CHAPTER – 2
LITERATURE REVIEW

2.1 INTRODUCTION
2.2 REVIEW OF LITERATURE RELATING TO VALUE RELEVANCE
2.3 REVIEW OF LITERATURE RELATING TO FINANCIAL INFORMATION
2.4 REVIEW OF LITERATURE RELATING TO LOST RELEVANCE
2.5 REVIEW OF LITERATURE RELATING TO NON FINANCIAL INFORMATION
2.6 REVIEW OF LITERATURE RELATING TO RETAIL INVESTORS’ PERCEPTIONS.
2.7 OBSERVATIONS FROM REVIEW OF LITERATURE
2.8 METHODOLOGY SEEN IN LITERATURE
2.9 RESEARCH GAPS
CHAPTER - II
LITERATURE REVIEW

2.1 Introduction

Capital Markets is the most significant source to reach the optimized allocation of society resources. It mobilises and channelizes the savings into productive activities. It is the foundation of an economy and plays a vital role in the economic growth of a country. It links the savers and investors and promotes growth on a sustained basis. In capital market, information plays a very important role, may it be financial information or non-financial information.

The 1980’s witnessed an explosive growth of the securities market in India, with millions of investors suddenly discovering lucrative opportunities and hence information assuming the important role in decision making.

According to Vishnani & Shah (2008) the financial statements of listed companies are the major medium of communication with their stake holders and that is the reason that the stock market regulators and accounting standard setters try to improve the quality of financial statements in order to increase the transparency of financial reporting.

Financial statement is the rich source of accounting information which gives a useful insight and viewpoint on the economic value of the firm and is considered as logical and consistent. This information can probably be used by investors as indicators for corporate performance. According to International Accounting Standard Board, 1989, investors are among the most important users of such information since it is concluded that if financial statements meet investors needs it will also meet most of the needs of other users. Meyer (2007) states that for generation and communication of wealth of companies accounting plays an important role.
Hendrick (1976) mentions that accounting information is generated to facilitate decision making. In order to have effective financial information its reporting should be relevant, complete and reliable. This requires the information to be unbiased and objective. It shouldn’t be unfair and should not favour any party over the other. Any financial information should be relevant and reliable.

Hell (2005) states that relevant information is that information which influences the economic decisions of users by helping them to evaluate past, present and future events. Lev (1989) asserted that relevance of accounting information depends on the quality of the accounting information.

Accounting information should enhance the ability of the decision maker to envisage future actions. For the growth of the capital market it is necessary to have reliable information. Tuner (2001) points out US capital markets are very successful because people are willing to invest more capital there since they receive higher quality financial information than is available in any other place in the world. Germon & Meek (2001) states that those who have funds to invest or lend may decide where to place their resources based on the financial accounting information reports. They also try to get complete information which is financial and non-financial in nature. They state further that importance of stock markets as a source of external finance is growing around the world and stock market development has become a top priority of many countries. Moreover, information plays a very vital role in the decision making of stock market participants and hence the literature has been reviewed extensively in international and national contexts from five aspects:

- Review of literature relating to Value Relevance
- Review of literature relating to Financial information
- Review of literature relating to lost relevance
- Review of literature relating to Non-financial information
- Review of literature relating to Retail Investors’ perceptions.
2.2 Review of Literature relating to Value Relevance

Value Relevance means the accounting amount is associated with some measure of value. In simple words it implies ability of the financial information contained in the Financial Statements to explain the stock market measures. Simplifying it still further, by value we mean creation of wealth and relevance means the information that has the ability to influence decisions. Ou & Penman (1989),(1996) are of the view that the information or variable is value relevant if it enables prediction of stock prices by capturing the intrinsic value of the stock. The information can be considered as value relevant if it reflects some aspects of the firm's economics.

According to Beaver (2002), an accounting variable that is found to have a significant statistical association with the dependent variable stock price is considered value relevant from investor's perspective.

Barth (2000) states that value relevance is the accounting amount which is associated with some measure of value. A value relevance study is evaluation of the relationship between accounting information and capital market values. As per Holthausen & Watts (2001), value relevance studies determine whether an accounting number is useful for valuing the firm or is it associated with the stock prices. In one of the study by Svensson & Larsson (2009), value relevance is the ability of accounting figures to capture and summarize information that affect stock prices. According to Khanagha (2011), a value relevance study is evaluation of the relationship between accounting information and capital market values.

Beaver (2002) emphasizes that value relevance research is about investigating the association between a security price, the dependent variable and a set of independent accounting variables. There are several approaches to this regard.

Francis, LaFond, Olsson, & Schipper (2004), have specified value relevance as one of the most important attributes of accounting quality.
and Francis & Schipper (1999) and Nilson (2003) defines it from four perspectives: (a) the predictive view of value relevance - the accounting number is relevant if it can be used to predict future earnings, dividends, or future cash flows (b) the information view of value relevance - the value relevance is measured in terms of market reactions to new information (c) fundamental analysis view of value relevance - the accounting information is relevant in valuation if portfolios formed on the basis of accounting information are associated with abnormal returns and (d) the measurement view of value relevance - the financial statement is measured by its ability to capture or summarize information that affects equity value.

According to Wyatt (2008), information is value relevant when it is associated with investor’s valuation of the firm as reflected in the firm’s stock price. If the information items are significantly associated with the information set that investors are looking for to value the company, we can say that information is relevant. The same can also be studied by seeing the information effect on share price. According to Barth and Beaver, accounting amount will be value-relevant, if it has a predicted significant relation with share price, and only when if the amount reflects information relevant to the investors in valuing the firm and is measured reliably enough to be reflected in share prices.

Collins, Maydew, & Weiss (1997), Holthausen & Watts (2001), Barth & Beaver (2001), Kothari (2001) are of the view that actually the “value relevance” of accounting information has become one of the main topics in capital market in accounting research. Originally, such studies are mainly focused on US market.

The primary purpose of the value relevance studies is to find whether the financial statements published by the companies provide the investors and other stakeholders the necessary, reliable and qualitative information for decision making or not. The statistical association measures whether investors actually use the information in question in
setting prices or not. According to the International Accounting Standard Board 1989, the purpose of financial statement is to provide information about the financial position of the company which is useful to the investors and if the information is useful to the investors it would be of help and of need to other users also. Barth (2000) concluded in their study that the value relevance literature provides satisfying insights for standard setting process. On the contrary, Holthausen & Watts (2001) in their study brought out that value relevance research offers little or no insight for standard setting.

Holthausen & Watts (2001) suggest that value relevance studies use two different theories of accounting and standard setting to draw inferences: (i) “direct valuation” theory and (ii) “inputs-to equity-valuation” theory. Direct valuation theory proposes a link between accounting earnings and stock market value. In indirect valuation theory, accounting earnings is intended to either measure or be combined with the equity market value changes or levels.

From the literature, we can say that value relevance is the ability of both financial and non-financial information, available to equity shareholders directly or indirectly, to affect stock prices and thereby influence the wealth of shareholders.

2.3 Review of Literature relating to financial information

Ball & Brown (1968) and W. H (1968) were the first to bring to light the relationship between stock prices and information disclosed in the financial statements. They were the pioneers for studying the relationship between earnings and returns and showed a significant relationship between them. This study was path breaking and since then various studies were undertaken in various aspects of value relevance in the developed countries and the results confirmed the positive association between stock returns and earnings.
The other break through study was done by Ohlson (1995) who depicted in his work that the value of a firm can be expressed as a linear function of book value, earnings and other value relevant information. Ohlson (1995) models became the focal point of most accounting based research.

Studies seeking to demonstrate a link between accounting numbers and equity values were first published over 40 years ago. The first such study was by Miller & Modigliani (1966) which used data from the electricity industry to demonstrate that capitalized earnings on assets make the largest contribution to marketplace value.

Amir, Harris, & Venuti (1993) were the first to use the term “value relevance” in the context of information content of accounting figures. An accounting figure or accounting ratio is value relevant if it has the significant strong predicted association with the stock prices and stock market indicators such, price-earnings (P/E) or price to book (P/B) ratios and market capitalization.

Nilson (2003) reviewed a large body of literature studying the relationship between accounting information and the stock market because of the importance of accounting information to equity investors.

Studies by Kothari (2001), Healy & Palepu (2001) and Hellstrom (2005) have extensively reviewed studies examining the relation between accounting information and security prices. These studies concluded that financial reports provide new and relevant information to investors although the relevance has considerably come down.

The fundamental objective of Financial Accounting is to provide users of financial statements with useful information for the purposes of efficient decision making. According to the FASB (1978, par. 34), financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions as emphasised by Gore (1992). Consequently, any event that is likely to affect a firm’s current financial
position or its future performance should be reflected in its annual accounts.

Investors and creditors have traditionally been considered as the main users of accounting information. Since they usually have no direct control on the process of preparation of accounting statements, financial accounting standards have been developed in order to ensure that stakeholders are provided with relevant, reliable and timely information (representing the true and fair view of the firm's financial position), on the basis of which they can make efficient allocation decisions (FASB, 1980) and (Gore, 1992).

Healy & Palepu (2001) supports corporate reporting and disclosures which plays a crucial role in the efficient functioning of capital markets and are considered important constituents of corporate governance structure. Two pioneer articles of Ball & Brown (1968) and by Fama, Fisher, Jensen, & Roll (1969) showed that stock prices reflected new information quickly, making it difficult to beat the market by simply using public information.

Accounting information is also essential and required by manager for efficient decision making. Managers also want timely and reliable information in order to carry out the process of budgeting and in implementing the control mechanisms. Accounting information is having relevance if the information has the ability to influence decisions made by decision makers.

In a study done by Vijitha & Nimalathasan (2014) the Earning per Share (EPS), Net Assets Value Per Share (NAVPS), and Return On Equity and Price Earnings Ratio (P/R) were studied and it was found that value relevance of accounting information has the significant impact on share price and value relevance of accounting information is significantly correlated with share price.
Martani, Mulyono, & Khairurizka (2009) examined the value relevance of accounting information in explaining stock return. The study used profitability, liquidity, leverage, market ratio, size and cash flow as proxy of accounting information. The samples of the study are listed companies in manufacturing industries that actively trading in period 2003-2006 on Indonesia Stock Market. The study finds that net profit margin, return on equity and book value has positive effect to the market adjusted return as stock return variable.


Jang, Jung, & Lee (2002) studied the Korean markets and reported that the incremental explanatory power of book values increase, while that of earnings decrease from 1981 to 2000. Choi, Jang, & S (2006) report that accrual earnings are more value relevant factor than cash flows in the growth stage, but in the decline stage, cash flows are more value relevant than earnings.

