Chapter II: Review of Literature

CHAPTER II

REVIEW OF LITERATURE

2.1 Introduction

The format of a review of literature may vary from discipline to discipline and from assignment to assignment.

A review may be a self-contained unit an end in itself or a preface to and rationale for engaging in primary research. A review is a required part of grant and research proposals and often a chapter in thesis and dissertations**.** [1]

Generally, the purpose of a review is to analyze critically a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles.

The main objective to achieve in the literature review is developing knowledge and understanding of the previous work or activity in regard to the topic being researched. The literature review also addresses the importance and need to inform the investigator as to the main findings, trends, area of debate or controversy, area of neglect and suggestions research.[2]

There are hundred books and papers about cash flow and accrual accounting but there are few books and papers about both the topic together. In this chapter, researcher has tried to collect data from research papers, theses and books related to this study. The goal of this chapter is to collect the literature review by considering the key theoretical issues related to the research proposal. That means using accrual accounting and cash flow data in predicting future cash flow and to present models of cash flow prediction.

This chapter constitutes of two parts viz. review of literature and research gap. The first part is related to review of literature and second part is based on the critical evaluation of review and research gap.

2.2 Review of Literature

Accrual Accounting Basis[3] is an accounting method that measures the performance and status of a company regardless of when cash transactions occur; financial transactions and events are recognized by matching revenues to expenses (the matching principle) at the time when the transaction occurs rather than when payment actually is made (or received). This allows current cash inflows and outflows to be combined with expected future cash inflows and outflows to provide a more accurate picture of a company's current financial condition. Accrual accounting is the standard accounting practice for most big companies; however, its relative complexity makes it more expensive to implement for small companies. This is the opposite of cash accounting, which recognizes transactions only when there is an exchange of cash.

Ball and Brown et al (1968)[4] have searched the relationship between accounting earnings and stock price and suggested that earning have an implication for future cash flows of companies.

Ashton et al (1974)[5] suggested that accounting information from financial statements is useful in predicting future cash flow of a company. Consequently, the usefulness of accounting information has been investigated in terms of their ability to predict future cash flows.

FASB (1978)[6] the important of cash flow prediction is supported by statement of accounting standard. Both the Financial Accounting Standard Board (FASB) and the International Accounting Standard Committee (IASC) provided a fundamental guideline for preparing and presenting financial statements, that the objective of reporting financial statements is to provide financial information for users to predict the amount, timing and uncertainty of the future cash flow of a company.

The primary objective of accounting data is to provide information to help present and potential investors; creditors and other things like assess the amount, timing and uncertainty of prospective net cash inflows to the related enterprise.

Khumawwala, Polhemus and Liao (1981)[7] developed prediction models of future cash flow by using the Box- Jenkins methodology and compared the model with other five models. The competitive models are as below:

Naïve models:

$$\acute{Z}t\ (1) = Zt + (Zt\text{-}3 - Zt\text{-}4) \quad (1)$$

$$\acute{Z}t\ (1) = Zt + [(Zt\text{-}3 - Zt\text{-}4) + (Zt\text{-}7 - Zt\text{-}8)]/\ 2 \quad (2)$$

$$\acute{Z}t\ (1) = Zt + (Zt\text{-}3\ /Zt\text{-}4) \quad (3)$$

$$\acute{Z}t\ (1) = Zt + [(Zt\text{-}3\ /Zt\text{-}4) + (Zt\text{-}7 - Zt\text{-}8)]/\ 2 \quad (4)$$

Financial analyst's model:

$$\acute{Z}t\ (n) = 1/105[28Zt + 25Zt\text{-}1 + 22Zt\text{-}2 + 19Zt\text{-}3 + 16Zt\text{-}4 + 13Zt\text{-}5 + 10Zt\text{-}6 + 7Zt\text{-}7 + 4Zt\text{-}8 + Zt\text{-}9 - 2Zt\text{-}10 - 5Zt\text{-}11 - 8Zt\text{-}12 - 11Zt\text{-}13 - 14Zt\text{-}14] \quad (5)$$

Where,

$\acute{Z}t\ (n)$	=	predicted cash flow for time period t+n
Zt	=	the value of cash flows at quarter t
$Zt\text{-}1, Zt\text{-}2, Zt\text{-}3\ldots, Zt\text{-}14$	=	the value of cash flows at first, second, third, And fourteenth quarters.

Their study focused on the airline industry, using quarterly data for the period 1965 to 1976 obtained from the Air Carrier Financial Statistics. The sample contained twenty-nine firms.

The prediction models were built for individual firms and each category of operation. The operation categories were trunk, local service, helicopter, intra-Alaska, intra-Hawaii, and all cargo carriers. The results indicated that the four naïve models performed poorly and that they were not useful for predicting future cash flows.

The results of individual firms showed that the predictive power of the Box-Jenkins' model was equal to the financial analyst's model, while the result of the prediction models developed for each operating category showed that the Box Jenkins' model was better than other models in every category. Moreover, they found that the model built for each category produced a better predictor than the model for individual companies. Their study provided evidence that past cash flows can be used to predict future cash flows.

Gombola and Ketz (1983) [8] discussed many new cash flow ratios in recent professional business literature or used in financial statements in countries were the

cash flow statement is mandatory. To date, no comprehensive set of cash flow ratios has been agreed upon for the evaluation of the cash flow statement. Different users may employ different financial ratios even when used for the same purpose. When different financial ratios are employed, comparison of results is made will be an unduly complexes.

Foster (1986) [9] explained overall the biggest cause of business failure is lack of cash, without a positive cash flow forecast even profitable companies can and do go out of business if they don't have enough cash to pay staff, suppliers, taxes, and of course the business owner too. Business may have sales forecasts and profit statements yet too many fail to have a cash flow forecast in place. Without knowing when and how much cash you will have.

The cash flow statement should be number one document in ones business and should be the basis of one's business planning and review. Unless one knows how much cash one has and when more will become available, when ones business will struggle. It won't be a happy place for one to work in or to own. Simply knowing that one can meet ones commitments will make life so much easier and one won't dread the phone ringing.

Unless one has the right tools, the initial set up of one's cash flow statement can take some time and it will undoubtedly take a while to get to understand it. The most important thing is to maintain it regularly, at least monthly. Then, there are cash flow and budgeting tools available but unless one fully understands the meaning of the members, one can quickly run into trouble besides wasting a lot of time trying to make sense of it all. So, financial forecast and cash flow statement can keep ones company afloat and on track. Prediction of cash flow is a vital way for decision making and decision makers can tell what would happen in future and in economic decision making financial forecasting is a vital activity.

Greenberg, Johnson and Ramesh (1986)[10] claims that earnings are better factor for predicting future cash flows than cash flows. Many researchers had searched the ability of earnings and cash flows to predict future cash flows such as the flowing assertion: provided evidence supporting FASB s statement regarding the importance of earning, They search on their studies to test empirically whether current earning is better for predicting future cash flow or current cash flows.

They selected 157 industrial companies from the Compustat database for the period from1963 to 1982 which was used in their study. The operating cash flow variable used in this study which was approximated by indirectly adjusting earning for non cash items and changes in current assets and current liabilities (excluding the current portion of long term debt). The average or liner relationship between each company's current cash flow and its previous cash flow and the average liner relationship between each company's current cash flow and its previous earnings were estimated by using ordinary least- squares regression. Not only models of one year's data but also multiyear data, including two and three years were examined. They reported that current earning have the ability to predict future cash flows better than current cash flows for each lag period of one to five years and for each multi lagged period of two or three years.

Bowen, Burstahler and Daley (1986)[11] examined the relationship between earnings and various CF measures. Additionally, they compared the predictive ability between cash flow variables and earnings to forecast future cash flow. They focused on the differences among various definitions of CF as follow:

1) The traditional Cash Flow (CF) measures Net Income before Depreciation (NIDPR) calculated by adding back Depreciation and amortization (DPR) to Net Income Before Extraordinary Items and discontinued operation (NIBEI) that is:

   NIDPR = NIBEI + DPR

2) Working Capital From Operations (WCFO), the second traditional CF measure, calculated by adjusting earning to remove the effects of gains and losses on asset sales, gains and losses on investments accounted for by the equity method, amortization of bond premiums or discounts, and deferred taxes.

   WCFO = NIDPR+ adjustments for other element of NIBEI not affecting working Capital

3) Cash Flow from Operations CFO calculated by adjusting WCFO by changes in non cash current assets and current liabilities (excluding change in cash, note payable and the current portion of long term debt)

4) Cash Flow After Investment, (CFAI) before financing which equaled CFO plus proceeds from the sale of property, plant and equipment and investment, minus amount of capital expenditures during the period, and new investment.

5) Change in Cash (CC) during the period.

Gombola et al. (1987)[12] discussed the balance sheet represents different assets owned by an enterprise and shows the method in which acquisition at the end of fiscal period but source of them related to those items during the period not clearer, and profit in income statement has not any effect on increase in cash. Moreover, the profitability and financing issues are reported separately on income statements and balance sheet respectively. This causes misleading and confusing result to users.

Zega (1988)[13] represented cash flow statement is a replacement of fund flow statement for two reasons. First, it gives solutions to the argument of the definition of funds and objective of represent the fund flow statement. According to him, fund flow statement shows ideal information for investors and other financial statement user with respect to use of the form of fund.

Sondhi, Sorterand White (1988)[14] reported cash flow from operation activity can be divided by two ways:

1) Direct method.

2) Indirect method. (IASC2000).

The direct method represents cash receipts from customer's cash payment to supplier, employee, Governments, and other creditors. The indirect method comes with net profit or loss based on accrual basis and adjusts for the effects on non cash transactions such as depreciation and amortization expenses, and changes in current assets and liabilities. The indirect method is preferred over the direct method.

Dambolenaand Shulman et al (1988)[15] represented the accounting standard setter's issues on the statement of cash flow have made cash flows as a major issue to users of financial statements.

Espahaodi (1988)[16] found out in other studies in cash flow and accrual components of earnings investigated other accounting information to construct forecasting of cash flows. For example he tried to identify the necessary predictors of cash flow by searching 29 accounting variables considering 23 absolute accounting

balances, 4 financial ratios and 2 dummy variables. A regression model used to establish the relationship between cash flows and change in the explanatory variables. Lag by one period was independent variable in this study. Sample selection form 4 industrial companies for 5 years data (1973 to 1978), he understood that 21 variables were very important for prediction cash flow. However, none of the signs of the coefficients for any variable were statistically significant.

Thus, the researcher tries to compare the predictive ability of statistical techniques instead of comparing the ability of the predictors. Some studies are reviewed below.

Bernard and Stober et al (1989)[17] argued that earning suffers from flexible accounting techniques, subjective judgment and manipulative practices, therefore, the statements of financial data from accrual accounting information process may be misleading, making earning a less reliable measure of a firms performance.

Boardand Day et al (1989) [18] presented overall, the accrual earnings and values are expected to equal net cash flows over the life of a business. Then, the studies in the important of earning the capital market are based on the hypothesis that earnings are a good surrogate from a firm's future cash flow.

Murdoch and Krause (1989) [19] addressed three questions:

1) Are current year's earnings or cash flows from operations a better predictor of future cash flows from operations?

2) Are the current or noncurrent components of earnings more important in predicting future cash flows from operations?

3) Does using earnings or cash flow data over a long period provide a more accurate forecast than those over a short period for cash flow prediction?

Their study emphasized the percentage changes in annual cash flow return. Net income, working capital and cash flow from operations were the main variables.

