Chapter II

Review of Literature

In this chapter a brief review of the various studies related to mutual fund selection behaviour and various lateral issues has been presented. As the focus of the present study is on fund selection behaviour, review of the relevant studies has been presented separately. The chapter is subdivided into following sections.

2.1 Mutual fund performance issues
   2.1.1 Mutual fund performance measures
   2.1.2 Mutual fund performance persistence
   2.1.3 Stock selection and timing ability of mutual fund managers
   2.1.4 Factors affecting mutual fund performance

2.2 Factors affecting mutual fund selection behaviour
   2.2.1 Comprehensive studies on mutual fund selection behaviour
   2.2.2 Behavioural decision framework in mutual fund selection process
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2.3 Mutual fund flow determinants

2.4 Review of Indian studies
   2.4.1 Indian studies linked with mutual fund performance
   2.4.2 Indian studies linked with mutual fund selection behaviour

2.5 Research gaps

Mutual fund industry is large and is a steady growing industry. The dimensions of the mutual fund industry and its various growth characteristics have been discussed in detail in the first chapter. Research has cited that in an imperfect world, mutual fund investment can be the optimal choice of the individual investor (Chordia, 1996). Since mutual fund industry is largely concentrated in the retail hands worldwide, it becomes highly imperative to assess individual fund selection criteria, hence fund flow determinants. This is highly important for the mutual fund houses (asset management companies) and their managers, policy makers and mutual fund investors (both retail and non retail) and the prospective participants at various levels. Despite the importance of know how of determinants of mutual fund flows (or fund selection criteria) to the various stakeholders, the research in this direction is not very
old. Instead most of the research has largely been devoted to mutual fund performance evaluation.

Campenhout (2007) and Capon et al (1996) argued that most of the research on the fund flow determinants and fund selection criteria is a positivistic one (actual instead of optimal). Since researchers mainly use positivistic approach therefore there is no single theoretical framework for the fund selection criteria. Determinants of the fund flows have been largely drawn from methodological frameworks of portfolio choice framework, behavioural choice framework with additional insights from consumer decision framework. Since empirical determinants from these three frameworks can some times overlap, Campenhout (2007) argued that a more practical classification of determinants or factors can be 1) factors related to mutual fund performance and risk; 2) Search costs and fees; and 3) Environmental determinants (like demographic, sociological and personal characteristics).

Within a portfolio choice framework, selecting the mutual fund incorporates mean variance philosophy of the investor, who in a CAPM world, would like to maximize his risk adjusted returns. Sirri and Tufano (1998) stated the following, in a world without search cost

“if consumers were prescient, they would select funds that would subsequently generate the highest risk adjusted returns” (p.1591)

Hence, it follows that maximization of expected risk adjusted returns becomes a fund selection criteria. Since this is expected, and depends on past information and prior beliefs, such selection criteria is influenced by the search costs. The proposition of mean variance investor and his decision to invest in maximized risk adjusted return instrument, calls for introspection of literature on mutual fund performance. Various measures of measuring mutual fund performance have been devised and are discussed in brief in section 2.1.1 Same section also briefly discusses through various empirical findings regarding mutual fund performance evaluation with respect to the benchmarks and the performance of actively managed funds as compared to passively managed funds.

Researchers (for example Baks et al, 2001; Kosowski et al, 2006) argued that if investors believe in the superior skill of the fund manager, then performance should persist over time. The concept of performance persistence has been widely cited in the mutual fund literature and is briefly covered in section 2.1.2. The superior ability may
come from the stock selection ability or the timing ability of the fund manager, the aspect which is widely researched and is briefly reported in section 2.1.3. The fund manager superior ability is not directly observable, and investors rely on past performance to form their belief about the future. In addition, various factors have been influencing mutual fund performance, which also indirectly may act as determinants of fund flow. A vast amount of mutual fund literature relates various factors to the mutual fund performance. A comprehensive review of these factors is presented in section 2.1.4.

In addition some comprehensive studies have been conducted which discusses all the factors affecting fund selection or purchase, these studies and the related aspects have been reviewed in detail in section 2.2.1. Research on fund selection by the advisors for their clients and by the non retail investors is almost non existent and some research reviews have been discussed in this section only. The studies relating to various factors from behavioural decision framework and consumer decision framework have been covered in sections 2.2.2 and 2.2.3 respectively. Section 2.3 discusses determinants of fund flows, which also form subset of fund selection criteria.

The mutual fund industry in India is not very old one. In fact there are very few pieces of research on mutual funds prior to 1990. Section 2.4 reviews some important Indian studies, relevant to the subject under study. Finally section 2.5 discusses important research gaps, emanating from the presented review.

2.1 Mutual Fund Performance Issues

Mutual fund performance is one of the most widely addressed, cited and reported issues in mutual fund literature. From the earliest works on stand alone performance evaluation to multivariate analysis of the issues that influence performance, this issue has seen a great evolution. Authors have shown wider interest not only in measuring the mutual fund performance, developing newer and better models of performance measurement, benchmarking, developing alternate benchmarks, but also in various factors that influence performance. At present interest of the researches lies in developing Bayesian models (which incorporates prior beliefs about future returns) of performance measurement. Closely related to the issue of mutual fund performance are the issues of mutual fund performance persistence and
fund managers’ market timing and stock selection abilities. These pertinent issues are discussed in the relevant sections of this chapter.

2.1.1 Mutual Fund Performance Measures

Prior to 1965, comparison of the fund returns was the only method available to the portfolio managers to evaluate mutual fund return. Perhaps in one of the earliest studies on mutual fund return performance evaluation, Close (1952) compared the performance of open ended and close ended funds and found that the mean returns of close ended funds to be higher, in spite of three times more sales and popularity of open ended funds. Need for performance criteria arose in the study of Brown and Vickers (1963) who observed that different type of funds require different performance criteria. Subsequently various performance measures have been developed, primarily taking inputs from the pioneering work on Modern Portfolio Theory (Markowitz, 1952; 1959) and Capital asset pricing theory also known as CAPM (for example Sharpe, 1964; Lintner, 1965; Treynor, 1965; Mossin, 1966).

It was the year of 1965 which proved a turnaround year in the subject of mutual fund return performance evaluation. Treynor (1965) presented an entire new way of viewing and presenting performance results. Treynor (1965) discussed the impact of market on portfolio returns and risk aversion by investors. He graphically developed measure for management performance. But the real quantification of mutual fund performance evaluation came from the work done by Sharpe (1966). He developed a linear relationship between expected return on portfolio and its associated risk. His biggest contribution to the financial literature is that of concept of risk premium (known as beta). Sharpe (1966) introduced a new method of performance measurement in the form of Sharpe ratios (reward to variability ratio) and reported that higher Sharpe ratios are desirable.

The mutual fund performance measures received a further fillip from the study done by Jensen (1968) who developed a model for mutual fund performance (practical adaptation of CAPM), that statistically relates fund’s performance to a benchmark. Jensen introduced the term alpha (Jensen’s Alpha) in regression equation used in the model of performance measurement. Superior security price forecasting is indicated by the positive alpha and negative alpha indicates either a poor security selection or the existence of high expenses (as a result of frequent trading or other
factors). Carlson (1970) reported the regression of fund returns on broader market index have a higher unexplained variance, which can be significantly reduced if a more related benchmark (like a specific type mutual fund index) is used as a market proxy. Similar view was later advocated by Lehman and Modest (1987) who empirically stated that Jensen measures have been sensitive to the choice of benchmarks.

Although alphas and betas of mutual fund performance attained wide publicity and were adopted on wider scale as standard tools for measuring mutual fund performance, Miller and Gressis (1980) explained that the estimates of fund’s alpha and beta may provide misleading information if nonstationarity is present in the risk return relationship and is ignored. Authors found nonstationarity betas and reported that there was no statistically significant relationship between fund betas and market rate of return.

Grinblatt and Titman (1989a) analyzed both actual and gross portfolio returns, and reported that superior performance may exist in certain type of funds (for example growth funds, aggressive growth funds and smaller funds), but due to higher expenses, abnormal profit returns were eliminated. Grinblatt and Titman (1993) criticized Jensen measures on account of its sensitivity to the choice of benchmark portfolio. The authors introduced new measures of portfolio performance named as “portfolio change measure” that did not require the use of benchmark portfolios but employs portfolio holdings. The new measure used insights from event study methodology and was not subjected to survivorship bias and had some statistical computation advantages. Later some more new measures of mutual fund return performance have been developed such as measures depending on Bayesian performance evaluation, wherein an investors chooses to invest in an active fund when the prior point estimate of alpha is positive; or the measures based on event study methodology utilizing mutual fund holdings (Kothari & Warner, 2001)

Although mutual fund on an average holds stocks that outperform market index, yet fund’s net return is usually found to be lower. The difference between the fund’s stock return and net fund’s return is attributable to non stock portfolio components, expense ratios and transaction costs (Wermers, 2000). Net sales and redemptions also affects mutual fund after tax performance as funds with positive net sales have been found to perform better as compared to funds with net redemptions (Dickson et al., 2000).
Pastor and Stambaugh (2002a) further modified existing performance methodology by including non benchmark assets. Authors observed that the estimates of either alphas or Sharpe ratios could be improved with the use of non benchmark assets like book to market factor or Carhart's momentum factor. In addition difference between Fama French and CAPM alphas was considerably reduced when non benchmark assets were included. Cohen et al (2005) developed new measure of performance measurement depending on the similarity of the portfolio holdings of the given fund manager with the successful manager (in terms of covariance between the weights of the portfolio holdings). New measures were found to be more powerful and contain more information as compared to the traditional performance measures.