Brief and Zarowin (1999), studied value relevance of dividends, book value and earnings, and pointed out that the variables, book value and dividends, have almost the same explanatory power as book value and reported earnings.

Hartono & Jogiyanto (2004) examine the effect of a sequence of positive and negative dividend and earning information on stock prices. Data for this study was collected from Centre for Research in Security Prices (CRSP) tapes in the US from 1979 to 1993. Results show that the positive recent earning information has significant relation with stock prices when it follows negative dividend information, and the negative recent earning
information has significant relation with stock prices when it follows positive dividend information.

Molodovsky & Nicholas (1995) discussed dividends as the hard core of stock value. In the generating and communicating of wealth of companies, accounting plays a very important role and the information associated with it should reach to the investing community.

Mingyi (2000) concluded that the use of accrual accounting (versus cash accounting) negatively affects the value relevance of financial statements in countries with weak shareholder protection whereas this negative effect does not exist in countries with strong shareholder protection. To a great extent research by Lev and Ohlson (1982); Bernard V (1989); Kothari, (2001) has shown that financial statements are value relevant in public equity markets that is, they are associated with the equity values, and returns of publicly traded firms. Various studies have tried to associate the accounting variables with the share price but the results are mixed and do not lead to any firm conclusions. Studies relate to the developed nations has a mixed result where as studies relating to developing economies like Nigeria, SriLanka, Vietnam, India, shows the accounting variables or information is value relevant.

Numerous value relevance studies have established, one stream of literature focuses on whether the value relevance of accounting information has declined/increased over time. Previous research work provides contradictory views. On the one hand, several prior literatures have found that the value relevance of accounting information has declined in recent years.

On the other hand, a number of studies also have been carried out in recent years that showed value relevance of accounting information has increased as evidenced by Core, Guay, & Van Buskirk (2003); Ely & Waymire (1999); Francis & Schipper (1999); Graham & King (2000); Ho,

Sloan (1996), Charitou & Vafeas (1998) studies have found an enhanced value relevance of earnings in comparison with cash flows whereas Cheng, Liu, & Schaefer (1996); Clinch et al (2002) have found an improved value relevance of cash flow in comparison to earnings. At a theoretical level, earnings should be the more representative value driver because earnings reflect value changes irrespective of when the cash flows occur. Still, many practitioners, are of the view that accruals involve judgment and are often used to manipulate earnings, and hence they prefer to use cash flow multiples.

The concept of cash flow reporting is a recent one; conventionally companies use to prepare only Balance sheet and Profit & Loss Account. In India, cash flow reporting was made mandatory for listed companies in 2001-02 as mentioned in a study by Vishnani & Shah (2008).

Cash flow statement is yet not universally understood by the investors. IAS 7 “Cash Flow Statement” came into effect on 1/1/1994. In Germany, cash flow reporting came in to practice in 1998. Also much research is done on the relevance of value relevance research in financial accounting standard setting.

Liu, Nissim, and Thomas (2002), found that multiples based on reported earnings outperform multiples based on a variety of reported operating cash flow measures. EPS forecasts represented significantly better summary measures of value than operating cash flows forecasts in all five countries of study and all most in all industries studied. They tested the valuation accuracy of several market ratios and found that the PE approach based on forecast earnings has the greatest accuracy.

Siegel (1995), Sloan (1996), Dechow, Kothari, & Watts,( 1998) and Landsman & Maydew (2002) reported that earnings have a higher value relevance and information content than cash flows since accrual accounting system provides a better expectation about future cash flows than does prediction about current cash receipts and payments.

In recent years, study on the value relevance of accounting information has been developed and includes book value of equity per share as a balance sheet parameter in addition to accounting earnings in a study by Chen, Chen, & Su (2001).

The other study put up by Barth, Beaver, & Landsman (1998) found that firms facing financial distress, book value is more relevant and dominates the earnings.

Srinivasan & Narasimhan (2010) examine the value relevance of consolidated financial statements and cash flow statements in the Indian Stock market. Several new disclosures have been mandated in India including the cash flow statement and the preparation of consolidated financial statements in the recent years. The study provides evidence on consolidated financial statements and the preparation of cash flow statement.

They found that consolidated accrual earnings and cash flows statements have no significant association with market adjusted stock return. On the contrary, the parent only earnings show significant positive relationship with the stock returns. The results are quite contrary to the existing literature on value relevance from other countries and throw light on the way markets react to the information in an emerging market like India.

In a paper by Brief, Richard, Zarawin, & Paul (1999) the value relevance of book value and dividends versus book value and reported earnings are compared. The methodology of examining the information content of various income statement and balance sheet items is based on cross-sectional regressions of share price on the value measures. While most
research in this area has concentrated almost exclusively on explaining price by book value and reported earnings (or their components), the focus is on the relation between share price and book value and dividends.

Bernard V (1995) was one of the first to determine the value relevance of accounting data. The results showed that dividend was dominated by accounting variables which confirmed that accounting data and firm value are linked. Kumar & Hundal (1986) studied the impact of dividend per share, earning per share, net asset value per share, leverage ratio on market price of share by using the linear regression model for India and Selected Asian Markets and they found dividend policy was the most sensitive factors in affecting share price. However, the relationship took into consideration the persistence of earnings, positive earnings or negative earnings, frequency of reporting and efficiency of market. The paper justify modelling price in terms of book value and dividends in two ways. First the paper argues that when earnings are transitory, dividends are a better proxy for permanent earnings than reported earnings. Second, the paper develops the relation between price, book value, and dividends using basic analytical relationships. Overall, book value is the most value relevant variable, having the highest $R^2$ and incremental $R^2$ of the three variables, book value, reported earnings and dividends.

Beaver, and Landsman (1998) research is motivated by the differing roles of the balance sheet and the income statement. The article shows that book value is the dominant valuation variable, both in terms of its own value relevance and its incremental value relevance with respect to either earnings or dividends.

Ball and Brown (1968), Beaver (1986) and many more have examined the value relevance of book value, earnings and cash flows. A lot of studies report that book values and earnings have significant information content in equity valuation (Lev (1989); Ou and Penman (1989); Barth M. (1991); Easton & Harris (1991); Penman (1991); Easton, Harris, & Ohlson (1992).
(1993), Ou & Penman (1993); Dechow (1994); Ohlson 1995, Ohlson (1995); Feltham & Ohlson (1995); Penman (1996); Barth and Kallapur (1996); Easton et.al (1999). According to Dechow (1994), earnings had a stronger association with returns as compared to cash flows. The other study by Cheng, Liu, & Schaefer (1996) also asserted that both earnings and earnings changes are value relevant.

Value relevance of book value, earnings and cash flows has also been studied by Jung & Kwon (2009) in Korean stock market, and he stated that book value is the most value relevant variable and cash flow is more value relevant than earnings. In the paper the relative and incremental value relevance of book value, earnings and cash flows in security prices was investigated. The important contribution of the study is documenting the deteriorated value relevance of earnings and the increased value relevance of cash flows in equity valuation. This study was limited to the period of 1994-2005 in Korean stock markets, or this could be the true pattern in which earnings play no significant role in security prices. The empirical results of the paper indicate that book value is the most value relevant variable and cash flows have more value relevance than earnings in all samples, subsamples and periods. The results also show that combined value relevance of book value and cash flows is more value relevant than that of book value and earnings, suggesting that cash flows can be a substitute for earnings in equity valuation model.

In the paper by Khanagha (2011) the value relevance of accounting information in pre and post periods of International Financial Reporting Standards implementation is examined. The results obtained from a combination of regression and portfolio approaches, revealed accounting information is value relevant in UAE stock market. A comparison of the results for the periods before and after adoption, based on both regression and portfolio approaches, shows a decline in value relevance of accounting information after the reform in accounting standards. The paper concluded that following IFRS in UAE didn’t improve value relevance of accounting information.
In a similar study by Kadri, Rozainum, & Ibrahim (2009), value relevance of book value and earnings and the relationship between earnings and operating cash flow of two different financial reporting regimes in Malaysia was investigated. The study shows that book values and earnings are value relevant. They also observe that if there is a change in the financial reporting it significantly affects the value relevance of book value but not of earnings. They also documented that in MASB period both book value and earnings are value relevant but during FRS only book value is value relevant as per market valuation approach. The result of non market valuation approach shows that the change in financial reporting regime is in significant as the relationship of earnings and operating cash flow is concerned. The approach of market valuation associate with the introduction of new or improved standards under FRS regime.

In a study by Michalis (2012), the effect of the accounting information on the Athens Stock Exchange (ASE), was considered and it revealed that the explanatory power of earnings and book value in the formulation of prices increases over time. They also found that, in the last years, earnings appear to play an increasingly diminishing role in the interpretation of stock prices, compared with the book value. In an attempt to interpret this finding, they assumed that investors strive more towards fundamental parameters of businesses, than stock market data.

In other study by Nguyen (2010) in which Ohlson model was used and value relevance of financial statement information on the Vietnamese stock market was tested and the result showed that this Relationship is statistically meaningful, though somewhat weaker than in other developed and emerging markets. In addition, there is a sign that earnings and book value are reflected in stock prices with a time lag and the value-relevance of earnings becomes much higher during stock market boom periods.
In a study by Vijitha & Nimalathasan (2014), where the focus of the research is to provide empirical evidence concerning value relevance of accounting information such as Earning per Share (EPS), Net Assets Value Per Share (NAVPS), and Return on Equity (ROE) and Price Earnings Ratio (P/R) to Share Prices (SP) of manufacturing companies in Colombo stock exchange revealed that the value relevance of accounting information has the significant impact on share price and value relevance of accounting information is significantly correlated with the share price.

Vishnani & Shah (2008) conducted a study to determine the value relevance of financial reporting and study the impact of financial reporting by listed companies on the market prices of their shares. The study revealed that the ratios based on these financial statements showed a significant association with stock market indicators. The results also proved that negligible value being added by cash flow reporting.

Perera & Thrikawala attempted to address the relevance of accounting information on investor’s stock market decisions in commercial Banks registered under Colombo Stock Exchange (CSE) in SriLanka. The data analysis was based on the accounting information. It covered a period of 5 years from 2006 to 2009. The study indicated that the Earning per Share, Earning Yield and Return on Equity has not declined its value relevance. Further it explained that investors react according to the aggregate of accounting information which published in financial statements. According to the findings there is a relationship between accounting information and market price.

