Ch: 1

CONCEPTUAL FRAMEWORK OF LIQUIDITY MANAGEMENT

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1.1 Introduction

Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. The concern of business owners and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder’s wealth. Liquidity management, in most cases, are considered from the perspective of working capital management as most of the indices used for measuring corporate liquidity are a function of the components of working capital.

The importance of liquidity management as it affects corporate profitability in today’s business cannot be over emphasis. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meets its obligation (Eljelly, 2004). Liquidity plays a significant role in the successful Functioning of a business firm. A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business (Bhunia, 2010). Dilemma in liquidity management is to achieve desired tradeoff between liquidity and profitability (Raheman ET all, 2007).

Liquidity requirement of a firm depends on the peculiar nature of the firm and there is no specific rule on determining the optimal level of liquidity that a firm can maintain in order to ensure positive impact on its profitability.

1.2 Concept of Liquidity:

By the term ‘liquidity’ is meant the debt-repaying capacity of an undertaking. It refers to the firm’s ability to meet the claims of suppliers of goods, services and capital. According to Archer and D’Ambrosio, “liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones.” It has two dimensions; the short-term and the long-term liquidity. Short-term liquidity implies the capacity of the undertaking, to repay the short-term debt which means the same as the ability of the firm in meeting the currently maturing obligations from out of the current assets. The purpose of the short-term analysis is to derive a
picture of the capacity of the firm to meet its short-term obligations out of its short-term resources, that is, to estimate the risk of supplying short-term capital to the firm.

Analysis of the firm’s long-term position has for its rationale the delineation of the ability of a firm to meet its long-term financial obligations such as interest and dividend payment and repayment of principal. Long-term liquidity refers to the ability of the firm to retire long-term debt and interest and other long-run obligations. When relationships are established along these lines, it is assumed that in the long-run assets could be liquidated to meet the financial claims of the firm. Quite often the expression ‘liquidity’ is used to mean short-term liquidity of the companies.

In the present study, liquidity is taken to mean the short-term liquidity which refers to the ability of the undertakings to pay off current liabilities. This is chosen because the study relates to the management of short-term assets and liabilities. In other words, the long-run success of an undertaking lies in its ability to survive in the immediate future. Further, a company may have tremendous potential for profitability in the long run but may languish due to inadequate liquidity. It is, therefore, short-term liquidity that has been considered crucial to the very existence of an enterprise.

1.3 Concept of Liquidity Management:
“In the management of liquidity two characteristic of current assets must be boom in mind:
1. Short life span,
2. Swift transformations into other assets form.”

Short life Span
Current assets have a short life span, cash balance may be hold idle for a week or account receivable may have a life span of 30 to 60 days and inventories may be held for 30 days to 100 days. The short life span of current assets depends upon the requirement of firm, in the activities of procurement production sales collection and the degree of synchronization among them.

Swift transformation into other Assets Forms
Each current asset had swift transformation into other assets forms. Cash is used for acquiring raw materials. Raw materials are transformed into finished goods (this transformed may involve several stage of work in progress) Finished goods generally
sold on credit are converted into account receivable; and finally, Account receivable on realization generated cash.

1.4 Meaning and Definition of Liquidity:
A substantial amount of confusion and imprecision exists concerning liquidity. Identifying and distinguishing the several meanings of liquidity is an essential step towards clarifying the subject. In business, economics or investment, market liquidity is a market’s ability to facilitate an asset being sold quickly without having to reduce its price very much (or even at all). Equivalently, an asset’s market liquidity (or simply “an asset's liquidity”) is the asset's ability to sell quickly without having to reduce its price very much. Liquidity is about how big the trade-off is between the speed of the sale and the price it can be sold for. In a liquid market, the trade-off is mild: selling quickly will not reduce the price much. In a relatively illiquid market, selling it quickly will require cutting its price by some amount.

Money, or cash, is the most liquid asset, because it can be “sold” for goods and services instantly with no loss of value. There is no wait for a suitable buyer of the cash. There is no trade-off between speed and value. It can be used immediately to perform economic actions like buying, selling, or paying debt, meeting immediate wants and needs.

If an asset is moderately (or very) liquid, it has moderate (or high) liquidity. In an alternative definition, liquidity can mean the amount of highly liquid assets. If a business has moderate liquidity, it has a moderate amount of very liquid assets. If a business has sufficient liquidity, it has a sufficient amount of very liquid assets and the ability to meet its payment obligations.

An act of exchanging a less liquid asset for a more liquid asset is called liquidation. Often liquidation is trading the less liquid asset for cash, also known as selling it. An asset’s liquidity can change. For the same asset, its liquidity can change through time or between different markets, such as in different countries. The change in the asset’s liquidity is just based on the market liquidity for the asset at the particular time or in the particular country, etc. The liquidity of a product can be measured as how often it is bought and sold.

Liquidity is often identified in the literature as a characteristic reflecting the nearness to money of a company’s asset and liability holdings. For purposes of reporting
liquidity in the balance sheet, assets and liabilities have been traditionally divided into
two groups current and non-current of which the former is supposed to comprehend
the most liquid portion of total capital. Such a classification presents a major
difficulty insofar as there are two alternative criteria for defining current assets and
current liabilities the maturity date approach and the operating cycle approach. Both
criteria exhibit inherent faults.

Accordingly, other proposals have been suggested which provide an alternative to the
conventional balance-sheet classification for the reporting of liquidity. In a different
perspective, liquidity has been identified in the literature as a business characteristic.
In this context, one viewpoint has been to associate liquidity with the cash resources
of the firm, and to set its measurement either in reference to a certain moment in time
(static view) or to a certain time span (dynamic view).