Cash flows from operating and working capital were measured by adjusting net income. Data on the Compustat tapes for the years 1966 to 1985 (20 years) were employed to compute the variables. Companies were selected with respect to size, industry categorization, fiscal year and other factors. In order to control the difference in sizes and changes in purchasing power of the dollar over time, every variable was

deflated by the firm's common equity. Then every independent variable (cash flow return, working capital return and return on equity) was analyzed in the form of percentage changes to forecast percentage changes of cash flow return.

Wertheim (1989) [20] investigated the predictive ability among various cash flow prediction models; He also examined the difference in predictive power of the model among industries. A sample of 1,185 firms was selected from the annual Compustat data file for the years 1973 through 1987. Firms were classified into industry groups based on SIC codes. In examining cash flow prediction among industry groups, the industry groups that had less than 25 firms were eliminated. Cash flows from operations used in the analysis were calculated by adjusting working capital from operations, for changes in working capital accounts.

Six models were investigated by using annual information including random walk, three year moving average, mean reverting, single exponential smoothing, double exponential smoothing and Holt's two parameter smoothing model. It was found that the random walk model had the largest error. Holt's two parameter smoothing model had the smallest error. In addition, the results indicated that the accuracy of prediction among industries was significantly different.

Giaccotto (1990)[21] discussed in terms of Net Pretend Value (NPV), for example, the project is accepted if the pretend value of the cash flows for the operation exceeds the initial investment cost or the project provides a positive net pretend value of cash flow. However, the prediction cash flow is made very difficult because the future cash flows generated by the investment cannot be estimated perfectly and certainly at the time of initial outlays.

Ingberman. M. J and Maximon. H. M (1990) [22] provided allocation is the accounting process of assigning or distributing and the amount is based on a plan or formula. Some assets and liabilities will be allocated to expenses and revenues based on the length of time of use of the assets or to match revenue and expenses. Amortization and depreciation mean the systematic reduction of an accounting amount related to the utilization of long lived assets or noncurrent assets, in order to allocate the costs of these assets to the time periods in which the asset is utilized.

Murdoch and Krause (1990)[23] addressed the terms in their question1, conclusion supported the assertion of FASB that earnings are a better predictor than

cash flow from operations. In answer to question 2, they found that the current component of earnings included in the measurement of working capital was a better predictor than the non current component included in measuring earnings. Finally, they concluded that the accuracy prediction of the model can be improved by utilizing of data of a long period.

Figlewicy and Zeller (1991) [24] represented cash flow statements provide new measures to evaluate firm performance. The concept of cash based performance ratios had been used in financial analysis before the regulation of reporting cash flow statements. In that time, surrogates of cash flows were used, such as net income plus depreciation, resulting in a lack of uniformity and misdirected analysis. Currently, statements of cash flow have the ready availability of cash flow data with consistent performance measures of cash flow from operations.

Neil et al (1991)[25] forecasting cash flow is a responsibility needed in different economic decision, because cash flow plays an important role of whole decision making of every party such as security analysts, creditors and managers. Overall, financial managers and decision makers predict the demand cash flow of companies because they expect that current cash flow affect on future cash flows.

Pizzy (1991) [26] discussed according to IASC 7 Cash and cash equivalents are definite such as below:

Cash comprises cash on hand and demand deposits.

‘Cash equivalents are short term, highly liquid investments that is readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Second, the cash flow statement can improve the reliability and important financial data reported.

Moreover, they omit the effect of some transaction that may be very important. One example is intra working capital which is unchanged. Another type is the transactions that do not affect the components of working capital. In addition, the accounting standard for fund flow statement, which had not revised for many years.

Charitou and Ketz (1991) [27] have shown cash available for investments. External financing also shows the firm's ability to make new investments. It also indicates the investors about the dividend paying ability of the firm.

Carslaw and Mills (1991) [28] represented the concept of cash based performance ratios is not a new system to accounting. What is new is the availability of cash flow data. The cash flow statement offers measures to evaluate performance. If cash flow information is useful but unused, the logical conclusion is that analysts are not analyzing the available data properly.

Carslaw and Mills found that cash flow ratios are based on the cash flow from operations CFO of the company. Also, ratios can contain accrual based accounting data. The cash flow ratios provide a clearer picture of a company's performance, highlighting an organizations cash flow strengths and weaknesses.

Bierman et al (1992) [29] discovered accrual earning is related to future cash flow for many reasons. First, past expenses accounting earning is the standard reported earnings measure and is the most common variable to be analyzed in the press and accounting literature, it is used to indicate future cash flow. Secondly, accrual earning are seen as a more relevant basis for assessing cash flow return than cash flow, because dividend payouts are based on accrual earning(Board and Day 1989). Thirdly, earning is supported by the assumption that earnings provide information about the future dividend paying ability to firms.

Climo, Lawson and Lee (1992) [30] suggested with respect to the importance of cash flow prediction, some academics have advocated revealing cash flow forecasts in order to assist investors and analysts to predict future dividend streams. They suggested that cash flow forecasts should be compared with actual cash flow in order to provide more useful information for investment decisions.

Percy and Stockes (1992) [31] replicated the best of Bowen, Burstahler and Daley (1986) studying two traditional cash flow measures (net income plus depreciation and amortization, and working capital from operations) and a more refined measures (working capital from operations plus additional adjustments for changes in non cash current assets and current liabilities) and extended their study by analyzing the relationship between cash flows and earnings across industries using Australian data. They employed data from the Australian Graduate School of

Management (AGSM) Annual Report File for the years from 1974 to 1985 for 107 companies, a period comparable to that used by Bowen, Burstahler and Daley (1986). In that the traditional cash flow measures showed more correlation with accrual income than the more refined cash flow measure.

In addition, the correlation between the traditional cash flow measures and the more refined cash flow measure was low. These results were not different across firms. The results of the test of predicting future cash flow corresponded with Bowen, Burstahler and Daley (1986) in that the traditional cash flow measure provided more accurate predictions than did either earnings or the more refined cash flow measure for either forecasting one or two years ahead. However, the result indicated that the relative predictive abilities differed across industry. These results may have been caused by the limitations on the sample sizes used in the analysis.

Nurngber (1993) [32] recognized cash flow on cash flow statement should be with three factors of activities for any enterprise such as recognized by (FAS), No. 95 and (IAS7). These can be a cash flow operation activity and investing and financing activities. The classification for cash flow statement is driven from finance theory.

Lee et al (1993) [33] raised another question regarding the measurement of earning from the historical cost principle under accrual accounting. For some conditions, notably inflation, using a traditional historical cost system tend to overstate profits and understate asset value, i.e. increasing rates of inflation will lead to increases in interest rates, assets are still reported in historical cost in which, in the real word, their value are high, and expenses are recorded at a low cost, as historical cost.

Giacomin and Mielke (1993) [34] proposed nine cash flow ratios to evaluate a company's performance. The cash flow ratios were used to evaluate US companies in the chemical, food and electronic industries Three-year averages were calculated for the ratios per industry. The industries were chosen as they had the largest number of companies amongst the Fortune 500. An empirical analysis was performed for the periods from 1986 to 1988. All the companies in the industries were asked to provide a cash flow statement complying with Statement Financial Accounting Standard (SFAS) 95.

The cash flow ratios and other ratios are keys to understand the financial statements. Our ratio calculation spreadsheets reduce time and effort in calculating decision making ratios. They reduce risk for lenders and investors and enable owners, managers and consultants to increase productivity and business profits. These spreadsheets are bargain priced to provide a huge return on investment. Financial ratio analysis is a tool used in financial statement analysis.

Gombolo and Ketz (1993) [35] represented there has been evidence that cash flow ratios contain additional information which is not in the accrual based figures and ratios.

Mcbeth (1993) [36] examined the ability of cash flows and earnings to predict future cash flow by using cash flows from operations directly from the statement of cash flow and net income from the income statement, A potential sample of 4415 companies on compact disclosure was selected by limiting the sample of the reported cash statement in each of the years 1988, 1989, 1990 and those that employed December 31, the year end. There were only three years of data available because companies had only been required to disclose a cash flow statement since1988.

In simple regression analysis, current cash flows from operations were the dependent variable, whereas net income and /or cash flows from operations for last one or two years were the independent variables. In conclusion, McBeth (1993) suggested that neither past net income nor past cash flows from operations provide a better predictor of future cash flow.

Lorek, Schaefer and Willinger (1993) [37] compared the ability of statistical patterns of cash flows and working capital series; they aimed to compare the accuracy of future fund flow predictions generated by univariate time-series models versus those obtained from the multivariate cross-sectional models. Models for the cash flow from operations CF series comprised a seasonal autoregressive model (SAR), a seasonally differenced, seasonal autoregressive model and a Seasonal Random Walk model (SRW). Working Capital Flow from Operations (WCFO) series models included an Autoregressive and Seasonal Autoregressive (ASA) model and the Griffin-Watts (GW) characterization.

They used data from the annual and quarterly Compustat databases from 1976 to 1986 to calculate two fund flow measures, working capital flow from operations

WCF and cash flow from operations CF. Quarterly WCF and CF time-series were constructed beginning in the first quarter of 1976 and ending in the fourth quarter of 1985 for 109 sample firms. Lorek, Schaefer and Willinger concluded that univariate time-series models of cash flow and WCF provide more accurate predictors than the multivariate cross-sectional regression models. In addition, the autoregressive-integrated-moving-average model was suitable as a prediction model for the CF series and both the ASA and GW ARIMA models perform well on the WCF series.

Giacomino and Mielke (1993) [38] investigated whether the cash flow statement can enhance the usefulness of financial information for economic decision-making, the authors proposed nine cash flow-based ratios to be used for relative performance evaluation. An empirical study was conducted using US companies for the period 1986 to 1988 in the electronics, food and chemical industries. Averages for the cash flow ratios were computed for each industry. This study also determined that the potential existed to develop benchmarks for the ratios by industry.

Sylvestre and urbanic (1994) [39] used financial ratios can be for predict financial variables and to evaluate relative performance such as predicting bankruptcy, stock prices and the probability of loan defaults Ratios are developed to help users of financial statements to compare the performances of companies on year to year basis and across companies.

Hackel, Livant and Rai (1994) [40] fond out without free cash flow, it is difficult for a business to pursue for new opportunities, acquire other business or pay dividends. Free cash flow analysis help managers to identify the capital available for reinvestment in enhancing the company's growth, analyzing free cash flow can make the firms with a high ability to grow. In addition to reinvestment, the company can distribute free cash flow to pay dividends to share holders. As a result, the free cash flow may be considered to assess the ability of companies to pay dividends on common stock**.**

Dechow (1994) [41] recognized in the accrual accounting process, the timing of cash flow recognition is ignored in recognizing earnings that is, accrual accounting recognizes events in which related cash flows occur in previous or subsequent accounting periods. Earning is measured by an excess of revenue over expenses in each period of recording. Accrual accounting records the purchase of assets or

resources used to operate a business and the provision of goods and services made by a company during a period which does not match the cash receipts and payments, by recognizing revenues and related increases in assets and expenses and related increases in liabilities, for amounts expected to be received or paid, usually in cash in the future.

Bieman (1994) [42] suggested in addition, with respect to the suggestion of FASB (1978) that accrual accounting data provides a better indication for decision making than cash flow data and arguments for quality of earnings from accrual basis, the usefulness of cash flow data is compared with that of accrual accounting data across many issues.