In a study by Beisland (2010), it was found that value relevance as measured by the explanatory power of regression analysis more than doubles if both the sign and the disaggregation effect are incorporated into the analysis. This study was undertaken with the purpose of investigating the combined effect of accounting for the sign of earnings and disaggregating earnings in value relevance research. This study focuses on the difference between positive and negative earnings.
Especially, prior studies such as Rayburn (1986), Bernard & Stober (1989), Bowen et al. (1986, 1987), Livnat & Zarowin (1990), Wilson (1986), Dechow (1994), Biddle, Seow, & Siegel (1995), Sloan (1996), Dechow, Kothari, & Watts (1998) and Landsman & Maydew (2002) report that earnings have a higher value relevance and information content than cash flows since accrual accounting system provide a better expectation about future cash flows than does prediction about current cash receipts and payments.

A study by Khanna (2014) proclaimed that the combined, individual, and incremental value relevance of accounting information produced by firms listed on the S&P BSE-500 index for FY-2006 to FY-2010, and changes therein over a period of time was analysed and the results provided sufficient evidence that accounting information is value relevant for BSE-listed firms. The combined value relevance of accounting information represented by earnings per share and book value per share has declined while there have been insignificant changes in the incremental value relevance of accounting information.

In a study by Patricia & Chee (2007), the value relevance of summary accounting measures and fundamental income statement variables in the market valuation of biotech firms is addressed. They mentioned a biotech firm’s stock price was related to its underlying financial accounting variables. They used the Ohlson model, the linear function of book value and earnings was employed, and the basic model was enlarged with additional accounting variables. They expected that these accounting variables may provide information relevant for forming an approximation on the present value of expected future abnormal earnings.

They found that non-linearity’s in the pricing of accounting variables. Both book value and Earnings are value relevant, but positive earnings are positively priced while negative earnings are negatively priced. R&D spending and selling, general and administrative expenses are also priced as assets for loss-reporting firms, and as expenses for profit-reporting
observations including analysts’ forecasts of future earnings and long-
term growth rate in the model results in an insignificant increase in the
explanatory power of the regressions.

They were of the opinion that future research could attempt to examine
the role of nonfinancial variables which can proxy for the soft variables
and intangibles like strategic alliances and product pipeline.

2.4 Review of literature relating to lost relevance

There have been various pragmatic and rational studies recently which
have shown that accounting information has lost its relevance to
investors. For financial statements to be value relevant, they should be
accurate and transparent so that it provides the right picture to stake
holders about the position of the business. In addition to published
accounting information, investors also look into non financial
information, short term capital gains, and besides these, market
sentiment and speculative events also affect the investor’s decision.
However, all such information is not reflected in the financial statements
and hence accounting information has lost its relevance over the past few
decades.

Financial statements are still considered to be the base and key resource
to obtain realistic information on companies. In spite of their widespread
use and lasting advance, there is some fear that accounting theory and
practice have not kept pace with rapid economic changes and high
technology changes as advocated by Meyer (2007).

Research has examined whether the relevance of financial statement
information to the capital markets has diminished over time.

Although the results of this research are mixed, there is no strong
evidence of a decline in the value relevance of financial statement
information, even if only new economy (e.g., high technology) stocks are
considered. Additionally, while some studies document a decline in the
value relevance of financial relevance, there doesn't appear to be major changes in the structure of the model mapping financial information into stock values.

Various studies have talked about the lost relevance of financial and accounting information and the reasons cited for it in general are change in technology, changing business environment, transformation of industrial economy to knowledge based economy and the growth in service economies has also led to increase in the intangibles which are not adequately disclosed or recognised in the financial statements and hence becomes the major reason for the loss of value relevance of financial statements as emphasized by Ball and Brown (1968), Oyerinde (2009).

There has been a lot of criticism of the value relevance of accounting information by the stock market researchers in accounting in the recent times.

Dontoh, Radhakrishnan, & Ronen (2001), Ramesh & Thigarajan (1995) observed that in the developed nations many studies have shaped the impression that accounting numbers are losing the value relevance. This belief also developed in response to claims of traditional financial statements losing relevance because of the move from an industrialized economy to a high-tech, service oriented economy as mentioned by Collins, Maydew & Weiss (1997).

These notions were supported by past studies that investigated the association between accounting numbers and stock prices and showed that, in most cases, the association between accounting information and stock prices has been declining over time stated in many studies by Lev and Zarowin (1999); Francis and Schipper (1999) and Core, Guay, & Buskirk (2002).

In addition, Amir and Lev (1996), Ittner & Larcker (1998) and Deng, Lev, & Narin (1999) also made an attempt to explain the reason for the difference between corporate market value and book value.
Amir and Lev (1996) noted that the telecommunications, biotechnology, and software industries invested substantial amounts of money in intangible assets, such as R&D and brand development. These investments were regarded either as expenses or as deferred charges. Amir and Lev (1996) analyzed data from 1984 to 1993 for 14 mobile telephone companies. Their results showed that some intangible assets were able to explain the performance of corporate stock prices. Ittner and Larcker (1998, 1999) used 73 retail banks in the western U.S. and their results showed that customer satisfaction was positively correlated significantly with the corporate stock price but was not completely reflected on the corporate book value.

Collins, Maydew, and Weiss (1997), who base their empirical work on Feltham and Ohlson (1995), found that over the past 40 years, the value relevance of earnings and book value has decreased.

Francis and Schipper (1999) instituted that the value relevance of earnings has decreased over the sample period, while that of book value has increased. In Korea, Jang et al. (2002) finds that although overall value relevance of book value and earnings increased over the period 1981-2000, the incremental explanatory power of earnings decrease.

Brown L (1999) found that the relations between stock returns, earnings and book values have deteriorated over time.

Collins, Maydew, & Weiss (1997) studied the change in value relevance of accounting information during 1993-1995 in US capital market and they found out that the value relevance of accounting information has not decreased within that period. Barth, Beaver, & Landsman (1998), Collins, Maydew, & Weiss (1997), Francis and Schipper (1999), and Ely & Waymire (1998) examined the relation between returns, earnings and book values. They conclude that the relation between returns and earnings has deteriorated, but that this has been offset by an increase in the value relevance of book values. Most of these studies are inconclusive.
about value relevance and report that results also depends on variables such as firm characteristics, and country-specific institutions and is subject to different interpretations.


Qystein, Kjell, & Frode (2007) evaluated the relevance of financial reporting over a relatively long period (over 40 years). Their research results showed that the value relevance of Norwegian GAAP was non-declining throughout 1965 to 2004.

Dung (2010) tested the value-relevance of financial statement information on the Vietnamese stock market. The results showed that the value relevance of accounting was statistically meaningful, though somewhat weaker than in other developed and emerging markets.

References have been found in literature having questions about information contents and value relevance of accrual earnings. Lev (1989), Hayn (1995); Amir and Lev (1996); Collins et al. (1997); Jang et al. (2002) are some of the research papers pertaining to such questions. Hayn (1995) found a much weaker information contents of earnings for loss firms (those reporting negative earnings in financial statements) compared to profit firms (those reporting positive earnings in financial statements) and Collins et al. (1997) finds that value relevance of ‘bottom line’ earnings has declined.
Whelan (2004) studied earnings and book value. They are commonly used as the basis for firm valuation. However, the reliability of earnings, as indicated by earnings management, may affect its relevance in determining firm value. This thesis investigates the link between earnings management and firm valuation by assessing the impact of earnings management on the value-relevance of earnings and book value. The major finding is that the value relevance of earnings is expected to be lower for firms with earnings management than for firms without earnings management. Moreover, in the presence of earnings management, it is expected that there will be a shift from a reliance on earnings to a reliance on book value in the valuation process. This would be reflected in a decrease in the value-relevance of earnings and an increase in the value-relevance of book value.

Lev (1989) finds that the correlation between earnings and stock returns is very low and unstable over time. Hayn (1995) finds a much weaker relationship between stock returns and earnings for loss firms than for profit firms because of liquation (abandonment) options.

Lev & Zarowin (1999) clarified that the reported earnings, cash flows, and book (equity) values have been losing usefulness over the past 20 years because the business environments were drastically changed by R&D and other factors.

A study conducted by Virginia, Palmon, & Yezegel examine the value relevance of accounting using a different methodology that does not rely on $R^2$ but measuring value relevance using price deflated residuals derived from the estimation of the Ohlson (1995) valuation model. Empirical results based on this methodology clearly indicate the presence of a downward trend in the relevance of accounting during the past 51 years. In addition, a comparison of high-tech companies versus low-tech companies led to a conclusion that accounting information was less value relevant for companies belonging to high technology industries.
Canibano & Sanchez (1992) stated that the “traditional accounting model is not sufficient because innovative activities are not considered as strategic variables. Technological development is a challenge for accounting not only in the area of financial reporting, but also in the realm of management control.”

On the subject of the relevance of the information produced by financial accounting for companies with a high concentration of intangible assets, Lev (1997) and Lev and Amir (1996) argued that this information is of partial utility to appraise companies in the technology and services sector (telecommunications and high-tech), as these companies invest significantly in intangibles, such as research and development, human capital and trademark development.

In this context, Lev (1997) pointed out that American financial accounting is limited to capitalizing intangible assets only in certain circumstances, such as an acquired intangible, which limits the utility of accounting information of companies that have large sums of uncapitalized intangibles. Lev and Amir (1996) observed that earnings, net equity and free cash flow are irrelevant to determine the value of mobile telephone companies having high concentration of intangible assets.

Also in this regard, Amir, Lev and Sougiannis (1999) reported that analyst’s forecasts are more consistent for companies with a high concentration of intangible assets. They also observed that the accounting numbers of American companies with a high concentration of intangible assets do not appear to be relevant regarding analysts forecasts. The justification was because American accounting standards (US-GAAP) do not permit capitalizing R&D or other expenses of this nature.

Confirming this argument, Amir, Lev, & Sougiannis, (1999) found that the higher the percentage of R&D capitalized, the lower $R^2$ (adjusted) was found in the regressions.
Lev and Zarowin (1999) argued that the failure to include intangible assets in the financial statements is partly responsible for the decline (loss) of relevance of accounting numbers, both in current assessment of stock prices and in forecasting returns.

Aboody & Lev (1998) concluded that the capitalization of intangibles summarizes and offers relevant information to investors in general. The authors point out intangibles, such as R&D expenditures, should be brought back to financial statements. They also show evidence that the non-capitalization of intangibles is associated with large errors in analysts’ earnings predictions and therefore, it should be capitalized.

Lev (1989), Lev, Baruch, & Radhakrishnan (2003) remarked that investors know the importance of intangible capital. Moreover they point out the failure or deficiency of the market as a result of the poor revelation of information on companies having intangible capital.

2.5 Review of Literature relating to Non Financial Information

Non financial information (NFI) comprises all quantitative and qualitative data on the policy pursued, the business operations and the results of this policy in the form of output or outcome without a direct link with a financial registration system.