In the static view, the amount of cash held by the firm at a particular moment is the
suggested measure of its liquidity. Studies embracing this view represent a large part
of the literature on cash management. They comprise two groups, both of which
evolved from the early work of Baumol (1952) and Tobin (1956) on firm’s
transactions demand for cash. The first group, in the field of economics, adopts a
positive approach and tries to determine empirically whether the traditional monetary
theory or the Baumol Tobin hypotheses provide a better description of cash
management behaviour. The second group, in the field of corporate finance, adopts a
normative approach and attempts to determine the amount of cash a firm should
maintain. Two types of normative solution have been proposed in the literature: one
using control-limit models, and another using linear programming model.

The dynamic view, which has been embraced by most studies on cash flow, relates
the measurement of liquidity to a certain time span. Proposed measures of the firm’s
liquidity include the amount of cash internally generated by the firm during that
particular time span (an indicator of its internal liquidity), and the amount of cash
available to the firm during that same period from its debt and equity financing
capacities (an indicator of its external liquidity). Within the firm’s internal cash flow,
the cash flow from operations assumes the greatest relevance. Not only because it
measures the company’s ongoing ability to produce cash, but also because it measures
the companies have cash returned on its internal investments. Literally, cash flow
from operations is operating income on a cash basis of accounting; cash revenues
minus cash expenses. From an operational standpoint, two factors determine cash flow from operations: operating profit margins and working capital turnover. In the short-run, they exert a combined or opposite influence over operating cash flow. In the long-run however, the underlying trend in earnings is the sole determinant of the operating cash generating ability of the firm. Another major perspective on liquidity as a business characteristic defines it as the debt-paying ability of the firm. Behind this definition is the assumption that the company is a going concern. From this point of view, the liquidity of the firm for any future period of time is determined by the relationship between the amount of cash available to the firm and the amount of cash needed to pay its maturing obligations. The former will always have to equal or exceed the latter on a daily basis, since being a going concern presupposes a state of solvency. For any future time span therefore, the liquidity of the firm will always have to be equal to or greater than one (if determined in relative terms). In this sense, liquidity can be understood as being a margin of the three meanings of liquidity, the last was the one adopted in the study.

1.5 Meaning and Definition of Liquidity Management:

Liquidity management means holding cash in the right amounts to benefit a business. Holding cash helps a business take care of emergent expenses or opportunities that would otherwise be unavailable if cash is tied up in other non liquid assets. A company can improve its liquidity by selling property, increasing sales or cutting costs to build its store of cash.

Liquidity refers to the ability of an institution to meet demands for funds. Liquidity management means ensuring that the institution maintains sufficient cash and liquid assets (1) to satisfy client demand for loans and savings withdrawals, and (2) to pay the institution’s expenses. Liquidity management involves a daily analysis and detailed estimation of the size and timing of cash inflows and outflows over the coming days and weeks to minimize the risk that savers will be unable to access their deposits in the moments they demand them. In order to manage liquidity, an institution must have a management information system in place manual or computerized that is sufficient to generate the information needed to make realistic growth and liquidity projections.
The liquidity is a vital factor in business operations. For the very survival of business, the firm should have requisite degree of liquidity. It should be neither excessive nor inadequate. Excessive liquidity means accumulation of ideal funds. Which may lead to lower profitability, increase speculation, and unjustified extension, extension of liberal credit terms, liberal dividend policy etc; whereas inadequate liquidity result in interruptions of business operations. A proper balance between these two extreme situations therefore should be maintained for efficient operation of business through skill full liquidity management. The need of efficient liquidity management corporate sector has become greater in recent years. A liquidity shortage, no matter how small, can cause great damage to a savings institution. It takes a long time to build client relationships; a liquidity crisis can destroy those relationships instantly. In order to avoid a liquidity crisis, management needs to have a well-defined policy and established procedures for measuring, monitoring, and managing liquidity.

Cash and liquidity management are core elements of a successful treasury management operation and fundamental to maintaining a strong balance sheet. Look at it as a cost of doing business, not unlike insurance. Appropriate liquidity management should ensure that you have enough cash available to meet all payment needs expected or unexpected. It involves forecasting, risk management, bank relationships, transparency and communication. Cash must be in the right place at the right time. An optimal liquidity management framework should address your actual and potential cash needs, safety, diversification and accessibility of cash and short-term investments, and alternative and contingent funding sources.

**Five Key Liquidity Principles**

Following these five key principles can help you manage your company’s liquidity more effectively:

1. Understand and categorize your cash needs, then determine your appropriate (not necessarily minimum) liquidity requirement.
2. Establish appropriate investment guidelines focusing on availability and safety.
3. Select investment types within guidelines that are appropriate for each cash category.
4. Establish and verify diversified contingent funding sources.
5. Maximize the transparency and efficiency of your cash position across geographies and legal entities.

Effective liquidity management requires an account structure that facilitates fast decisions and simplifies transfers between your accounts. When managing your liquidity, you may wish there were no borders or different currencies.

A savings institution should have a formal liquidity policy that was developed and written by the officials with the assistance of management. The policy should be reviewed and revised as needed, no less than annually. The policy should be flexible, so that managers may react quickly to any unforeseen events. A liquidity policy should specifically state:

- Who is responsible for liquidity management?
- What is the general methodology of liquidity management? How will liquidity be monitored or, in other words, what liquidity management tools will be used. What are the time frames to be used in cash flow analysis, the level of detail, and the interval at which the cash flow tools used are to be updated.
- The level of risk that the institution is prepared to take in minimizing cash to enhance profitability. Specifically, the policy should establish minimums and maximums for total cash assets and for the amount to be kept on-site.
- How often decisions about liquidity should be reviewed, including: assumptions used to develop the cash flow budget, the minimum cash requirement as described in daily cash forecasting, and any of the established ratio targets.
- The signatory authority limits of the liquidity manager should exceed cash be on deposit at another institution. Often liquidity decisions need to be made rapidly to avoid a crisis; therefore the liquidity manager should have some authority. This authority should have limits; for example, another signature should be required for unusually large transactions. If liquid funds are not invested in another financial institution or other type of investment, then they should be very specific policies on how excess funds are to be handled, such as who has access to them and where they are to be kept.
- Which assets are considered to be liquid?
- Established limits for the maximum amount to be invested in any one bank, to limit exposure to a bank failure.
Who may access or establish a line of credit for short-term liquidity needs.