Regarding performance of mutual funds number of studies has depicted mixed results. A large number of studies have found negative alpha or underperformance with respect to the benchmarks used (Sharpe, 1966; Treynor & Mazury, 1966; Jensen, 1968; McDonald, 1974; Elton et al, 1993; Gruber, 1996; Daniel et al, 1997). Some studies like that of Malkiel (1995) concluded that negative alphas were found with net returns and positive alphas were found with the gross returns, but neither alpha was found statistically significant different from zero. Trying to explain the cause of the underperformance, Wermers (2000) concluded that the under performance of equity funds as compared to the market average was due to sub optimal performance of the non stock holdings of the portfolio; transaction costs and expense ratios. Some studies have also found inconclusive evidence for example, using conditional performance model, Ferson and Schadt (1996) found that alphas had a mean value of zero (as compared to negative alphas found in most of the studies). Same argument was put forward by Ferson and Warther (1996) who studied conditional measures on 63 funds and found that most of the times funds did not under perform the market index on a risk adjusted basis.

Performance has also been evaluated in other fund categories and as such underperformance was found in close ended stock funds and open ended bond funds (Anderson et al, 1996); in bond funds (Blake et al, 1993). There is inconclusive evidence on out performance of international funds (Cumby & Glen, 1990) but significant evidence of underperformance in case of international bond funds (Detzler, 1999) has been cited.

Some of the studies demonstrated the opposite result i.e. on risk adjusted basis mutual funds out performed the market (for example Ippolito, 1989; Grinblatt &
Titman, 1989a). Although there are numerous studies signifying underperformance, some latest studies are indicating the trend in the opposite direction. Kosowski et al (2006) re-examined the performance evaluation results of US mutual fund industry from the period 1962 to 1994 and using bootstrap methods authors found that some of the managers achieved superior genuine performance. Avramov and Wermers (2006) also pointed in the same direction.

The whole debate on out performance and under performance by mutual funds signifies that mutual funds underperformed in the earlier years but in the later years mixed performance was evident. That is there are large number of insignificant alphas (not significantly different from zero) and presence of very few mutual funds having significantly positive alphas (Barras et al, 2009)

2.1.2 Mutual Fund Performance Persistence

Performance persistence (or whether historical performance persists into the future) is one of the most widely discussed and cited issues in the mutual fund literature. A large number of studies have been conducted on the subject that provides ample mixed evidence. While some earlier studies indicated that superior performance persistence does not persist over time (Sharpe, 1966; Jensen, 1968, McDonald, 1974; Shawky, 1982; Chang & Lewlen, 1984; Henriksson, 1984; Grinblatt & Titman, 1989b; Ippolito, 1989; Kahn & Rudd, 1995). Few studies found some performance persistence (Carlson, 1970; Kon & Jen, 1979; Lehmann & Modest, 1987) and some found mixed evidence - performance persistence in early 1970s which did not go beyond 1980s (Malkiel, 1995).

Studies in early 1990s suggested that some mutual funds have persistent superior mutual fund performance (Grinblatt & Titman, 1992; Hendricks et al, 1993; Goetzmann & Ibboston, 1994; Elton et al, 1996; Gruber, 1996; Blake et al, 1999 etc). Some persistence performance had weak support (Grinblatt & Titman, 1992); some evidence has very strong support (Hendricks et al, 1993). Persistence in performance had been even found by using conditional or time varying alphas or betas as compared to unconditional or average ones (Christopherson et al, 1998). Some studies have found performance persistence only in fixed income mutual funds and not in equity (Kahn & Rudd, 1995).
Hendricks et al (1993) found persistence for four quarters and reversal thereof (they called their findings as “hot hand” phenomenon). The “hot hands” phenomenon of Hendricks et al (1993) was criticized by some researchers as they found persistence of losing performance (Brown & Goetzmann, 1995; Carhart, 1997), which they called “icy hands”. Brown & Goetzmann (1995) highlighted a very pertinent point in practical terms “that past patterns yield a clue about which funds to avoid but do not provide strong indications about which funds will outperform their benchmark in the future”.

Later studies raised some doubt as they suggested that superior performance persistence found in earlier studies may be due to survivorship bias and attrition bias of mutual fund samples in earlier studies (Brown et al, 1992; Brown & Goetzmann, 1995; Malkiel, 1995) or due to some naïve momentum investment strategy (Carhart, 1997; Daniel et al, 1997; Wermers, 1997). Survivorship bias is present because some funds disappear during the period under study. Using data with surviving funds will bias upwards the true performance of the funds, because high performance funds will tend to be over represented in the sample. Attrition effect refers to the fact that the attrition of poor performers alters persistence measures because it changes the composition of the sample. Carhart et al (2002) discussed the impact of survivorship bias on performance persistence and demonstrated that survivorship bias, if removed, weakens performance persistence. Further, the authors found that survivorship bias increases with sample length, but at the decreasing rate (Carhart et al, 2002).

Lehmann and Modest (1987), Hendricks et al (1993) and Wermers (1997), among others, have found evidence of persistence in fund performance over short horizons of one to three years. Grinblatt and Titman (1992) and Elton et al (1996) concluded that past risk-adjusted performance is predictive of future performance over periods as long as three years. Yet, Brown and Goetzmann (1995) concluded that even if there has been some predictability it is quite difficult to detect. Carhart (1997), Daniel et al (1997), Wermers (2000) and Pastor and Stambaugh (2002b) argued that most of this persistence has been due to factors other than managerial ability.

Outside the US, several studies on performance persistence have been conducted in United Kingdom also. The evidence for performance persistence in UK has been found to be nil (Fletcher 1999a; 1999b); limited (Brown et al, 1997); persistence of poor performance (Quigley & Sinquefield, 2000); and persistence of performance (Lunde et al, 1999; Blake & Timmerman, 1998).
Allen and Tan (1999) supported evidence of persistence in performance in the long run but not in the short run, and with both raw and risk adjusted returns. Similarly Heffernan (2001) demonstrated ambiguous evidence of performance persistence, particularly for short horizons. No evidence of persistence in performance has been found among close ended funds in UK fund industry (Dimson & Minio-Kozerski, 2001); but stronger performance persistence has been found in UK pension funds (Tonks, 2005).

Using Monte Carlo simulations, Horst and Verbeek (2000) found persistence in mutual fund performance to be more pronounced than previous studies. Horst et al (2001) discussed about “look ahead bias” that may result in spurious performance persistence. “Look ahead bias” occurs because persistence studies typically utilize a ranking period and an evaluation period. Funds tend to disappear in non random way in any of these periods, causing “look ahead bias” thereby generating spurious performance persistence.

Berk and Green (2004) discussed the cause of absence of performance persistence from the perspective of investor fund flows. Investors direct their money to successful managers, thereby decreasing the expected marginal rate of returns for the fund and hence absence of performance persistence. Similar findings were observed in the study conducted by Bollen and Busse (2005).

2.1.3 Stock Selection and Timing ability of Mutual Fund Managers

Performance measurement and performance persistence are of great interest to both investors and academicians. If performance persists, it indicates superior skills and abilities of mutual fund managers. Mutual fund literature identifies two prominent abilities, that if present, identifies the superior performance of the fund manager. These two abilities are namely Market timing ability and Stock selection ability

Market timing ability means correctly assessing the direction of the market and adjusting the portfolio positions accordingly. Stock selection ability means correctly forecasting the price movements of the individual stocks and correctly identifying whether the individual stocks are under valued or over valued, and then taking portfolio positions accordingly. There are two types of models (unconditional and conditional models) for assessing the presence of market timing and stock selection ability. Traditional or conditional models (Treynor & Mazuy, 1966;
Henriksson & Merton, 1981) regard “any information” with the future market return as superior information, while Conditional models (Ferson & Schadt, 1996) assumes semi strong market efficiency.

The mutual fund literature concerning market timing and stock selection ability is vast and varied. Some studies found market timing ability to be neutral (for example Treynor & Mazuy, 1966; Kon 1983; Henriksson; 1984; Chang & Lewellen, 1984) or inferior (Veit & Cheney, 1982; Chen et al, 1992; Kao et al, 1998). Some studies also provided the contrasting results of positive market timing ability (Chen & Jang, 1994; Bello & Janjigian, 1997) especially using daily data in contrast to monthly data employed in earlier studies (Bollen & Busse, 2001). In a study using conditional models, Becker et al (1999) used conditional market timing model based on linking of manager’s payoff function to the excess returns (over a benchmark) of a fund and timing based on public information. Authors concluded that the conditional market timing model removes the negative sign associated with the timing ability as reported in traditional unconditional models, but conditional models do not yield significant evidence of conditional timing ability.