Much of the information on social performance and effects is of a non-financial nature. It does not concern uniform measurable monetary units, but indicates behaviour or systems and processes. Unlike reporting on financial information, reporting of non-financial effects is still comparatively new and no generally accepted principles are yet available. Moreover, data diversity is very considerable and the information is more difficult to measure and assess if the information is more qualitative.

Non financial measures are prognostic, predictive, projecting and leading indicators of future financial performance. Non financial measures
become visible in terms of enhanced performance and are reflected in share price and stock returns. Non financial measures can augment the value of financial measures. At a meeting held on May 2001 of the committee, FASB (2001) and FASB members recommended that an assessment of the academic research associated with non financial measures may prove to be helpful in planning, discussing and pondering on the reporting of performance. The committee suggested that there should be directives for disclosure of non - financial performance measures. It also mentioned that when literature is reviewed, non financial measures are found to be relevant. There is some evidence that non financial measures can improve the value of financial measures and found sufficiently reliable and investors perceive such measures to be reliable and relevant.

Research indicates that non financial performance measures possess some degree of reliability and if such information is audited, it would increase the investors’ perceived reliability of such measures.

Academic research suggests that nonfinancial performance measures are relevant for predicting future financial performance and valuing corporate equity. Additionally, there is some evidence that nonfinancial performance measures can enhance the value of financial measures. The Committee believes that non - financial performance measures should be judged against the same criteria as financial performance measures, namely, the characteristics of relevance, reliability, and comparability taken up in Statement of Financial Accounting Concepts No. 2, Qualitative Characteristics of Accounting Information.

Studies take two approaches to examine and document the relevance of non-financial information: (1) establish a direct link between nonfinancial measure and equity values and (2) demonstrate a link between current nonfinancial measures and future financial information, indicating that nonfinancial information should be useful to investors and creditors as revealed by Laureen et al (2002). The first category typically is referred to
as value relevance tests, while the second category is termed as predictive ability tests.

Various studies by AICPA (1994); Boulton, Libert, & Samek (2000); Norton (2000); Eccles, Herz, Keegan, & Phillips, (2001), Lev (2001) highlighted that individuals are asking for more disclosure of non financial information. These individuals have argued that traditional financial measures have diminished relevance as there are changes in business models (i.e., the “new economy”) and considered financial measures as backward looking and does not provide insights into a company’s future performance.

In response to a variety of concerns about the relevance and usefulness of the present external reporting model, the AICPA established the Special Committee on Financial Reporting in 1991. Part of the Committee’s charge was to suggest ways to improve the nature and extent of information provided to users of financial statements.

The final report of the Special Committee stated that “in order to meet users’ changing needs, business reporting must focus more on factors that create longer term value, including nonfinancial measures indicating how key processes are performing” and must better align information reported externally with the information reported to senior management to manage the business AICPA, (1994), p. 5

Some researchers like Dempsey, Gatti, Grinnell, & Cats Baril believed that non financial measures are used in evaluating the long-term performance of a firm.

Amir and Lev (1996) addressed the value relevance of reported financial information for fast changing science based companies and the value relevance of non financial information incremental to financial information. The article concluded that financial accounting information is only value relevant after the inclusion of the non financial information and that the non financial information is value relevant in itself and has
incremental value. In the value relevance of non financial information – A discussion by Shevlin (1996), the results were that the reported financial accounting information is irrelevant but if non financial information is added, both the information has value relevance. Intangibles become a major part of the Non financial Information.

As per Indian Accounting Standard 38, intangible assets are an identifiable non monetary asset without physical substance held for use, for rentals or for administrative purposes. It cannot be seen and touched and examples of intangible assets are patents, brands, advertising expenses, trademarks, computer software, research and development, training, and goodwill. According to Saini (2008), there are three yardsticks to identify whether an asset is an intangible asset or not. They are:

1. Whether the asset possesses characteristics of an asset?
2. Whether the asset provides future economic benefits?
3. Whether the asset can be measured reliably?

If the asset satisfies all the three criteria, it is an intangible asset. In a Research Report for the Work Foundation's Knowledge Economy Programme on Accounting for intangibles, the concept of intangible assets has been broadened significantly. It has been extended beyond the traditional definition of intangible assets such as patents, software and trademarks to now include dynamic elements such as human resources, organisational competencies and business process as a result of innovations.

At the macroeconomic level, the value creating potential of intangible assets is more advanced compared to microeconomic level. The researchers have tried to find the impact of intangibles on growth, productivity and competitiveness. The data supports the fact that the effect of intangible assets on the macro economy is growing. Expenditures
on intangibles are usually investments which are made in anticipation of future benefits as advocated by Fisher (1930).

Various studies have been done on intangible assets in the U.S. and Japan in the recent years. The Brookings Task Force on Intangibles (2001) in their report emphasized the importance of intangible assets. Lev and Zarowin (1999) clarified that the reported earnings, cash flows, and book (equity) values have been losing usefulness over the past 20 years as the business environment is drastically changing because of R&D and other factors.


A major problem with intangible assets is how to measure its contribution. Such information is not disclosed totally and sometimes not quantifiable. Moreover, the fact cannot be ignored that if government has to direct investments and resources in the most optimum manner then it has to recognize the importance of intangible assets and identify intangible assets as real driving force for economic growth. As the knowledge economy is developing, the importance of intangible assets is also growing.

According to Webster (1999), expenditures on intangibles are important because the stock of physical resources is finite and economic activity can only be sustained by the application of intellectual inputs. He also mentioned that intangibles enable the firm to operate the tangible plant and equipment to produce revenues. This emphasised the need for value
relevance of the firm's expenditures on intangibles and the non-financial information.

Cohen & Levinthal (1989) and Webster (1999) have identified two goals which motivate the expenditure on intangibles:

- To build internal competencies that enable the firm to take advantage of emerging opportunities and meet profitability goals.
- To differentiate the firm to make the firm's resources and routines hard for rival firms to imitate.

Building up of competitive advantage and sustainable profits involves a bundle of business activities such as strategic planning, design, feasibility, production, marketing, distribution, customer service, organization structure and routines as put forth by Abernathy & Clarke (1985). Though expenditure on intangibles is not just confined to R&D, utmost emphasis is given on R&D because this is the only expenditure on which data is available in a long time series as put forward by Grilches (1994).

Brown & Kimbrough, (2011) have found that Intangible assets contribute to earnings and intangibles are successful elements of the firm's differentiation strategies. Non-financial information is not just confined to intangible assets.

Lev (2001) uses the terms intangible assets, knowledge assets and intellectual capital interchangeably, arguing that they differ only in their discipline of origin - the accountant’s intangible assets are knowledge assets for economists and intellectual capital for managers and lawyers.

Many types of intangible assets are not reported in company's financial statements under the Generally Accepted United States Accounting Principles. Investors do not get the complete information as the large amount of intangible information is not given in the statements and this dearth of information complicates the decision of investors.
There has been a significant contribution from various fields of Finance, Accounting and Economics which have focussed on the link between market value and intangible assets.

Diverse researches have examined varied non-financial measures. Amir and Lev (1996) examined two non-financial measures related to the cellular telephone industry: total population in a service area, which is a measure of potential growth, and the ratio of subscribers to total population, which measures operating and competitive success. They found the positive relationship between the variables and the share price. They also found that the financial and non-financial variables are complimentary.

Non financial information such as market share, Image of the company, customer satisfaction, quality, innovation are the other non-financial variables which are of importance and has an influence on the investors decision making. These findings are similar to the research conducted by Belinda & Wood (2008) where the respondents were asked to pick their top five most important kinds of information from a list of 22, both retail investors and financial professionals agreed on their top five choices, which were, in order: market share, customer satisfaction data, innovative products, product safety, and executive compensation.

In a paper by Liang & Ming (2005) the balanced scorecard, intellectual capital, and intangible assets were studied and reasons for the difference between the corporate market value and book value are analyzed. They also explored the impact of both financial and nonfinancial perspectives on the corporate value. They found that the traditional financial performance Measurement, the net income did not provide significant explanatory power in terms of the corporate value. However, when the net income was decomposed, the explanatory power significantly increased. They found that EVA and RI are emerging financial performance measurements and provides significant incremental explanatory power in relation to corporate value.
Srinivasan R (2009) examined the effects of two key marketing mechanisms, R&D and advertising, on firm profits during recession. They also investigated whether R&D and advertising have effects on profits and how the effects of R&D and advertising on profits in recessions vary across economic sectors (B2B, B2C and service firms).

Cazavan, Jeny, & Thomas (2003), tested a sample of 95 French firms on a three years period (1998-2000) and provided an experimental field for studying the value relevance of R&D capitalization, because both accounting treatments of R&D costs (expensing and capitalization) are allowed. They found that capitalized R&D is positively associated with stock returns and stock prices, whereas expensed R&D is negatively related to stock prices and stock returns. R&D accounting reduces the information asymmetry on the successfulness of R&D projects: it acts as a signal to investors.

This paper extends previous literature by using real data on capitalized R&D, instead of estimated data. Moreover, they show not only that capitalized R&D is value relevant but also that expensing of R&D projects conveys a negative signal. SFAS N°2 mandates that all R&D costs are immediately expensed. International standards prescribe a capitalization of R&D costs if they meet certain criteria (IAS 38). Healy et al. (2002); Lev and Sougiannis, (1996), (1999); Aboody and Lev (1998), Zhao, (2002) found that capitalization of R&D costs and software development costs are value relevant.

Wyatt (2008) found that expenditure on R&D are value relevant but less value relevant than tangible items. They also found that R&D signals future benefits for the company but goodwill and customer loyalty though value relevant but do not signal future benefits. They also found that above mentioned variables is value relevant but not reliable.

Joshi & Dominique (2010) investigated an important facet of advertising and R&D expenditures, their effects on sales and profits and investor
response (the net effect on the value of the firm). The paper also threw light on the long-run relationship between advertising spending and market capitalization. The hypothesis tested was that advertising can have a direct effect on valuation, i.e., an effect over and above its indirect effect via revenue and profit response. The empirical test was based on 10 years of monthly data for several PC manufacturers. They found that advertising spending has a positive and long-run impact on firms’ market capitalization. They also found that investors are willing to pay a premium for aggressive advertisers.

Hirschey, Richardson, & Scholz (2001) observed whether nonfinancial information on the quality of patents impact the relation between R&D expense and market value. They certified a stronger relation between R&D expense and market value. Hughes (2000) measured the relationship between sulphur-di-oxide emissions and market value of equity shares for electric utilities companies.

Aboody and Lev (1998), Lev and Zarowin, (1999) and Amir, Lev and Sougiannis (1999) argue that accounting should capitalize R&D expenses, since these are relevant to explain the price and return of companies shares.

