Efficient Market Hypothesis and Behavioural Finance: A Review of Literature

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Abstract
In this paper, we reviewed the efficient market hypothesis and the theory of behavioural finance with some past scientific research work relevant to these theories. Market efficiency refers to the speed and accuracy with which current market prices reflect investor expectations, such that mispriced securities are rare. This study, which is essentially a literature review, intends to explain the behaviour of stock prices with respect to information. It considers efficiency in relation to block transactions, new issues, stock splits and mutual fund performance with a consideration of empirical models that have found extensive use in the EMH research. Also, the issue of information adequacy and redundancies of annual financial reports (AFRs) in Nigeria is also discussed. Most of the evidence obtained from scholarly works on the EMH is consistent with the strong form but cases where market anomalies exist to depart from EMH lend credence to the impact of imperfections of market conditions. As a result, we conclude with a case for Behavioural finance which studies how cognitive or emotional biases create anomalies in market prices and returns.

Introduction
Markets and Information
The main thrust of capital markets is the transference of resources from the savings – surplus unit (lenders/savers) to the savings-deficit unit (borrowers/producers) efficiently. These units are said to be better off if efficient capital markets are used to facilitate fund transfers. The borrowing/lending rate is used as a vital piece of information by each producer, who will accept project until the rate of return on the least profitable project just equals the opportunity cost of external funds (the borrowing/lending rate). This practice is in line with the Fisher separation theorem. In an allocationally efficient, scarce savings are optimally allocated to productive investments in a way that rewards everyone. An efficient securities market ensures that all participants are price takers. Information efficiency implies that information is costless (or of negligible cost) and is received simultaneously by all individuals. Capital markets are said to be operationally efficient if intermediaries, who provide the service of channeling funds from savers to investors, do so at the minimum cost that provides them a fair return for their services.

A Formal Definition of the Value of Information
The notion of efficient capital markets depends on the precise definition of information (Copeland and Weston, 1988: 332). An information structure may be defined as a message about various events which may happen. The value of an information structure,
\[ V(\eta) = \sum_m q(m) \max_a \sum_e p(e/m) U(a,e) - V(\eta_0) \] (1)

where

- \( q(m) \) = the marginal probability of receiving a message \( m \);
- \( p(e/m) \) = the conditional probability of an event \( e \), given a message \( m \);
- \( U(a,e) \) = the utility resulting from an action \( a \), if an event \( e \) occurs;
- \( V(\eta_0) \) = the expected utility of the decision maker without the information.

The Value of Information and Efficient Capital Markets

The equation (1) above can be used to evaluate any information structure. It also points out some ideas that are implicit in the definition of efficient markets. Fama (1976, 1991) defines efficient capital markets as those where the joint distribution of security prices at a period, given the set of information that the market uses to determine security prices, is identical to the joint distribution of prices that would exist if all relevant information available at that period were used. This implies that there must be no distinction between the information the market uses and the set of all relevant information. Applying information theory, this also implies that net of costs, the utility value of the gain from information to an individual in nil.

For instance, the Nigerian Stock Exchange (NSE) has been described as being efficient in the weak form. The relevant information structure, \( \eta_i \), is defined to be the set of historical prices on all assets. Therefore, the distribution of security prices today has already incorporated past price histories. Hence, it is not possible to develop trading rules (courses of action) based on past prices that will allow anyone to ‘outperform’ the market. In other words, the value of the gain from information to an individual, must be zero.

\[ V(\eta_i) - V(\eta_0) = 0 \] (2)

Equation (2) says that no one would pay anything for the information set of historical prices.

It is pertinent to note that the capital market is efficient relative to a given information set only after consideration of the costs of acquiring messages and taking actions pursuant to a particular information structure.

Market Efficiency and Rational Expectations

Our aim is to have an insight into how the marginal investor’s decision-making process, given the receipt of information, is reflected in the market prices of assets. However, it is difficult to observe the quantity and quality of information or the timing of its receipt in the real world. Even the issue of what information is relevant to investors has been an unresolved matter amongst theorists. Forsythe, Palfrey, and Plott (1982) identify four different hypotheses. Each hypothesis assumes that investors know with certainty what their own payoffs will be across time, but they also know that different individuals may pay different prices because of differing preferences.

