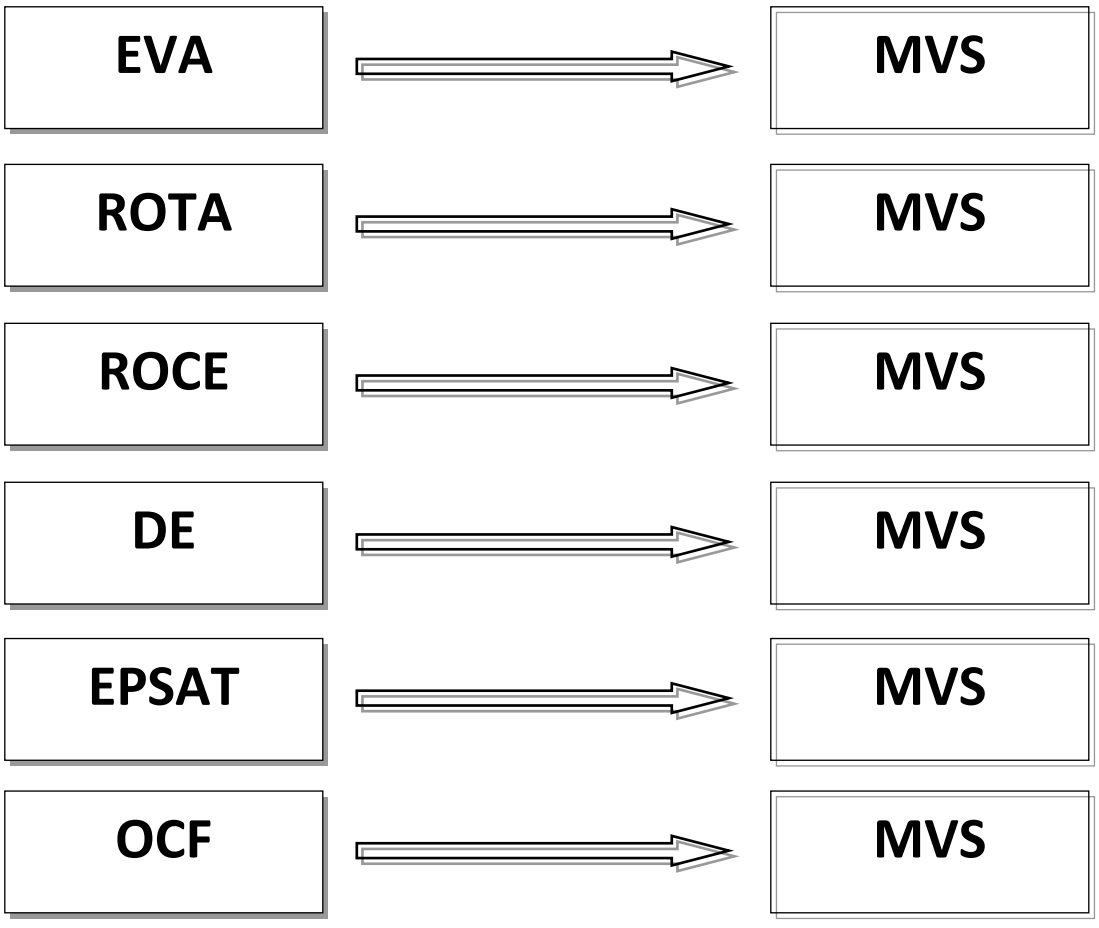
$$MVS_{it} = \beta_0 + \beta_1 ROTA_{it} + \beta_2 ROCE_{it} + \beta_3 DE_{it} + \beta_4 EPSAT_{it} + \beta_5 OCF_{it} + \varepsilon_{it} \quad (8)$$

### 3.4. Conceptual Framework

#### 3.4.1. Incremental Information Content Model




#### 3.4.2. Relative Information Content Model



### 3.5. Variables Definition

| Variable | Name | Definition | Symbol |
|---|---|---|---|
| Dependent Variable | Market Value of Stock | Closing Stock Price | MVS |
| Independent Variable | Return on Capital Employed | PBT as a percentage of Average Shareholder's Equity | ROCE |
| Independent Variable | Return on Total Assets | PBT as a percentage of Average Assets | ROTA |
| Independent Variable | Debt to Equity Ratio | Ratio of Debt to Equity | DE |
| Independent Variable | Earnings per Share after Tax | EAT Divided by Number of Shares Outstanding | EPSAT |
| Independent Variable | Operating Cash Flows | As per Financial Statements | OCF |
| Independent Variable | Economic Value Added | Net Operating Profit after Tax - (Cost of Capital x Total Capital) | EVA |