A study by Ito & Kagaya (2001) demonstrated that the resource of a corporate value in the Japanese firms had shifted from tangible assets to intangible assets. Sakurai and Ishimitsu (2004) found that the brand value is positively correlated to the stock price. They estimated the brand value by a method originally proposed by the Corporate Legal System Study Group as mentioned in a study by Isamu Ogata and Yoshihiko Tsukuda.

The intangible assets consist of intellectual capital, brand equity, human capital and others. Sakurai and Ishimitsu (2004) focused on the brand equity, which is one element of the intangibles. The advertising and R&D expenditures are normally regarded as most important factors for determining intangible assets.
It was stated in a study by Isamu & Tsukuda (1998) that intangible assets of a firm are conceptually composed of intellectual capital, human capital, brand value and other factors which affect the corporate value but are not classified into intangible assets, i.e., $\text{IA} = (\text{Intellectual Capital}) + (\text{Human Capital}) + (\text{Brand Value}) + (\text{Others})$.


Sakurai and Ishimitsu (2004) focused on the brand equity, which is one element of the intangibles; Isamu Ogata and Yoshihiko Tsukuda (1998) were interested in the intangibles as a whole including, brand equity. The advertising and R&D expenditures are commonly regarded as most important factors for determining intangible assets.

The IFAC (1998) has referred to intellectual capital as “the total stock of capital or knowledge-based equity that the company possesses mentioned in Edvinsson & Malone (1997)

Ordonez (2005) referred them as hidden capabilities of an organization or as knowledge based resources that contribute to the creation of a competitive advantage for the firm.

Marr, Gray, & Neely, (2003) stated that Intellectual capital (IC) can be a source of competitive advantage for businesses and stimulate innovation that leads to wealth generation.

Lev and Sougiannis (1996); Chan, Lakonishok and Sougiannis (2001) mentioned that in modern economies, however, a large proportion of firms’ assets tend to be intangible, such as brand names.
The switch over of Indian economy from production to knowledge based economy and the growth of software & IT, financial services, business outsourcing, media, healthcare, pharmaceutical industries etc. have focussed on the increasing investments in intangible assets. Intangible assets such as intellectual property, brands, customer relationship and talent hold much more value than tangible 'visible' assets such as capital, land, buildings, machinery etc. in a knowledge based economy.

Tracker (2007) conducted a broad global study in 2007 on intangibles assets. According to this study, India was ranked third in the world with the highest intangible component as a percentage of the total enterprise value (TEV); measured in terms of value of disclosed and undisclosed tangible and intangible assets.

There have been several studies which are related to the measurement of intellectual capital. The need of the time is to provide stakeholders with more information in addition to traditional financial statements. According to Edvinsson & Malone (1997), the financial statement shows only a small part of the total assets of an organization but the fact is the intangible assets are more important than its tangible assets. Therefore they should be managed and also reported to external stakeholders.

According to the Helsinki, Meritum guidelines (2001), intangible assets can be considered as a static concept (i.e. as resources) and as a dynamic concept. The dynamic view of intangible assets refers to intangible activities which consist of three components: Developing Intellectual refers to “of or relating to the intellect or its use; developed or chiefly guided by the intellect rather than by emotion or experience; requiring use of the intellect; given to study, reflection, and speculation; engaged in activity requiring the creative use of the intellect”. Capital refers to “relating to or assets that add to the long-term net worth of a corporation; a stock of accumulated goods especially at a specified time and in contrast to income received during a specified period; the value of these accumulated goods; accumulated goods devoted to the production of
other goods; accumulated possessions calculated to bring in income; net worth”.

Intangible refers to “something intangible; specifically: an asset (as goodwill) that is not corporeal”. Asset refers to an “entire property of a person, association, corporation, or estate applicable or subject to the payment of debts; an item of value owned.”

Tangible refers to “capable of being perceived especially by the sense of touch; substantially real; capable of being precisely identified or realized by the mind; capable of being appraised at an actual or approximate value”.

As per (Merriam-Webster Dictionary) 288 frontiers of e-business research (2002), acquiring new intangible assets increases the value of current intangible assets and assessing and controlling intangible activities. Thus, the measurement of intangible assets should be focused both on intangible assets and intangible activities. Hayn (1995), Johanson, Eklov, Holmgren, & Martensson (1999) suggest that, from a managerial point of view, it might be even more valuable to focus on intangible processes, activities or phenomena instead of intangible assets.

Abernathy & Clarke (1985) stated that the intangible investment is not confined to R&D but involves a bundle of expenditures and activities of different types, including strategic planning, design, feasibility, development, production, marketing, distribution, advertising, customer service, management of intellectual property, and building of organisation and information infrastructure and routines.

Lev (2001), one of the main advocates for reform of accounting practices around intangible assets, suggests that such assets are the most important drivers of modern economic activity. As a result, their absence from traditional financial statements does not provide investors with sufficient information on the basis of which investors can make informed decisions about the (past and future) performance of a business. Indeed, Lev goes
further, claiming that the lack of accurate reporting on intangibles has probably led to the ‘systematic undervaluation of intangibles,’ and as a result, there are insufficient levels of investment in these core assets.

"SFAS N°2 mandates that all R&D costs are immediately expensed. International standards prescribe a capitalization of R&D costs if they meet certain criteria (IAS 38)."


"Lev & Sougiannis, (1999) argue that the significant decline in the relevance and the usefulness of financial statements is due to the non recognition of intangible assets in the balance sheet. Investment in R&D is, in real terms, an investment in intangible assets that contribute to the growth of a firm in the long-term. Therefore, market capitalization of a firm reflects the current value of the intangible assets, as much as that of the tangible assets advocated in Chan, Lakonishok, & Sougiannis (2001)."

"Literature has provided a range of definitions regarding research and development. The simplest and most commonly accepted one acknowledges six types of R&D activities - basic research, applied research, new product development, product adaptation and extension, product support engineering, and process engineering, the first two of which are normally classified as "research" and the last four as "development" stated by Khurana (2006)."

"Nelson (1959) is of the view that despite the potential benefits, firms are reluctant to invest in research because the knowledge produced or
generated is like a public good which spills easily from the innovating firm to other companies that can free ride on its efforts.

Morbey (1988) found that there was a relationship between R&D investments and the performance of many US firms. Furthermore, the study emphasized that R&D expenditure should be increased if they cause an increase in sales.

A study by Chauvin & Hirschey (1993), analyzed the effects of R&D expenditure on the market capitalization of a firm. It was found that research and development investments was an important determinant for the market capitalization of firms just like cash flow, growth, risk and market share. The study was conducted in manufacturing and non manufacturing firms and showed that the market capitalization of both types of company was affected by R&D expenditure. According to the same study, the effectiveness of R&D expenditure can show variations according to firm size.

Similar to other studies in the literature, in a study carried out in Australia Bosworth & Rogers (2001), found that there was a positive and significant relationship between firm value and R&D expenditure.

According to Osinga, Leeflang, Srinivasan, & Wieringa (2011) the expected future value of a company's stock reflects firm value and this value mostly depends on the marketing activities of the enterprise. Holthausen & Watts, (2001), Joshi & Dominique (2010) mentioned that Marketing and advertising expenditure made by enterprises can be considered as an investment instrument that will increase the value of the enterprise in the long term. According to Graham & Frankenberger (2000) in financial terms, marketing expenditure will enhance future sales, profits and thus the cash flow of enterprises.

The relationship between research and development (R&D) and creating value has been widely discussed in the earlier studies. Most of the studies revealed that positive relationships exist between R&D investments and
firm value. The research has shown that R&D investments create value for firms by providing a competitive edge over the competitors and create value for the firm. R and D efforts differentiate a company from its competitors by creating new products and processes which are difficult to be imitated.

In a study by Basgozel & Cem Sayiny (2013), the ability of R&D investments to explain returns using single and multiple variable regression models was tested. It was observed first that there were positive and strong relationships between the intensity of R&D investments and returns and second firm size, contrary to expectations, was not related with returns. The aim of the study was to determine the effect of marketing activities on firm value. The study analyzed the contribution of R&D investments on creating firm value over the stock values of 40 enterprises that are listed on the Istanbul Stock Exchange (ISE). This study presented proof that R&D and firm value are positively correlated over a 5-year period, from 2006 to 2010.


Griliches (1981) mentions that R&D spending creates intangible capital for a firm and indicates that the market should capture this in the valuation of the firm.

Barth & Kaasznik (1999), Chauvin and Hirschey (1994), Graham and Frankenberger (2000), have focussed on the use of advertising, research and development (R&D) expenditure to account for unrecognized intangible assets.

Giannakas, & Tran (2002) have compared this expenditure in terms of their impact on sales of the firm.

The market value of traded firms is positively affected by R&D investments as reported in studies like Hall (2000) and Czarnitzki et al (2006) and Oriani & Sobrero, (2003). Stock prices react positively to announcements of new R&D investments as seen in studies by Woolridge & Snow (1990), Szewczyk, Tsetsekos, & Zantout, (1996). However, several studies have shown that the market valuation of R&D investments is volatile over time like Hall (1993a) (1993b), across industries Jaffe (1986); Cockburn & Griliches (1988), and across countries Hall & Oriani (2006).

In a study by Srinivasan & Lilien,(2009) the effects of two key marketing mechanisms, R & D and advertising on firm profits is studied. R and D and advertising are considered as central activities for creating differentiation in the marketing of goods and services. The outputs of R&D programs are new technologies, products, and processes, which create value for the company.

Frankenberger, Kristina, & Roger (2003),(2008) have found that increases in R&D and advertising spending improve firm performance. The study measured firm profits by the return on total assets employed.

Gatignon, Hubert, & Jean, (1997) believed that firm’s R&D efforts create new technologies, products and solutions designed to satisfy customer needs and overcome competitive advances. Some researchers’ like Chan, Lakonishok, Sougiannis (2001), Lev and Sougiannis (1996) and McAlister, Leigh, Raji, & Kim, (2007) have reported that R&D expenditures increase stock returns, market value and decrease systematic risk. Other studies like Erickson and Jacobson (1992) fail to find a positive relationship between R&D efforts and profits. Barth, Kasznik, & McNichols (2001) and Kothari, Laguerre, Leone (2002) revealed that
R&D expenditures have been found to increase volatility in stock returns, and dispersion in analysts’ forecasts of earnings. Narayanan & Banerjee (2004) affirmed that the liberalization policy created a technological paradigm shift in various forms which encouraged competition in a number of ways like increased import and entry of new firms etc.

Bhat & Narayanan (2009) proclaimed that after the liberalization, firms are putting in particular efforts to acquire technological capabilities through rigorous investments in various sources of technology such as in-house R&D, import of capital goods, import of designs, drawings and blueprints, and import of raw materials.