The stock selection ability has been found to be less (Chang & Lewllen, 1985) or positive (Lee & Rahman, 1990; Cuthberston et al, 2008; Baker et al, 2007). In addition Volkman (1999) concluded that there is a negative correlation between fund’s timing and selectivity performance (perverse timing performance). From the cited review it can be summarized that most of the studies reveal neutral or inferior market timing ability and neural to positive stock selection ability of the fund manager.

2.1.4 Factors Affecting Mutual Fund Performance

A large number of factors affect mutual fund performance. Factors affecting mutual fund performance can be segmented as fund related factors (like fund size, fund style, fund age, fund fees and loads, fund flows etc); factors related to fund family (fund family size, management structure of the fund etc) or related to fund manager (like managerial tenure or experience, managerial education); factors related to country (country’s economic and financial development, country’s border or geography in case of international funds etc) and factors affecting environment in which mutual fund operates (like economic and legal environment). The factors, which affect mutual fund performance, are also laterally the determinants of mutual
fund flows, since performance is the major determinant of flow. The empirical determinants of the mutual fund flow are discussed in section 2.3.

Relation between mutual fund size and performance has been widely studied in mutual fund literature. Some researchers argue that managers have a strong incentive to increase fund size (because in the mutual fund industry compensation is typically a fixed percentage of assets under management), at the expense of investor returns (Becker & Vaughan, 2001). Large sized mutual funds present several advantages like spreading fixed expenses over a large asset base; more research resources; more investment opportunities; ability to negotiate better spreads and decline in brokerage commissions (Brennan & Hughes, 1991). Despite all these advantages large funds found problems in performance persistence (Gruber, 1996; Berk & Green, 2004). Also due to their large size, large funds often trade large block of shares, attracting attention of market participants (signaling impact) and therefore incurring significantly higher impact costs (Lowenstein, 1997; Chen et al, 2004); other reasons can be administrative complexities and change in optimal behaviour of fund manager (Indro et al, 1999). On the other hand, small funds have been found to be more active and agile (Cremers and Petajisto, 2009).

Researchers therefore have found mixed evidence in relationship between fund performance and fund size (Grinblatt & Titman, 1989b; 1994). Some have found negative relationship or diseconomies of scale (Indro et al, 1999; Berk & Green, 2004). As fund size increases, performance erodes due to organizational diseconomies (Stein, 2002); inability to apply investment strategy on a large scale (Pollet and Wilson, 2008) or trading costs (Perold & Solomon, 1991; Edelen et al, 2007). Many types of organizational diseconomies explain why small organizations outperform large organizations. Such diseconomies can be bureaucracy and related coordination costs (Williamson, 1975; 1988); or hierarchy costs (Aghion & Tirole, 1997; Stein, 2002).

In a significant study discussing the relationship between fund performance and size conducted by Chen et al (2004), author found that fund returns decline with lagged fund size and this relationship has been more pronounced among funds that have to invest in small and illiquid stocks, suggesting that adverse affects of scale are related to liquidity. Authors finally concluded that scale erodes fund performance because of interaction between liquidity and organizational diseconomies. Indro et al (1999) found that as the fund size increased three years return increased but at the
same time there have been diminishing marginal rate of return from increasing total assets under management. Some research pieces have also found evidence of positive relationship between fund size and performance (Ottens & Bams, 2002), but more recent work points out towards diseconomies of scale.

Much has been written about the mutual fund performance as affected by the investment style. One of the earliest researches that indicated that style plays significant role in portfolio performance is study conducted by McDonald (1974) in which he found that risk adjusted performance of more aggressive funds dominated that of similar conservative funds. Such significant relationship was also evident in other studies (like Malkiel, 1995). In a similar vein it was found that value stock portfolios outperform growth stock portfolio on risk adjusted basis (Capaul et al, 1993; Lakonishok et al, 1992; Fama and French, 1998; Chan and Lakonishok, 2004). Brown and Harlow (2002) observed that more style consistent funds significantly outperformed less style consistent funds on risk adjusted basis. Authors also found a positive relationship between measures of fund style consistency and persistence of its future performance.

Some authors have also criticized traditional methods of classifying investment styles due to their subjective nature (diBartolomeo & Witkowski, 1997) and new classification systems based on style factors have been developed (Brown & Goetzmann, 1997). The subjective nature of styling and misclassification can be due to the result of ‘tournament hypothesis’ as advocated by Brown et al (1996) according to which managers of different funds in the same objective class have different incentives to adjust portfolio risk depending on relative performance. Evidence also exists that investment style and performance persistence are connected (Teo & Woo, 2004) in which authors demonstrated that portfolio of past winners and losers continue to copy their previous behaviour, and persistence effect declines slowly in style adjusted returns.

More style consistent funds exhibit less portfolio turnover (therefore less transaction costs) also managers are less likely to make errors in asset allocation and security selection (Barberis & Shleifer, 2003). Style drift for opportunity may lead to alteration of portfolio risk and thereby generating suboptimal performance (Huang et al, 2009) and finally for style consistent fund manager, evaluation becomes easier and much easier for them to signal their superior skills to the investors.
There is some contrasting evidence also, under performance can result from being in close to style (Asness et al, 2000). More style consistent fund managers are unlikely to capture the benefits of timing as available from style rotation (Swinkles and Tjong-A-Tjoe, 2007) and during certain business cycles less consistent style managers may out perform more consistent style managers.

The effect of fund’s age on performance is mixed. While younger funds may be considered as agile and active, they may lack experience. Some researchers have found that younger funds performed better than the older ones (Otten & Bams, 2002; Cremers & Petajisto, 2009). Some have found no relationship between age and fund’s performance (Chen et al, 2004).

The relation between mutual fund returns and fees provides a test of the value of active management. Empirical evidence on relation between mutual fund performance and fees is mixed. Some researchers have found positive relationship between fees and better net performance (Ippolito, 1989), some have found insignificant relationship between fees and performance (Chen et al, 2004), especially between fees and net performance (Carhart, 1997; Dahlquist et al, 2000), or negative relationship between fees and performance (Gil-Bazo & Ruiz-Verdu, 2009). Gruber (1996) pointed out that on average actively managed funds under performed index funds, but index funds charge lower fees.

Apart from expenses, funds also charge loads in the form of front end (at the time of purchase), or back end (at the time of sale). Loads have been found to discourage redemptions (Chordia, 1996) and are effective tool in controlling fund’s volatility (Green et al, 2007). Some researchers have found no relationship between loads and performance (Chen et al, 2004) and some have even found negative relationship between loads and mutual fund performance (Carhart, 1997; Polet and Wilson, 2008). Further Morey (2003) found that size of load has little predictive ability in determining future performance, as no significant difference was found between high load and low load funds after adjusting for loads.

Chalmers et al (1999) estimated the annual trading costs of fund managers’ and found strong negative association with the return performance. In fact authors found that trading costs have more explanatory power for fund returns as compared to turnover. Authors tried to explain this finding in different contexts. One of the contexts they cited was that fund managers do not follow the rule that informed trader initiates the trade only when the expected value of information is more as compared to
the trading costs (Grossman & Stiglitz, 1980). Authors finally concluded that low cost proxy for trading costs might be valuable information, as trading costs are important in explaining fund returns.

Dellva and Olson (1998) studied 568 mutual funds over a period of 1987-1992 for determining the fundamental differences in various types of fees with respect of expenses and fund performance. Authors found that superior performance funds usually have lower expense ratios; front-end load (entry load) funds usually have lower risk adjusted performance; expenses increased when turnover increased but with no corresponding increase in performance due to an increase in turnover. Also, the superior performance was not indicated when there was no fee.

Relationship between fund flows and fund performance came to highlight when Gruber (1996) proposed ‘Smart money’ hypothesis according to which investors are able to detect skilled managers and direct their money to them. Therefore there can be a positive relationship between flow and future fund returns. Empirical evidence exists that funds having net flows in previous three months outperform the funds that experience outflows in the same time period (Gruber, 1996; Zheng, 1999). But some researchers have found no significant relationship between fund flows and fund performance (Dahlquist et al, 2000).

A rich literature exists that examine a relationship between job tenure (proxy for managerial experience) and job performance. Most of the earlier studies show that experience with a task improves job performance (Christensen-Szalanski et al, 1983) but author has observed that “occasionally experience can bias an expert judgment”, (p.278) and “thus experience with a task does not invariable improve a person’s judgment” (p.279). Research has also demonstrated that experience has lead to increase in knowledge but not the skills (Nass, 1994). More significant result with respect to mutual fund has been found to be in the study conducted by Golec (1996) in which tenure (experience) of the fund manager has been found to be most significant and positive prediction of the fund performance. Some other studies have also found significant and positive relationships between managerial tenure and mutual fund performance (like Mikhail et al, 1997); between specific experience and performance (Clement, 1999); while some researchers have found general experience and not specific experience as related to the performance (Fortin et al, 2008). In some studies the relationship between managerial experience and performance has been found to be negative or with inconclusive evidence (Jacob et al, 1999; Costa et al, 2006).
In the closely related studies regarding the impact of manager’s age on mutual fund performance, some have found no significant relationship (like Chevalier & Ellison, 1999a; Fortin et al, 1999), negative relationship due to impact of aging (for example Peterson et al, 2001) and positive relationships because of learning and experience (Filbeck and Tompkins, 2004; Ferreira et al, 2006) but such positive influence decreases with the longer term horizon (Ejara & Nag, 2009).