# CHAPTER 4

# DISCUSSIONS AND ANALYSIS

## 4.1. Introduction

The sample of 279 firms from Pakistan Stock Exchange from a period of 2009 to 2016 was tested by using Ordinary Least Square Method of regression analysis. Bivariate regression were conducted to analyze the relative information content of all the independent variables in order to find their relationship with market value of shares. In order to find that whether economic value added relatively provide more information than that of the traditional accounting measures the impact of individual independent variable is tested on market value of shares by using regression analysis. On the other hand to observe whether economic value added provide any incremental information in explaining market value of shares, multivariate regression analysis is used. For the purpose two regression models were developed in the first model the impact of all the independent variables (economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows) on dependent variable (market value of shares) are analyzed by using multivariate regression analysis. In the second models again the impact of all the independent variables on dependent variables are tested only by excluding one independent variable that is economic value added in order to see the contribution of economic value added in adding any incremental information to the dependent variable market value of shares.

## 4.2. Relative Information Content

In order to find relative information content individual bivariate regression analysis was conducted for the purpose. The results of the individual regression analysis are summarized in the table 1 below:

Table 1: Summary of regression results of model 01 to 06 (Using OLS Model).

| | EVA | ROCE | ROTA | DE | EPSAT | OCF |
|---|---|---|---|---|---|---|
| Constant | 12359048.94 | -412071.884 | 11625050.59 | 12447442.18 | 10472289.57 | 4518477.406 |
| Coefficients | -0.172 | 1.574 | 25591639.41 | -2715.601 | 189239.713 | 6.344 |
| t- statistics | -2.474 | 64.919 | 5.135 | -0.134 | 6.888 | 59.025 |
| p-value | 0.013 | 0.000 | 0.000 | 0.893 | 0.000 | 0.000 |
| F | 6.123 | 4214.521 | 26.366 | 0.018 | 47.45 | 3483.959 |
| $R^2$ | 0.003 | 0.654 | 0.012 | 0.000 | 0.021 | 0.61 |
| Ad. $R^2$ | 0.002 | 0.654 | 0.011 | 0.000 | 0.021 | 0.61 |

### 4.2.1. Impact of Economic Value Added on Market Value of Shares

A bi-variate regression analysis was conducted in order to find the impact of economic value added in explaining market value of shares. The results of the study are given in the table 1above:

The results are however statistically significant as the value of p is 0.013, at 95 percent significant level, which is much less than that of 0.05. As per the results of the study the equation of the regression will be written as:

MVS = 12359048.94 – 0.172*EVA

The regression equation of the impact of economic value added on market value of shares shows that there is a negative relationship between economic value added and market value of shares. The results also show that the relationship between economic value added and market value of shares is negative but also very weak. Even though from the analysis it is observed that there is a weak and negative impact of economic value added on market value of shares but this relationship is not significant and the overall model is not fit, as the value of $R^2$ is 0.003 which shows that economic value added explain only 0.3 percent change in market value of shares.

### 4.2.2. Impact of Return on Capital Employed on Market Value of Shares

The bivariate regression analysis of return on capital employed being the independent variable and market value of shares being the dependent variable reveals that statistically the results are significant as the value of p is negligible in relation to that of 0.05 at 95 percent confidence interval. The results of the regression analysis are given above in table 1. The

regression equation of impact of return on capital employed on the market value of shares after analyzing the variables comes out to be:

MVS = -412071.884 + 1.574*ROCE

The equation of the regression shows that return on capital employed has a positive strong relationship with market value of shares. As the value of the beta of return on capital employed is 1.574, which means a unit change in return on capital employed will result in approximately 1.6 times change in the value of market value of shares. The value of $R^2$ is 0.654 which is more than that of 0.5, which means that the model is fit. This value of $R^2$ also describes that 65 percent variance in market value of shares is due to that of return on capital employed.

### 4.2.3. Impact of Return on Total Assets on Market Value of Shares

The regression analysis of two variables that is return on total assets being the independent variable and market value of shares being the dependent variable shows the results mentioned in table 1 above as far as the effect of return on total assets on market value of shares are concerned.

Statistically the results are significant as the value of p is negligible and less than that of 0.05. The regression equation of the effect of return on total assets on market value of shares turns out to be

MVS = 11625050.59 + 25591639.41ROTA

The value of the $R^2$ is however very low that is 0.012 which suggests that only 1.2 percent change in market value of shares is effected by return on total assets.

### 4.2.4. Impact of Debt to Equity Ratio on Market Value of Shares

While analyzing the impact of independent variable debt to equity ratio on dependent variable market value of shares the results shows that the results are not significant. As the value of p in this case is 0.893 which is way higher than the bench mark of 0.05 at 95 percent confidence level. The regression results of the impact of debt to equity ratio on market value of shares are given above in table 1. The regression equation for the model is given below:

MVS = 12.18 + -27.601*DE

The value of $R^2$ is also 0.00 which suggests that overall model is not fit, which means that the variance in market value of shares are not effected by debt to equity ratio.