Dennis (1994) [43] found that cash flow ratios fill a separate and distinct factor not capture by any other ratio group from accrual based financial statements such as profitability ratios. The cash flow ratios are advocated because they can give users a better insight into the financial performance of a company.

Finger (1994) [44] used a time series model to test firm specific predictive ability for future cash flow over the entire time period, Annual data for the 50 sample firms spanning the years 1935 to 1987 was obtained from Compustat annual industrial file from 1968 to 1987 and supplemented with hand gathered Annual Report information from 1935 to 1967. Those firms were members of the 1988 fortune 500. Cash flows from operations were approximated by adjusting income before extraordinary items for depreciation, deferred taxes, changes in non cash current assets, and changes in current liabilities excluding current maturities of long term debt. Earnings were represented by net income before the spending on some extraordinary items.

Finger indicated that earnings used either alone or together with cash flow, were an important predictor of future cash flows. However, the results revealed that current cash flows were a superior predictor of future cash flows compared with current earnings for short term prediction.

Plewa and friedlod (1995)[45] provided cash flow prediction can help companies to know about cash position and make its expenditures need for such factor for acquisitions and payment of expenses. Therefore, difference between future

cash flow and actual cash flow is necessary for analyzing for understanding and measuring a firm's performance.

Lorek and Willinger (1996)[46] were interested in comparing the predictive ability of future cash flows between the multivariate cross-sectional models and univariate autoregressive integrated- moving-average models in addition to examining the time-series properties of quarterly cash flows. They used data from both the annual and quarterly Compustat databases between 1979 and 1991. Cash flows from operations were calculated by using information from income statements and balance sheets.

Three forms of cash flows including undefeated cash flows, cash flows per share and cash flows deflated by total assets were investigated. Only large and successful firms were selected for the sample. As a result, the findings of this research may not be generalized to newly-formed firms and failed firms. Predictive ability was considered for five cash flow prediction models, including three univariate time series models: the seasonal autoregressive, Seasonal Moving Average (SMA), and firm-specific ARIMA model, Wilson's multivariate cross-sectional model and a multivariate time-series model. The independent variables in Wilson's model were comprised of current and lagged values of sales revenues, net earnings, cash flows from operations, current and non-current accruals and the most recent annual capital expenditures, whereas the independent variables in the multivariate time-series regression model consisted of the cash flows from operations, operating income before depreciation, accounts receivable, inventory and accounts payable variables.

All models were estimated using data beginning with the second quarter of 1979 and ending with the fourth quarter of 1988 to generate cash flow predictions for the first quarter of 1989. The Friedman ANOVA ranks test was used to investigate the accuracy of the cash flow prediction. Lorek and Willinger concluded that the multivariate time series regression model provided superior performance to both the undefeated CF and deflated CF prediction model to each of the quarters and years individually. The SAR model showed the worst performance. In summary, their research implied that accrual accounting data enhance the accuracy of cash flow predictions. According to Espahaodi's (1988) research, other data derived from balance sheets and income statements based on the accrual accounting basis may be useful in predicting future cash flow.

Financial Report Standard (FRS) (Revised 1996) [47] represented requires reporting entities within its scope to prepare a cash flow statement in the manner set out in the FRS. Cash flows are increases or decreases in amounts of cash, and cash is cash in hand and deposits repayable on demand at any qualifying institution less overdrafts from any qualifying institution repayable on demand.

In the past, companies had to show fund flow statement that continues resources and uses of funds. These funds can categorize in to three types such as, 1) cash 2) working capital and 3) all resources. Fund shows on fund statements are reported as working capital that evaluated as current asset minus current liabilities, while funds presented on cash flow statements refer to cash.

Cheung, Krishnan, and Min (1997) [48] investigated the incremental information of deferred income tax; First, they tested the ability of deferred tax to predict future tax payment, and predicted future operating cash flows. They examined the predictive ability by adding the deferred tax variable into model. In their study, operating cash flows are an independent variable, and were calculated by operating income before depreciation, minus interest expense, current portion of income tax expense and increase in net working capital other than cash and securities, net of short-term debt. This test showed that the addition of the deferred tax variable improves the prediction of future cash flow. In particular, it is more useful if companies have large amounts of deferred tax.

Cheng, Liu and Schaefer et al (1997) [49] developed a main reason for the development of accrual accounting system is the mitigation of timing and matching problems inherent in cash flow, in order to measure a firm's performance.

Cheng, Liu and Schaefer and et al (1997)[50] provided, under the revenue recognition and matching principles, accrual accounting recognizes event in which related cash flows occur in previous or subsequent accounting periods in which cash flows are transformed into accounting earning, earning are seen as an indicator of firm's valuations.

Wallace, Choudhury and Pendledury (1997) [51] used of the cash flow for any enterprises derived for investing activities and settlement of outstanding financial obligations in a financial period from internal and external resources. Internal sources derived from net cash generated from current operations. External sources come out

from financing activity such as borrowing and receiving cash from sale activities and equity shares.

Ingram and Lee (1997) [52] indicated that cash flow and income together are useful for evaluation of growth and growth prospects with implications for the value and survival of business.

Dyna Seng (1997) [53] examined the predictive ability of earnings and reported cash flow measures CFFO, Cash Flow from Investing Activities (CFFIA), and Cash Flow from Financing Activities (CFFFA) to forecast one- and two-period ahead cash flows during the period 1989-92, The degree of relationship between earnings and cash flow measures is also examined as a secondary goal of the study. The results provide evidence that CFFO, CFFIA is a better predictor of one- and two-period ahead CFFO; CFFIA than is earnings and CFFFA is a better predictor of two-period ahead CFFFA than is earnings.

Whereas, my study focuses on ability cash flow from operation activity as predictor on future cash flow and not mention about CFFIA and CFFFA.

Patricia M. Dechow and et. al (1997) [54] examined a simple model of earnings, cash flows and accruals is developed by assuming a random walk sales process, variable and fixed costs, accounts receivable and payable, and inventory and applying the accounting process. The model implies earnings better predict future operating cash flows than the current operating cash flows and the difference varies with the operating cash cycle. Also, the model is used to predict serial and cross correlations of each firm's series.

Supriyadi (1998) [55] studied in the case of Asian countries and the ability of accounting information to predict future cash flows of Indonesian firms. Regression analysis was used to construct prediction models. Earnings, cash flows and accounting information were derived from financial statements. The analysis was performed on both specific firm and pooled cross sectional year data. Five prediction models were developed as below:

1. $CFO_t = \alpha + \beta_1 CFO_{t-1} + \beta_2 CFO_{t-2} + \beta_2 D + \varepsilon_t$

2. $CFO_t = \alpha + \beta_1 EA_{t-1} + \beta_2 EA_{t-2} + \beta_2 D + \varepsilon_t$

3. CFOt = α+ ß1CFOt-1 + ß2CFOt-2 + ϒ1EAt-1 + ϒ2EAt-2 + ß2 D+ Ɛt

4. CFOt = α+ Σk=1 to 9 (ßkWik) + Ɛt

5. CFOt = CFOt-1

where,

CFOt = cash flows from operations,

CFOt-I = the lagged values of cash flows from operations,

EAt-I = the lagged values of earnings,

t = time variable measured semi-annually,

D = dummy variable, equal to 1 for 1995-1997 and 0, otherwise,

Wik = a vector of 8 independent variables of lagged values (t-1 and t-2) for; earnings, revenues, current accruals, cash flows from operations and a dummy variable.

The first model was comprised of two year lags of cash flows, the second model was comprised of two year lags of earnings, the third model was comprised of two year lags of both earnings and cash flows, the fourth model was comprised of two year lags of earnings, revenues, current accruals and cash flows from operations and the last model was a random walk model containing one year lag of cash flows from operations.

In the analysis, due to the study period involving two different accounting standards, a dummy variable was utilized to indicate the effect of different accounting standards on the accounting variables. The study contained two sets of analysis. First, the 1990-96 period data set consisting of semiannual data from the first semi-annual reporting period of 1990 to the second semi-annual reporting period of 1996 was employed to build the five prediction models, and the regression equation of each prediction model from the regression analysis were then used to predict cash flows from operations for the first semi-annual reporting period of 1997.

Second, the 1990-97 period data set from the first semi-annual reporting period of 1990 to the first semi-annual report period of 1997 was used to build the

five models and the regression equations generated from the analysis were employed to predict cash flows from operations for the second semiannual report period of 1997. The predictive ability of each model was measured by mean absolute percentage errors when each model was applied to prediction of cash flows of the first and second semi-annual reporting period of 1997.

The study found that for both firm-specific and pooled cross-sectional levels, the cash flow model (Model 1) outperformed the earnings model (Model 2) and the model containing both earnings and cash flows (Model 3) provided more significant predictive power than the model based only on cash flows (Model 1), earnings (Model 2), or various accounting information (Model 4). However the predictive ability among the models was not significantly different and the predictive errors increased for the prediction of cash flows of the second semi-annual report period of 1997. The researcher explained that this may result from the impact of the Asian economic crisis occurring in the middle of year 1997 on accounting information of Indonesian firms.

The results of model 4 showed that adding current accruals and revenues into the prediction model did not significantly provide more predictive power than only cash flows.

This conclusion did not support the Accounting Standards Committee of the Indonesian Accountants' Association assertion that a set of accounting information provides more information to assess future cash flows than earnings or cash flows alone. Moreover this study indicates that regression models outperformed random walk models for predicting future cash flows.

Trotman and Gibbins (1998) [56] examined the cost of property, plant and equipment will be written down to expenses called depreciation based on the period of useful life of them and the methods used. Realization is the process of changing non cash resources and rights into money. This concept involves sales of assets for cash or claims of cash. For example, gains from sales are identified as revenues and losses are identified as expenses.

Wang and Eichenseher (1998) [57] studied, earnings under accounting could themselves suffer from timing and matching problems that may contribute to errors in assessment of a firm s value In some cases, accruals may include poorly estimated receivable collections, depreciation, equity method income that does not approximate

market changes, and current recognition of previous periods, increases in market value.

As a result, under these circumstances accrual earning may be less effective in their ability to predict future cash flows, and users of accounting information turn to consider cash flow instead.

Mossman et al (1998) [58] investigated the relative usefulness of cash flow versus accrual data in providing information to decision makers has been examined in many contexts, such as relevance to stock prices, insolvency and bankruptcy. It suggested that cash flows can be used as an early warning of potential financial distress.

Obryan, Quirin and Berry (1999) [59] discovered many of capital market based research studies have increased, to investigate the usefulness of cash flow data in decision making.

Lee, Ingram and Howard (1999) [60] investigated, the difference between earnings and cash flow from operations. It can be used as an important signal of potentially fraudulent financial reporting those auditors and other analysts should consider, in addition to other factors such as leverage, retained earnings and market value. The excess of earning over cash flows indicates the fraud risk in the coming years. This is because the fraudulent firms often have poor financial performance but they conceal their performance by overstating earning.

Brighm and Gappenski (1999) [61] found out in internal capital investment, capital budget analysis also involves cash flow prediction. The capital investment deals with investment projects such as new product, replacement of existing asset, or expansion of product lines. The projects can be evaluated by various methods including net present value NPV and Internal Rate of Return, (IRR).