In a study by Bliss and Potter (2002), it was found that in contrary to the popular belief, female fund managers were found to be more risk seekers and tend to outperform as compared to their male counterparts, but after controlling for various parameters, authors found no significant difference between male and female fund managers performance in cross sectional regression.

Literature has cited relationship between managerial education and fund performance. Importance of education in performance has been highlighted and professional education qualifications like MBA or CFA designations have been found to be associated with better performance (Topel, 1991; Golec, 1996). Some studies pointed out more consistent performance by CFA charter holders (Switzer & Huang, 2007). Researches have found that investment managers attending more selective undergraduate universities exhibited higher raw excess returns (Chevalier & Ellison, 1997) but not higher risk adjusted excess returns (Chevalier & Ellison, 1999b).

Fund families do affect mutual fund performance as large fund families have incentives and means to push some of their funds (Guedz & Papastaikoudi, 2003). Size has altogether a different impact, when is related to the fund family. There can be more economies of scale, synergies and wider sharing of costs if fund family is large. Also there are economies of scale in trading commissions (Chen et al, 2004) thereby reducing cost of opening new funds (Khorana & Serveas, 1999). Therefore impact of fund family size on mutual fund performance has been found to be positive (Chen et al, 2004). Yet some researchers reported an evidence of cross subsidization in large fund families (Scharfstein & Stein, 2000), which states that larger fund families transfer fund performance from low fee fund to higher fee funds and create ‘stars’ in the fund family that generate flows not only to itself but to the entire family (Nanda, 2004; Gasper et al, 2006). Because of this spill over effect, mutual fund families strategically transfer performance across member funds to favor those more likely to increase overall family profits (Gaspar et al, 2006). Huij and Verbeek (2007) found that after positive returns, low marketing expense funds in high marketing expense
fund families have substantially larger inflows as compared to the similar funds that are operating in low marketing expense families, whereas both have similar outflows after negative returns. Authors explained this phenomenon as higher visibility effects of lower marketing expense funds, therefore lowering of search costs and subsidization effect of low marketing expense funds by other family members.

Fund families also seriously consider resource allocation to different funds and have a favorable attitude towards the well performing funds. One of the main resources fund family has that of the fund manager. Since literature has shown that personal characteristics of the fund manager can help predict superior stock selection ability (Chevalier & Ellison 1999a; 1999b). Therefore mutual fund families place due importance on this resource and their performance both in terms of asset growth rate and return is linked to top management turnover (Khorana, 1996; 2001). There also exists empirical evidence that relates lagged fund return with promotions and demotions of the managers (Hu et al, 2000). On other hand, IvKovic (2002) argued that being part of large family might improve performance because of other spillovers. Massa (2003) found a statistically strong and negative relationship between performance and degree of product differentiation, which exists at both the family and category level.

The classical decision making model has been widely used in financial research (Fiegenbaum, 1990) which argues that decision makers are knowledgeable and rational with access to all the information necessary to make valid decisions. With this perspective, it is argued that different alternatives to the same problem should lead to same optimal performance outcome, whether decision is made by individual, group or organization. Behavioural decision making model (for example Barber and Odean, 2000) offers a contrasting perspective for the study of human choice behaviour. Behavioural decision making model prompted some studies in individual versus group decision making (Sniezek & Henry, 1990; Vollrath et al, 1989) which concluded that recall and recognition of relevant information is better in groups. Behavioural decision making theory argues that group members tend to pool and integrate their resources when the task is complex and is completed under high levels of uncertainty (Hinsz et al, 1997). But still some studies observed that individuals operating in group decision making may be subject to polarization (Burnstein & Vinolur, 1977).
The question of whether management structure affects performance of fund is relevant in the above cited context. Much of the literature on individual versus group decision making and its relationship to performance has been cited in the context of laboratory settings (Hogarth & Reder, 1987). When individual fund manager manages the fund, there is less uncertainty in decision making and also small funds can only be managed by individual fund managers. On the other hand, funds, which are managed by team members, have more resources more investment alternatives which can help reduce uncertainty (Tindale et al, 1993), thereby improving the performance. But in team managed funds there can be ‘hierarchy costs’ (Chen et al, 2004) and larger funds may experience organizational diseconomies. Also in team managed funds, there is more competition to convince an idea (Aghion & Tirole, 1997; Stein, 2002). The impact of team management on funds performance has been found insignificant (Prather & Middleton, 2002; Bliss et al, 2008) or poor (Chen et al, 2004; Massa et al, 2009).

There are hardly any studies that relate macro economic factors of the country with the mutual fund performance. Yet some researchers have found positive relationship between country’s economic development and mutual fund performance (Christofferson & Sarkissian, 2009). Financial development has some advantage for mutual fund performance because of higher liquidity and lower trading costs. Mutual fund performance has also been linked with business cycle as Lynch and Musto (2003) found that conditional mutual fund performance moves with the business cycles.

Literature has also cited that effect of geographic distance and country’s boundaries on investment performance. The underlying concept is whether local or foreign investors are at information advantage. Some studies have demonstrated that local investors outperform foreign investors (Choe et al, 2005; Dvorak, 2005; Teo, 2009). Some have found evidence that foreign investors are better informed (Grinblatt & Keloharju, 2001; Froot & Ramadorai, 2008) and some have found no difference (Kang & Stulz, 1997).

In one of the studies on relating business environment and mutual fund performance, Ahmed and Nanda (2005) examined the performance of 191 emerging market open ended stock and bond mutual funds over the period 1980-2000, conditional on US monetary policy. The authors found that that while the emerging market stock mutual funds under performed (lower returns, higher risk and lower
Sharpe ratios) their corresponding country indices, the performance of the bond funds was in line with their benchmarks. Further during restrictive policy regimes, the emerging market stock mutual funds have higher Sharpe ratios (the largest difference was found for Asia Pacific funds). Similar results were found for the emerging market bond mutual funds.

In a very comprehensive and landmark study on determinants of mutual fund performance (Ferreira et al., 2006) studied funds from 27 countries. The major findings of the study were 1) Domestic funds outperformed international funds and US domiciled funds outperformed any other funds elsewhere in the world. 2) Negative relationship was found between fund size and performance but that was not evident for non-US and international funds. 3) Fund age and fees were negatively related to mutual fund performance. 4) Funds belonging to large fund families, individually managed funds and funds widely distributed in several countries had better performance. 5) Domestic funds located in developed countries, those with liquid stock markets and strong legal institutions, had better performance.

2.2 Factor Affecting Mutual Fund Selection Behaviour

Very few studies have been conducted regarding comprehensive description of fund selection behaviour. Most of the researchers have tried to establish the fund selection with either the individual framework or the individual determinants. Accordingly, section 2.2.1 deals with some of the comprehensive studies on fund selection behaviour, section 2.2.2 deals with studies in the behavioural framework and section 2.2.3 deals with the studies in consumer decision framework. Further the concise review of a large number of studies on individual determinants is presented in section 2.3

2.2.1 Comprehensive Studies on Mutual Fund Selection Behaviour

In one of the studies dealing with quantitative approach to mutual fund selection, multi-criterion approach to mutual fund selection was proposed by Cook and Hebner (1993). The study found that the most popular approach for evaluating mutual funds employs only single criteria, the fund’s mean, risk-adjusted rate of return. Multi-criteria methodology involves numerous factors like standard deviation of fund’s alpha, front and back end load fees, the level of diversification, quality of
service and so on. It was also recognized that individual investors possess dissimilar attributes and preferences and hence allow investors to formulate different ratings (and consequently rankings) of the set of competing mutual funds, which ultimately gets reflected in their purchase / selection decision.

In a landmark study of the mutual fund purchase decision by investors, Capon et al (1996) explored the extent to which investors make purchase decisions consistent with modern finance theory. The study investigated the manner in which investors make investment decisions for mutual funds. Study reported that investors’ consider many non-performance related variables. Study results demonstrated that the mutual fund investment decision was better considered in a multi-attribute framework, where return and risk were merely two aspects in a set of attribute whose importance varies across investors. The authors also argued that as mutual fund purchase value increases, investors would behave in a more rational manner, simply because of the magnitude of potential gains and losses involved. Authors found published performance rankings, advertising and commission based financial advisors as major sources of information. In the study, although past mutual fund returns and level of risk were rated the two most important factors in aggregate, several additional factors were also found to be relevant, namely - amount of sale charges, management fees, reputation of fund manager, fund family, clarity of the fund's accounting statement, recommendation from a financial magazine or newsletter, availability of telephone switching, the fact that funds are already owned in that family, and a friend's recommendation.