### 4.2.5. Impact of Earning per Share after Tax on Market Value of Shares

A bivariate regression analysis of earning per share after tax being the independent variable and market value of shares being the dependent variable was conducted in order to find the impact of earning per share after tax on market value of shares. The analysis shows that the results of the regression are significant as the value of p is negligible and less than that of a bench mark of 0.05. The results of the regression are given above in the table 1.

The equation of the regression after analyzing the impact of earning per share after tax on market value of shares comes out to be:

MVS = 10472289.57 + 189239.713*EPSAT

The regression equation shows that there is a positive relationship between earning per share after tax and market value of shares. It means increase in the value of earning per share after tax will positively affect the value of market value of shares. The value of $R^2$ is 0.021 shows that earning per share after tax is only responsible for 2.1 percent change in market value of shares.

### 4.2.6. Impact of Operating Cash Flows on Market Value of Shares

In efforts to analyze the impact of operating cash flows on market value of shares a bivariate regression analysis was conducted. In this analysis operating cash flows are used as an independent variable market value of shares was used as a dependent variable. The output of the analysis reveals that the results are significant as the value of p is negligible and less than that of 0.05 the results of the regression are given above in table 1. As per the results of the regression the equation of the regression can be expressed as:

MVS = 4518477.406 + 6.344*OCF

The regression equation shows that there is a positive direct relationship between operating cash flows and market value of shares. The beta of operating cash flow is 6.344

which means a unit change in operating cash flows will result in 6.344 times change in market value of shares. The $R^2$ value of the model is 0.610, which shows that the overall model is fit. It also suggests that 61 percent variance in market value of shares is due to operating cash flows.

### 4.3. Incremental Information Content

In order to find the incremental information content of economic value added a multiple linear regression is used, for this purpose two regression models are developed. In first regression model the impact of all the independent variable that is economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows on market value of shares are observed. However in second equation economic value added is excluded from the analysis to compare the results of both the analysis to find whether economic value added add any information in explaining market value of shares.

#### 4.3.1. Impact of Economic Value Added, Return on Capital Employed, Return on Total Assets, Debt to Equity Ratio, Earning per Share after Tax and Operating Cash Flows on Market Value of Shares

Multiple regression analysis was conducted to observe the effect of all the independent variables that is economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows on dependent variable market value of shares. The value of p is negligible and below than that of a benchmark of 0.05, which suggests that statistically the results are significant. The results of the regression analysis can be shown in the table 2 below:

Table 2: Impact of EVA, ROCE, ROTA, DE, EPSAT and OCF on MVS (Using OLS Model)

| **Variable** | **Co-Efficient DV=MVS** |
|---|---|
| Constant | -1048136.822 |
| EVA | 0.081 |
| ROCE | 1.002 |
| ROTA | 4375096.526 |
| DE | 8578.65 |
| EPSAT | 110878.334 |
| OCF | 3.244 |

P value= 0.000
$R^2$= 0.741
Adj. $R^{2=}$ 0.740
F-Stat.= 1060.315

On the basis of the results given in table 2 above, the regression equation can be expressed as:

MVS = -1048138.822 + 0.081*EVA + 1.002*ROCE + 4375096.526*ROTA + 8578.850*DE + 110878.334*EPSAT + 3.244*OCF

All the variables are significant at 95 percent confidence level, as their value of p is less than that of a bench mark of 0.05, except return on total assets and debt to equity ratio. However at 90 percent confidence level return on total assets is also significant as its value is 0.096 and less than that of 0.1 which is a benchmark value at 90 percent confidence interval. The value of p for debt to equity ratio is 0.407, which is very high than that of a benchmark of 0.05, which means the value of debt to equity ratio is insignificant.

The value of $R^2$ in this case is 0.741, which is higher than that of a benchmark of 0.5, which shows that overall model is significant. The value of $R^2$ also shows that 74.1 percent variation in dependent variable that is market value of shares is due to the independent variables that is economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows.

### 4.3.2. Impact of Return on Capital Employed, Return on Total Assets, Debt to Equity Ratio, Earning per Share after Tax and Operating Cash Flows on Market Value of Shares

The multivariate regression analysis was conducted again in order to test the effect of independent variables that is return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows on the dependent variable market value of shares. The only difference between this analysis and the previous analysis is that in this time economic value added is not included in the analysis. The results of the analysis reveals that statistically the results are significant. The results of the regression analysis are given in table 3 below.