What are acceptable reasons or scenarios for accessing the line of credit?

1.6 Objectives of Liquidity Management:
In the balance-sheet approach, the objective of liquidity management is to provide for the optimal level of liquidity. However, providing for financial mobility at minimum cost should gain priority as the main objective of liquidity management in the flow approach. As a result, three basic activities cash flow planning, implementation of early warning systems and resource planning for financial mobility should constitute the content of liquidity management in the same approach. These ideas proceed from the author’s attempt to integrate with the general theory, Donaldson’s concept of “financial mobility” and his notion of a strategy for its development (1969a; 1969b).

Measuring liquidity for any future period of time does not give any information on the intra-period situation of the firm. The fact that a company has liquidity for a given future time span does not imply that it has the capacity to redirect resources in response to unexpected financial needs that may arise at any point within that time span. The resources which constitute the liquidity of the firm may become available only towards the end of the period, which leaves the firm with no safety margin or buffer (and, with a high probability of technical insolvency) for most of the period, or else they may become available throughout the period but not in the amount or type necessary to meet the need. Providing for financial mobility for a certain period of time is, therefore, more important than providing for the optimal level of liquidity. The idea is a straight consequence of the fact that unexpected financial needs have a different nature, timing, magnitude, and duration. Donaldson (1969b), who introduced the concept of financial mobility, defines it as the

“Capacity to redirect the use of ... resources in a manner consistent with the evolving goals of management as it responds to new information about the company and its environment.”

In the present review, financial mobility is defined as the capacity to redirect the necessary resources to restore funds flow equilibrium, that is, to restore balance in funds flows within the limits of technical solvency and with an acceptable risk exposure.
Insofar as there is an opportunity cost associated with such a capacity, providing for financial mobility at minimum cost should be the main objective of liquidity management. This opportunity cost as much includes the implicit cost of holding financial mobility, as the explicit cost associated with the particular form in which financial mobility resides.

Three major concerns, therefore, should guide liquidity management:

- Concern for continuity and growth of the business over time;
- Concern for the implications of present action on future alternatives;
- Concern for the sustainability and growth of value over time which hinges on the ability to redirect resources with minimum loss of present and future earning power.

This, in turn, hinges on the ability to redirect resources without relinquishing profitable investment opportunities, without disruption of corporate objectives, without violation of the boundaries set by the established financial policies of the firm, and with minimum maintenance of idle or less-productive resources. To fulfill its objective, liquidity management should comprise three basic activities: cash flow planning, implementation of early warning systems and resource planning for financial mobility.

Providing for financial mobility at minimum cost should be the main objective of liquidity management in the flow approach. Three basic activities therefore cash flow planning, implementation of early warning systems and resource planning for financial mobility should constitute the content of liquidity management in this approach.

Cash flow planning is the means of ensuring funds flow equilibrium in the firm under future expected conditions. Cash flow planning is an element of financial planning and this, in turn, is an intrinsic part of corporate planning. Risk and uncertainty are the essence of corporate planning. Therefore, despite the image of precision surrounding the corporate plan, management is aware that unknown, uncertain or less likely events at the time of the plan preparation (i.e. unexpected events) may subsequently occur.

For liquidity management, the relevant unexpected events are those with major negative implications for the expected funds flow equilibrium of the firm, and whose implications cannot be minimized or neutralized by insuring for losses. It is in this...
context that the development of planning processes, specifically the implementation of early warning systems and resource planning for financial mobility, becomes of crucial importance. The objective of the implementation of early warning systems is to achieve an understanding, at the earliest possible moment, of the potential financial implications of unexpected events. The aim is to increase the time available for management to develop a proper strategy of response, and to take the basic action to guarantee the necessary resource availability. Early warning systems comprise two methods traditional methods, such as cash flow plan revisions and cash flow updates or forecasts, and contingency planning. The objective of resource planning for financial mobility is to guarantee, at the earliest possible moment, the resource availability necessary to restore funds flow equilibrium at minimum cost. A crucial feature is the preparation, at the planning stage, of an inventory of the resources of liquidity.

Overall, liquidity management is too important to a company’s future to be left to the random fortune of the business at the time of an unexpected financial need, or to the value system of a single individual in the organization. If liquidity management is to be of any value to the firm, it should be the object of thorough and systematic discussion by the entire top management team.

1.6.1 Cash Flow Planning
Cash flow planning is an element of financial planning and this in turn, is an intrinsic part of corporate planning.

1.6.1.1 Corporate planning
- Higgins (1980, p. 4) defines corporate planning as “the systematic process of setting corporate objectives and making the strategic decisions and developing the plans necessary to achieve those objectives”. Implicit in this definition are the three characteristics that make corporate planning a decision-making process;
- Corporate planning is a process geared towards producing one or more future desired states not expected to occur unless some action is taken (Ackoff, 1970). In this sense, corporate planning is not about predicting the future but about controlling it;
- Corporate planning is a process that involves postulating and evaluating the outcome of various sets of highly interrelated decisions (Ackoff, 1970 p.3). In
this sense, corporate planning is not only the design of a desired future but also the design of effective ways of bringing it about;

- Corporate planning is a process of deciding what to do and how to do it before taking action (Ackoff, 1970). In this sense, corporate planning is anticipatory decision-making.

1.6.1.2 Financial planning

Financial planning helps:

- Communicating corporate objectives and goals,
- Evaluating the interrelatedness of business decisions,
- Promoting action coordination, and
- Establishing a basis for measuring performance (Higgins, 1980; Brealey and Myers, 1984).