The first hypothesis, known as naïve hypothesis, asserts that asset prices are completely arbitrary and unrelated either to how much they pay out in the future or to the probabilities of various payouts. The second hypothesis, known as the speculative equilibrium hypothesis, implies that all investors base their investment decisions entirely on their anticipation of other individual’s behaviour without any necessary relationship to the actual payoffs that the assets are expected to provide. The third hypothesis is that asset prices are systematically related to their future payouts. Called the intrinsic value hypothesis, it says that prices will be determined by each individual’s estimate of the payoffs of an asset without consideration of its resale value to other individuals. The fourth hypothesis may be called the rational expectations hypothesis. It predicts that prices are formed on the basis of the expected future payouts of the assets, including their resale value to third parties. Thus, a rational expectations market is an efficient market because prices will reflect all information. In the rational
expectations model, differential payoffs indicate heterogeneous expectations. Heterogeneous expectations could result from information asymmetry amongst individuals. An unresolved issue about market efficiency was whether there is full aggregation or averaging of information in pricing.

A fully aggregating market is said to be consistent with the Fama’s (1970) definition of strong-form efficiency. In a fully aggregating market, even insiders who possess private information would not be above to profit by it. However, empirical evidence on insider dealing suggests that insiders can and do make abnormal returns. On this basis, it can be said that capital markets do no instantaneously and fully aggregate information.

**Market Efficiency with Costly Information**

Capital market efficiency relies on the ability of arbitrageurs to recognize that prices are out of line and to make a profit by driving them back to an equilibrium value consistent with available information.

Given this type of behavioural paradigm, one often hears the following questions: If capital market efficiency implies that no one can beat the market, then how can analysts be expected to exist since they too, cannot beat the market? If capital markets are efficient, how can we explain the existence of a multibillion naira security analysis industry? The answer, of course, is that neither of these questions is inconsistent with efficient capital markets. First, analysts can and do make profit in a competitive manner amongst themselves. If the profit to analysis becomes abnormally large, then individuals will enter the analysis business until the abnormal profit becomes ‘wiped out’. Cornell and Roll (1981) and Elton, et al (1993) have shown that a sensible asset market equilibrium must leave some room for analysis. Their articles make the more reasonable assumption that information acquisition is costly activity. Cornell and Roll showed that it is reasonable to have efficient markets where people earn different gross rates of return because they pay differing costs for information. However, net of costs their abnormal rates of return will be equal (to zero). Elton, et.al (1993) show that gains by professional fund managers appear to no more than cover the expenses of managing the portfolios.

**Applications of the EMH**

Generally, a wide range of applications of capital market efficiency includes issues such as accounting information, block trades, new issues of securities, stock splits, and portfolio performance measurement.

**Accounting Information**

Corporate news takes many forms – the announcement of a change in top management, the awarding of a large contract to a competitor, analysts’ reports, or a forecast of earnings by a firm’s management. The most widely used sources of information, however, are the firm’s published financial reports. Published statements play an important role in the dissemination of corporate information. Given the plethora of complex accounting procedures and principles, we would not expect all market participants to be able to distinguish false or misleading information is based on numerous assumptions and principles which permit the use of alternative procedures in different situations. Examples include the timing of revenue and expense recognition (accrual concept), accounting for lease obligations and mergers, inventory accounting technique, and so on (see Dyckman, et al, 1975:2-4).

The market value of assets is the present value of their cash flows discounted at the appropriate risk-adjusted rate. However, corporations report accounting earnings, not cash flow, and frequently the two are not related. Empirical evidence shows that if investors really value cash flow and not earnings per share (EPS), we would expect to see stock prices rise when firms, for instance, announce a switch from FIFO to LIFO accounting during inflation. Sunder (1973, 1975) collected a sample of 110 firms
that switched from FIFO to LIFO between 1946 and 1966 and 22 firms that switched from LIFO to FIFO. His procedure was to look at the pattern of cumulative average residuals from the CAPM. Sunder’s results showed that the cumulative average residuals (CAR) for the firms switching to LIFO rose by 5.3% during the 12 months prior to the announcement of the accounting change.

Ricks (1982) studied a set of 354 NYSE – and Amex-listed stocks whose issuers switched to LIFO in 1974. He computed their earnings “as if” the never switched and found that the firms that switched to LIFO had an average 47% increase in their as-if earnings, whereas a matched sample of no-change firms had an average 2% decrease. Ricks also found that the abnormal returns of the switching firms were significantly lower than the matched sample of no-change firms. These results are inconsistent with those reported by Sunder.