Table 3: Impact of ROCE, ROTA, DE, EPSAT and OCF on MVS

| Variable | Co-Efficient DV=MVS |
|---|---|
| Constant | -1046393.4 |
| ROCE | 0.994 |
| ROTA | 4439568.981 |
| DE | 8836.413 |
| EPSAT | 111065.326 |
| OCF | 3.259 |
| P value= 0.000 | |
| $R^2$= 0.740 | |
| Adj. $R^2$= 0.740 | |
| F-Stat.= 1269.053 | |

The regression equation derived from the results in table 3 above can be expressed as:

MVS = -1046393.400 + 0.994*ROCE + 4439568.981*ROTA + 8836.413*DE + 111065.326*EPSAT + 3.259*OCF

All the variables are significant at 95 percent confidence level, except return on total assets and debt to equity ratio. However the p value of return on total assets is 0.092 which is less than that of 0.1, which means the variable return on total assets is also significant but at 90 percent confidence level. The p value of debt to equity ratio is 0.394 which is way higher than that of a benchmark of 0.05. It means that the independent variable debt to equity ratio is insignificant. The $R^2$ value of the model is 0.740 which is higher than that of 0.5, which shows that the overall model is fit. The $R^2$ value also tells that 74 percent change in dependent variable market value of shares is due to the independent variables return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows.

### 4.4. Evidence from Literature:

#### 4.4.1. Relative Information Content:

The result of the study shows that EVA fails to prove its superiority over all the traditional accounting measures tested in this analysis except debt to equity ratio. The $R^2$ value of the results shows that return on capital employed explain stock prices most as it explains stock prices by 65.4 percent. The second traditional accounting measures that explain the stock

prices most is that of operating cash flows as operating cash flows explain stock prices by 61 percent. The other variables that explain stock prices are earning per share after tax is 2.1 percent as its value of $R^2$ is 0.021, the value of $R^2$ of return on assets is 0.012so it explains stock prices by 1.2 percent, and the economic value added only manages to explain stock prices by 0.3 percent as its value of $R^2$ is 0.003. As per the results of the study economic value added did not prove to be the better financial measurement tool in explaining relative information content of market value of shares in comparison to return on capital employed, return on total assets, earning per share after tax and operating cash flows as far as Pakistan stock market is concerned. The reason for this under performance of economic value added might be the expectation of the investor, as the matter of fact is that market do respond to the expectations of the investor in both positive and negative ways and in under developed economies like Pakistan the economic value added has not yet gained its position in the mind of the investor to be considered as one of the important financial measurement tool. So non-consideration of economic value added in performance evaluation process of the firm might influence their decision process while expecting form the performance of a particular firm. However debt to equity fails to explain any variation in stock prices. The reason that debt to equity do not contributes in explaining stock prices might be that increase in gearing is only welcome by investors up to a point, beyond this point the gearing of a firm is considered a threat to the organization due to distressed cost associated with high level of gearing.

The results of the study is in accordance with the results of the (Biddle et al., 1997; Chen & Dodd, 2001; Khan et al., 2016), where there is no evidence found that economic value added is superior that other accounting measures in providing relative information content in explaining stock prices.

### 4.4.2. Incremental Information Content:

In order to test whether economic value added outperform other traditional accounting measures that is return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows in explaining market value of shares by providing more incremental information content. Two regression models were developed for the purpose in first models the effect of all the independent variables that is on the economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after

tax and operating cash flows are observed in the second model the same process is repeated by excluding only one independent variable that is economic value added from the equation. The difference in the value of $R^2$ of both the equation will suggest that whether economic value added has superiority over other traditional accounting measures or not. In first equation where all the independent variables are incorporated, all the variables are found significant at 0.05 confidence level, except return on total assets and debt to equity ratio. However the p value of return on total assets is 0.096, which means that statistically return on total assets is significant but at 0.10 confidence interval. The p value of debt to equity ratio is .407, which means it is statistically not significant. In second regression where the independent variable economic value added is excluded from the equation again the independent variables return on capital employed, earning per share after tax and operating cash flows are significant at 0.05 confidence level and return on total assets is significant at 0.1 confidence level. However the value of debt to equity ratio is found statistically insignificant. The $R^2$ value of first equation with all the independent variables that are economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows are incorporated is 0.741 which means the first equation explain market value of shares by 74.1 percent. However in second equation where one independent is excluded that is economic value added from the equation but all the other independent variables that are return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows are tested to observe their effect on market value of shares. The $R^2$ value of second model is 0.740, which means that the second equation explains market value of shares by 74 percent. The difference between the $R^2$ values of two equations is as low as that of 0.1 percent, which rejects the hypothesis $H_2$ that incremental information content provided by EVA is higher than conventional measures. These results are in accordance with the results of (Khan et al., 2016; Kumar & Sharma, 2011).