The end product of financial planning is a description in monetary terms of the chosen strategy or set of strategies of the firm and a projection of its expected implications.

1.6.2 The Nature of the Unexpected Events

In a dynamic economy, active or latent threats to and opportunities for the business originate with some kind of change: change in consumer behaviour, in technology, in competitor action, or change within the business itself. Usually, where change is anticipated, the threat can be avoided and the opportunity can be seized. Since it is important to ensure that all change is anticipated change, management spends considerable effort attempting to forecast change in the external and internal environment of the business. Given the uncertainty, however, that surrounds the future; it is unrealistic to assume that management can produce a perfect score in this respect.

In order to formulate a strategy for the business consistent with the attainment of corporate objectives, corporate planning is forced to prejudge corporate performance on the basis of a set of assumptions about the future. In view of the above, this set of assumptions can only be a “best” guess about the future external and internal environment of the business. Such a “best” guess is usually a consensus estimate of the most likely future experience.
Therefore, despite the aura of precision surrounding the corporate plan, management is aware that unexpected events (i.e. unknown, uncertain or less likely events at the time of the plan preparation) may subsequently occur. Unexpected events that are relevant for liquidity management are those with major financial implications for the expected funds flow equilibrium of the firm - in particular, those implying major negative deviations from the expected cash flows of the firm, due to an increase in expected cash outflows, or a decrease in expected cash inflows, or both. In addition, unexpected events material to liquidity management are those whose financial implications cannot be minimized or neutralized by insuring for losses. Unexpected events such as these may be external or internal to the company. They may also be favorable or unfavorable to the business.

1.6.3 Implementation of Early Warning Systems

The objective of the implementation of early warning systems, and consequently of an organized information search into the future, is to achieve an understanding, at the earliest possible moment, of the potential financial implications of unexpected events. Because early warning systems increase the understanding of the problem, they give management a greater capacity to deal with it. Simultaneously, the earlier, the process of mastering the problem takes place, the more time there is for management to develop a proper strategy of response, and to take the basic action to guarantee the necessary resource availability. A proper solution to the problem is the one which attempts to restore equilibrium in funds flows at minimum cost, including minimum dependence on idle or less-productive resources.

Early warning systems comprise traditional methods, such as cash flow plan revisions and cash flow updates or forecasts, as well as contingency planning -a more recent and elaborate method.

1.6.3.1 Traditional methods

The first of these methods involves the preparation of cash flow plan revisions following updates in the assumptions, objectives and strategies stated in the corporate plan. This method demands a global approach on the part of the company to the problem of the unexpected event, and implies going through the whole corporate planning process several times during the planning period. In the face of the conflict between a plan which is taken as ‘certain’ and an uncertain
environment, this traditional solution states: when the unknown becomes known, assess its impact on the existing plan and create a new ‘certainty’ (i.e. a new plan) that incorporates the new information. From this point of view, the only limitation for dealing with uncertainty is the organization's capacity to develop new plans.

This solution is a product of the control systems in planning processes dominated by conventional philosophies of ‘satisfying’ and ‘optimizing’. These two philosophies of planning are thoroughly described in Ackoff 1970. The distinction between the two relates to the level of attainment set in the corporate plan. To satisfy is to do ‘well enough’, whereas to optimize is to do ‘as well as possible’. Inevitably, this translates itself into further differences between the two approaches.

Cash flow plan revisions represent a substantial burden for the organization both in terms of time and in terms of the resources which have to be allocated to their preparation. For this reason, a second method of handling uncertainty is commonly advocated (e.g. Soldofsky and Schwartz, 1972; De Salvo, 1972; Leitch et al., 1980; Sizer, 1981). This method involves either the preparation of updates of the cash flow plan or the preparation of cash flow forecasts. Cash flow updating or forecasting identifies a form of cash flow planning, usually for the short-term, where the estimate of a firm’s cash inflows and outflows is exclusively done in pure cash terms with no links to profit and loss account figures. With this method, the problem of the unexpected event is dealt with at a restricted level usually within the finance department of the company.

The two methods described cash flow plan revisions and cash flow updates or forecasts are very similar. Both work on the basis of the recognition of the actual or future occurrence of unexpected events. Further, they are both based on the principle that the closer the future, the more precise the information about it, and therefore the more accurately it can be estimated. The approach they suggest is basically the same monitoring of deviations, and adjustment of the original planning in feed-back to the development of new information concerning unexpected events which have occurred or which are known to be about to occur. The main difference between them lies in the way in which the updating process is carried out in the company.
1.6.3.2 Contingency planning

Since it deals with only one set of assumptions about the future, the cash flow plan builds in an inflexibility which militates against timely and effective response to the unexpected event. Although traditional methods of handling uncertainty attempt to minimize this difficulty, they are subject to the same type of shortcoming faced in the cash flow plan. Both cash flow plan revisions and cash flow updates or forecasts seek to correct the initial estimate of future cash flows by incorporating the implications of unexpected events which have subsequently developed or which are known to be about to develop. But with the cash flow plan a single set of assumptions about the future continues to underlie these updated cash flow projections. As such, traditional methods are likely to be based on deficient estimates of the future, and to prompt the company into a strategy of response which may be inadequate.

Moreover, by the time the occurrence of an unexpected event is recognized by the traditional methods, if the firm has not secured the resource availability necessary to implement a proper strategy of response, it may be too late to take the required action.

Furthermore, there may be a lag between the occurrences of an unexpected event and its recognition by the traditional methods. This lag may be more critical to the firm than the occurrence of the event itself. In this respect, traditional methods lack the diagnostic capacity and the fast response capacity needed to deal with unexpected events (Hartley, 1976).