Further, on accounting treatment of mergers and acquisitions, two possibilities exist: pooling or purchase. In a pooling arrangement, the income statements and balance sheets of the merging firms are simply added together. On the other hand, when one company acquires another, the assets of the acquired company are added to the acquiring company’s balance sheet along with an item called goodwill. In an empirical study, Hong, Kaplan and Madelker (1978) tested the effect of pooling and purchase techniques on stock prices of acquiring firms. Using monthly data between 1954 and 1964, they compared a sample of 122 firms that used pooling and 37 that used purchase. The acquired firm had to be at least 3% of the net asset value of the acquiring firm. Mergers were excluded from the sample if another merger took place within 18 months, if the acquiring firm was not NYSE listed, or if the merger terms were not based on an exchange of shares. When the CARs were centered around the month of the actual merger, the patterns revealed no evidence of abnormal performance for the sample of 122 poolings. The results testify that there is no evidence that “dirty pooling” raises the stock prices of acquiring firms. Investors are not fooled by the accounting convention.

Ball and Brown (1968) used a procedure to assess the speed of adjustment of security prices to earnings announcement in the Wall Street Journal. Ball and Brown reasoned that the market participants would have formed opinions reflected in their forecasts of what the earnings numbers should be, and, collectively, these forecasts would be reflected in a market forecast of the stock’s price. Ball and Brown used monthly data for a sample of 261 firms between 1946 and 1965 to evaluate the usefulness of information in annual financial reports (AFRs). First, they separated the sample into companies that had earnings that were either higher (‘good news’) or lower (‘bad news’) than market’s forecast. The market’s forecast was based on a naïve time series model. Finally, estimated earnings changes were compared with actual earnings changes. If the actual change was greater than estimated, the company was put into a portfolio where returns were expected to be positive, and vice versa. In both cases (good or bad news), the cumulative excess return displayed no significant behaviour in the months following the earnings announcement. The study, thus, indicates that most of the information contained in the AFRs is anticipated by the market before the AFRs are released. Brown and Kennelly (1972) found similar results concerning market reaction to quarterly earnings reports.

The Ball and Brown study raised the question of whether or not AFRs contain any new information. Griffin (1977), Foster (1977), Brown (1978), Watts (1978), Aharony and Swary (1980), and Joy, Litzenberger and McEnally (1977) have focused on quarterly earnings reports where information revealed to the market is (perhaps) more timely than AFRs.

Quarterly earnings reports are sometimes followed by announcements of dividend changes which also affect the stock price. To examine this problem, Aharony and Swary (1980) observe all dividend and earnings announcements within the same quarter that are at least 11 trading days apart. They conclude that both quarterly earnings announcements and dividend change announcements have statistically significant effects on the stock price. But more important, they find no evidence of market inefficiency when the two types of announcement effects are separated.

Two studies, one by Pettit (1972) and one by Watts (1973), measured the market’s reaction to dividend announcements. Although, the authors arrived at different conclusions concerning the importance of dividend changes to market participants, the results of both studies are consistent with
the behaviour implied by the EMH: there was no evidence that a firm’s dividend announcement affected the firm’s security price in the periods following the announcement.

Handjinicolou and Kalay (1984) and Woolridge (1983) have argued that one cannot infer that dividend increases convey positive information about the firm by examining share prices alone, since unexpected dividend increases could cause wealth transfers from bondholders to shareholders by reducing the asset base of the firm. Therefore, the observed increase in share price is consistent with both wealth redistribution and positive information. To differentiate between the relative importance of these two effects, Handjinicolou and Kalay and Woolridge analyze the changes in bond prices around dividend announcements since the two hypotheses (information and wealth transfer) have different predictions for bond price behaviour. In particular, the wealth transfer hypothesis predicts a negative bond price reaction while the information content hypothesis predicts a positive reaction. The findings of these studies provide strong support for the hypothesis that informational effects dominate wealth redistribution effects wherever there are unexpected dividend increases.