In 1991, liberalization took place and it invited various foreign players leading to healthy and cut throat competition giving rise to the need of innovation. In knowledge based economy innovation plays a key role and has increasing effects on firm value.

Advertising and marketing expenditure for promotion of product influences the perception of buyers and consequently his decision of buying which further has an impact on share price. Marketing managers always try to enhance financial performance through marketing expenditure. In fact investors view those companies positively which has various well known and recognized brands.

Brands play an important role. As Sullivan & Simon (1993) puts that brand at the macro level affects the perception of investors and financial analyst and subsequently plays a role in determining the stock prices of firms. Walgren, Ruble, & Donthu (1995) have said that at the micro or consumer level, it affects behavioural outcomes positively.

In a study by Eng & Hean (2007), the impact of advertising and brand value on future operating and market performance was investigated. Key intangible assets such as brand value (or brand equity), product differentiation, and goodwill are the outcomes of investment in advertising. Chaudhuri (2002), Chu & Keh (2006); Kimelman (1993),
Sheinin & Biehal (1999) believed that advertising contributes to the creation of brand value.

There is a relationship between company’s R&D efforts and advertising. If the firm does not have proper R&D efforts, it would not have innovations happening and then, even with the firm’s best marketing programs and advertising it will not be able to make a difference in the market place and hence it is essential for the company to invest in R&D. Erickson & Jacobson (1992), found that through advertising comparative advantage can be obtained.

Ho, Keh, & Ongc (2005) stated that investments in marketing communications is an appropriate mechanism for investment in R&D. Firms like Gillette, Intel invest a lot on R&D to create new and innovative products. Chan, Sougiannis & Lakonishok (2001) and various other studies have documented the positive relationship between R&D investment and share price returns. Many previous studies similar to Hirschey and Weygandt (1985), Chan, Martin, & Kensinger (1990), Sougiannis (1994), Lev and Sougiannis (1996), Eberhart, Maxwell, & Siddique(2004) report that R&D outlays enhance shareholder wealth.

As per Deutsche bank research, companies having R&D intensity 50% higher than their industry average have 14% to 21% higher market capitalization. This is a key finding of a detailed analysis of more than 1,000 research oriented companies worldwide over the period between 2002 and 2009. This finding has clearly emphasised that investors give weight age to long term investments in R&D. The Deutsche bank research also found a positive relationship between R&D intensity and market capitalisation (R&D elasticity) which is a direct incentive to invest in R&D. In the same study and research, analysis shows that research-intensive companies have much higher market capitalisations than their competitors who conduct less research. The findings confirm that investors are ready to pay a premium if company spends or invest in R&D. The research of 1000 companies worldwide showed strongest correlation
between R&D investment and market capitalisation (the R&D elasticity) in the Anglo-American countries and in Scandinavia.

Alessandro Grandi, Bronwyn H. Hall, Raffaele Oriani (2009) also conform that R&D investments affect firm performance, expected profits, and cash flows. The most important question that R&D investments create value for the firms has been addressed in many researches and in general the conclusion is that stock market does value R&D investments positively. Hall (2000) and Czarnitzki (2006) for a review and Oriani and Sobrero (2003) on the basis of a meta-analysis have found that the market value of traded firms is positively affected by R&D investments.

In various “association studies,” researchers investigate the connection between stock prices and R&D intensity. It was documented by Toivanen, Stoneman, & Bosworth (2002), and Chauvin and Hirschey (1993), that R&D expenditures have large, positive and consistent cross-sectional influences on the market value of the firm. The spending on R&D helps investors in predicting the future cash flows. Investments in R&D by the companies is viewed positively and considered as investment in intangible assets having positive effects on future cash flows.

It is usually believed that large firms would be responsible for substantial R&D investment but the small firms are also making significant contributions to the R&D spending. Hirschey and Spencer (1992) explain that the well targeted R&D efforts of the smallest firms can be highly profitable. It is the most commonly used variable in most of research studies such as Chauvin and Hirschey (1993), Munari & Oriani (2002), Chadha and Oriani (2009), Ho et al (2005). As per the study conducted by Chada & Oriani (2009) a positive and significant relationship between firm size and Tobin’s q was found and the contrary results were found in a study done by Munari & Oriani (2002). They found negative relationship but significant association of firm size and Tobin’s q. Therefore the impact of firm size and value of firm is not clear.
As per Griliches (1990), R&D expenditures are a useful indicator of R&D input, whereas patents are an effective indicator of R&D output. The studies by Jones (1995); Bowns S. I., Bradley, Williams & Williams (2003), Arnold (2006) have provided the evidence about the important role played by R&D investments in economic growth. Bae and Kim (2003) have examined the relationship of R&D investment and market values across US, German, and Japanese firms. They found that R&D has a positive impact on the firm values in these countries.

The literature on advertising is very rich and diverse. People, who are involved in marketing activities, are worried about the role of advertising in increasing sales or market share and finally the profitability of firm. The issues like the effect of advertising on competition, prices, profits and consumption are being addressed by the economist. There has been a debate regarding the accounting treatment of advertising expenditure and the argument is still going on as to whether advertising actually lead to building up of intangible assets for firms.

According to Martin (1989), advertising is not only done to create awareness but helps in image building and academician Aaker (1991), (1996) proposed the power of advertising in building strong brands. Barth and Kasznik (1999), Chauvin and Hirschey (1994), Graham and Frankenberger (2000) have focussed on both advertising and R&D to account for unrecognized intangible assets.

Many studies related to relationship of advertising and sales and advertising with profitability have been done. For eg Hollander (1949), Khalik A (1975), Lambin (1969), (1970), (1976), Peles (1970) (1971), Simon (1969) and Tull (1965) provided evidence of an influence of advertising on sales. Some researchers like Abraham and Lodish (1990); Graham and Frankenberger (2000), Sougiannis (1994); Weiss (1969) have used the models that relate advertising expenditure to profitability of the firm. The paper by Kundu, Kulkarni and Murthy (2008) examined the effect of marketing communication including advertising on the firm.
value represented by Tobin's Q. They found that the impact is significant statistically but increased advertising is not contributing decisively in increasing the firm value. Q ratio is used as a measure of firm’s intangible value and it helps in the assessment of the relationship between firms and industry characteristics and firms intangible value.

In a paper titled, ‘Advertising and firm value: Mapping the relationship between Advertising, Profitability and Business Strategy in India’, Ms Anindita Kundu, Prof Prashant Kulkarni, and Prof Anantha Murthy (2008) mentioned that Market values have the ability to reflect all factors that have effects on the future profitability of the firm and therefore valuation models were used to examine the value relevance of outlays such as advertising and R&D expenditure and such discretionary outlays must be reflected in market value of intangible assets.

Barth and Kasznik (1999) use advertising and R&D as substitutes for intangible assets. They argue that R&D and advertising contributes to intangible assets like brand value, new technologies which are unrecognized in financial statements of the companies.

Valuation models are more and more being used to examine various kinds of relationships concerning a number of significant variables of concern. Green, Stark, & Thomas (1996), for instance, examine the relationship between firms’ market value and R&D expenditure. Similarly, Barth, in the Authors 313 Journal Compilation (1998) examined the relationship between firm aggregate brand value estimates and market value.

Hirschey (1982), while investigating the intangible capital finds that, on an average, advertising and R&D expenditure have significant market value (intangible capital) effect. As per the results of the valuation model Hirschey (1982), recommended that both advertising and R&D be treated as intangible capital assets and comments that ‘we find support for their
treatment as intangible capital since each has a highly significant positive influence on market value.

Shah, Syed, Andrew, & Akbar, (2008) are of the view that advertising may also affect the relationship between R&D investment and firm value as those firms who advertise more enable their brands to become more well-known. Chauvin and Hirschey (2001) agree and state that “advertising and research and development expenditures have large, positive and consistent influences on the market value of a firm”

Some of the studies focus on the R&D intensity i.e Research and Development intensity or simply, R&D intensity which is a measure of company R&D spending in knowledge and technology which helps to increase productivity of the factors and the saleable output.

Hirschey (1985) adopted an approach by regressing Tobin’s $q$ on advertising intensity, R&D intensity, industry concentration, growth and risk. As per the results of Hirschey and Weygandt (1985) a one-unit increase in advertising and R&D intensity will lead to large, consistent, positive effect on $Q$. This implies that a portion of current period advertising and R&D carries over to subsequent periods and suggests that a capitalisation and amortisation rather than current expense treatment is appropriate in most situations.

As per IBEF-India Brand Equity foundation, the R&D work carried out in India is of world class standards and is now attracting German biotech companies who are keen on setting up joint ventures and R&D facilities though in India, the investment in research & development (R&D) makes up a mere 0.8 per cent of the GDP (1.23 per cent for China), innovation is a relatively new concern—at least, in the private sector, which accounts for just a fifth of the total R&D spend.

Private enterprise keeps them away from R&D for the fact that returns don’t only take a long time but sometimes don’t come at all. Yet, the fact is, to compete in the new global economy; companies must constantly
innovate in everything they do. The good news: Some of the companies in India have already adapted to the new reality.

2.6 Review of Literature relating to Retail Investors’ perceptions.

Koti (2014), found that with over 20 million shareholders, India has the third largest investor base in the world after the USA and Japan. Over 9,000 companies are listed on the stock exchanges, which are serviced by approximately 7,500 stockbrokers. The Indian capital market is significant in terms of the degree of development, volume of trading and its tremendous growth potential. Since there is so much inclination towards stock market, dissemination of information assumes an important place.

Manju (2012), states that investors will be satisfied with the quality of services provided if necessary and appropriate actions are taken according to rules and regulations. In our financial system, it is the household savings, which are predominant part of the gross national savings. So, unless small investors’ hard earned money is invested with certain amount of confidence, in equity and bond market directly or through intermediaries, we can’t expect to have a well developed financial market pointed out by Srivastava, (2011) and therefore, information disclosure assumes more importance to boost the confidence of retail investors.

For Indian investors, the main objective is the rate of return and reduction in the risk. A wide variety of investment avenues are open to the investors to suit their need and nature. Goel & Jain (2010) observed that the required level of return and risk tolerance level decide the choice of investor. According to a study by Kumar M (2013) in the past, investment avenues were limited to real estates, schemes of the post office and banks. At present, a wide variety of investment avenues are open to the investors to suit their needs and nature. The study found that
the most important attribute for investment consideration is return. The other important criteria for investment are liquidity.

The literature demonstrates that investment process is driven by cognitive and affective process and interplay contributes to rational behaviour. The investor is seen as learning, adopting and evolving entity that perceives environment, processes information, acts and updates its states. Finally investor behaviour is influenced by social interactions mentioned by Rakesh (2014).