One way to surmount such difficulties is through contingency planning. This recently proposed method of handling uncertainty finds its origin in a philosophy of planning identified by Ackoff 1970 as ‘adaptivizing’. The latter stands on the presumption that: ‘The principal value of planning does not lie in the plans that it produces but in the process of producing them’ and, that ‘most of the current need for planning arises out of lack of effective management and controls. Therefore the principal objective of planning should be to design an organization and a system for managing it that will minimize the future need for retrospective planning that is, planning directed toward removing deficiencies produced by past decisions and to do so by reducing the possibility of such deficiencies being produced’.
This demonstrates the importance of adaptation. Adaptive behavioural implies an adequate range of appropriate responses to possible stimuli. Translated into planning, the nature of adaptation involves designing efficient organizational systems capable of coping with an uncertain future. This requires that both the organizational structure and the planning process itself are flexible, that management information systems are properly responsive, and that reward systems are suitably motivating (Higgins, 1976; Higgins, 1980 p.101).

‘Adaptivizing’, or innovative planning, is difficult to put into practice since no systematized methodology exists for carrying it out. However, some degree of adaptiveness can be designed into organizations where the planning process is dominated by either a ‘satisfying’ or an ‘optimizing’ philosophy. Contingency planning is an example of how adaptiveness may be introduced into conventional systems (Ackoff, 1970; Higgins, 1980). Contingency planning implies a totally different and more elaborate approach to the problem of the unexpected event than traditional methods. The principle behind it is that uncertainty should be explicitly taken into account at the planning stage, resulting in the preparation of several cash flow plans, each for a different set of assumptions concerning a variety of future outcomes (Higgins, 1976; Higgins, 1980). In this regard, contingency planning gives rise to two immediate counterarguments. One is that contingency planning is impossible because the unknown is, by definition, unplannable. This argument is convincing as far as unexpected events which are beyond human experience are concerned.

Yet, most unexpected events involving cash shortages have happened before and are, therefore, known to management to some extent that is, management is aware that there is some probability of their occurrence. The fact that they were not incorporated into the cash flow plan simply means that their probability of occurrence at the time of the plan preparation was either not known or not high enough for them to be treated as ‘certainties’. The other counter-argument is that contingency planning is impracticable since the full range of probable futures is almost without limit. This argument fails however, insofar as what is in question in contingency planning is not an exhaustive exploration of the probable futures, but only of the most probable ones and these are a finite set at any given time. In order that management can formulate an adequate strategy of response for each of
the possibilities relevant at any given time, each possibility has to be fully explored in terms of its potential implications for the expected funds flow equilibrium of the firm.

This requires a careful sensitivity analysis of the cash flow impact of a series of assumptions concerning each possibility. One way of generating alternative sets of assumptions about future events is through the use of multiple scenario analysis (MSA). The idea of scenario development for institutional planning was introduced by Kahn and Wiener (1967). Since then the literature on scenario development methodology has proliferated (e.g., Abt et al., 1973; Zentner, 1975; Palmer and Schmid, 1976; Linneman and Kennell, 1977; MacNulty, 1977; Holroyd, 1979; Linneman and Klein, 1979; Klein and Linneman, 1981; Zentner, 1982). The essential purpose of MSA is to stimulate thinking about alternative environments. Scenarios provide an effective way of communicating an awareness of future uncertainty to management, and a structured framework within which the elements of corporate risk can be systematically identified and evaluated.

In a second stage, the process of developing an adequate strategy of response should involve a multitude of ‘what if’ questions on the possible type and timing of remedial action to be taken in each scenario. At the strategic level of response, effective sensitivity analysis will help to isolate the key aspects of the business upon which financial recovery from the event will depend.

In this context, contingency planning requires a whole new information system. Indeed, due to its inherently static nature, the established accounting information system on which conventional planning is based places severe limits on the number and variety of ‘what if’ questions that can be examined in any reasonable period of time. Contingency planning demands a dynamic instrument of analysis capable of quickly and accurately exploring a range of alternatives so that management can obtain a reliable answer to any ‘what if’ question it views as important. This implies the need for a financial simulation model. Such a model should depict the cash flow system of the firm by expressing in quantitative terms the way in which the various elements of the business operation are likely to change over time, how they affect each other, and ultimately how they affect cash flows and profits. Examples of such financial simulation models are widely found
in the literature (e.g. Lerner, 1968; Gershefski, 1969; Gorman, 1970; Warren and Shelton, 1971; Carleton et al., 1973; Pappas and Huber, 1973).

Finally, a distinction needs to be established between what might be called proactive and reactive contingency planning. Ideally, contingency planning should be an ex-ante or proactive approach to the problem of the unexpected event. It is possible, however, on the basis of the conceptual typology of environmental scanning and forecasting systems developed, by Fahey (1981), to consider a different form of contingency planning, which may be identified as reactive. Such planning responds to environmentally generated crises, i.e. it is carried out when the firm is faced with the real situation of a specific unexpected event which has occurred or which is known to be about to occur. Due to its ex-post approach to the problem of the unexpected event, reactive contingency planning misses the advantage of minimization of the recognition/response delay.

Furthermore, since it attempts to reduce perceived uncertainty rather than enhancing the organization's capability to handle environmental uncertainty, reactive contingency planning fails to detect opportunities to facilitate the creation of radically new solutions to problems.

1.6.4 Resource Planning for Financial Mobility

Ansoff (1965), Drucker (1969), and other management theorists assume that physical, financial, economic and human resources can be assembled once management has identified a market opportunity or discovered a technological break-through. Writers such as Ward (1970), however, express reservations about such an assumption. In fact, in most strategic situations, it is not so much a case of identifying a market opportunity as of matching the resources which exist or can be readily acquired to the business opportunities which can be discovered and exploited. This idea became particularly relevant during the 1970s with the development of a world-wide resource crisis, characterized by shortage and fast rising prices of many resources. The need, felt at the time, to develop and implement a strategy for resources gave rise to a new subject area known as corporate planning for resources. Most theoretical contributions in the area have concentrated on the availability of physical supplies. Resource planning for financial mobility has extensively drawn on this literature (e.g. LaLonde 1971, LaLonde and Robeson 1972, Taylor 1974).
The objective of resource planning for financial mobility is to guarantee, at the earliest possible moment, the resource availability necessary to restore funds flow equilibrium at minimum cost. A crucial feature is the preparation, at the planning stage, of an inventory of the resources of liquidity.