Lundholm (1999) [62] achieved there were four creative techniques in the accounting process which can achieve the desired financial report. The first method is to select the accounting policy or changing in accounting treatments, between permitted alternative accounting policies. For example, preparers may choose First In, First Out FIFO methods to assign costs to inventory if they want to defer expenses, instead of using the Last In, First Out LIFO methods of valuing inventory. The second method is to estimate take future picture of events in a way biased toward a desired

result. For example, accountants may estimate asset life for calculating deprecation or for control deprecation expenses. Consequently, the firm may overstate the values of its assets or the amount of its income.

Stephan Kerber, Dirk, Warntje et al (1999) [63] provided the primary task of cash accounting is to provide information on a company solvency and internal financing potential. Apart from that, it serves as a basis for the creation of flow of funds analysis and planning's, compared to the balance sheet and the profit and loss statement. Cash accounting enables one to assess better the financial situation of a company. The ability to generate sufficient liquid funds from its business activities and to secure these funds in future periods is one of the prerequisite for a company to survive.

Cash flow accounting CFA data defined by Lee 1981 as below:

"CFA is the term used to denote a system of financial reporting which describe performance of an entity in cash term. It is based on a matching of periodic cash inflows and cash outflows, free of credit transactions and arbitrary accounting allocation. Inflows include cash from trading operations and providers of long-term finance, and outflows include payments for replacement and growth investment, taxation, interest, and distribution.

Quirin. J. J et al. (1999) [64] re examined the relative ability of earnings based and cash flow based measures to predict on year ahead operating cash flows using actual cash flow data from the cash flow statement for an eight year period. They collected sample observations from the 1997 version of Compustat PC plus. A firm was selected if it had complete accounting information for all years of the sample period (1988 to 1996) which were included in the study. they studied four different predictors of actual cash flows from operation, net income before extraordinary items NIBEI, net income plus depreciation NIDPR, working capital from operations WCFO and actual cash flow from operations ACFO, Simple ordinary least squares regression procedures were used in the analysis.

The results of future models for each year from 1989 to 1996 were inconsistent. Actual cash flows from operations were the best predictor of future cash flow in five of the eight years.

WCFO was a better predictor than others in 1989 and 1990, whereas, NIDPR had the highest predictive power in 1996. NIBEI was not a superior predictor in all eight years. In addition, the result for the pooled sample supported that ACFO was the best predictor for the 1989 to 1996 time period followed by WCFO, NIDPR and NIBEI respectively. This study concluded that accrual based earning provided a lower predictive ability than cash flow based predictors.

Dana Aollie (1999) [65] provided evidence that A) cash flow components reflect different information related to future cash flow B)The disaggregation of cash flow components has the potential to enhance prediction model performance. He finds that other factors of cash flow such as sales, cost of goods sold, operating expense, and interest have similar persistence in predicting future cash flows. He clears that cash flow components and accrual components complement each other in explaining future cash flow. His findings are usually from several perspectives, and his results provide a benchmark for the importance of the details of cash flow in predicting future cash flows. His finding also provide a basis for policy makers in evaluating the reporting of line items for operating cash flow, and his findings are based on estimation, it include special items and may still include core cash flow components.

John Wileyand Sons (2000) [66] discovered operating activities in every company are the main activities and include revenue producing and other activities that are not investing and financing activities. Investing activities include the acquisition and disposal of long term assets and other investment except short term investments. Financing activities constitute changing of result in the size and composition of the equity capital and the borrowing of the enterprises.

The accrual accounting is a basic accounting assumption dealing with the accounting process of recognizing the effects of financial transactions in the period in which events occur, rather than focusing only on cash receipts or payment.

Gallinger (2000) [67] evaluated, cash flow from operations activity can be evaluating the quality of profits on income statements. The difference between net cash flow from operation and net profit is the helpful in interpreting the quality of earning. A large difference between net profits and cash flow from operation will reflect a low quality of profits- perhaps net income has increased without an increase in cash flows from operations. This may result from increases in sales on credit,

causing increases in accounting receivable, indicating that the company may have a cash collection problem in the future.

Boyd and Cortese Danile (2000) [68] reported cash flow from operations is often seen as the most important category among the three categories because it results from the main income producing activity. Cash generated from the operating activity provides an indication of the company to produce cash from its main activity. The company must generate sufficient cash from its operating activities to finance its daily activities (Boyd and Cortese- Danile 2000- 2001). Moreover cash flow from operations primarily supports capital expenditures and dividends (Grossmanand Pearl 1988).

If the company cannot generate any cash to repay loan, pay dividend or make new investment, the company would lend cash from external sources, causing future cash flows.

Charitou et al (2000) [69] claimed creative accounting is an issue as users of financial statements claim that it allows managers or preparers to manipulate financial reports.

Lee and Leibman at el (2000) [70] used cash flow from operations to calculate free cash flow. Free cash flow is money earned from operations after giving provision for capital expenditure at the end of an accounting period. It is basically defined as net cash flow from operation activity, less capital expenditures and dividend on preferred stock. It shows the ability of the company to generate cash from its operations after spending money on the expenditure**.**

Henderson and Peirson (2000) [71] reported the accrual concept recognizes assets, liabilities, revenues and expenses to record the trade transactions, including cash and credit transactions. An asset refers to a resource that belongs to the company as a result of past financial transactions IASC (2000). Assets represent future benefits including cash that is expected in the future. They can be divided into two categories according to their longevity, current and noncurrent assets. In addition to cash, current assets include accounts receivable, inventories, prepayments and other assets that will be converted into cash within twelve months of the reporting date. In contrast, noncurrent assets refer to assets that will not be converted into cash within next

twelve months after the end of the financial year, such as land and buildings, plant and equipment and intangible assets, including goodwill.

Blake et al (2000) [72] studied creative accounting involves making a choice of accounting methods to ensure that the financial statements reveal the information that impress the prepares or managers.

Kimmel, Weygant and Kieso (2000) [73] noted, cash flow statement is an important and necessary principle of perfect financial reporting by national and international accounting standard board, because financial statement users note that the balance sheet, income statement and retained earnings statement do not always show the whole financial condition of a company.

Quirin, O'Bryan and Berry (2000) [74] replicated Bowen, Burgstahler and Daley (1986), they used the same four distinct predictions of actual cash flow indicating NIBI, NIDPR, WCFO and actual cash flow from operations but focused only on oil and gas companies. Data were collected from the 1998 version of Compustat PC plus for period of 1988 to 1997. Simple ordinary least squares regression was employed to predict cash flows with the one year lagged predictors. The result of the research provided evidence that NIDPR and WCFO were the best predictors, followed by ACFO and NIBEI for the pooled data. Meanwhile, for the annual result, WCFO was the best predictor, followed by ACFO, NIDPR and NIBEI respectively.

Krishnan and Largay (2000) [75] examined the predictive ability of the direct method cash flow format in predicting future cash flows, comparing cash flow information from the indirect method format in various ways, focusing on firms which reported operating cash flows by the Direct Method. In the analysis, they used cash flow data from the NAARS database during1988 to 1993. The sample included all firms which reported operating cash flows by the Direct Method, without limitations on year-end or the age of the firms. Firstly, they tested whether the cash flow information of the Direct Method provides more accurate predictions than information from the indirect method. They compared two prediction models, one forecasted by the direct method information predictor and one by the indirect method cash flow information, using pooled time-series and cross-section based models. The

findings suggested that the Direct Method cash flow format provides more accurate predictors than the Indirect Method data.

Secondly, they investigated whether including direct method information, particularly cash collected from customers and cash paid to suppliers and employees, enhances the predictive power of the model. They employed the Lorek and Willinger (1996) multivariate, time-series cash flow model as a benchmark. The research results provided evidence that gross amounts of cash receipts and cash payments are more relevant than information about their net amounts.

Thirdly, they tested whether direct method cash flow information can be determined indirectly without causing excessively onerous costs. For this purpose, they estimated the amount of cash collected from customers and cash paid to suppliers and employees using income statement and balance sheet data derived from Compustat. They concluded that direct method cash flow should be directly observed from the cash flow statement. Krishnan and Largay (2000) also examined prediction errors to measure the predictive ability of accrual and cash flow data. For the final observation, they concluded that past direct method cash flows provide a better predictor of future cash flows than earnings and accrual information alone.

Marc Robinson (2000) [76] introduced of accrual accounting into centre of Government in Australia and he say it's very important with both financial policy and managerial benefits. Usually the managerial benefits have received most attention whereas this paper suggests that the financial policy benefits have received too little attention. Unfortunately, accrual accounting has been implemented in a manner which introduce an unnecessary degree of complexity into Government accounts, making these accounts very difficult for non experts to understand, urgent action to remedy this problem is now required.

Hodgson, A. Stevenson Clarke, P. (2000) [77] discussed, there are so many arguments on quality of accrual accounting data, especially, profit as a good parameter of a company performance

Tiron Tudor Assoc. Alexandra Mutiu. (2001) [78] improved under the accrual method, transactions are counted when the order is made, the item is delivered, or the services occur, regardless of when the money for them (receivables)

is actually received or paid. In other words, income is counted when the sale occurs, and expenses are counted when received the goods or services.

Zwaig and Pickett (2001) [79] predicted that creditors, lending decision, predicting bankruptcy problems of a customer can prevent losses due to bad debts. There are a number of early warning signs indicating that a company is experiencing financial distress. Cash flow is an important financial indicator of a financial problem.

Sharma, D. S. (2001) [80] reported a demand for information used for evaluating a firm's performance arises from measuring and rewarding management. Additionally, the precipitated business growth causing the complexity of firms, transactions,

Helfert, Erich A. (2001) [81] reported in financial accounting, a cash flow statement, also known as statement of cash flows is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents, and breaks the analysis down to operating, investing, and financing activities. Essentially, the cash flow statement is concerned with the flow of cash in and out of the business. The statement captures both the current operating results and the accompanying changes in the balance sheet. As an analytical tool, the statement of cash flows is useful in determining the short-term viability of a company, particularly its ability to pay bills. International Accounting Standard 7 (IAS 7) is the International Accounting Standard that deals with cash flow statements.

Moorehead (2001) [82] found out the indirect method effect conversion from accrual basis profit to cash basis profit, In other words, it shows the association between the cash flow statement and two financial statements based on accrual basis. Then we can say cash flows from operations relate to revenues and expenses on income statement, and current assets and liabilities on balance sheet. Therefore the best reason for supporting the indirect method is that it is more informative than the direct method because it emphasizes the difference between net income and operating cash flow, which can reduce the ability of management to manipulate the income statement numbers.

Penman (2001) [83] discovered the usefulness of cash flows versus accrual accounting. Although there have been a number of studies in the context of the usefulness of cash flows and accrual accounting data, the results of those studies were

inconsistent and inconclusive, and the contradiction between cash and accrual based data still exists.

Bartov, Goldberg and Kim (2001) [84] studied from an international perspective found evidence that the relative and information content of earnings and cash flows are different in across countries. have been examined the relative and information content of earnings and cash flow for equity valuation in the cases of the United States, the United Kingdom, Canada, Germany and Japan. Their study indicated that earnings are more important than cash flows in the United States, the United Kingdom and Canada, but not in Germany and Japan. They concluded that the national reporting regime is a factor which has an impact on the information content of earnings and cash flows. Therefore, studies using data in different countries may provide different results.

Jordan and Waldron (2001) [85] evaluated the ability of accrual based measures versus cash based measures in predicting future cash flows, five regression models were investigated in their study. Each predictor in each model is shown below.