Bhana (1991) examined the share market response to substantial changes in dividend policies by Johannesburg Stock Exchange (JSE) listed stocks during the period 1970-1988. The results provide strong support for the information content of dividends hypothesis. The empirical evidence suggests that large dividend changes on the JSE convey valuable information to investors over and above that contained in the earnings announcements.

Further, in a subsequent research, Bhana (2002) observes a sample of 100 companies announcing special dividends over the period “1975 – 1994. Daily data on share prices were obtained from the database of the JSE and “McGregor’s Online Information Services. “The study indicates stock price reaction to ‘labelled’ (in the sense that it is only temporal or seasonal and is not expected to be frequent) increases in dividends. It shows that share price reactions are negatively related to dividend declaration frequency. This result suggests that market participants anticipate the announcements of special dividends by companies that have frequent declarations of such dividends. This, in turn, shows that request declaration of special dividends convey less information than do infrequent declarations.

**Block Trades**

Scholes (1972) and Kraus and Stoll (1972) provided the first empirical evidence about the price effects of block trading. Scholes used daily returns data to analyse 345 secondary distributions between July 1961 and December 1965. Secondary distributions, unlike primary ones, are not initiated by the firm but by shareholders who will received the returns of the sale. The distributions are usually underwritten by an investment banking group that buys the entire block from the seller. The shares are then sold on a subscription basis after normal trading hours. Stock exchange or brokerage commissions are not paid by the subscriber, he only pay subscription price. The issues here revolve around the speed with which the market adjusts to the effect of the block trade; the possibility of making abnormal returns from price changes; the liquidity and/or information effects, etc. Essentially, the sale of a large block may have two effects. First, if it is believed to carry with it some new information about the security, the price will change (permanently) to reflect the new information. Second, if buyers must incur extra costs when they accept the block, there may be a (temporary) decline in price to reflect what has been described as a price pressure, or distribution effect or liquidity premium. Scholes’s study focused only on permanent price changes (see C & W, 1988:371-2).

Kraus-Stoll (1972) study relates to open market block trades. They examined price effects for all block trades of 10,000 shares or more carried out on the NYSE between July 1, 1968 and September 30, 1969. They had prices for the close of day before the block trade, the price immediately prior to the transaction, the block price, and the closing price the day of the block trade. Abnormal performance indices based on daily data were consistent with Scholes’ results. More interested were intraday price effects. There is clear evidence of a price pressure or distribution effect. The stock price recovers
substantially from the block price by the end of the trading day. The recovery averaged 713%. Other studies on block trade effects include Mikkleson and Partch (1985), Dann, Mayers and Raab (1977), and so on.

**New Issues**

Different articles that have studied the pricing of new issues of common stock include, but not limited to, Reilly and Hatfield (1969), Stickney (1970), McDonald and Fisher (1972), Logue (1973), Stigler (1964), and Shaw (1971). They all faced a seemingly insoluble problem: How could returns on unseasoned issues be adjusted for risk if time series data on pre-issue prices were nonexistent? An ingenious way around this problem was employed by Ibbotson (1975). Portfolios of new issues with identical seasoning (defined as the number of months since issue) were formed. The monthly return on the XYZ company in March 1964, say two months after its issue, was matched with the market return that month, resulting in one pair of returns for a portfolio of two months seasoning. Ibbotson could compute a covariance with the market from the collected vector of returns, and thus estimated the respective stocks’ systematic risk. Applying the empirical market line, he estimated abnormal performance indices in the month of initial issue (initial performance from the offering data price to the end of the first month) and in the aftermarket (months following the initial issue). From 2650 new issues between 1960 and 1969, Ibbotson randomly selected one new issue for each of the 120 calendar months.

The estimated systematic risk in the month of issue was 2.26 and the abnormal return was estimated to be 11.4%. Even after transaction costs, this represents a statistically significant provide abnormal return. Hence, either the offering price is set too low or investors systematically overvalue new issues at the end of the first month of seasoning. Ibbotson concentrated on the possibility that offering prices determined by the investment banker are systematically set below the fair market value of the security. He maintained that the evidence cannot allow us to reject the null hypothesis that after markets are efficient, although it is interesting to note that returns in 7 out of 10 periods show negative values.