1.6.4.1 The inventory of resources
An inventory of the resources of liquidity constitutes a new kind of financial statement which clearly departs from the objectives and conventions of traditional financial statements. It is concerned with funds flows (not with income and value), is designed for a limited internal audience, is action-oriented and therefore forward looking, and is basically judgmental.

1.7 Need and Importance of Liquidity Management:
The need for liquidity of current assets could not be over emphasized. The efficient management of liquidity is an integrated part of overall finance management and has a bearing on the objective of the consolidation of short-terms solvency position to achieve this. It is necessary to generate sufficient liquid fund. The extents to which liquidity can be gained will naturally depend upon the magnitude of the sales.

There is therefore a need for liquidity in the form of cash and bank balance, marketable security and bills receivables etc. Therefore sufficient liquidity is necessary to certain the ability to pay short-term obligations. Technically, liquidity depends upon the production or cash cycling. The operating cycle can be said to be; the heart of the need for liquidity. “The continuing flow from cash to supplier to inventory to account receivable and bank in to cash what is collected operating cycle.”5 In the other words, the terms cash cycle refused to the length of time necessary cycle events:

1. “Conversion of cash into inventory.
2. Conversion of inventory into receivable.
3. Conversion of receivable into cash.”6

1. Conversion of cash into inventory:
This would include purchase of raw materials, conversion of raw materials into work-in-progress, finished goods and terminate in the transformation of goods into stock at the end of the manufacturing process. In the case of trading
organization, this phase would be shorter as there would be no manufacturing activity and cash will be converted into stock directly. The phases will, of course, be totally absent in the case of service organization.

2. **Conversion of inventory into cash:**
   In the second phase, the inventory is converted into receivables as credit sales are made to customers, firms, which do not sell on credit, will obliviously do not consist of second phase of the operating cycle.

3. **Conversion of receivable into cash:**
The last phase thirds represent the stage when receivables are collected, this phase complete the operating cycle. Thus, the firm has involved from cash to inventory, to receivable and to cash again. Thus the process of gaining liquidity is of vital importance.

**Operating cycle of a manufacturing business:**
In case of a Trading Firm, the operating cycle will include the length of time required to convert 1) cash in inventories 2) inventories into accounts receivable and 3) account receivable into cash.
In case of a Financing Firm, the operating cycle will include the length of time taken for 1) conversion at cash into debtors and 2) conversion of debtors into cash.

The importance of liquidity management is reflected in the fact that financial managers spend a great deal of time in managing current assets and current liabilities. The key issues in liquidity management are as to how much be invested in each component of liquidity management and how must be invested these components efficiency and efficiently. Each current asset has unique characteristics and its investment level may vary from time to time. Thus both the investment decision and the management of liquidity become complicated. The financial manager has to monitor these assets continuously to maintain their optimal levels.

Proper management of liquidity is very important for the success of an enterprise. The manager of management of liquidity to a very large extent determines the success of the operation of concern. Constant management is required to maintain appropriate levels in the various working capital accounts. The failure of any enterprise is undoubtedly due to poor management and absence of management skill. Shortage of liquidity, so often advance as the main cause of failure is nothing but the clearest
evidence of poor management, which is so common. There are many aspects of
liquidity which make it an important function of the financial managers, on the one
hand it maintain proper while on the other it help in increasing the profitability of the
concern.

Analysis of liquidity performance has importance, both of way internal and external
because it has close relationship with the current or day to day operation of business
organization. “Management has to pay particular attention to the planning & control
of liquidity.”

According to Guthaman, “Just as circulation of blood is very necessary in the human
body to maintain life, liquidity is very necessary to maintain the business. Therefore,
liquidity is the life blood and controlling never centers of the business.”

The importance of maintaining an adequate level of liquidity cannot be the over-
emphasized. Like the circulation of blood, a smooth flow of funds is very necessary
for maintaining the health of an enterprise. The concern, by maintaining an adequate
amount of liquidity is able to maintain a sound bank credit, trade credit and can
escape insolvency, take advantages of cash discount facilities offered by suppliers by
making prompt payment and bargain profitably in any business transaction.

1.8 Principles of Liquidity Management:
The efficiency of a liquidity management structure will always depend on the
underlying account structure design and the individual characteristics of the
corporation concerned. Nevertheless, there are some generic best practice principles
that are universally applicable.

1. Local currency accounts should be maintained where the currency is cleared
and where the clearing instruments are most efficient and comprehensive.
2. Foreign currency accounts should generally be domiciled in accordance with
above. However, if time-zone differences are significant and proximity (of
payer and beneficiary or of service user and provider) is a material
consideration, then aim for a single location that offers competitive clearing
practices across most, if not all, of the required instruments.
3. To realize the greatest benefit, balance consolidation should in the first
instance be conducted at a single currency level.
4. Resist temptation to use account structures to resolve reconciliation or internal reporting challenges, as other solutions can address those in a more effective manner. The design of split or dedicated account structures, such as separate disbursement and collection accounts, should be driven by liquidity management considerations such as efficient funding and upstream fund consolidation, particularly in multi-bank arrangements.

5. Payment and collection "on behalf" models, among other techniques, can be effectively applied to significantly simplify the account structure. However, they require system logics to maintain full process automation.

6. Problems with accurate and timely forecasting can be mitigated by aggregating operating accounts under a properly designed liquidity structure, by reducing the volatility around a more easily identifiable and stable core.