1) Income before spending on extraordinary items and discontinued operations net income NI

2) NI plus depreciation and amortization expense on noncurrent operating assets NIDPR

3) NIDPR plus or minus adjustments to earnings to remove the effects of gains or losses on transactions impacting earnings but not effecting cash flows WCFO.

4) WCFO plus or minus changes in the current operating assets and liabilities CFO, this mean the cash flows from operations presented on the cash flow statements under SFAS No,95.

5) Net change in cash and cash equivalents during the year.

Each model was used to predict one year ahead cash flows with 10 years of quarterly data pooled for 30 companies in the petroleum in the industry derived from Compustat files. The results of regression analysis indicated that each model provide significant predictive power for predicting future cash flow. In addition, both coefficients of determination (r^2) and percentage prediction errors suggested that NIDPR model produced more predictive power than other models.

In summary, previous research has shown that cash flows and earnings have a role in predicting future cash flows, however the results are still unclear and it is not possible to conclude whether cash flows or earnings provide a better predictor. Some researchers indicated that cash flows are a better predictor (Finger1994). Whereas, some reported presents contrasting results, such as Murdoch and Krause (1990).

Researchers have measured the cash flow variables in many ways including cash flows from operations (such as Finger 1994, Greenberg, Ramesh 1986), cash flow calculated by discontinued operations NIDPR, working capital from operations WCFO, cash flows after investment and change in cash (Bowen, Burstahler and Daley 1986). These studies found that those different measures provided different predictive abilities.

Most studies focused on cash flows from operations which were approximated by adjusting income on income statements (Bowen, Burstahler and Daley 1986, Finger 1994, Greenberg, Johnson and Ramesh 1986). After FASB required firms to present statements of cash flows in 1988, some researchers attempted to test the predictive ability of cash flow data reported on the cash flow statements instead of cash flow estimated by adjusting income (McBeth 1993, Quirin et al 1999, Quirin, O'Bryan and Berry 2000). However, their results were inconsistent.

Cram and Nelson (2001) [86] predicted to the prediction models based on only earnings or only cash flows, such as of the researchers have extra studied accrual components of earnings by combining them with cash flow data in prediction future cash flows. Murdoch and Krause (1989) searched about accrual accounting and cash flow measures can predict future cash flows. They investigated for one variable, accrual accounting or cash flow; they tested a combination of accrual and cash flow data in prediction future cash flows.

Murdoch and Krause selected 20 years of data from the Compute tape to constitute variables involved income before extraordinary items IBEI, working capital from operations WCO, Net Sales (NS), and cash flow from operations CFO. Each variable was deflated by the average Market Value of common Equity (MVE) to control for serial correlation that often occurs in relationship between monetary amounts measured over different time periods. Bivariate and multivariate regressions were employed to test seven hypotheses using the following regression models:

(1) CFRit = ßo +ß1ROE1,t-1 + Ɛit

(2) CFRit = ßo + ß1 WCR1,t-1 + Ɛit

(3) CFRit = ßo + ß1 ROS1,t-1 + Ɛit

(4) CFRit = ßo+ ß1 CFR1,t-1 + Ɛit

(5) CFRit = ßo+ ß1 CFR1,t-1 + ß 2ROE1 , t-1 + Ɛit

(6) CFRit = ßo+ ß1 CFR1,t-1 + ß 2WCR1 , t-1 + Ɛit

(7) CFRit = ßo+ ß1 CFR1,t-1 + ß 2ROS1 , t-1 + Ɛit

Where

CFRit = Cash flow return for firm i period t

ROE1,t-1 = Return on equity for firm i period t-1

WCR1,t-1 = Working capital return for firm i period t-1

ROS1,t-1 = Return on sales for firm i period t-1

ßo = intercept;

ß1 = coefficient of first (or only) independent variable in Regression;

ß 2 = coefficient of second independent variable in regression;

Ɛ = error term

Murdoch and Krause (1989) understood the accrual earnings are better factors for predictor of operating cash flow than operating cash flows themselves, and sales and working capital are better predictors of cash flows than earnings. In the result of this study we can find that empirical result that operating cash flows are not important variables in predicting cash flow.

Dehow, Kothari and Watts (1998) searched on a model of earnings, cash flows and accrual. They started his study on the model assumed that sale generate the accounting cycle related to accounts receivable, accounts payable, and inventory. The Dewow, Kothari and Watts constitute a model and explained of that model that why

current earnings are a better predictor of future operating cash flows than current operating cash flows.

They for analyzing the data, use annual financial data from different industrial companies and for period of 1963 to 1992. Then the final sample which consists 667 surviving firms and earnings were present by earnings before extraordinary items and discontinued operations. The cash flow variable was calculated as (operating income before depreciation minus interest minus taxes minus change in non cash working capital, and operating of accrual was earnings minus cash flow). In this study they could use simple and multiple regression analysis to achieve the cash flow prediction models.

Their result represent that current earnings is better predictor for future cash flow than current cash flow. But they agree with that earnings provided incremental power in prediction future cash flow. The difference in the ability of current earnings and current cash flows to predict future cash flow was a positive function of the firms expected operating cash cycle.

Barth, Cram and Nelson (2001: 2002) agree with the DKW model to investigate the role of accruals for predicting future cash flows by disaggregating earnings into CF and the components of accrual- change in accounts receivable (ΔAR), change in accounts payable (ΔAP), change in inventory (ΔINV) , depreciation, amortization and other accruals. They tested the predictive ability of earnings, cash flow and six accrual components using regression analysis as in the following equations:

$CFi,t+1 = \phi + + \sum_{T=0}^{k} \phi t - T \quad EARNi, t- \tau + ui, t$

CFi,t+1 = ϕ + ϕ CFCFi, t + ϕ AR Δ ARi, t+ ϕ I Δ INVi, t + ϕ AP Δ APi, t + ϕ

DDEPRi, t+ ϕ AMAMORTi, t + ϕ OOTHERi, t + ui, t

Where

CF	=	cash flow from operations
EARN	=	earnings
ΔAR	=	change in accounts receivable
ΔAP	=	change in accounts payable

ΔINV	=	change in inventory
DEPR	=	depreciation
AMORT	=	amortization
OTHER	=	the aggregate of other accruals
i	=	firm
t- τ, k	=	year and k ranges from 0 to 6
ϕ	=	coefficient of independent variables in regression

Data collected from industrial companies for period 1987 to 1996. Earning was represented by income before extraordinary items and discontinued operations. CF was net cash flow from operations adjusted for the accrual portion of extraordinary items and discontinued operations. The accrual components were from the cash flow statements and computed from balance sheet data. Financial service firms were excluded from the analysis.

They can take result from their study that every accrual component affects different information relating to future cash flow. For example they founded the long term accrual have a role in predicting future cash flow, and such past aggregate earnings additional explaining power to aggregate current earnings for forecasting future cash flows, whereas, disaggregated current earnings have considerable more predictive capacity than several lags of aggregate earnings.

Furthermore, they confirmed DKW's analysis that the superior predictive ability of aggregate earnings relative to cash flows varies with firms' operating cash cycles. In comparing each model, they indicated that the cash flow and components of accruals specification has the most predictive ability for cash flows up to four years in the future, followed by cash flow and aggregate accruals, cash flow only and multiple lags of aggregate earnings. Also the findings implied that current earnings only, and current year accrual components, have predictive ability less than cash flows only.

Stammerjohan and Nassiripour (2000/2001) [87] studied the evidence resulting from the research of Barth, Cram and Nelson (2001). The difference between their studies is that Stammerjohan and Nassiripour (2000/2001) presented results from out of sample period versions of the model in the within-sample-period metrics and added two more accrual components of earnings, changes in taxes

payable (TXP), and deferred tax expense (TXDI). The increment content of deferred tax expense in predicting future cash flows was proven by Cheung, Krishnan and Min (1997). The study employed data of firms listed on the June 1999 Compustat during 1988 and 1997.

Firms were included in the sample if they met the requirements. In the pool sample, they needed to have a complete time series of information during 1988 and 1997 and also meet other criteria including having total assets more than $1 million, no involvement in merger and acquisition activities, reporting income before extraordinary items or discontinued operations and reporting a cash flow statement. The final pooled sample had 944 firms. For the cross-sectional model, the number of firms in three-year samples and five-year samples were between 1,887 and 3,603 firms.

Stammerjohan and Nassiripour's research results were consistent with Barth, Cram and Nelson (2001). That is, prior cash flows are a better predictor of future cash flow than prior earnings. The components-of-earnings model, including both cash flows and total accruals, provide better prediction of future cash flows than does the model based only on prior earnings. However, their study does not precisely prove that the two components of the model have better predictive power than models based only on prior cash flows as found by Barth, Cram, and Nelson (2001).

Richaad S. Ruback (2001) [88] focused on modification to the discount cash flow DCF method when valuing forecasted cash flows that are based measures of expected cash flow. Imagine a simple setting where the expected cash flow equals the forecasted cash flow plus an omitted downside. When the omitted downside is temporary the adjustment is to deflate the forecasts and to set the discount rate equal to the cost of capital. However, when the negative side is permanent the adjustment is to deflate the cash flows and to increase the discount rate so, that is probability of a downside.

Mary E Barth, Donald P. Karen K. Nelson January (2001) [89] predicted that the role of accruals in predicting future cash flow the model clears that every factor of accrual factors reflects different information relating to future cash flow and aggregate earnings makes this information.

As predicted disaggregating change in accounts receivable, change in accounts payable, change in inventory, depreciation, amortization and other accruals significantly enhances predictive ability. Each accrual component, including depreciation and amortization, is very useful with the predicted sign in predicting future cash flow, incremental to current cash flow. The cash flow and accrual components of current earning have useful predictive ability for future cash flow than, such legs of aggregate earning.

Barth et al (2001) [90] investigated the association between components of Generally Accepted Accounting Principle (GAAP) earnings and future profitability measures. A widely finds – using a large sample – which current earnings disaggregated into their cash flow and several accrual components are more significantly associated with future cash flows than several lags of earnings and than cash flow only. There are, in contrast, relatively few papers that have assessed the predictive ability of accounting numbers with respect to future cash flows or market values of equity based on out-of-sample prediction errors.

Mark Defond and Mingyi Hung (2001) [91] investigated the relatively recent and growing trend in analysts making operating cash flow forecasts. We find that cash flow forecasts are made for companies with accounting, operating and financing characteristics that are likely to make cash flows more helpful in interpreting earnings and assessing firm viability. Specifically, consistent with our expectations, we find that cash flow forecasts are more likely to be made for firms: (1) in industries with greater accounting choice heterogeneity; (2) with forecasted earnings losses; (3) with shorter operating cycles; (4) with greater capital intensity; and (5) with higher leverage.

These findings suggest that market participants demand cash flow forecasts when cash flows are relatively more useful in assessing firm value. Supporting this explanation, we also find that analysts make cash flow forecasts when current cash flows have greater ability, and earnings have less ability, to predict future cash flows; when annual earnings have a lower association with stock returns; and when cash flow forecast errors are associated with stock returns around the earnings announcement date, but earnings forecast errors are not.

Riahi Belkaoui and Jones (2002) [92] reported, accounting information is seen as input data for financial prediction models Accounting information is reported under the accrual and cash accounting bases. Income statements and balance sheets report information on an accrual basis and cash flow statements are on a cash basis.

The transaction are recorded and reported in financial statements of the period they occur whether which is not cash has been received or paid As a result, accounting information reported in financial statements consists of both the effect of credit and cash transaction.