Alexander et al (1998) studied the characteristics, investor knowledge and sources of information for mutual fund investors. Authors surveyed 2000 randomly selected mutual fund investors. Data on demographics, financial, fund ownership attributes, familiarity with costs, investment risk and sources of information was collected from the surveyed investors. Authors reported the major findings as – 1) most widely used source of information was the fund prospectus followed by employer provided material, newspapers and magazines, friends and work presentations in that order. 2) Investors were aware of risk in investing in mutual funds. 3) Slight positive relationship was found between current and future performance.4) Financial literacy has been found to be higher for prospectus users as compared to investors using other sources of information.
Saraoglu & Detzler (2002) based on analytic hierarchy process presented a framework for selection of mutual funds that took into account unique preferences and constraints of individual investors. Model helps the advisor and investor to list the individual selection criteria (both qualitative and quantitative) and the relative importance of each criterion. Authors concluded that the model is flexible, user friendly and consistent throughout the portfolio decision making process.

Jones et al (2005) discussed the fund selection ability of mutual fund advisors, while recommending them to their clients. Authors surveyed 500 financial advisors in order to assess their decision process in buying mutual funds. The authors concluded that financial advisors put great importance on objective information sources such as independent performance rankings and much less emphasis on fund advertising and popular press publications. Financial advisors also emphasized performance relative to other funds with similar objective, style and risk, while selecting mutual funds for recommendations. They didn’t much emphasized on sales load and other fees. Authors highlighted the value that financial advisors contribute to their clients as they emphasize important information in the mutual fund selection which sometimes, individual investors cannot or are unable to do so.

Bollen (2007) examined mutual fund attributes and the investor behaviour especially with respect to investments in socially responsible funds. Author found significantly lower monthly fund flow volatility in socially responsible funds as compared to conventional funds. Author also tried to establish relationship between annual funds flows and lagged fund returns (socially responsible funds in comparison to conventional funds) and the finding was that investors in socially responsible funds exhibited a significantly larger response to lagged positive returns and smaller response to lagged negative returns. Author reported that evidence suggests that preference of socially responsible investor can be represented by conditional multi attribute utility function (deriving utility from socially responsible attribute) especially when these funds deliver positive returns.

Bergstresser et al (2009) attempted to quantify the benefits that investors get in exchange for what they pay to brokers or financial advisors for fund selection advice. Authors compared broker sold and direct sold funds from 1996 to 2004 and found that there were no sound tangible benefits to the investors from broker sold funds. The brokers sold channel did not show any evidence of superior aggregate market timing ability. As compared to direct sold funds, broker sold funds delivered
lower risk adjusted returns even before subtracting distribution costs. They attributed the findings explaining that investors buy through brokers either were getting substantial non tangible benefits or there was a conflict of interest between brokers and their clients.

2.2.2 Behavioural Decision Framework in Mutual Fund Selection Process

One of the three theoretical frameworks under which mutual fund investors makes decision about the fund selection is the behavioural decision framework, which has gained importance since the pioneering efforts of behavioural researchers. Modern finance theory advocates the concept of optimal choice in financial decision making, but is too narrow and limited in its approach in fully describing the actual choice (Debondt & Thaler, 1995). In behavioural finance framework of mutual fund selection, emphasis is on describing psychological biases that affect investor behaviour. Numerous psychological biases have been discussed and described in detail in behavioural finance literature. Some of the important biases that have been identified to influence mutual fund investors are namely - Representativeness heuristic (Kahneman & Tversky, 1974) which further can cause biases like framing (Tversky & Kahneman, 1986) and mental accounting (Hirshleifer, 2001); prospect theory (Kahneman & Tversky, 1979) and the resulting loss aversion and disposition effect (Shefrin & Statman, 1985; Odean, 1998); mental accounting (Kahneman & Lovallo, 1993); cognitive dissonance (Goetzman & Peles, 1997); Status quo bias (Samuelson & Zeckhauser, 1988) and the related endowment bias (Kahneman et al, 1992); and over confidence bias. Some of the relevant behavioural studies related to mutual fund selection decision are presented in this section.

Kahneman and Tversky (1974) examined a heuristic process (which they called representativeness) which they defined as the “subjective probability of the event, or a sample, is determined by a degree to which it is similar in essential characteristic to its parent population, and reflects the salient features of the process by which it is generated” Representativeness heuristic or (focusing on similarities) can be interpreted in a way, that past performance of the mutual fund becomes a dominant selection criteria for the investor, irrespective of the future expectation of returns.
Kahneman and Tversky (1979) provided theoretical explanation for why investors sell their winning funds. They made use of the prospect theory, which they regard as the alternative to the utility theory. They argued that people are loss averse; they have an asymmetric attitude to gains and losses. Investors get less utility from gaining, say Rs 100 than they would lose if they lost Rs 100. If investors use the purchase price of their mutual funds as a reference point, prospect theory predicts that mutual fund investors would be more likely to sell their winning mutual funds than their losers. Tversky and Kahneman (1986) described about rational theory and framing of decisions. Authors observed that decisions problems if presented as alternate descriptions give rise to different preferences, which is contrary to the principle of invariance that underlies theory of rational choice. Authors concluded that violation of the rational theory of choice is due to the framing of decisions.

Samuelson and Zeckhausar (1988) discussed about status quo bias that is doing nothing or maintaining one’s current decision. Authors studies on health and retirement plans of individuals and found that status quo bias was substantial in real decision making. Shefrin and Statman (1985) commented upon the concept of Kahneman and Tversky’s approach of aversion to loss realization. The authors discussed this phenomenon into wider theoretical framework, which included elements of mental accounting, regret aversion, self-control and tax consideration. They concluded that gain and loss realization explanation is not limited to the concept of tax realization, but also depends on other elements of this framework.

Goetzmann and Peles (1997) discussed why some investors retain their mutual funds which consistently under perform. They hypothesized that this may be due to investors supporting their own past decisions (cognitive dissonance) and believing that something they own is superior to something they do not own (endowment effect). Authors carried out a survey on mutual fund investors and found that cognitive processes used by investors for inaction were based on biased past performance beliefs and this has been true even for the well informed investor. Authors also found strong evidence for endowment effect. Odean (1998) demonstrated strong disposition affect among investors, which was not motivated by desire to rebalance portfolio or to avoid higher trading costs of low priced stocks. Nor disposition effect was justified by subsequent portfolio performance. Authors concluded such behaviour to be sub optimal and lead to lower return.
In an extensive study on behaviour of mutual fund investors, Barber et al. (2000) contributed significant findings to the mutual fund literature. Authors studied purchase and sale decisions of 30000 households from 1990 to 1996 and found three important findings. 1) Investors bought fund with strong past performance; 2) Investors sold funds with strong past performance, but were reluctant to sell their loosing funds, they were twice as likely to sell a winning fund as compared to sell a loosing fund and 3) Investors were sensitive to the form in which expenses were charged; they show asymmetric behaviour to fees as they were less likely to buy mutual funds with high transaction fees but they were rather insensitive to fund’s operating expense. Authors associated the above findings with the behavioural biases of the investors, they argued that investors displayed behavioural bias of representative heuristic (when they bought fund with strong past performance); disposition effect (when the investors were reluctant to sell their losing mutual fund shares) and framing effect (when they reacted differently to different forms of expenses). Authors further observed that buying past winning funds may be productive (because of some evidence on performance persistence) but selling past winning funds and being insensitive to the operating expense ratios is rather not rational and clearly counter productive.

Chen et al. (2004) discussed the behaviour of Chinese investors. Authors gathered sample from 1998 to 2002. Authors found that individual investors exhibited behavioural biases and made trading mistakes. Specifically they exhibited overconfidence, disposition effect and representativeness heuristic bias. Authors found that more experienced investors were more inclined towards making trading mistakes, specifically exhibiting the disposition effect and representativeness. Authors further found mixed evidence for relationship between experience and over confidence.

2.2.3 Consumer Decision Framework in Mutual Fund Selection Process

A large number of factors influence individual purchase decision (Ersamus et al., 2001). Several researchers have regarded a consumer decision making process as a five stage process (for example Schiffman & Kanuk, 2000). These five stages are: 1) Factors influencing the cognitive process leading up to problem recognition (environmental factors), 2) Information search, 3) Evaluation of alternatives, 4)
Choice and 5) Evaluation of outcomes. In addition, factors relating to consumer social environment like cultural, economic and institutional environment, demographic, social and personal characteristics have an influence on consumer purchase decision (Chisnall, 1995). These influences in totality lead to need recognition and the consumer starts with information collection process. As such consumers can get information from external and internal sources of information. From mutual fund perspective, the internal sources of information can be (for example, past experience) and external sources of information can be (for example; agents, families, friends and advertisements). These sources get transformed into selection criteria (like performance, risk, services etc), which ultimately form intentions and investors, arrive at final decision making.