Kumar Singh (2006) analyzes the investment pattern of people in Bangalore city and Bhubaneswar. Analysis of the study was undertaken and it was concluded that in Bangalore, investors are more aware about various investment avenues and the risk associated with that. And in Bhubaneswar, investors are more conservative in nature and they prefer to invest in those avenues where risk is less like bank deposits, small savings, post office savings etc.

Factors affecting investors for stock market investments were revealed in studies conducted in UAE and other places. The factors like expected corporate earnings, get rich quick, stock marketability past performance of the firm’s stock, government holdings and the creation of the organized financial markets were found most influencing. Chandra found major factors that affect the investment behaviour of individual investor in stock market namely prudence, and precautions attitude, conservatism, under confidence, informational asymmetry and financial condition adopted from Rakesh (2014).

The financial reporting is not enough for investors’ decision making. The authors Aspara, Jaakko, Tikkanen, & Henriikki (2009) find that the more positive an individual’s attitude towards the company, the stronger was his extra investment motivation.

The authors also find that a special type of affective relationship that an investor may have towards a company – affective self-affinity – further
explains his extra motivation to invest in the company's stock, beyond its financial returns.

The traditional measures are not enough to incorporate the total information. As mentioned by Measelle, (1991), the old, historical accounting model provides only a portion of the information today's managers and investors need and often a misleading portion. It focuses on financial measures only. In fact, other indices that were developed for management information purposes are now being recognized by investors as not just indicators, but actual producers, of long-term earnings. These include strategic direction; marketing; innovation; quality; productivity; employee performance and development; and public responsibility. Because sophisticated investors seek out such forward looking data as a guide to long-term value of the corporation, the information they look for is increasingly the same information sought by management.

The professional literature makes it clear that managers are demanding more information about nonfinancial operating measures to assess the strategic performance of the firm. The study by Dempsey, Gatti, & Grinnell (2008) indicated that financial analysts also recognize the value of many of non-financial measures as leading indicators of long-term financial success. Analysts go well beyond the traditional financial measures and use a broad range of strategic leading indicators to assess long-term organizational success.

While the investment community makes heavy use of traditional financial measures to assess company prospects, the survey results show that analysts use, or are interested in using, a broad range of nonfinancial information as well.

Cohen, Holder, Nath, & Wood (2011), conducted a survey of 750 retail investors to examine perceptions about indicators of economic performance; corporate governance policies and performance; and
corporate social responsibility. Survey results indicate that retail investors currently are most concerned with economic performance information, followed by governance, and then corporate social responsibility information. Those respondents who currently hold socially responsible investments use more of all three types of non-financial information than respondents who currently do not hold socially responsible investments. Further, retail investors clearly prefer to obtain information about corporate social responsibility information from a third party source and governance information from an audited or regulated document, while they use both sources to garner information about indicators of economic performance.

Respondents expressed an interest in increasing their use of non-financial information in the future. When respondents were asked to indicate the specific types of information they had the greatest interest in using in the future, economic performance indicators such as market share, customer satisfaction and product innovation information were predominant. Governance information appears to be used frequently – and if not as heavily as economic performance information, then with greater consistency. At least 40% of the respondents indicate use of director independence standards, change of control information, audit processes, ethics guidelines, and management control strategy information.

In the same study, whether retail investors have preferences for how they get their information for investment decisions, the survey requested respondents to indicate their most favoured information source for the three classes of disclosures examined in this study. The survey provided six avenues for disclosure: the company’s own website (unaudited); company’s annual report (audited); public media (e.g. newspaper, TV); third party other than the media (e.g. NGO, rating agency); government; and financial professionals (including investment advisors). Open ended “Other” responses were also permitted.
The most popular reporting venues for economic performance indicators are through third parties (32.8%) and audited filings (30.5%). Cohen et al. (2009) argues that these indicators are of immediate and strong value relevance to the long-term viability of the firm; it is possible that the retail investors perceive that auditing lends a higher degree of scrutiny (and the third parties, a higher degree of disinterest) that adds to the reliability of this value-relevant information.

On the other hand, third parties are the ultimately preferred source for CSR information (39.3% of respondents) followed by financial professionals and advisors (24.4% of respondents). As with the economic performance information, this reflects a disconnection between supply and demand.

Holder-Webb et al. (2009) show that companies disclose CSR information primarily through corporate websites, a venue preferred by fewer than 5% of the survey respondents. Both third party data and audited sources are viewed as important for the economic performance indicators.

Despite increased attention on analysis of non-financial performance measures, little attention has been devoted to how retail investors currently view and value such information. Research has focused on the theoretical case for using non-financial information in investment decision-making and on demonstrating the case for viewing such information as material mentioned in Amir and Lev (1996); Ittner and Larcker (1998); Banker et al. (2000). Adams (2004) and Cohen et al. (2009) demonstrate that voluntary corporate disclosures of non-financial information are generally positive in tone, reflecting well upon the company and its management, rather than neutral or negative in tone; thus, this bias may lead retail investors to be sceptical of much of the non-financial information that is currently disclosed.

The study concluded that if non-financial information is selectively disclosed by companies or if the information is not readily available, retail
investors may not be able to access necessary data when evaluating potential investment opportunities.

The Association of Chartered Certified Accountants and Eurosif (2013) conducted a survey of investors, analysts and other stakeholders which mentioned Investor being a key audience of corporate reporting, are increasingly looking to assess not just the financial performance of the companies, in which they invest, but also the environmental, social and governance (ESG) performance. The survey revealed that 67% of respondents use non financial information. It was also mentioned that the most important sources of non-financial information for investors were CSR/sustainability reports, followed by annual reports and the company website.

The investors survey revealed that non-financial disclosure should be independently verified (84% agreed or strongly agreed) and shareholders should be able to approve company non-financial disclosure at general meeting of shareholders (74% agreed or strongly agreed).

With regard to management's need for information to make strategic decisions, a recent survey of senior executives, conducted under the patronage of the Conference Board, found a perceived need for more information on nonfinancial indicators of future performance as specified by Tank (1993).

Respondents emphasized factors such as customer satisfaction and retention; safety and environmental performance; energy efficiency; product defect rates; brand awareness; and employee turnover, motivation and development as important non financial indicators. The report by Tank (1993) also indicates that companies are giving high priority towards the implementation of comprehensive performance measures and increasingly set financial and nonfinancial indicators alongside each other. In a study by Brown K. S (2004) who prepared a report on Investor Perceptions and Preferences toward Selected Stock
Market Conditions and Practices found that the majority of respondents (74%) prefer to have others manage their investments for them, although they do like to be involved in major investment decisions. In fact, close to two in three (66%) indicated that they rely on a personal broker/financial advisor, an employer-sponsored broker/financial advisor, or a banker when making investment decisions. While investor reliance on financial services professionals may stem in part from a desire to reduce demands on their own time, most investors appear to lack confidence in their ability to conduct trades and make investment decisions without the assistance of financial services professionals. Specifically, close to three in four respondents (72-76%) have more confidence in the abilities of mutual fund managers or stock brokers to conduct transactions for them than they have in their own abilities to conduct transactions? In contrast, only one in three (33%) are confident in their ability to buy and sell individual stocks without the assistance of stock brokers.

The report also showed the results for Concerns and Worries about the Stock Market. The report publicized that 63% of respondents have fear of losing money, lack of ethics (61%), and general concerns about the state of the economy (55%) top the list of respondent concerns about the stock market. More than half of respondents selected these items when asked to select from a list of eight possible concerns. In contrast, fewer than one in three (29%) are concerned about the impact of future terrorist attacks on the stock market.

In one of the studies by Varadharajan & Vikkraman, (2011) it was found the equity investment decisions are influenced by few factors like good corporate earnings, stock marketability, stock affordability, dividend announcements, Price earnings ratio, Momentum effect, Contrarian effect, Investment behaviour of FIIs, firm’s reputation, socially responsible investing, Current economic indicators, Opinion from family, friends, colleagues, broker’s recommendation, and other professional advice.
Some of the studies reflect a very sorrow picture of Investors behaviour towards stock market. Ramachandran & Chinnathambi (2011) mention small investors in equity shares in India grope in the dark, as neither have they possessed the sophisticated knowledge to take a decision nor they understand the investment guidance and advice given by the scholars and publications, based on the technical analysis of investment.

In one of the study it was mentioned that Investors generally see the past performance of the funds for investing their money in it which is not the right way to analyze the fund’s portfolio indicated by Base & Brahmbhatt, (2012). They are guided by gut feeling more often pointed out by Ramachandran & Chinnathambi (2011).

The other study by Tripathi (2014) documents the role of emotional biases towards investment (or disinvestment) decisions of individuals, which in turn force stock prices to move. Individuals often invest in securities based on approximate rule of thumb/herd behaviour, not strictly in tune with market conditions. Their emotions drive their trading behaviour, which in turn drives asset (stock) prices as reflected in a study by Kumar R. & Chandra Abhijeet, (2000).

Deloitte and Touché (1993) affirmed that nonfinancial measures of performance are expected to grow in importance in the coming decade and to be used as a yardstick for corporate success and executive bonuses.

A survey was conducted and commissioned by Accounting for sustainability and Research Yeldar (2014) where in it was found that in addition to financial considerations, investors use a broad range of extra financial information. The research also mentioned that extra-financial information incorporates a wide range of issues which are likely to have short, medium and long-term effects on business performance. In this research work, financial highlights and audited statements are considered to be the most important source or element of annual report.
2.7 Observations from Review of Literature

- The most studied variables in value relevance literature of non-financial information are impact of intangible assets, Research and development, advertising expenditure, and brand value whereas book value, earnings, dividends, cash flows are the most studied variables in financial information.


- R&D has been considered as a source of productivity in various studies as it helps in the development of efficient techniques which reduces the cost of production and increased output. It is not considered as a cost but an investment which leads to increase in the value.

- In some of the papers the treatment of R&D expenditure has been studied and was found that capitalized R&D is positively associated with stock return and prices. The studies also revealed that the R&D revenue expenditure is negatively related to stock prices. From various studies it was also revealed that capitalisation and amortisation rather than current expenses is more appropriate in most of the situations and there is a positive influence of advertising, marketing expenses and various intangible expenditures on share price. R&D has been found as important and dominant variable and played a significant role in creation of wealth.

- Some of the studies like Hirschey M (1982), Hirschey & Weygandt, (1985) has used Tobin’s Q and found that R&D and advertisement
intensity has significant positive impact on the firms value represented by Tobin’s Q and considered value relevant for the investors. The results also indicated that increase in intensity of R&D and advertising leads to a positive effect on Q.