Schaeffer H. A (2002) [93] presented with the respect of cash flow management, cash flow is life blood of every business and without cash flow business processes are not therefore cash flow management can play an important role for survival and wealth of the companies.

Plewa and Friedlob (2002) [94] measured cash flow ratios could be a better measurement for the firms performance than financial ratios from income statements and balance sheets, because cash flows from operations as a main component of the ratios, excluding the effect of non cash flow items such as depreciation expenses and gain or loss on the sale of operating assets.

Jack (2002) [95] tried to understand whether accrual accounting is useful item for performance budgeting. After that in his conclusions examining the need for accrual accounting as an underpinning for introducing budget system reforms, then, he emphasized a number of points first; the adoption of accrual accounting should be seen as an integral part of wider budget system reform. Therefore, a country budget system model should determine the governments accounting needs. The conserve of this argument also hold, that to be effective and to drive maximum benefits from accrual accounting, necessitates other feature of the budget management system to be in place. Then, he could result that accrual accounting is very important item in Government budgets.

IFAC (2003) [96] estimating some advantages of accrual accounting data such as:

- It shows how a Government has financed its activities and met its cash requirements.

- It allows users to evaluate a Government ongoing ability to finance its activities and to meet its abilities and commitments.
- It shows the financial position of Government and changes in its financial position.
- It provides a Government with the opportunity to demonstrate successful management of its resources.

Government Accounting Standard Advisory Board (2003) [97] suggested by accrual accounting data, Governments will be better positioned to assess their financial performance and financial position and these data can help in preparing the position of assets and liabilities of the Government, which is not possible under other systems

Weaver and Michelson (2003) [98] estimated, projects, managers and analytic need to estimate investment expenditure and annual cash flow from operations after projects have been operating over the forecasting period. Then, a manager has to make a decision whether the project should be accepted or rejected under an assumption of each method.

Cheng Yang and Clubb (2003) [99]predicted the annual cash flow from operation activity can be predicted by using historical data, in the literature on capital budgeting the modeling and forecasting of future cash flow have not been identified and studies in cash flow prediction may be applicable for the purpose of capital budget. Cash flow is expected to be a natural alternative performance indicator to evaluate a performance of the firm because earnings are not informative when they are transitory and extreme and cash flow is already available to be used in cash flow statements. The investors also consider cash flow a sustainable performance measure for a firm's valuation**.**

Frigo and Graziano (2003) [100] investigated, security investment decision, investors or security analysts required to estimate the cash return from their investment in the capital market. The cash return includes cash from either share dividends or capital gains when shares are sold. This decision deals with which shares to buy, return, or sell and the appropriate time for purchasing or selling of those shares. The ability of a company to pay dividends is reflected by the ability of the company to generate its future cash flows as well. Therefore, in making investment

decisions, predicting the cash flows of a company issuing shares is a primary task in indicating the company's ability to pay dividends for future period.

Mari Kabay, and Ayko Sato, (2003) [101] recommended, the national Government to every local Government to adapt accrual accounting data as supplementary documents of legal accounts, in other hand the accrual accounting information system is considered a non mandatory dual system and has varied experiences in adapting into financial management.

Hoggett, Edwards and Medlin (2003) [102] suggested profit reported on income statements may be a subject distortion because it includes these items It has been argued that traditional ratios from income statements and balance sheets such as the liquidity ratio and quick ratios may not provide a comprehensive measure of a company's ability to retire its debts because current assets, including accounts receivable and inventory, may not be converted into cash.

Fleming (2004) [103] suggested that the cash flow on revenue ratio and the debt coverage ratio are considered in analytical procedures to detect financial statement fraud.

Tim Spilker (2004) [104] reported cash flow projection is the best instrument in cash management. It enables you to see the cash inflow and cash outflow of your organization, so, that you can plan for surpluses as well as deficit clearly from the beginning, the cash flow projection is a estimate of your organizations cash inflow (income) and cash out flow (expenditure) on a weekly or monthly basis.

Andy Wynne, Janury (2004) [105] evaluated this would help in better fund management and evaluation of performance of various departments, further, accrual accounting data would help in estimating cost of services more appropriately, which could from a crucial input for managerial decision making. Accrual accounting data can provide a more effective and reliability assessment of the financial health of the organization and sustainability of Government policy.

Staubus (2004) [106] predicted a general objective of original analysis is a prediction of future cash flow of the companies because cash flow is an important issue for paying dividend, interest payments and repayment of debt**.** However, higher credit scores are negatively associated with loan denial, suggesting that the broad information contained in these sources is used in the initial decision to accept or deny

the application, while the incremental information in accrual accounting has a small role on this decision. This evidence is consistent with experimental and qualitative studies found that the initial approval decision is based on simple, aggregate financial information and other general background data such as that contained in credit sources rather than on the analysis of detailed accounting information.

Porntip Chotkunakitte (2005) [107] represented the requirements of cash flow statements are based on the assumption that past cash flows are useful for assessing future cash flows and the cash flow statement supplements and presents information differently to the information provided in the other financial statements. Accounting financial setters claimed that the cash flow statement is useful conjunction with other financial statements, such as balance sheet and income statement. However, balance sheet and income statement provide the following advantage such as:

1) It presents an insight into the changes in net assets of a company, financial structure (including its liquidity and solvency).

2) It shows the ability of a company to generate cash and cash equivalents.

3) It can be useful in developing models to assess and compare the present value of the future cash flows of different companies.

4) It also enhances the comparability of the reporting of operating performance by different enterprises because it eliminates the effect of using different accounting policies in accrual accounting for the same transaction and events

5) It is usually used as a sign of the amount, timing and certainly of future cash flow.

6) It is also useful in checking the accuracy of past assessments of future cash flows and in examining the relationship between profitability and net cash flow and the impact of changing prices IASC(1995, p, 115).

Cash flows are supported as a very important data for creditors and investors (Hodgson and Stevenson –Clarke 2000). Many advocated and discussed that the best benefit of cash flow for users are that the information overcome many limitations associated with accrual accounting measurement procedures manifested in traditional financial statement (Lee 1993). In addition, because cash flow require the most objective measure of capacity to consume and command resources and cash portrays

the best measure of liquidity, they are not contaminated by measurement problems, and facilitate the prediction, dividends and credit and loan payments (Hodgson and Stevenson- Clark 2000, Lancaster, Stevens and Jennings 1998, Wertheim and Robinson 1993a, 1993b). Cash flow prediction is involved in a number of economic decisions, particularly in investment.

Jamal Ibrahim Munther Talal Al-Momany and Mahmoud Hasan Qaqish (2005)[108] suggested that accountants and finance officers working in government departments who already have started employ accrual-based accounting system more than those who work in departments which still employ cash-based accounting. The results show that there are significant differences between the groups suggesting that the non-users prefer to use accrual based accounting less in their departments We can ask ourselves that why accrual accounting data is an important accounting system, after that we can enumerate some of them:

The accrual basis of accounting method is the method used by most businesses because the combination of the information on the balance sheet and the statement of income or loss provide them an accurate financial picture which is required to make good business decisions. Your Association is a small business, so accrual basis of accounting system will give you a better financial report by which the company will be able to manage cash resources to meet the expenses and plan for the future, whether for a short term and long term.

The board members and professional managers will be able to avoid over obligating the cash resources of the Association. Accrual basis allows by the accrual basis and accountancy system easy tracking individual homeowners' receivable amounts. Individual amounts are required by Minnesota State law to be disclosed in a resale disclosure. In addition assessments receivable must be disclosed in the Association's annual report.

Accrual basis accounting is required for Association year end reports under the Minnesota Common Interest Ownership Act section, accounting Controls. If ones Association are maintaining its monthly financial reporting on the cash basis of accounting, ones CPA will need to convert your financial information to accrual basis accounting at the year-end.

Accrual basis accounting avoids the attitude that "since there is still money in the check book, we can spend it,'' it forces one to plan for expenses that need to be paid based on the cash that is on hand, plus assessments receivable (cash that is not yet received but will be), less any cash that is already obligated for payment of prior Association expenses.

In practical, use of accounting method on the basis of accrual data is supported for such reasons, the first, and one can say it is solution relevant information in measuring a firm executive. For example, the financial manager needs data on past transaction in order to estimate past executive and accounting of past data can be utilized as of the past executive. Secondly, the cost of assets recorded based on historical cost is derived from actual transaction, not estimated. Thirdly, the matching revenue and expenses effect the utilization of assets in generating revenue, and this measure the efficiency of utilizing the assets of the company. (Godfrey, Hogson and Holmes, 2003) Fourthly, in financial annual report, about assets, liabilities, and obligation of a company, one can estimate future cash receipts and payments in addition, reporting financial statements on accrual basis meets taxation requirement.

Porntip Chotkunakitti (2005)[109] measured the success of a firm can be measurement by its ability to generate cash, reporting of cash flow receipts and receipts and payments has timing and matching problems that cause cash flow to be a noisy measure of firm performance. Since under the continuing entity assumption, companies are assumed to operate without discontinuing, in order measuring their performance the companies need to slice time into small segments and report their progress for each specific period of recording. Companies which record only cash transactions would have problems when the transaction involves more than one period of recording. This is because companies usually deal with credit transaction; the report will not show the cost at the time the business purchased the assets. The incomplete information would give an inaccurate measurement of the firm's performance.

Tho Laimooi (2005) [110] reported financial reporting standard No.107 on cash flow statement in spread the preparation of cash flow statements as a essential part of an entity financial statements, has declared that cash flow statement is useful in evaluation the capability of companies to generate cash and cash equivalents. This study attempts to test this claim by investigating the forecasting ability of cash flow

from operations versus accrual accounting based data to forecasting future cash flow from operation.

Lev B. et al. (2005) [111] reported that accruals do not significantly contribute to the prediction of future cash flows, judging from stock returns earned on portfolio allocations derived from future cash flow predictions, they conclude that the accruals' contribution is not economically significant from an investor's point of view. Indeed, they find that one- to three-year returns earned on a hedge portfolio using cash flow and accruals to predict future free cash flow or earnings are not higher than those from a portfolio excluding accruals as a predictor.

Barth, Beaver, Hand, and Landsman (2005) [112] investigated the role of cash flows, accruals and their components in predicting current equity market values out of sample. Their study differs from ours as they use cross-sectional (pooled and by-industry) estimations with annual data and impose a linear information valuation model structure. They also use a jack-knifing procedure where a given firm-year is predicted based on all prior firm-years but also on all other firms in the same year. While technically out-of-sample, such test is not an ex-ante prediction.

Kim and Kross (2005) [113] are primarily based on associations rather than predictions, they document that the out-of-sample forecast accuracy of aggregate increasing over their sample period. Use a cross-sectional analysis based on annual data from 1972 to 2001 and do not consider CFO and accruals as distinct predictors. Earnings have been increasing over their sample period. Kim and Kross (2005) use a cross-sectional analysis based on annual data from 1972 to 2001 and do not consider CFO and accruals as distinct predictors.

Francis and Michel (2005) [114] presented financial statements by companies' managers disclose the information of company that is effective on their stock prices. Researchers have applied many methods to determine how financial statements are real. A group of researchers have tried to create models that predict fraud management. Another group of researchers have also tried to determine some of financial statements artificial indicators by using financial ratios analyses. by investigating quality of accruals as risk of information related to profit indicate that the weaker is quality of accruals (which is defined error standard deviation, changes

in current accruals and cash flows), the more is cost of debt and cost of capital of companies.