# CHAPTER 5
# CONCLUSION AND RECOMMENDATIONS

This study attempts to analyze the proposition of (Stewart, 1991) that economic value added is a better performance measurement tool than other traditional accounting measures. The claim that economic value added is a superior performance measure is tested in perspective of Pakistan stock market, for the reason a sample of 279 firms listed in Pakistan Stock Exchange formerly known as Karachi Stock Exchange is collected. The data of the firms that are listed in Pakistan Stock Exchange are collected from a period of 2009 to 2016. The main parameters of this research was to observe the relative information content and incremental information content provided by independent variable (economic value added) and traditional accounting measures independent variables (return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows) in order to how well these independent variables explain market value of stocks and also to observe whether economic value added outperform traditional accounting measures in explaining market value of shares. The regression model (Ordinary Least Square) method is used in order to analyze which performance measurement tool is better than other in explaining market value of shares by providing more relative information content and incremental information content. In order to analyze which independent variable provide more relative information content than other a bivariate simple regression model is used for each independent variable. The results of the study shows no evidence of the claim made by (Stewart, 1991)that economic value added is a superior performance measurement tool in comparison to traditional accounting measures. As the results of regression analysis shows, which is statistically significant at 0.05 confidence interval, that the independent variable return on capital employed provide relative information content most in explaining market value of shares. The independent variable return on capital employed explains market value of shares by 65.4 percent as the value of $R^2$ is 0.654 in this case. It means that return on capital employed explains market value of shares way more than that of economic value added. The second independent variable that manages to explain market value of shares most after return on capital employed is operating cash flows, the results of this regression are again statistically significant at 0.05 confidence interval. As the value of $R^2$ in this case is 0.61, which means that

operating cash flows explain market value of shares by 61 percent which is again more than explains by economic value added. In other words operating cash flows provide relatively more information content than that of economic value added. The other independent variable is earning per share after tax which secured the third position when it comes to explaining market value of shares by providing relative information content more than independent variables economic value added, return on total assets and debt to equity ratio. The bivariate regression analysis results shows that statistically the results are significant as the p value in this case is well below 0.05. The $R^2$ value of this regression equation is 0.021, which means that earning per share explains market value of shares by 2.1 percent. Which is on lower side but yet return on total assets manages to outperform economic value added in explaining market value of shares by providing relatively more information content than economic value added. In the quest for finding which performance measurement tool provide more relative information content than other, return on total assets is found to be the fourth independent variable which explains the market value of shares more than economic value added and debt to equity ratio. Statistically the regression results are significant in this bivariate regression analysis. The value of $R^2$ is in this case in only 0.012, which means that return on total assets explains market value of shares by only 1.2 percent. The results reveal that economic value provides a negligible amount of relative information content in explaining market value of shares. The regression analysis shows that the relative information content provided by economic value added is less than all the traditional accounting measures (return on capital employed, return on total assets, earning per share after tax and operating cash flows) except debt to equity ratio. Statistically the result of this regression model is significant at 5 percent confidence interval. The $R^2$ value of this regression analysis is only 0.003, which means economic value added only explains market value of shares by a negligible amount of only 0.3 percent. The reason for economic value added underperformance might be the investor perspective about economic value added. The matter of fact is that market response to investor perception cannot be overviewed. As markets are found to react to the perception of investor and in underdeveloped economies like Pakistan where investor are not well aware of the concept of economic value added might have adverse effect on the results being produced by economic value added. Investors being not aware of the concept economic value added and not incorporating it in their decision making process might be the reason of economic value added under

performance in Pakistan. The bivariate regression results of debt to equity ratio being independent variable and market value of shares being dependent variable are found to be statistically insignificant. The reason being as the gearing of the firm increases its distress cost increase. Higher gearing is not considered a good sign because of higher financial risk associated with it.

While finding that whether economic value added provide more incremental information content than traditional accounting measures, two simple multivariate regression analysis models are developed for the purpose. In first model all the independent variables (economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows) are incorporated, in order to find its effect on the market value of shares. In the second model again all the independent variables are incorporated to find its effect on the market value of shares except economic value added. The difference in the value of $R^2$ from the results of both the equation shows no evidence of the superiority of economic value added. As in first equation where the effect of all the independent variables (economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows) on market value of shares were analyzed. Statistically the result of the overall regression model is significant at 5 percent significance level. However all the individual variables values are also significant at 0.05 confidence level, except the value of return on total assets and debt to equity ratio. Moreover the value of return on total assets is also significant at 10 percent confidence level, while the confidence level of an independent variable debt to equity ratio is not significant. The value of $R^2$ in first equation is 0.741 which means that all the independent variables (economic value added, return on capital employed, return on total assets, debt to equity ratio, earning per share after tax and operating cash flows) explain market value of shares by 74.1 percent. In second equation where from the first equation only one independent variable economic value added is excluded and the effect of all traditional accounting measures on market value of shares were observed. Statistically the regression result of overall model is significant at 5 percent confidence level. However as far as individual independent variables are concerned all the independent variables are statistically significant at 5 percent significance level except return on total assets and debt to equity ratio. The value of return on total assets is also statistically significant at 10 percent confidence level but the value of debt

to equity is statistically insignificant. The value of $R^2$ of this regression equation comes out to be 0.740, which means that the traditional accounting measures explain market value of shares by 74 percent. This means that traditional accounting measures provide more incremental information content than that of economic value added. As from the comparison of the results of both regression equation it is revealed that economic value added only manages to increase 0.1 percent of incremental information content in explaining market value of shares.