7. Liquidity structures are most effective when established with a single bank. Minimize cross-bank fund movements, but if necessary execute those in the domestic clearing and avoid international wires or cross-border, cross-bank arrangements, which are typically more inefficient in terms of cost and processing cutoff times as well as resulting in buffer operating balances left among multiple banks.

8. When cross-border structures are involved, balances should first be consolidated onshore. This minimizes cross-border transfer traffic and ensures that consolidation across resident entities is attained before involving any non-resident entities. (Unless the latter is beneficial for a specific reason, such as taxation.)

9. When cross-entity techniques are utilized, consolidate at single-entity level first and involve a tax-efficient entity for further regional or global aggregation.

10. Matters such as contractual documentation make multi-entity structures more complex to establish, particularly in the case of notional pooling. However, there are various simple means of reducing such complexity, such as by establishing bilateral relationships among the participants and one or more designated entities. On the other hand, the avoidance of inter-company lending administration in a pure multi-entity notional pool may prove an attractive proposition.
1.9 Factors That Affects to the Liquidity Management:

The company must maintain adequate amount of liquidity to meet its daily obligations but liquidity in excess of what is adequately required by the firms to finance its operations may be counter-productive. The liquidity requirement of firms differs depending on the circumstances of the company. Pandya (2005) outline the following as some of the factors that influence the liquidity requirement of a company.⁹

**Nature and Size of Business:**

The liquidity needs of a firm are basically influenced by the nature of its business. Trading and financial firms generally have a low investment in fixed assets, but require a large investment in working capital. Retail stores, for example, must carry large stocks of a variety of merchandise to satisfy the varied demand of their customers. Some manufacturing businesses' like tobacco, and construction firms also have to invest substantially in working capital but only a nominal amount in fixed assets. In contrast, public utilities have a limited need for working capital and have to invest abundantly in fixed assets. Their working capital requirements are nominal because they have cash sales only and they supply services, not products. Thus, the amount of funds tied up with debtors or in stocks is either nil or very small. The working capital needs of most of the manufacturing concerns fall between the two extreme requirements of trading firms and public utilities.

**Manufacturing Cycle:**

The manufacturing cycle starts with the purchase of raw materials and is completed with the production of finished goods. If the manufacturing cycle involves a longer period the need for working capital will be more, because an extended manufacturing time span means a larger tie-up of funds in inventories. Any delay at any stage of manufacturing process will result in accumulation of work-in-process and will enhance the requirement of working capital. Firms making heavy machinery or other such products, involving long manufacturing cycle, attempt to minimize their investment in inventories (and thereby in working capital) by seeking advance or periodic payments from customers.

**Business Fluctuations:**

Seasonal and cyclical fluctuations in demand for a product affect the working capital requirement considerably, especially the temporary working capital requirements of
the firm. An upward swing in the economy leads to increased sales, resulting in an increase in the firm's investment in inventory and receivables or book debts. On the other hand, a decline in the economy may register a fall in sales and, consequently, a fall in the levels of stocks and book debts. Seasonal fluctuations may also create production problems. Increase in production level may be expensive during peak period. A firm may follow a policy of steady production in all season and their quick disposal in peak season. Therefore, financial arrangement for seasonal working capital requirement should be made in advance. The financial plan should be flexible enough to take care of any seasonal fluctuation.

**Production Policy / Just-in-Time:**
If a firm follows steady production policy, even when the demand is seasonal, inventory will accumulate during off-season periods and there will be higher inventory costs and risks. If the costs and risks of maintaining a constant production schedule are high, the firm may adopt the policy of varying its production schedule in accordance with the changes in demand. Firms whose physical facilities can be utilized for manufacturing a variety of products can have the advantage of diversified activities. Such firms manufacture their main products during the season and other products during off-season. Thus, production policies may differ from firm to firm, depending upon the circumstances. Accordingly, the need for working capital will also vary.

**Turnover of Circulating Capital:**
The speed with which the operating cycle completes its round (i.e., cash $\rightarrow$ raw materials $\rightarrow$ finished product $\rightarrow$ accounts receivables $\rightarrow$ cash) plays a decisive role in influencing the working capital needs.

**Credit Terms:**
The credit policy of the firm affects the size of working capital by influencing the level of book debts. Though the credit terms granted to customers to a great extent depend upon the norms and practices of the industry or trade to which the firm belongs; yet it may endeavor to shape its credit policy within such constraints. A long collection period will generally mean tying of larger funds in book debts. Slack collection procedures may even increase the chances of bad debts.
**Growth and Expansion Activities:**

As a company grows, logically, larger amount of working capital will be needed, though it is difficult to state any firm rules regarding the relationship between growth in the volume of a firm's business and its working capital needs. The fact to recognize is that the need for increased working capital funds may precede the growth in business activities, rather than following it. The shift in composition of working capital in a company may be observed with changes in economic circumstances and corporate practices. Growing industries require more working capital than those that are static. This could be measured using the percentage increase in total assets.

**Operating Efficiency:**

Operating efficiency means optimum utilization of resources. The firm can minimize its need for working capital by efficiently controlling its operating costs. With increased operating efficiency the use of working capital is improved and pace of cash cycle is accelerated. Better utilization of resources improves profitability and helps in relieving the pressure on working capital. Operating efficiency can measured using the Total asset to Sale ratios. This measures the percentage of investment in assets that is needed to generate the annual sales level. If the percentage is very high, it probably indicates that a business is not being aggressive in its sales efforts. This can be seen in the table below.

**Price Level Changes:**

Generally, rising price levels requires a higher investment in working capital. With increasing prices the same levels of current assets need enhanced investment. However, firms which can immediately revise prices of their product upwards may not face severe working capital problems in periods of rising levels. The effects of increasing price level may, however, be felt differently by different firms due to variation in individual prices.

It is possible that some companies may not be affected by the rising prices, whereas others may be seriously affected by it.