Weinstein (1978) studied the price behaviour of newly issued corporate bonds by measuring their excess holding period returns. Excess returns were defined as the difference between the return on the ith newly issued bond and a portfolio of seasoned bonds are similar to those of Ibbotson (1975) for newly issued stock, namely, that the offering price is below the market equilibrium price but that the aftermarket is efficient. Weinstein found a .383% rate of return during the first month and only a .06% rates of return over the next six months.

**Stock Splits**

The best known study of stock splits was conducted by Fama, Fisher, Jensen, and Roll (1969). Since stock splits are frequently associated with increased dividend payouts, it would be expected that split announcements would contain some economic information. Cumulative average residuals were calculated from the simple market model, using monthly data for an interval of 60 months around the split ex data for 940 splits between January 1927 and December 1959. Fama et. al. found that there was considerable market reaction prior to the split announcement. In fact, the average cumulative abnormal return for the 30-month period up to the month of announcement was in excess of 30%. This would seem to indicate that splits precipitate abnormal returns. However, such a conclusion lacks economic logic. The run-up in the cumulative average returns prior to the stock split can be explained by selection bias. The study suggested that stock splits might be interpreted by investors as a message about future changes in the firm’s expected cash flows. They hypothesized that stock splits might be interpreted a message about dividend increases, which in turn imply that the managers of the firm feel confident that it can maintain a permanently higher of cash flows. To test this hypothesis, the sample
was divided into those firms that increased their dividends beyond the average for the market in the interval following the split and those that paid out lower dividends. The results reveal that stocks in the dividend “increased” class have slightly positive returns following the split. This is consistent with the hypothesis that splits are interpreted as messages about dividend increases. However, a dividend increase does not always follow a split. Hence, the slightly positive abnormal return for the dividend – increase group reflects small price adjustments that occur when the market is absolutely sure of the increase. On the other hand, the cumulative average residuals of split-up stocks with poor dividend performance decline until about a year after the split, by which time it must be very clear that the anticipated dividend increase is not forthcoming. A synthesis that on average, the market makes unbiased estimates about security returns and by extension, prices. The study confirms the semi-strong form of efficiency. The split per se has no effect on shareholder wealth. Rather, it merely serves as a message about the future prospects of the firm. Thus, splits have benefits as signaling devices. There seems to be no way to use a split to increase one’s expected returns, unless, of course, inside information concerning the split or subsequent dividend behaviour is available.

Brennan and Copeland(1987) provide a signaling theory explanation for stock splits and show that it is consistent with the data. This study indicates that the lower the target price to which the firm splits, the greater confidence management has, and the larger will be the announcement residual.

**Mutual Fund Performance**

The performance of mutual funds has been studied by a number of authors such as Friend, et.al.(1962) who studied 189 funds from December 1952 to September 1958; Friend and Vickers (1965); Sharpe (1966) who measured the performance of 36 mutual funds from 1954 to 1963; Treynor (1965); Jensen(1968) whose study covered the period 1945 to 1964; Jensen (1969) covering 115 mutual funds from 1955 to 1964; Friend, Blume and Crockett (1970) who studied 136 mutual funds from 1960 into 1969; Williamson (1972) studied 180 mutual funds from 1961 to 1970. Although the samples of firms, time periods, and performance measures differed somewhat between these studies, their results were remarkably similar. On the average, net of costs, mutual funds did no better than an individual investor would expect if he purchased a diversified portfolio of similar risk. In fact, when all the fund’s expenses were considered, a majority of funds did worse than a randomly selected portfolio would have done. Thus, these studies show that the net performance of mutual funds is the same as that for a naïve investment strategy.

**Supporting Models of the Emh**

This section presents a concise mathematical representation of the various models that have found extensive use in the EMH research.

**A. The Expected-Returns Model**

The model, suggested by Fama (1970), is given by:

\[ Z_{i,t+1} = r_{i,t+1} - \text{E}[r_{i,t+1} / * t] \]  
\[ \text{with } \text{E}[Z_{i,t+1} / * t] = 0 \]  

Where \( Z_{i,t+1} \) is the unexpected return for security \( i \) in period \( t+1 \), the difference between the observed return \( r_{i,t+1} \), and the unexpected return based on the information set \( *t \). The expected return could, for instance, be determined by the CAPM.