**Recommendations**

In the light of the results obtained by analyzing Pakistan Stock Exchange companies in respect to which performance measure economic value added and traditional accounting measure provide more relative and incremental information content. I would like to recommend that even though economic value added failed to prove its superiority over traditional accounting measures, but it should still be used in its true spirit and published by firms along with traditional accounting measures. The reason being it will motivate the management due to its comprehensive management compensation system to use capital more effectively and efficiently. I would also recommend for future research to analyze Pakistan Stock Exchange listed companies sector wise, in order to observe whether the results are different or the same.

# REFERENCES


Abdeen, A. M., & Haight, G. T. (2002). A fresh look at economic value added: Empirical study of the fortune five-hundred companies. *Journal of Applied Business Research, 18*(2), 27-36.

Abdoli, M., Shurvarzi, M., & Farokhad, A. D. (2012). Economic value added vs. accounting residual income; which one is a better criterion for measurement of created shareholders value. *World Applied Sciences Journal, 17*(7), 874-881.

Ahmed, H. (2015). Impact of firms earnings and economic value added on the market share value: An empirical study on the Islamic banks in Bangladesh. *Global Journal of Management and Business Research*.

Al Mamun, A., Entebang, H., & Mansor, S. A. (2012). EVA as superior performance measurement tool. *Modern Economy, 3*(03), 310.

Alam, P., & Nizamuddin, S. (2013). Performance measures of shareholders wealth: An application of economic value added (EVA).

Alipour, M., & Pejman, M. E. (2015). The impact of performance measures, leverage and efficiency on market value added: Evidence from Iran. *Global Economics and Management Review, 20*(1), 6-14.

Alsoboa, S. S. (2017). The Influence of Economic Value Added and Return on Assets on Created Shareholders Value: A Comparative Study in Jordanian Public Industrial Firms. *International Journal of Economics and Finance, 9*(4), 63.

Altaf, N. (2016). Economic value added or earnings: What explains market value in Indian firms? *Future Business Journal, 2*(2), 152-166.

Awan, A. G., Siddique, K., & Sarwar, G. (2014). The effect of economic value added on stock return: Evidence from selected companies of Karachi stock exchange. *Research Journal of Finance and Accounting, 5*(23), 140-152.

Bacidore, J. M., Boquist, J. A., Milbourn, T. T., & Thakor, A. V. (1997). The search for the best financial performance measure. *Financial Analysts Journal, 53*(3), 11-20.

Banerjee, A. (2000). Linkage between economic value added and market value: An analysis. *Vikalpa, 25*(3), 23-36.

Bell III, L. W. (1998). Theory in Action: Economic Profit: An Old Concept Gains New Significance. *Journal of Business Strategy, 19*(5), 13-15.

Bernard, V. L. (1995). The Feltham- Ohlson framework: implications for empiricists. *Contemporary Accounting Research, 11*(2), 733-747.

Bhasin, M. (2008). Corporate Governance and Role of the Forensic Accountant. *The Chartered Secretary, 38*(10), 1361-1368.

Bhasin, M. L. (2013). Economic Value Added and Shareholders' Wealth Creation: Evidence from a Developing Country. *International Journal of Finance and Accounting, 2*(4), 185-198.

Bhasin, M. L. (2017). A Study of Economic Value Added Disclosures in the Annual Reports: Is EVA a Superior Measure of Corporate Performance. *East Asian Journal of Business Economics, 5*(1), 10-26.

Bhattacharyya, A. K., & Phani, B. (2004). Economic value added-A general perspective: Working Paper Series.

Biddle, G. C., Bowen, R. M., & Wallace, J. S. (1997). Does EVA® beat earnings? Evidence on associations with stock returns and firm values. *Journal of accounting and economics, 24*(3), 301-336.

Blair, A. (1997). EVA Fever. London. *Management Today*.

Brealey, R., & Myers, S. (2000). Theory and Practice of Corporate Finance: Prague: Computer Press.

Bromwich, M., & Walker, M. (1998). Residual income past and future. *Management Accounting Research, 9*(4), 391-419.

Chen, S., & Dodd, J. L. (1997). Economic value added (EVA™): An empirical examination of a new corporate performance measure. *Journal of managerial Issues*, 318-333.

Chen, S., & Dodd, J. L. (1998). *Usefulness of operating income, residual income, and EVA: A value-relevance perspective.* Paper presented at the Working Paper presented at MBAA Conference.

Chen, S., & Dodd, J. L. (2001). Operating income, residual income and EVA™: Which metric is more value relevant? *Journal of managerial Issues*, 65-86.