- The review also shows that advertising and marketing expenditure helps in changing the perception of buyers and consequently the buyer’s decision and helps the firm in gaining competitive advantage. According to Anne Wyatt investor expectations are formulated from a diverse set of information.

- Studies like Amir and Lev (1996), Ittner and Larcker (1999) and Deng, Lev and Narin (1999) have explained the reasons for the differences between corporate market value and book value. These studies revealed that there is a considerable difference between book value and market value due to the firm’s innovative and marketing activities. The other reason given for this is the intellectual capabilities of the company and its human costs. There is a shift from tangible to intangible assets.

- Some of the studies have given an insight about the R&D intensity and its relationship with market capitalization. A positive relationship is indicator of direct incentive to invest. R&D intensity has a propensity to earn large excess returns. The most important question that has been addressed in many research papers is that Does R&D create value for the firms? The conclusion drawn is that stock market does value R&D investments positively.

- Sougiannis (1994) provided strong evidence that R&D expenditures are positively related to firm profit. On the other hand there are studies by Lev (1996), Chan et al (2001) which did not find any clear relationship between R&D expenditures level and future share return. Wong and Zhang, Trueman, Franco, & Xiao (2000) studies have focussed on variables other than R&D, Advertising, Brand value but non financial in nature like viewing frequency of a webpage (internet usage) as an important non financial measurement. Hughes (2000) studied the relationship between the air pollution index and the value
of an electric power company. Kaplan & Norton (1996) used the framework of the balanced scorecard approach focussing on the four perspectives – financial, customer, internal process and learning and growth.

- There is a dearth of information of intangibles and thus complicates the decision of investors as financial statements show only a small part of the total assets of an organization but the fact is the intangible assets are more important than its tangible assets.

Many have argued that there is a significant decline in the relevance and the usefulness of financial statements is due to the non recognition of intangible assets in the Balance sheet. Helen,(2006) puts up economic transformation, growth of intangibles, human and intellectual capital complicates and hence the financial reporting model is insufficient to capture the value of the company as it ignores the various non-financial intangible factors.

- In the study by Chiung-Juliang and Liyao Ming (2005), intangible assets and knowledge management are considered as key factors for success in the industry and therefore, the study mentions tangible assets are incapable of fully evaluating the value of the company and mention it as the major cause for difference in the market value and book value.

- Lev and Zarowin (1999) reported, earnings, cash flows and book values have been losing usefulness and the reason they pointed the drastic change in approach of companies towards R&D and other factors. Various studies have focussed on intangible assets of a firm and concluded that intangible assets of a firm raise its corporate value.

- Some studies like Grant, (1996), used EVA or residual income as these study variables suggested the incremental information which could not be provided by the financial statements.

- There are studies put forward by Sougiannis (1994), Lev and Zarowin (1998), Lev (2004) who have argued that accounting indicators for
intangible investments are useful, informative and value relevant even though they are incomplete and inaccurate.

- The literature reveals that the value relevance of accounting information is severely underestimated in traditional value relevance studies. The literature also suggest that the association of variables improves if the earnings are disaggregated into components like cash flow and accrual items and if it is sign dependent as revealed in studies conducted by Barth, Beaver, Hand and Landsman, Ohlson and Penman.

- There is consensus among the accounting researchers about the Ohlson Model and its formal linkage between the valuation and accounting numbers. Some of the studies are focussed on value relevance of balance sheet, income statement, cash flow statement where certain key figures like net worth, PAT, CFOP has been used or being undertaken to inspect the relative value relevance. Such studies have dealt with the question that whether the financial statements published by the companies provide the investors and other stakeholders the required, reliable and qualitative information for making decisions or not.

- Various studies have focussed on the relationship among accounting variables. Mohd Halim Kadri and Rozainun Adul Aziz (2009) aimed at investigating the value relevance of book value and earnings and the relationship between earnings and operating cash flow of two different financial reporting regimes in Malaysia and found that Book value and earnings of Korean firms are 41% lower than value relevance of US firms.

- There have been studies of value relevance which have focussed on pension and other post retirement obligations, fair value of debt and equity securities, top executive departures and corporate social responsibility. These studies conducted by Barth (1994), Barth et al 1996, Nelson (1996) addressed the question whether the securities are reliably estimated. There have been studies on bank loans,
derivatives also. Therefore, we can say the literature on value relevance is very broad, extensive and wide ranging.

- From the literature, it was revealed that value relevance has two perspectives- Signalling and Measurement. Amir et al.1993 used the signalling perspective methodology to study value relevance of US GAAP versus Non US GAAP. The signalling perspective means to study the reaction of an announcement on the share price. On the other hand, the measurement perspective measures the relationship between market indicators of the value of the company and accounting measures. Studies like Harris et al (1994), Ali and Hwang 2001 have used this perspective.

2.8 Methodology seen in Literature

- Valuation models are generally used to address the questions of value relevance. The objective of valuation research is to relate accounting numbers to a measure of firm value to assess the characteristics of accounting numbers and their relation to value conveyed by Barth (2000).

- The aim of the valuation Research is to investigate the empirical relation between stock market values and accounting numbers. This has been done for the purpose of assessing an accounting standard and broadly categorized as the value Relevance Literature by Holthusen & Watts (2001).

- The literature suggests that Ohlson (1995) Model is the most popular valuation model to test the value relevance of the accounting numbers. The popularity of this model lies in its simplicity to equate the market value of the equity to the Financial and Non financial information. Nguyen (2010), Collins Maydew and Weiss (1997), Brief and Zarowin (1999), Lev and Zarowin (1999) Ali and Hwang (2001), Habib (2004) and many more have used Ohlson Model for studying the variables like earnings, book value, dividend, cash flow from operations, EPS and cash flows.
Regression method has been used in various studies like in a study by Renato Camodeca (2014), Alex Almici (2014), Alessandro Renzi Brivio (2014). The approach measures the value relevance of accounting information as a measure of market value i.e the ability of earnings to explain the returns i.e return model and the ability of earnings and book values of equity to explain market values of equity i.e price model. In one of the studies by Pinar & Sayin (2013), simple and multiple regression methods were used to explain the stock returns and the variables used were R&D expenditure, advertisement expenditure, market capitalization and firm size.


Various studies like Amir et al (1993), Barth (1994), Harris & Muller, (1999), Landsman W. R(1986) have used the price model with return model. As in one of the study done on Hongkong stock market with reference to finding the differences of value relevance between constituent stock and non constituent stocks. The study showed that accounting numbers of constituent stock provides better value relevance under Return Model and no significant difference on value relevance between them under price model. In another study by W.V. A D Karumara and R M D A P Raja Pakse “The Value relevance of financial statements” in Colombo stock exchange (2010) considered the value relevance of earnings and cash flows in stock prices. The study considered the firm size effect on value relevance. 100 companies had been selected and the Regression method was used to analyse the data. According to this study value relevance of accounting information under the price model has more explanatory power than return model.

In the paper by Mohd Halim Kadri, equity valuation model was used as suggested by Ohlson (1995).
• The other methodology seen was of impact on Tobin's Q. Hirschey (1982) studied the variables like market value, book value, R&D, advertising, profits, using Tobin's Q and found a significant positive impact on the market value of the firm. Megna & Klock, (1993) did a study for semi conductor industry and used Tobin's Q and found that R&D stocks and patents stock measure different aspects of the intangible capital. Bracker & Krishnan (2011) also examined the effects of R&D on tobin’s Q and examined the impact of R&D Intensity (R&D/Sales) on Tobin’s q (Market Value of Firm/Replacement Value of Assets).

• In most of the studies a curvilinear relationship is seen where the relationship between R&D intensity and Tobin's Q is studied. In the study by Naik (2014) the impact of R&D expenditure on market valuation of firm proxy by Tobin's q was examined using firm level data for manufacturing firms in India. The findings reflect an inverted U-shaped relationship between R&D intensity and firm value indicating the diminishing marginal return to each unit spent on R&D. The result implies that R&D investment have a positive impact on the market value of firm at the beginning, however, after a point these investments lower the market performance of firms. Huang and Liu (2005) examined R&D intensity in Taiwanese firms and found a curvilinear relationship with respect to R&D spending and profitability.

• In many studies, R&D investments were measured as a percentage of sales, total assets or total market capitalization.

• Out of the numerous studies done on value relevance, one set of studies focuses on whether the value relevance of accounting information has decreased or increased over time. Many studies like Core, Guay and VanbuKirk (2003), Francis and Schipper (1999), lev and Zarowin (1999), Graham and king (2000) have talked about decline in value relevance of accounting information. On the contrary, Collins, Maydew and Weiss (1997) have found that the joint explanatory power of earnings and book values has not declined in the
last forty years. In fact they were of the opinion that the explanatory power of these variables has increased in the same period.

2.9 Research gaps

- Though extensive research has been done in the case of financial variables, studies are mainly confined to the international context.
- Internationally, there is a dearth of studies in case of non financial variables and most of the studies confined to hi-tech industries or new economy.
- Very few studies have studied the combined effect of financial and non-financial variables even in developed economies.
- The main focus of various industries has been R&D and other marketing expenditure which has not been studied together for its value relevance in Indian context.
- Much work has been done in value relevance but the result differs across the countries due to the various factors like tax structure, the role of accounting body, government policies, and the changing business environment and therefore a study in context of India will make a difference.
- Various studies have been done internationally with measurement perspective and signalling perspective, but is not yet researched completely in Indian context.
- Extensive research has been done internationally but in Indian context the area is still unexplored and there is no study in Indian context which has tried to study the value relevance of both financial and non financial variables together. Moreover a study like which information is perceived by the investors as important and taken into consideration before making an investment decision has also not been done in Indian Context.

No doubt, the study of fundamental variables to explain the stock price has been done in developed countries like US, UK but such a study is
still in its nascent stage in emerging economies. No study incorporating the financial as well as non-financial variables with the perception of investors has been done in the Indian context so this study aims to fill this research gap by incorporating both the financial and non-financial variables. The study also includes investors’ perception towards the various financial and non-financial variables and tries to study the influence of such variables on their decision making.

This research also aims to study that whether the growth of industry and the growth of investment in R&D and other non-financial variables like social responsibility has an impact on Indian investor or not. The dearth of studies in areas of R&D and Marketing expenditure in emerging markets particularly India has provided motivation to study the impact of such financial and non-financial variables in Indian context.


Amir, Lev, & Sougiannis. (n.d.).


CHAPTER – II: LITERATURE REVIEW


*Shodhganga*. (n.d.). Retrieved March 2015, from shodhganga.inflibnet.ac.in:shodhganga.inflibnet.ac.in>bitstream


http://www.essec.edu/faculty/showDeclFileRes.do?declId=640&key=__workpaper