**B. The Capital Asset Pricing Model (CAPM)**

The CAPM, as developed by Sharpe (1964), Linter (1965) and Mossin (1966), may be mathematically expressed as:
Other CAPM-related models are the market model and the empirical market line. The market model argues that returns on any security are linearly related to returns on a “market” portfolio. Mathematically described thus:

\[ r_{it} = a_i + \beta_i R_{mt} + \varepsilon_{it} \]  

(B2)

where \( E(\varepsilon_{it}) = 0 \)

\( \sigma(R_{mt}, \varepsilon_{it}) = 0 \)

\( \sigma(\varepsilon_{it}, \varepsilon_{jt}) = 0 \)

\( r_{it} = \) return on security i in period t

\( r_{mt} = \) general market factor in period t

\( \varepsilon_{it} = \) the stochastic portion of the individualistic factor representing the part of security i’s return which is independent of \( R_{mt}. \)

\( a_i, \beta_i = \) intercept and slope coefficients respectively, which are assumed to be constant over the time period during which the model is fit to the available data.

It is instructive to note that the general market factor in equation (B2) is designed to reflect general market and economic conditions that are related to the returns on a particular security. This is a different notion than the return on the market portfolio in the CAPM given by \( r_{mt}. \)

Sometimes, we see the empirical market line which is expressed as:

\[ r_{it} = Y_{it} + Y_{it_1} \beta_i + \varepsilon_{it} \]  

(B3)

Although related to the CAPM, it does not require the intercept term to equal the risk-free rate. Instead, both the intercept \( Y_{it}, \) and the slope, \( Y_{it_1}, \) are the best linear estimates taken from cross-section data each time period (typically each month). Furthermore, it has the advantage that no parameters are assumed to be constant over time.

All three models use the residual term \( \varepsilon_{it} \) as a measure of risk-adjusted abnormal performance. However, only one of the models, the CAPM, relies exactly on the theoretical specification of the Sharpe-Litner-Mossin Model.

### C. The Abnormal Performance Index (API)

Performance measures of mutual funds include the Sharpe Index (reward to variability ratio), Treynor Index and Jensen Abnormal performance.

**Shape Index** = \( \frac{r_{it} - r_f}{\sigma_i} \)

(C1)

**Treynor Index** = \( \frac{r_{it} - r_f}{\beta_i} \)

(C2)

**Abnormal Performance** = \( a_{it} = (r_{it} - r_f) - [\beta_i (r_{mt} - r_f)] \)

(C3)

where

- \( r_i = \) return of the ith mutual fund
- \( r_f = \) return on a risk-free asset (usually Treasury bills)
- \( \sigma_i = \) the standard deviation of return on the ith mutual fund
- \( \beta_i = \) the estimated systematic risk of the ith mutual fund.

According researchers have used the models above together with the expected-returns and CAPM to examine empirically the effects of accounting numbers. One of other more imaginative developments in this approach was the API by Ball and Brown (1968) to study the association between unexpected changes in accounting earnings and unexpected changes in prices. The unexpected price changes are aggregated (for the portfolios formed using the sign of the earnings forecast error) using the relationship:

\[ \text{API} = \frac{1}{T} \prod_{t=1}^{T} (1 + \varepsilon_{it}) - 1 \]  

(C4)

where

- \( T = \) number of time periods: \( t = 1, 2, \ldots, T \)
- \( N = \) number of securities: \( i = 1, 2, \ldots, N \)
- \( \varepsilon_{it} = \) individualistic component of \( r_{it}, \) or, alternatively, the forecast error.
The API traces out the value of a naira invested in equal amounts in each security in the portfolio from time t up to T. At time T the earnings number is assumed to be made public.

As Beaver (1972) notes, the API has an appealing intuitive interpretation. It represents one measure of the value of the information contained in the earnings number (actually the sign of the earnings forecast error) T months prior to the release of the earnings number. In this sense, the API concept has some aspects of similarity to the notion of perfect information as the concept is used in decision theory. The analogy is not perfect, however, for the API is an ex post concept while the value of perfect information is an ex ante notion.

It suffices to note that the discussion of the foregoing models given here is intentionally brief. A more extensive coverage is available in Beaver (1972), Dyckman et al. (1975), Copeland and Mayers (1982), Sharpe and Cooper (1972), and Brealey & Myers (1996:143-90).