Clinton, B. D., & Chen, S. (1998). Do new performance measures measure up? *Strategic Finance, 80*(4), 38.

Copeland, T., Koller, T., & Murrin, J. (2000). Valuation Measuring and Managing The Value of Companies. John Wiley&Sons. *Inc, New York*.

Damadoran, A. (2001). The Dark Side of Valuation: Valuing Old Tech, New Tech and New Economy Companies. *Upper Saddle River, NV: Financial Times–Prentice Hall*.

de Wet, J. H. (2005). EVA versus traditional accounting measures of performance as drivers of shareholder value–A comparative analysis. *Meditari Accountancy Research, 13*(2), 1-16.

Dodd, J. L., & Chen, S. (1996). EVA: A new panacea. *Business and Economic Review, 42*(4), 26-28.

Drucker, P. F. (1995). The Information Executives Truly Need. *Harvard Business Review, 73*(1), 54--63.

Ferguson, R., Rentzler, J., & Yu, S. (2005). Does economic value added (EVA) improve stock performance profitability?

Fraker, G. T. (2006). Using Economic Value Added (EVA) to Measure and Improve Bank Performance. *RMA-Arizona Chapter. Online available at: http://www. maaz. org/pictures/measuringbankperformance. pdf*.

Gujarati, D. (2003). Basic Econometrics 4th edition McGraw Hill United states Military Academy. *West Point*.

Hall, J. H., & Geyser, J. (2004). The financial performance of farming co-operatives: Economic value added vs traditional measures. *Unpublished Working Paper at Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria, South Africa*.

Holler, A. (2008). Have earnings lost value-relevance? Revisiting latest evidence on EVA. *The Business Review, 10*(2), 245-254.

Houle, M. D. (2008). Economic Value Added. *Senior Honors Papers*, 38.

Ismail, A. (2006). Is economic value added more associated with stock return than accounting earnings? The UK evidence. *International Journal of Managerial Finance, 2*(4), 343-353.

Ismail, I. (2011). The ability of EVA (Economic Value Added) attributes in predicting company performance. *African Journal of Business Management, 5*(12), 4993-5000.

Issham, I., Ab dul Samad, M. F., Hwa, Y. S., Abdulbasah, A., Kamil, A., & Ayub, M. A. (2008). ECO NOMIC VALUE ADDED (EVA) AS A PER FOR MANCE MEA SURE MENT FOR GLCS VS NON-GLCS: EV I DENCE FROM BURSA MA LAY SIA.

Jakub, S., Viera, B., & Eva, K. (2015). Economic Value Added as a measurement tool of financial performance. *Procedia Economics and Finance, 26*, 484-489.

Khan, M. A. (2012). The Relationship between Stock Return and Economic Value Added (EVA): A Review of KSE-100 Index.

Khan, M. K., Nouman, M., TENG, J.-Z., Khan, M. I., & Jadoon, A. U. (2017). Determinants of financial performance of financial sectors (An assessment through economic value added).

Khan, U. A., Aleemi, A. R., & Qureshi, M. A. (2016). Is Economic Value Added More Associated with Stock Price than Accounting Earnings? Evidence from Pakistan. *City University Research Journal*, *6*(2), 204-216.

Kim, W. G. (2006). EVA and traditional accounting measures: Which metric is a better predictor of market value of hospitality companies? *Journal of Hospitality & Tourism Research, 30*(1), 34-49.

Kroll, K. (1997). KVA and creating value: almost everybody agrees on the goal-covering capital and economic value added the way to reach it? *Industry Week, 246*(7), 1024.

Kumar, S., & Sharma, A. (2011). Association of EVA and accounting earnings with market value: evidence from India. *Asia-Pacific journal of business administration, 3*(2), 83-96.

Kyriazis, D., & Anastassis, C. (2007). The validity of the economic value added approach: an empirical application. *European Financial Management, 13*(1), 71-100.

Lin, C., & Zhilin, Q. (2008). WHAT INFLUENCE THE COMPANY'S ECONOMIC VALUE ADDED? EMPIRICAL EVIDENCE FROM CHINA'S SECURITIES MARKET1. *Management Science and Engineering*, *2*(1), 66.

Machuga, S. M., Pfeiffer, R. J., & Verma, K. (2002). Economic value added, future accounting earnings, and financial analysts' earnings per share forecasts. *Review of Quantitative Finance and Accounting, 18*(1), 59-73.

Maditinos, I., Sevic, Z., & Theriou, N. (2006). The introduction of economic value added (EVA) in the corporate world. *The Southeuropean Review of Business and Accounting, 4*(2), 1-11.

Marshall, A. (1890). Principles of economics. ed Macmillan.

Mittal, R., Sinha, N., & Singh, A. (2008). An analysis of linkage between economic value added and corporate social responsibility. *Management Decision*, *46*(9), 1437-1443.