This issue reflects the effect of accruals quality on individuals' decision-making. Many past studies suggest that there is a creative accounting due to efforts of managers to manipulate financial statements and profit figures. These manipulations can make a difference in the actual value of stock returns and lead to a misleading picture of the market and the relationship between profits and returns. Hence, taking into account the effective measures for relevance profit can be useful in evaluating the future movement of stock prices and the overall relationship between earnings and returns. Accruals as one of these measures have attracted the attention of many researchers.

The American Academy of Financial Management (2005) [115] predicted a company can use a cash flow statement to predict future cash flow, which helps with matters in budgeting. For investors, the cash flow reflects a company's financial health: basically, the more cash available for business operations, the better. However, this is not a hard and fast rule. Sometimes a negative cash flow results from a company's growth strategy in the form of expanding its operations.

There are 3 basic financial statements that exist in the area of Financial Management.

1) Balance Sheet.

2) Income Statement.

3) Cash flow statement.

The first two statements measure one aspect of performance of the business over a period of time. Cash flow statements signify the changes in the cash and cash equivalents of the business due to the business operations in one time period. Funds flow statements report changes in a business's working capital from its operations in a single time period, but have largely been superseded by cash flow statements.

A Cash Flow statement is a statement showing changes in cash position of the firm from one period to another. It explains the inflows (receipts) and outflows (disbursements) of cash over a period of time. The inflows of cash may occur from sale of goods, sale of assets, receipts from debtors, interest, dividend, rent, issue of

new shares and debentures, rising of loans, short-term borrowing, etc. The cash outflows may occur on account of purchase of goods, purchase of assets, payment of loans loss on operations, payment of tax and dividend etc.

A cash flow statement is different from a cash budget. A cash flow statement shows the cash inflows and outflows which have already taken place during a past time period. On the other hand a cash budget shows cash inflows and outflows which are expected to take place during a future time period. In other words, a cash budget is a projected as a cash flow statement.

Leonie Jooste (2006) [116] found that in the cash flow sufficiency ratio showed that the SA industries had enough cash to pay primary obligations whereas the USA industries did not. Furthermore, at the levels of cash generated by SA industries the investments in assets and dividend payouts were more than for US industries. The cash flow generated by assets used in South Africa is also more than that of the US but US industries retire long-term debt in shorter period than SA industries.

Adela Deaconu (2007) [117] tried to understand supplement comparative national studies, which represent a challenge to accounting history for the last decades, explaining the Romanian public accounting practices in their local and time specific context, taking into question the case of the entities owned by the Government. In essence, the finding show the materialization of accrual accounting benefits for Romania as an emerging economy and in terms of all independent variables used in the study, fixed assets, liabilities, revenues and costs.

It also shows gradual evaluation of finding the advantages of the Romanian accounting systems transition from a cash basis to an accrual basis in the two analyzed stages, the transition and post- reform periods.

It proves thus the correlation between the pace of regulatory changes and their application in practice, indirectly confirming the orientation of the Romanian standard setter toward International Public Sector Accounting Standards (IPSAS) and accrual accounting. Moreover, this research is an argument for the importance of accounting and of the economic analysis which the study can support through financial reporting.

Frank R, Urbancic (2007) [118] discussed the operating cash flow ratio can gauge a company's liquidity in the short term. Using cash flow as opposed to income

is sometimes a better indication of liquidity simply because, as we know, by cash is how bills are normally paid off.

Most computed ratios usually focus only on balance sheets and income statements. This is unfortunate since the statement of cash flows SCF can also offer useful insights from ratio analysis. Balance sheet ratios can only provide a date-in-time perspective, whereas the SCF will represent activity for a continuous period. Income statements report the results of operations for a period of time, but do not disclose other important changes in resources that result from activities in financing and investing. The SCF complements the balance sheet and income statement by providing additional information concerning an organization's ability to operate efficiently, to finance growth, and to pay its obligations. The purpose of this article is to provide an overview of cash flow ratios as a powerful and effective analytical tool

Larry N. Langemeier Danny Klinefelter and Dean Mccorkle (2007) [119] reported data for estimating of cash flow may come from historical records. Such as, tax returns, and other applicable information you may have. A cash flow forecasting is made periodically- monthly- bimonthly, quarterly or every year (yearly) and this type of cash flow forecasting are used on a monthly basis. The annual forecasting columns have to fill in first, and then only annual forecasting may be allocated to the various months.

Oliver Kim (2007) [120] tested the validity of using one year ahead cash flow prediction as a substitute for the value relevance test of earning and this study searched about cash flow prediction but not mentioned anything about accrual accounting. Therefore, finder found the ability of earnings to predict one year –ahead cash flow has increased over the recent decades, in contrast to the evidence that both factors that the cash flow prediction test is a poor substitute for the value relevance test of earning.

Yoder (2007) [121] compared out-of-sample prediction accuracy of regression models for one-year-ahead CFO. His results indicate that a model including short-term accrual components outperforms models using only current CFO as a predictor, but only if the independent variables are aggregated over three years. Our study differs from the two mentioned as we use firm-specific estimates, which we expect to produce significantly lower prediction errors. We also test explicitly whether accruals

contribute more to cash flow prediction as we aggregate the dependent variable and include market value of equity as our proxy for the highest level of aggregation.

Andrew. C. Call (2007) [122] examined the effect of cash flow forecasts on investor pricing and mangers reporting of the cash and accrual component of earnings: Cash flow forecasting is a common fixture in the current information environment. He found out that cash flow component is more associated with contemporaneous stock returns and accrual component is less associated with contemporaneous stock returns for firms with a cash flow forecast and find that investors place relatively less weight on the accrual of earnings immediately following analysts' initial cash flow forecast. Overall, the cash flow forecast affects investors pricing of earnings and this effect is an additional effect of the usefulness of the underlying cash flow information. FASB Statement of Financial Accounting Concepts 5 (1984), paragraphs 36 and 37, describes earnings in a fashion consistent with the interpretation of the effects of contracting on accruals and earnings.

"36. Earnings is a measure of performance during a period that is concerned primarily with the extent to which asset inflows associated with cash-to-cash cycles substantially completed (or completed) during the period exceed (or are less than) asset inflows associated, directly or indirectly, with the same cycles. Both an entity's ongoing major or central activities and its incidental or peripheral transactions involve a number of overlapping cash-to-cash cycles of different lengths.''

At any time, a significant proportion of those cycles is normally incomplete, and prospects for their successful completion and amounts of related revenues, expenses, gains, and losses vary in degree of uncertainty. Estimating those uncertain results of incomplete cycles is costly and involves risks, but the benefits of timely financial reporting based on sales or other more relevant events, rather than on cash receipts or other less relevant events, outweigh those costs and risks.

Saeedi and Ghaderi (2007) [123] examined the predictive power of book value, net profit, operating cash flow and investment as representative of accounting information related to market value of firms. Their results showed that book value and accounting profit were more related items and considering cash flow (operating and investment) could not increase explanatory power of models significantly.

Final results of incomplete cycles usually can be reliably measured at some point of substantial completion (for example, at the time of sale, usually meaning delivery) or sometimes earlier in the cycle (for example, as work proceeds on certain long-term construction-type contracts), so it is usually not necessary to delay recognition until the point of full completion (for example, until the receivables have been collected and warranty obligations have been satisfied)

Lambert et al. (2007) [124] suggested that firms with more precise information about future cash flows have lower conditional co variances with the market, and as a consequence, lower conditional betas and lower expected returns. Overall, the following two-step link is suggested by the estimation risk literature:

1. firms with higher information quality have lower forward-looking betas;
2. lower forward-looking betas lead to lower cost of equity.

   Note that the forward-looking betas cannot be directly estimated from the past return realizations.

Gavin Cassar and Ken. S. Cavuzzo and Christopher. D. Ittner (2008) [125] suggested accrual accounting data is an important tool in application of new public management (NPM). Since it could provide a more comprehensive figure of activities than cash accounting and contribute to improve internal management by providing full cost information. Most accountants agree the accrual accounting data and it is a significant position in the private sector financial reporting. By default, accrual accounting has been used for preparing the financial report of the private sector companies.

They find a little evidence that accrual accounting data has reduced the likelihood of loan denial after controlling for other factors previously found to be associated with small business loan decisions. These results are robust to controlling self selection in the decision to apply for loan and endogeneity in the choice to use accrual accounting.

Ali Rkein (2008) [126] worked in accrual accounting and public sector and his conclusion was, the northern territory Government introduced on accrual framework for its accounting, budgeting and reporting into its public sector with the intention that this framework would lead to an improved performance and accountability. This

framework has been developed in private sector and introduced in public sectors as Governments started to take a more commercial direction by subjecting public services to competition and market principle. The study does not mention cash flow and its future prediction in private and public company sectors but my study focuses in accrual accounting and predicting future cash flow in reality. I have tried to accommodate those subjects together.

Maria Ogneva (2008) [127] found out document that accrual quality is inversely related to the cost of equity capital. However, found no association between accrual quality and future stock returns and conclude that there is no evidence that the stock market prices accrual quality. The researcher hypothesize that Maria Ogneva result arises because poor accrual quality firms experience negative cash flow shocks in the future, which results in negative returns that offset the higher expected returns for such firms.

Consistent with this prediction, researcher find a significant negative association between realized returns and accrual quality after controlling for cash flow shocks, either by including proxies for future cash flow shocks in asset pricing regressions or by using an accrual quality measure that is less correlated with future cash flow shocks. This result is robust to properly specified and standard asset pricing tests. Overall, this paper adds to the growing literature suggesting that accrual quality is linked to the cost of capital.

Brochet et al (2008) [128] examined to predict future cash flows and the role of cash components and accounting accrual of profit. They predicted future operating cash flows as well as market value of equity as dependent variables and found that on average accruals relative to current operating cash flows improve prediction of future cash flows. They also reviewed determinants of predictive power of accruals to predict future cash flows and found that the probability of contribution of positive accruals was more in predicting future cash flows, contribution of accruals in cash flow volatility increased and it is reduced in domain of discretionary accruals and special items.

Whatever has been researched about stock returns and value of firm have been mainly variables that shareholders noticed them and seen from this perspective. While a variable such as operating cash flow that is calculated based on accounting

information to variables such as accruals that are more based on company policies, is less dependent on management policies and in this respect is largely immune of management interference and manipulations. Therefore, this study is trying to determine how much pricing of stock is affected by specific accounting information such as operating cash flow. In other words, the relationship between operating cash flow as independent variable and stock price as dependent variable is determined to define that whether dependent variable can be explained by independent variables.

Dana Hollie and C. S. Agnes Cheng (2008) [129] evaluated six cash flow components (which parallel the direct method of the cash flow statement): cash flows related to sales, cost of goods sold, operating expenses, interest, taxes, and other. Consistent with our predictions, they find that the cash flow components from various operating activities persist differentially. They find that cash related to sales, cost of goods sold, operating expenses and interest persists a great deal into future cash flows; cash related to other has lower persistence; and cash related to taxes has no persistence. They then incorporate accrual components into our persistence regression model and find that the persistence of cash flow components are generally higher than those of accruals; however, accrual components do enhance model performance.

Abdul Khan and Stephen Mayes (2009) [130] measured macro fiscal level, the important of accrual accounting data for macroeconomic policy arise from the fact that measures assets and liabilities that are relevant to the overall stance of fiscal policy and fiscal sustainability, but which are not measured by cash accounting. In particular, whereas cash accounting measures only conventional debt, accrual accounting measures other quest- debt liabilities such as accounts payable for the receipt of goods and services and employee's liabilities.