Howard (1969) argued that higher is the financial risk involved in the purchase decision, more extensive is the search for information. Although consumer decision making process requires the use of objective criteria for evaluation of alternatives (Schiffman & Kanuk, 2000) not all products are evaluated in same fashion (for example Engle et al, 1990). In financial services industry, purchasing behaviour is highly influenced by type of financial product being purchased (Betts, 1994). Same was pointed out by Capon et al (1996) who argued that selection criteria employed for mutual fund selection have been determined by personal factors; brand or product features and purchase context.

Ersamus et al (2001) further observed that complexity of decision making process rises with the product importance, and if financial risk involved is high, consumers usually engages in more extensive search for information. Although selection criteria help in comparing the alternatives, final decision making is the result of application of specific decision rules like heuristics or multi attribute decision rule (for example Fishbein & Azjan, 1975).

But there is a limit to information processing ability, and adding to it complex and vast information (especially in case of financial product like mutual fund) makes investor to look at alternative decision making rules (for example Kivetz & Simonson, 2000). In view of it other variables like variables related with the visibility of the fund (for example fund size, fund family size, media coverage) acts as determinant of mutual fund flows. Since the financial products are complex to understand, investor usually calls for assistance of third party as a substitute for active information search. As a consequence, investor puts great emphasis on brand image and past performance
(Beckett et al, 2000). All these variables have been discussed in section 2.3 as empirical determinants of mutual fund flows.

### 2.3 Mutual Fund Flow Determinants

Mutual fund new flows are usually defined as change in total net asset value minus asset appreciation. Most of the empirical studies make use of normalized flows to correct for fund size effect. Flows are usually regarded at the end of the period. Some researchers also considered aggregate flows (category flows) as different from individual flows (for example Sirri & Tufano, 1998; Elton et al, 2003) despite the high correlation between the two.

While earlier research indicated a weak relationship between performance and flow (for example Smith, 1978; Woerheide, 1982), subsequent research presented a robust relationship. Most of the studies indicated, that performance flow relationship is significantly positive (for example Ippolito, 1992), different studies (for example Cashman et al, 2006) also indicated that performance flow relationship is different for different type of funds. In contrary to the evidence provided by performance persistence literature, which states that performance persistence is strong in case of poor performers, investors direct their investments in top performing funds (Goriaev et al, 2002; Barber et al, 2005).

Several studies (for example Spitz, 1970; Chevalier & Ellison, 1997; Sirri & Tufano, 1998) have documented that abnormal positive returns generate disproportionately more inflows than abnormal negative returns would generate outflows. Further because of spillover effects in mutual fund families (Nanda et al, 2003) performance flow relationship is convex in nature. This means that it is sufficient for the mutual fund family to only have some well performing funds in order to experience large inflow in its assets under management.

Harless and Peterson (1998) premised on two models for the observation that poor funds continue to exist. Two models used were – holdings in mutual funds are determined on the basis of past risk adjusted returns and are subject to partial adjustment. The other model is behavioural concept of Representativeness heuristic. Authors studied 100 funds over a period of 1977-1992 and found that investors do not move in accordance with Jensen’s alpha prescription. Rather judgments about the fund preference have been heavily biased by recent gross returns. Further it has been found that performance in more recent years has the strongest impact on mutual fund
flows (Berkowitz and Ketowitz, 2000) but some studies have also demonstrated the importance of performance achieved in last 6-8 months (Cashman et al, 2006).

Edwards and Zhang (1998) examined the relationship between aggregate mutual fund flows into stock and bond mutual funds and the stock and bond mutual fund returns. Fund flows were examined from 1961 to 1996 (30 year period in equity funds) and for 1976 to 1996 (20 year period in bond funds). The study found that the relationship of flows and return runs in the opposite direction as stronger relationship has been found between returns and flows (as compared to the relationship between flow and return). That is to say higher return causes large equity and bond fund flows. The results were found to be robust to both the econometric procedures used namely Granger causality analysis and Instrumental variables method.

Warther (1995) observed that flows into stock funds and bond funds were strongly correlated whereas there was a negative correlation between stock funds and money market funds. The other findings of the study were – flows into stock funds, bond funds and precious metal funds were correlated with returns from their respective sectors; no positive relationship was found between flows and lagged returns. Further no strong association was found between fund flows and parameters like investor sentiment; small stock behaviour and close end fund discount behaviour. Santini and Aber (1998) further extensively studied Warther’s (1995) idea and explored the relationship between aggregate mutual fund flows and several variables like interest rate levels; risk adjusted and non risk adjusted performance measures; changes in personal disposable income. Authors found that new money flows were negatively correlated to real long term interest rates and positively related to disposable personal income and stock market performance. However, on the similar lines of Warther (1995) they found no statistical significance between flows and lagged performance.

Zheng (1999) studied the fund selection ability of mutual fund investors. Using Grinblatt and Titman’s (1993) performance measure, author found that mutual fund investors were able to make buying and selling decisions on the basis of good assessment of short term performance. The study confirmed the ‘Smart Money Effect’ in that the aggregate newly invested money in equity mutual funds was able to forecast short term future fund performance. That is to say that those funds that receive more money subsequently performed better as compared to the funds that lose money. Although no statistical evidence was found that investors could beat the
market by investing in the funds with positive money flow, yet there was evidence that positive money flow in small funds tended to outperform the market. The smart money effect was found to be short lived to the extent of 30 months. Author further concluded that the smart money effect was not due to macroeconomic information but was due to fund specific information.

Studies have also demonstrated negative relationship of volatility and net cash flow (for example Shu et al, 2002). Investors have been found to be more sensitive to risk adjusted performance measures (Guercio and Tkac, 2002; Shu et al, 2002). But other performance metrics like raw measures of performance evaluation or ranked measures have been equally found to be valuable (Berkowitz & Ketowitz, 2000).

Some researchers have further found that the rating or ranking system as more predominant in explaining fund flows (Guercio & Tkac, 2002) as compared to other measures and more so there was an asymmetric flow when rating was changed, more flow when upgrade as compared to less outflow when downgrade in rating happened (Guercio & Tkac, 2002).

Evidence on influence of loads on mutual fund flows is mixed. While some researchers, argued that it has a negative impact (Cashman et al, 2006) because it involves cost and therefore discourage flows. Other researchers (for example Berkowitz and Kotowitz, 2000) argued that load funds are mostly intermediaries promoted, therefore investors in these kind of funds in general are not financially sophisticated to move in or out; as a result load has a negative impact on flow.

Media coverage and attention has a positive relationship in mutual fund flow (Sirri & Tufano, 1998; Reuter & Zitzewitz, 2006). Empirical evidence also suggests that other marketing efforts and advertisements have a positive effect on subsequent flows (Capon et al, 1996; Barber et al, 2005). Jain and Wu (2000) examined the signaling hypothesis of mutual fund advertising – whether it is used to attract more money in mutual funds. This may be because of belief of investors in performance persistence or lowering of search costs. All funds studied were found to have superior performance in the pre advertisement period. Authors found that in the post advertisement period, performance of the mutual funds, on the average was significantly inferior as compared to the benchmarks. Authors further found that advertising attracts money to the extent of 20% more in comparison to the non advertised funds of the similar characteristics. Some studies have also considered mutual fund buy or sell recommendations in the media. For example, Reuter and
Zitzewitz (2006) concluded that media mentions of the mutual funds have limited ability on the future performance but they have significant economic impact in terms of investor cash flows.

Fund age and fund size are also related to mutual fund flows. Research has revealed that older and larger funds attract less relative flows (Barber et al, 2005). Adding to it lagged performance flow sensitivity has been found to be higher for small and younger funds (Goriaev et al, 2002).

Fund expenses have been found to lower fund performance thereby having a negative impact on fund flows (Elton et al, 2003; 2004), but reactions have not been similar to funds in various groupings (Barber et al, 2005). Also investors have been found to be more sensitive to load charges than to expense ratios (Wilcox, 2003; Nanda, 2004). In fact both significant positive and negative effects of loads and expenses on subsequent flows have been documented and results are at the most ambiguous (Barber et al, 2005; Cashman et al, 2006). Researchers have also examined the impact of only marketing costs and have found that marketing efforts account for the positive impact of operating expenses on flows (Ferris & Chance, 1987; Elton et al, 2003). Impact of managerial incentive fees on fund flows has also been found to be positive (Elton et al, 2003) because of signaling of superior manager skills.

Mutual fund investors behave differently in context of mutual fund purchase (Capon et al, 1996; Wilcox, 2003) as they rely on different information sources and attributes to finalise their investment decisions. Surprisingly, research indicates that more biasness in financial decision making develops with the increase in financial literacy (Goetzmann & Peles, 1997; Wilcox, 2003).