Nuelle, F. (1996). The two faces of EVA. *Chief executive, 110*, 38-39.

O'Byrne, S. F. (1996). EVA® and market value. *Journal of applied corporate finance, 9*(1), 116-126.

O'Byrne, S. F. (1997). EVA and shareholder return. *Financial Practice and Education, 7*(1), 50-54.

Osborne, J. W. (2002). Normalizing Data Transformations. ERIC Digest.

Panigrahi, S. K., Zainuddin, Y., & Azizan, N. A. B. (2015). Empirical Analysis on Impact of Economic Value Added on Shareholder's Value: A Perspective from Malaysian Construction Companies.

Prober, L. M. (2000). EVA: A better financial reporting tool. *Pennsylvania CPA Journal, 71*(3), 27-27.

Rappaport, A. (1986). *Creating shareholder value: the new standard for business performance*: Free press.

Ray, S. (2012). Efficacy of economic value added concept in business performance measurement. *Advances in information technology and management, 2*(2), 260-267.

Reddy, N. R., Rajesh, M., & Reddy, T. N. (2011). Valuation through EVA and traditional measures an empirical study. *International Journal of Trade, Economics and Finance, 2*(1), 19.

Sahoo, B. B., & Pramanik, A. K. (2016). Economic Value Added: A Better Technique for Performance Measurement. *International Journal of Advances in Management and Economics, 5*(6), 1-12.

Sakthivel, N. (2010). EVA-MVA: Shareholders' Value Measures. *The Management Accountant Journal, 45*(1), 10-14.

Shaked, I., Michel, A., & Leroy, P. (1997). Creating Value through EVA—Myth or Reality. *Strategy & Business, 4*, 97.

Sharma, A., & Kumar, S. (2012). EVA Versus Convenational Performance Measures-Empirical Evidence from India. *ASBBS Proceedings, 19*(1), 804.

Sharma, A. K., & Kumar, S. (2010). Economic value added (EVA)-literature review and relevant issues. *International Journal of Economics and Finance, 2*(2), 200.

Shil, N. C. (2009). Performance measures: An application of economic value added. *International Journal of business and Management, 4*(3), 169.

Sirbu, A. (2012). Economic Value Added (EVA) Approach in Russia. Concepts. Approaches. Instruments. *Revista de Management Comparat International, 13*(2), 305.

Stark, A. W., & Thomas, H. M. (1998). On the empirical relationship between market value and residual income in the UK. *Management Accounting Research, 9*(4), 445-460.

Stern, J. M., Stewart III, G. B., & Chew Jr, D. H. (1996). Eva®*: An integrated financial management system. *European Financial Management, 2*(2), 223-245.

Stewart, G. B. (1990). *The Quest for value: The EVA TM management guide*.

Stewart, G. B. (1991). *The Quest for Value*: HarperCollins.

Stewart, G. B., Ellis, M., & Budington, D. (2002). Stern Stewart's EVA clients outperform the market and their peers. *Evaluation*.

Tortella, B. D., & Brusco, S. (2003). The Economic Value Added (EVA): an analysis of market reaction. *Advances in Accounting, 20*, 265-290.

Tsuji, C. (2006). Does EVA beat earnings and cash flow in Japan? *Applied Financial Economics, 16*(16), 1199-1216.

Tully, S. (1993). The real key to creating wealth. *Fortune, 128*(6), 38-44.

Uyemura, D. G., Kantor, C. C., & Pettit, J. M. (1996). EVA® for banks: Value creation, risk management, and profitability measurement. *Journal of applied corporate finance, 9*(2), 94-109.

Vijayakumar, A. (2011). Economic Value Added (EVA) and Shareholders Wealth Creation: A Factor Analytic Approach. *Research Journal of Finance and Accounting, 2*(12), 22-37.

Visaltanachoti, N., Luo, R., & Yi, Y. (2008). ECONOMIC VALUE ADDED (EVA) AND SECTOR RETURNS. *Asian Academy of Management Journal of Accounting & Finance, 4*(2).

Walbert, L. (1994). The Stern Stewart performance 1000: Using EVA™ to build market value. *Journal of applied corporate finance, 6*(4), 109-112.

Wallace, J. (1997). Adopting residual income-based compensation plans: Evidence of effects on management actions.

Wallace, J. S. (1997). Adopting residual income-based compensation plans: Do you get what you pay for? *Journal of accounting and economics, 24*(3), 275-300.

Wood, N. A. (2000). Economic value added (EVA): Uses, benefits and limitations-A South African perspective. *Southern African Business Review, 4*(1), 46-53.

Worthington, A. C., & West, T. (2001). The usefulness of economic value-added (EVA) and its components in the Australian context.

Zaima, J. K. (2008). Portfolio investing with EVA. *The Journal of Portfolio Management, 34*(3), 34-40.