So, accrual accounting data provides a broader measure of the burden of Government financial commitments than the cash accounting

Keanes Clothing (2009) [131] worked maintaining adequate cash flow is vital essential for the accomplishment of a business. An important element for business planning is the preparation of a cash flow forecasting. Cash forecast is an estimate or prediction in this case of the likely cash inflows and cash out flow over a period of time like any forecast for the established company.

Hossein Panahlan and Mehdi (2009) [132] evaluated relationship between stock returns and two representative performance measures means, operating income and cash flow from operation. They are clear in their documents and there are no relationship between operating income and cash from operations with stock returns. This was clear after investigated thesis variables. The reason of this result can be difference existing between net incomes and operating income (gain and loss) or effect of the news and rumors on IRAN burse. Therefore, they investigated the relationship between operating income and cash from operation with stock return simultaneously; accrual items dominate cash from operations in terms of the relationship with stock return.

Sandra Cohen (**2009)** [133] compared accrual accounting information with that of cash accounting in terms of revenues, expenses and financial result in other to quantify their relationship. As cash method in the Greek public sector still constitute main basis for performance assessment and resource allocation decisions. The researcher wants to understand whether they eventually reflect a fair proxy of accrual measures that are deemed more suitable for these purposes. Empirical finding shows approximately 70% of accrual accounting revenues (expenses) figures can be explained on the basis of cash based revenues (expenses) as well as specific municipality socioeconomic factors.

Linda M. Nichols (2009) [134] found out whether teaching the indirect or direct method of explaining the difference between accrual operating income and cash flow from operations is more effective in helping students understand the concept of accrual versus cash accounting. One expects that because business students are accustomed to using accrual based financial statements, they will understand cash flows better when presented with the indirect method which starts with accrual based income and adjust it to be on a cash basis.

Khodadadi et al (2009) [135] investigated the ability of cash and accruals accounting information of profit in prediction of future cash flows of listed companies in Tehran Stock Exchange. The investigated sample of that study was selected among non-financial firms listed in Tehran Stock Exchange whose financial statements were available in the period 2001-2006. The results of their study showed that variables of past cash flows and accrual components of past earnings had ability to predict future

cash flows. The results of testing their models indicated that the addition of accrual components of earnings into cash flows increased the predictive power of this model.

Thomas. H. Beechy (2010) [136] discussed about 3 factors which are:

- The nature and components of full accrual accounting;
- The relationship between relevance sources and the costs of delivering goods and services;
- The distinction between private goods and public (collective) goods.

About item number one the researcher says that full accrual accounting is not a single concept and it constitutes several accounting concepts such as:

1) Accrual accounting 2) expenses recognition 3) inter period allocation.

Every organization should use accrual accounting but applicability of the other two concepts depends on the nature of the organization. The most of Nonprofit organizations provide goods are those that can be enjoyed by only a limited number of beneficiaries, their use by some individuals makes them unavailable to other once the supply is used up. Private goods have a determinable output and therefore, a measurable cost. Often, on nonprofit organizations that provide goods and services gets its revenue from one or both of two sources.

General revenues contributed by dues or other membership fees.

User's fees charged for the private goods it delivers. User fees can be paid by either the user or by someone else on the fees are paid; they are intended to cover the full cost of providing the services. Therefore, in these situations the expense bias is appropriate.

Melik Serhat (2010) [137] reported construction industry is an important sector that cash flow play an important role for that because of the most risks sectors due to high level of uncertainties included in the nature of the construction projects.

Hence, a suitable cash planning technique is very important for proper cost control and systematic cash management while considering the risk and uncertainties of the construction projects. The purpose of this study is to improve a realistic and cost schedule integrated cash flow modeling technique by using fuzzy set theory for

including the uncertainties in project cost and schedule resulting from complex and ambiguous nature of construction works.

Charles, E. Jordan and Marilyn A. Waldron (2010) [138] found that accrual basis measures are better predictors for future cash flows than cash flow basis measure .So, accrual component basis are better for financial managers and other users of financial statement for decision making.

Choong Yuel (2011) [139] understood, analysts' cash flow forecasts have become widely available through financial services. Cash flow information enables practitioners to have a better understand the real operating performance and financial stability of a company, practically when earning information is noisy and of low quality.

Hadri Kusuma (2011) [140] investigated and assess statements relative of cash flow disclosures as needed by the Australian Accounting Standard Board (AASB) 1026 statement of cash flow. The information capacity is estimated in terms of degree of the relationship between cash flow variable and security returns. After examining the data relative to cash flow the researcher found out two important factors such as:

1) To examine the capacity of the cash flow component in predicting future cash flow.

2) To compare the capacity of cash flows and earning in predicting future cash flows.

The best result from hypothesis tests reflecting the second objective show that cash flow have information content more than that provided by earnings alone and cash flow information have relative content, given earnings alone. This finding suggests that the cash flow statement and income statement provide mutually exclusive information and previous study from USA and UK that indicated cash flow data had less information value than that of conveyed by earnings. This proof may suggest that data reported in cash flow statement may be original data for decision making, separated from the income statement.

Nichalas Davis (2011) [141] tried for move from the cash basis to accrual basis of accounting in the Australian public sector (APS). That was an important item of NPM for an improvement planning and an event of historical significance. In this research the researcher identified key events in these changes and to analyze them

through the theoretical Lens Aobermas (1976) theory of legitimating. The main discussion of this paper expressed within this paper that accrual accounting is better device used by different level of Government in Australian public sector APS in an attempt to combat the tendencies for economic, rationality and legitimacy difficulties that are commensurate with welfare state societies such as Australia.

Jenis Cormier (2012) [142] mentioned that the finance manager may use the received funds management to voluntary receive funds forecasting. Put on document of the range of earning management guarantee with Canadian Initial Public Offerings (IPOs) and study the scope to which firms with best corporate control systems are less likely to use achieving funds management to obtain their achieving funds estimates forecasting IPOs prospectus.

Bin Du et al (2012) [143] found out that again meet the role of the cash and accrual component of accounting earning in predicting future cash flow and using out of sample predictions. The researcher understands on average accruals improve upon current cash flow from operations in predicting future cash flow. This paper clears that positive accruals are more likely to improve upon current cash flow in prediction future cash flow.

In this paper the researcher has found out the continuity development of business management depend on good adequate cash flow but not the best profit. Accrual cash flow prediction can measure adequate liquidity. The paper centralization on cash flow of company in short time and in this paper researcher clears that MELLRAL network method has better prediction effect than ARIMA method. However, after short term abnormal data adjustment the prediction effect has shown some improvement and he can take as a result large amount of cash flow data have relatively within a company for prediction.

Farzin Rezaei, and Zahra Safari (2013) [144] reported determining the effective factors on market value of equity can help shareholders to make an appropriate decision and allocate economic resources efficiently. Profitability of companies is one of the most important criteria for investors to assess companies, but relying on net profit regardless of its constituent items will lead to loss of important and effective information on decision making and therefore making improper decisions. The present study was carried out in order to investigate and compare the

explanatory power of different components of profit including operating cash flow OCF, current accruals, and non-current accruals and free cash flow, as well as to help explain the behavior of abnormal accruals in Tehran Stock Exchange.

The results indicate that information content of cash components of earnings is higher than other components of earnings and also findings of the research show that division of profit into two components of operating cash flow and accruals relative to other profit combinations has a higher explanatory value.

2.3 Research Gap

Research gaps are basically based on the review of the relevant literature. The aim of this section is to find out the research gap between the work done earlier and area in which research is required.

Form the above section of the review of literature, it is found that some researchers like **Ball, Bravin (1968) and Lip (1990) Bamber and Cheon (1995)** investigated the relationship between accounting earnings and stock price and suggested that earnings have an implication for future cash flow of companies. But they do not mention any thing about cash flow from operating activity and accrual component and reaction of them on future cash flow. The researcher can present cash flow from operating activity and accrual component on future cash in this study.

Other researchers like **Ashton (1974) and Espahaodi (1988)** investigated that accounting information from financial statements are very useful for future cash flow of companies. But they do not mention which information is useful for analysis future cash flow. However, researcher in this research is trying to investigate cash flow statement and reaction of it on the future cash flow.

Gombola and Kety (1993) Giacomic and Mielke (1993) Sylvestre and Urbanie (1994) Dennies (1994) investigated that cash flow ratios are very necessary factors for financial managers and users of financial statements like share holders and new investors of companies and those researchers investigated cash flow ratios only. They did not mention any thing about cash flow statement and accrual component in cash flow statement. On this research, the researchers agree with cash flow ratios for decision making of users of the financial statements. Hence, researcher has investigated other factors like cash flow from operation activity and accrual components and reaction on future cash flow.

John Wiley and Sons (2000) Galliner (2000) Boydand Cortese Danile (2000) Lee and Leibman at el (2000), investigated that cash flow from operating activity is the most important category among the three categories of cash flow statement because it results from the main income producing activity, and they do not searched that cash flow activity affect on future cash flow. In this research, the researcher presented whether the current and past cash flow from operating activity affecting on future cash flow?

In short, this is the first time a researcher is doing research on this topic .i.e. Analytical Study of Accrual Accounting System and its Usefulness in Analyzing the Future Cash Flow in Indian Pharmaceutical Industry. This study designed with aim to Pharmaceutical industry in India in two ways, i.e. cash flow data and accrual components data in cash flow statement. Any previous study did not investigate cash flow and accrual accounting data together. Therefore, this is very important study for financial managers of pharmaceutical industry in India. This study focuses on cash flow data and accrual component data in cash flow statement for decision making on future cash flow of companies.

This study will be useful for the researchers in this field in future. This study will prove as a guideline for the future research in this field. The researcher does not claim that he has covered entire topics and aspects. There is a scope for further studies. Overall, the researcher will explain about theoretical background relating to this subject in next chapter.

2.4 Conclusion

Researcher has tried to present some of the previous studies related to the study in this chapter. It helps in understanding the meaning and function of cash flow and accrual component data and cash flow management. It makes the researchers familiar to rules of IAS and IASC. It challenges to pervious researchers and gives advice to future researchers.

A cash flow forecast shows the anticipate income and expenditure of the business that resulting surplus or shortfall occur each month. While thinking of business profitability as vital, it is even more important to know the state of the business cash flow. For example where one’s money is? From where it is coming? And where it is going? Many businesses fail because they fail to control their cash

flow. A cash flow is a projection of the cash funds a business anticipates. It will receive and pay out during the given time period and the anticipated cash position at specific times during the period.

An accounting method that measures the performance and status of a company regardless of when cash transactions occur; financial transactions and events are recognized by matching revenues to expenses (the matching principle) at the time when the transaction occurs rather than when payment actually is made (or received). This allows current cash inflows and outflows to be combined with expected future cash inflows and outflows to provide a more accurate picture of a company's current financial condition.

Accrual accounting is the standard accounting practice for most big companies. However, its relative complexity makes it more expensive to implement for small companies. This is the opposite of cash accounting, which recognizes transactions only when there is an exchange of cash.

The accrual accounting is a basic accounting assumption dealing with the accounting process of recognizing the effects of financial transactions in the period in which events occur, rather than focusing only on cash receipts or payment. Under the accrual method, transactions are counted when the order is made, the item is delivered, or the services occur, regardless of when the money for them (receivables) is actually received or paid. In other words, income is counted when the sale occurs, and expenses are counted when are received the goods or services.

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