Fund family size can be positively related to fund flows as it lowers search costs by increasing visibility. More diversified fund family can provide better services (in form of scheme switching) to the investors and less diversified fund families signal their focused objectives. Inspite of documented better performance by the less diversified fund families (Siggelkow, 2003), investors pour more money in highly diversified fund families (Rockinger, 1996). Evidence on number of funds in the fund family is also mixed, having both negative relationship (Goriaev, 2002) and positive relationship (Rockinger, 1996) with the fund flows. Presence of star fund in the fund family also results in more positive net flow to the other funds in the family, because of spill over effects (Nanda, 2004).
Brokers and financial advisors have been found to exercise substantial influence on purchase of load funds (Zhao, 2006). Authors also observed that there is more likelihood that brokers and financial advisors direct investor monies into smaller but high load funds, which may experience better performance due to their smaller size. On the other hand, investors who have been directly investing their money, go for larger funds due to high visibility. But some studies have found that there is no substantial and tangible benefit by investing through brokers (Bergstresser et al., 2009).

Another example of other explanatory variables is evident from the cash flows in socially responsible funds. The volatility of cash flows in the socially responsible funds was found to be low (Bollen, 2007) in spite of the fact that the returns of the socially responsible funds either matched the conventional counterparts (Hamilton et al., 1993; Statman, 2000; Geczy et al., 2003) or under performed them (Bauer et al., 2005).

Duca (2005) demonstrated the role of lower asset transfer cost (lower mutual fund load), lower income risk and diversification considerations in increasing mutual fund ownership in US households. Increasing ownership of stock or mutual fund due to lower asset transfer cost was reported in several other studies also (Reid & Miller, 1999; Saito, 1995; Heaton & Lucas, 2000). Other possible reasons in mutual fund investments are retirement preparedness (Morgan, 1994) and other demographic reasons.

Providing a sort of conclusive evidence on mutual fund flows and its various determinants, Capon et al (1996) observed that information source and selection criteria are inter related. Moreover, demographic characteristic and investor behaviour varies. Although performance takes a central role in investment decision process, other criteria also play an important role in mutual fund selection.

2.4 Review of Indian Studies

Till 1990, Indian mutual industry largely remained as single player industry. At that time industry was highly restricted, very less penetrated, and investors had hardly any awareness of the concept of mutual fund. Mirroring the facts, there were hardly any researchers on mutual fund till 1990. With the encouragement to private players and increase in competition, growth in both the industry statistics and research became evident. The research on mutual funds in India, can be segmented into two
parts, one dealing with mutual fund performance and related issues (covered in section 2.4.1) and other part deals with the description of studies relating to fund selection behaviour (covered in section 2.4.2)

2.4.1 Indian Studies linked with Mutual Fund Performance

Barua et al (1991) probably made the first attempt to compare the performance of UTI mutual fund scheme with the overall market. The authors found out performance by UTI schemes. Further in the study of data on 11 mutual funds from 1990 to 1994, findings revealed that almost all mutual funds under performed the overall market (Shah & Thomas, 1994). Jayadev (1996) found out performance to a limited extent. Later on Gupta and Sehgal (1997) conducted study on mutual fund performance from 1992 to 1996, and found inconsistency in mutual fund performance and systematic risk characteristics.

Murthi et al (1997) advocated a new index to measure portfolio performance by the name of Data envelopment portfolio efficiency index (DPEI), as a relative measure that does not require the specification of a benchmark. Authors found that managers in aggressive growth, asset allocation, and income and equity income funds were more efficient in utilizing resources. Authors also found that efficiency was not related to size and costs of the fund.

Number of studies demonstrated that either most of the mutual fund schemes are unable to outperform the broader market or results have been found to be inconclusive (for example Sethu, 1999; Chakrabarti & Rungta, 2000; Singla & Singh; 2000; Gupta, 2000). Narasimhan and Vijayalakshmi (2001) found that in almost all the mutual funds under study, risk level was high as compared to the returns. On the contrary Turan et al (2001) found considerably low level of risk in the selected mutual fund schemes.

Studies conducted in later years also observed the inconclusive evidence of mutual fund out performance over all (Anand & Murugaiah, 2006) or exclusively for growth schemes (Gupta & Gupta, 2004); equity linked saving schemes (Tripathy, 2004a) and balanced schemes (Chandel & Verma, 2005).

In a study comparing both private and public sector funds on various accounts, Panwar and Madhumati (2006) studied 6 public sector sponsored and 12 private sector sponsored mutual funds from 2002 to 2005 and examined the differences in the
characteristics of the assets; portfolio diversification and effect of diversification on the investment performance. Three measures of performance were used in the study namely – Jensen alpha; Sharpe information ratio and eSDAR or excess standard deviation adjusted return (Statman, 2000). Authors concluded that there was no statistical significant difference in the mean returns of public sponsored and private sponsored mutual funds; In terms of average standard deviation, average variance and average coefficient of variance, there was a statistical difference between public sponsored, private sponsored domestic and private sponsored foreign mutual funds. Study also found that there was statistical significant difference in terms of eSDAR (used as a measure of investment performance) and Residual variance (used as measure of portfolio diversification measure) between public sponsored and private sponsored mutual funds.

Roy and Deb (2004) carried out an extensive study on performance and its persistence with respect to mutual funds. Authors studied 133 open ended mutual fund schemes (from equity, debt and balanced universe of schemes) from the period 1999 to 2003. Authors used conditional framework of performance measurement (Ferson & Schadt, 1996; Christopherson et al, 1998) and found that when fund’s beta was conditioned to lagged economic information variable (various lagged economic information variables used were interest rates; dividend yields; term structure yield spread; and a dummy for April effect), the fund performance did not change. On the other hand when alpha was also controlled for lagged economic information variables, the fund performance on an average became significantly negative. Authors concluded that on an average the Indian mutual fund managers only capture the opportunities from the available economic information; they do not contribute anything beyond it. Authors also studied the performance persistence of the Indian mutual fund schemes. To measure the past performance both conditional (conditional alpha, conditional time varying alpha) and unconditional (unconditional alpha) measures of performance were used. Authors observed that the conditional measure especially time varying conditional alpha predicted the future fund returns significantly.

Aggarwal and Gupta (2007) carried out a performance study on quarterly returns of all equity oriented mutual funds from 2002 to 2006. Using CAPM and Fama French Model of investment performance, the authors found contrasting views on mutual funds performance. With respect to CAPM, the value added by mutual
funds was evident but it was not the same case with the Fama French Model. Moreover in Fama French Model, factor portfolios behaved differently on account of the mutual fund performance. Authors finally concluded by recommending for more systematic research on the issues involved.

Deb (2008) studied 96 mutual funds from the period 2000 to 2005 for examining the return based style analysis of equity mutual funds in India. Authors used quadratic optimization of an asset class factor model (Sharpe, 1988, 1992) to determine style benchmarks. In total 11 mutually exclusive asset classes were developed for style analysis. Authors in their findings concluded that on the average, Indian equity mutual fund managers have not been able to beat their style benchmarks.

There are limited researches in mutual fund context in India, which signify overall out performance by mutual funds (for example Sondhi & Jain, 2005). Especially out performance has been observed in case of sectoral funds like FMCG, IT and in equity linked saving schemes (Chandel & Verma, 2005) although the study suffered from small sample selection. Sondhi and Jain (2005, 2006) also found that open ended equity mutual funds, small size funds, and private equity mutual funds performed better as compared to their counterparts. Further in some studies especially during the bear equity phase of 1998 to 2002, mutual fund performance was found to be satisfactory as compared to the broader market (Sapar & Madava, 2003).

Regarding performance persistence, no evidence of short term performance persistence has been found in Indian mutual funds (Chander, 2005). Sehgal and Jhanwar (2006) found no short term persistence using monthly mutual fund data, but were able to find some evidence of short term persistence using daily data.

Most of the studies on market timing ability and stock selection ability in Indian mutual fund industry found negative or neutral timing ability (for example Gupta, 2001). In a study conducted by Mishra (2002), author examined timing and selectivity skill of mutual funds and concluded that selected mutual funds had no timing ability, even though at individual level some of the schemes had timing skill. On the other hand most of the studies conducted to assess the stock selection ability found positive stock selection ability (for example Shah & Thomas, 1994; Jayadev, 1998; Rao & Venkateshwaralu, 1998; Gupta, 2001; Chander, 2005; Sondhi & Jain, 2006; Deb et al, 2007 etc)
Summarizing the debate on performance persistence and fund’s manager ability with respect to stock selection and timing, Sehgal and Jhanwar (2008) argued that multi factor benchmarks provided better selectivity and timing measures, which, in turn, may be further improved by using daily data instead of other frequencies. Authors also observed that mutual fund timing ability should be examined in a multi dimensional framework with additional measures for timing of style characteristics.

2.4.2 Indian Studies linked with Mutual Fund Selection Behaviour

Many studies relating to preference, perception and attitude of investors towards mutual funds have been performed with respect to mutual fund industry in India. Although studies directly relating to fund selection criteria are very few in number yet they are important in discussing behaviour of investors while selecting the mutual funds. Important studies are presented below in chronological order.