**Information Adequacy and Redundancies in Annual Financial Reports (AFRs)**

A purpose of accounting information is to minimize uncertainty about a state of affairs. To achieve this objective, accounting researchers and writers have, usually, advocated more accounting information disclosure. For example, in the Nigerian context, Inanga (1976) indicated that the information content of published AFRs of public companies are inadequate for the users' needs. He has, therefore, suggested the disclosure of other information such as protected cash flow and future dividend levels.

Some scholars have noted, however, that the message which contains the largest number of bits of information does not necessarily lead to the highest payoff (with respect to extent of uncertainty reduction). Also, the incremental benefit of any additional disclosure depends upon the measure of adequacy of the existing information set. Hence, it is noted that it is always preferable to evaluate the extent to which the existing information set meets the users' needs to enable one to determine the extent of the need for additional information disclosure. This view is consistent with the information economics approach to accounting information disclosure decisions. It treats information as any other (normal) economic good, the demand for which constitutes a problem of economic choice.

The additional disclosure syndrome overlooks problems relating to the limited capacity of people at processing information and those of information overload (San Miguel, 1976, 1977). Moreover, empirical evidence has indicated that the usefulness of an information item to a decision task may be dependent upon the availability or non-availability of other competing information in the decision environment. For instance, empirical research efforts in accounting and efficient markets has been to see if accounting provides information to the market. Studies indicate a market reaction that is anticipatory to the release of accounting data. Hence, AFRs do not possess a monopoly on these data and competing sources may scoop their formal release. This insight tends to diminish the perceived information content of accounting reports.

In a related research, carried out by Ariyo & Soyode (1985), on information adequacy and redundancies contained in published AFRs. Furthermore, the results of the correlation matrix among the variables used for the regression analysis, indicates a high degree of intercorrelation among the chosen variables (cues). The results, therefore, suggest a great deal of redundancies in the simultaneous disclosure in reports of data relating to earnings, dividends, and cash flow. The results further indicate that the gearing ratio (GR) data is not significantly correlated with any of the other cues, suggesting that information conveyed by GR is different from those of other cues (Ariyo & Soyode; 1985:125-7).

The Ariyo & Soyode study sought to evolve an optimal trade-off between lack of relevant information and over-abundance of irrelevant information. The study suggests that it is desirable to identify the type of additional information required to avoid over-supply of redundant information.
Summary and Conclusion
A number of scientific research focusing on the stock market has not only developed new theories on capital markets but refined existing ones which are considered sophisticated and efficient in the interpretation of relevant information.

The main focus of this paper is to review some past financial studies on market efficiency especially informational efficiency with a view to bringing out the behavioural paradigm that reflects the Efficient Market Hypothesis reliance on the activities of arbitrageurs and experts who create demand and supply patterns to sustain the market in equilibrium. It is also indicated that the value of any information structure should be considered net of costs, so that any claim to abnormal returns as a result of monopoly of relevant information may not be significant relative to the cost of obtaining the information which is applicable to both portfolio managers and individual investors.

In this study, we considered the impact of accounting information on stock prices; block trades; new issues; stock splits and mutual fund performance. Most of the evidence are consistent with the weak and semistrong forms of market efficiency but inconsistent with the strong form. In certain situations, individuals with inside information appear to be able to earn abnormal returns. This fact may depict an informational inefficiency rather than general which lend credence to the theory of arbitrage capital markets inefficiency. Moreover, block traders can earn abnormal returns when they trade at the block price as in purchases of new equity issues. Additional research could be performed on the impact of capital structure decisions of firms on stock prices. Ariyo & Soyode study of 1985 though inciting, was not clear in this regard because it focused on information adequacy and redundancies. This is a challenge the researcher will assume in a subsequent endeavor.

Also, it is sometimes cited that market movements sometimes seem inexplicable in terms of the conventional theories of stock price determination. This perception seems to give credence to the impact of individual biases or psychology on market conditions. A growing field of research, referred to as Behavioural Finance, studies how cognitive or emotional biases, which are individual or collective, create anomalies in market prices and returns and other deviations from the EMH. Behavioural models typically integrate insights from psychology with neo-classical economic theory. However, EMH proponents opine that any observed anomalies will eventually be priced out of the market or explained by appeal to microstructure. They further indicate the necessity to distinguish between individual biases and social biases; the former can be averaged out by the market, while the other create feedback loops that drive the market further away from the equilibrium of the ‘fair price’.
References