Probably starting with Jambodekar (1996) study, that revealed that income schemes and open-ended schemes were more preferred than growth schemes and close-ended schemes during the then prevalent market conditions. Major factors which investors look in mutual fund were safety of principal, liquidity and capital appreciation in the order of importance; newspaper and magazines were the first source of information through which investors got to know about mutual funds / schemes and investor service was a major differentiating factor in the selection of mutual fund schemes. Other studies like that of Shankar (1996) stressed on following of consumer product distribution model by Asset Management Company to capture the market. Other determinants of mutual fund flows have been found to be tax concessions, especially in the case of salaried people (Sikidar & Singh, 1996); role of mutual fund agents, age and income of investor (Sundar, 1998); brand image (Chakrabarti & Rungta, 2000); and also psychological and sociological factors (Shanmugham, 2000). In addition to finding factors for mutual fund selection, several studies have been conducted for segmenting the investors on the basis of their characteristics, investment size etc (Rajan 1997;1998; Kiran & Rao, 2004).

In an extensive study on mutual fund selection criteria, Rajeswari and Moorthy (2002) studied the financial behaviour and factors influencing fund / scheme selection of retail investors. The authors conducted factor analysis using principal component analysis, to identify the investor’s underlying fund/scheme selection
criteria, so as to group them into specific market segment for designing of the appropriate market strategy by Asset Management Company. The study was conducted through a survey of 350 mutual fund investors in 10 urban and semi urban centers. The survey revealed that the most preferred investment vehicle was bank deposit and mutual funds ranked 4th in order among 8 choices. Growth schemes were ranked first followed by income schemes and balanced schemes. The first preference was for open-ended schemes and only 15% investors’ favored close ended schemes. Investors looked for safety first in mutual fund products, followed by good returns, tax benefit, liquidity and capital appreciation. The survey revealed that respondents on their own made the scheme selection decision, and the other sources influencing their selection decisions were newspapers and magazines, brokers and agents, television, friend’s suggestion and direct mail in that order. Further 44% of the respondents reported that they use internet facility to know more about mutual funds and 37% respondents preferred to get routine /special information like daily NAV, dividend, bonus etc through automated response system while 53% preferred personal communication. Regarding influential fund selection factors - factors that relate to product were namely intrinsic qualities of the product, portfolio management record, and image. Two factors related to sponsor related factors namely infrastructure and reputation; three factors related to service related factors namely subsequent disclosure and fringe benefits were found to be influential in fund / scheme selection.

Singh and Vanita (2002) found that absolute returns from mutual funds and name of the promoters were the basic criteria used by the investors in mutual fund scheme selection. Also investors preferred to invest in the private sector, open ended and balanced schemes of mutual funds. Some later studies like Qamar (2003) found that level of literacy, educational achievement; occupational distribution and income profile of the investor largely determined their investment and saving pattern. In another study by Singh and Chander (2003) authors found that the factors influencing mutual fund selection criteria were past record of the organization, growth aspects, and disclosure of adequate information.

Kiran and Rao (2004) identified investor group segments using the demographic and psychographics characteristics of investors using multinomial logistic regression and factor analysis. In another study by Singh and Chander (2004), perception of investors towards mutual funds was studied. It was found that investors
favorably perceive the daily disclosures of net asset value (mainly young investors in the age group of 20-35 years) and tax rebates (mainly salaried and retired class of investors) provided on investments in mutual funds. At the same time, they disliked the way the industry has been regulated, poor role and ineffectiveness of controlling bodies like SEBI, less returns on an average as compared to the selected benchmarks and inefficient management by the mutual fund companies.

In ascertaining the factors yielding behavioural biases, Kumar (2006) examined whether individual investors exhibited stronger behavioural biases when value ambiguity or information uncertainty was higher. Author used six year data from 1991 to 1996 of retail holdings and trades and found that at times when stock markets have been difficult to value, investors exhibit behavioural tendencies of overconfidence, stronger disposition effect, limited attention and Representativeness. In addition when there has been greater market wide uncertainty, these behavioural biases become stronger.

In the study by Ranganathan (2006) attempt was made to study the aspects of fund selection behaviour of individual mutual fund investors in Mumbai. With the help of random and judgment sampling techniques author selected 100 mutual fund investors during 2004. Author found that investors mainly preferred growth scheme; and open ended structure. Investors gave high importance to published sources of information (for example newspapers and magazines). Using factor analysis, author found seven principals components among three groups. In the fund related qualities, the major selection criteria were intrinsic fund qualities, credibility of image and flexible investment facilities. Among fund sponsor related qualities, the major selection criteria were reputation of the fund manager and competent performance. Among investor related services, major selection criteria were transparent disclosure and fringe benefits. Author also used multinomial logistic regression and found the factors of competent performance, flexible investment facilities, reputation of the fund sponsor and fringe benefits as significant factors explaining the fund selection behaviour.

In a study conducted on mutual fund purchase by high net worth individuals (HNWI) in India (Sharma, 2006) it was found that two channels of mutual fund purchases dominated for HNWIs investors – direct or through a broker. The important information source for the mutual fund investor was mutual fund performance
ranking, recommendations of business associates, advertising etc in that order. The
important fund selection criteria were investment performance record, responsiveness
to enquiries, fund managers reputation, confidentiality and fund management fees etc
in that order.

Singh (2006) found that the majority of the investors in the age group of 20 -
35 years and salaried people preferred close ended growth schemes over other
schemes. Authors also observed that major sources of fund information were brokers
or financial advisors, newspaper, finance journal, banker, friend’s or relative advice,
finance journal, TV, internet etc in that order.

In another study on investors’ preference for investment in mutual funds,
Singh and Chander (2006) argued that mutual funds were not among the first three
choices to invest. As regards to investment in mutual funds, close ended funds were
preferred over the others. Sectoral funds were not much sought after. The major
reason for investment in mutual funds was the good returns. The important result that
emerged in this study was that occupation (and not age) is significantly associated
with the perception of investors about the returns received from the mutual funds, but
at the same time occupation and age does not play any role in the selection of
particular type of mutual fund scheme. Also it was observed that most of the investors
base their investment decisions on the advice of brokers, professionals and financial
advisors followed by independent review of newspaper advertisements.

Using Gil Blake’s model for generating automated buying and selling
decisions with regard to mutual fund or scheme selection, Sundar et al (2007) studied
56 mutual fund schemes from 9 different sectors. Authors concluded that it is feasible
to time the market and take appropriate buy and sell decisions, but the same is not
feasible with all the mutual fund schemes.

Das et al (2008) carried out investor survey in Cuttack and Bhubneshwar to
assess the behaviour of retail investor with special reference to products of insurance
and mutual fund. Simple random sampling was used to select 100 respondents from
these two cities. Authors found that graduates and post graduates were investing more
in insurance as compared to professionals who were investing more in mutual funds;
government servants were investing to the maximum extent (as a percentage of their
gross savings); males were more likely to be investors as compared to females; the
most important objective of investment was capital growth followed by tax saving and
retirement plan, in that order; investors were more likely to invest in life insurance as compared to mutual funds and government savings; investors preferred to invest in open ended funds; there was a positive correlation between mutual fund’s past performance and brand image; most of the investors have found that newspapers and magazines are the major source of information as compared to direct communication from the company.

2.5 Research Gaps

Research on mutual fund selection behaviour gets insight from three frameworks of portfolio choice, behavioural decision making and consumer decision making. There is vast amount of mutual fund literature, both at the global level and at Indian level regarding various issues of portfolio choice framework (like mutual fund performance, performance persistence and fund manager’s ability with respect to both market timing and stock selection). No doubt there is ample amount of literature on individual fund flow determinants and the lateral flow factors (factors affecting performance and thereby flow), but literature is limited with respect to mutual fund selection criteria, more so as comprehensive studies.

In fact, there is hardly any comprehensive study on fund selection behaviour of non retail individuals or organizations, in spite of their significant share in assets under management. This assumes more importance in Indian context, as non retail segment is the highest contributor to assets under management.

Some studies have incorporated the view points of brokers and other intermediaries in fund selection behaviour (for their clients), but either these studies suffer from small sample or have been covering the perception of intermediaries’ regarding themselves, and not regarding perception of investors’ behavior. None of the study reviewed, compared the factors affecting selection criteria with respect to different stakeholders (investors – both retail and non retail, intermediaries). There are few comprehensive researches in Indian context on fund selection behaviour, but they are limited to particular locations, tested few variables as compared to what is available today and tested individual investors only.

Further since August 1, 2009, Securities and Exchange Board of India (SEBI) has changed the entire distribution model of the mutual fund industry (Sehgal, 2009). In the new order, investors are required to be more involved in decision making exercise for selection of the mutual fund and in this context selection criterion
becomes immensely important. In addition to this since the brokerage commission has become more quality oriented now, and to remain competitive, intermediaries too have to fine tune their own selection skills and criteria in addition to their perception of investor’s selection criteria.

This study contributes in the above direction. Not only it has attempted to compare the fund selection criteria factors of retail and non retail participants, it has also tried to establish the mutual fund selection criteria of the investors as perceived by intermediaries and their relative position vis-à-vis investors.