An enterprise needs funds (liquidity) to operate profitably. The working capital of a business reflects the short-term uses of funds. Apart from the investment in the long-term assets such as buildings, plant and equipment, funds are also needed for meeting day to day operating expenses and for amounts held in current assets. Within the time span of one year there is a continuing cycle or turnover of these assets. Cash is used,
to acquire stock, which on being sold results in an inflow of cash, either immediately or after a time lag in case the sales are on credit. The rate of turnover of current assets in relation to total sales of a given time period is of critical importance to the total funds employed in those assets.

The amount needed to be invested in current assets is affected by many factors and may fluctuate over a period of time. Manufacturing cycle, production policies, credit terms, growth and expansion needs, and inventory turnover are some of the important factors influencing the determination of working capital.

The management should ensure the adequacy and efficiency in the utilization of working capital in order to maintain a required level of liquidity needed to meet the firm’s obligations as at when due. For this purpose various ratios can be periodically computed and compared against the norms established in this regard.

For efficient management of working capital, management of cash is as important as the management of other items of current assets like receivables and inventories. Too little cash may place the firm in an illiquid position, which may force the creditors and other claimants to stop transacting with the firm. Too much cash results in funds lying idle, thereby lowering the overall return on capital employed below the acceptable level. An adequate amount of cash is always needed for meeting any unforeseen contingencies and also liabilities as well as day-to-day operating expenses of the business.

**1.10 Techniques of Liquidity Management:**

There are some specific techniques of liquidity management and process for speedy collection of receivable from customers and slowing disbursement. We discuss in the present section.

**(1) Speedy Cash Collection:**

In managing cash efficiency, the cash inflow process can be accelerated through systematic Planning and refined techniques. There are two broad approaches to do this. In the first place, the customers should be encouraged to pay as quickly as possible. Secondly, the payment from customers should be converted into cash without any delay.
(2) **Rapid Payment by Customer:**

One way to ensure rapid payment by customers is prompt billing. What the customer has to pay, the period of payment, etc., should be notified accurately and in advance. The use of mechanical devices for billing along with the enclosure of a self-addressed return envelope will speed-up payment by customer. Another, and more important, technique to encourage prompt payment by customers is the practice of offering trade discount. The availability of discount, as discussed earlier, implies considerable saving to the customers. In their anxiety to avail of the facilities, the customers would be eager to make payment early.

(3) **Early Conversion of Payment in Cash:**

Once the customer makes the payment by writing a cheque in favor of the business concern, the collection will be expedited by prompt encashment of the cheque. It can be re-called that there is a long lag between the time a cheque is prepaid and mailed by the customer and the funds are included in the cash reservoir of the companies. The early conversion of payment into cash, as a technique to speed-up collection of accounts receivable, is done to reduce the time lag between posting of the cheque by the customer and the realization of money by the concerns. The postal float, lethargy and bank float are collectively referred to as deposit float. “The term deposit float is defined as the sum of cheques written by customers that are not yet usable by the firm.” The collection of accounts receivable can be considerably accelerated, by reducing transit, processing and collection time. An important the cash management technique is reduction in deposit float.

(4) **Concentration Banking:**

In this system of decentralized collection of accounts receivables, large companies, which have a large number of branches at different place, select some of these, which are strategically located as collection centers for receiving payment from customers. Under this arrangement, the customers are required to send their payments to the collection center covering the area in which they live and these are deposited in the local amount of the concerned collection center, after meeting local expenses. “A concentration bank is one with which the firm has a major account usually a disbursement account.” Concentration banking is a system of decentralized billing and multiple collection points is a useful technique to expedite the collection of account receivables. It reduces the time needed in the collection process by reducing
the mailing time. “The mailing time is saved both in respect of sending the bill to the customers has as well as in the receipt of payment. Another advantage is that concentration permits the firm to 'store' its cash more efficiently.”

(5) Lock-Box System:
The lock-box system is like concentration banking in that the collection is decentralized and is done at branch level. But they differ in one very important respect. While the customer sends the cheque, under the concentration banking arrangement, to the collection centers, he sends them to a post office box under the lock-box system. The lock-box system is an important is the concentration baking system. In other words, the processing time with in the firm before depositing a cheque in the bank is eliminated.

The use of concentration banking and lock-box system accelerates the collection of receivables it in involves a cost. While in the case of the former, the cost is in terms of the maintenance of multiple collection centers compensation to the bank for services represent the cost associated with the latter. “Thus, the lock-box system, as a method of collection of receivables, has a two-fold advantage: (i) the bank performs the clerical task of handling the remittances prior to deposits, services which the bank may be able to perform at a lower cost; (ii) the process of collection through the banking system begins immediately upon the receipt of the cheque / remittance and does not have to wait until the firm completes its processing for internal accounting purposes.”

(6) Slowing Disbursement:
Apart from speedy collection of accounts receivable, the operating cash requirement can be reduced by slow disbursements of Accounts payable. It may be recalled that a basic strategy of cash management is to delay payment as long as possible without impairing the credit rating / standing of the firm. In fact, slow disbursements represent a source of funds requiring no interest payments. There are several techniques to delay payment of accounts payable, namely; 1) Avoidance of early payments; 2) Centralized disbursement; 3) Float; 4) Accruals.
1.11 Evaluation Methods:
A study of liquidity, productivity and financial efficiency through profitability is made by using the following tools and techniques.

1.11.1. Accounting Techniques:
Accounting techniques or tool which may use for financial analysis are many such as ratio analysis, common-size statement analysis, trend analysis, comparative statement analysis, Fund flow Analysis, cash flow Analysis, value added analysis etc. The users pick up the techniques to suit their requirements and also on the basis of data available to them.

1. Comparative Financial Statements:
Comparison of financial statements for two or more years is another technique used in analyzing data. Comparative financial statements are statements of financial position of a business so designed as to provide time perspective to the consideration of various elements of financial position embodied in such statements. For this purpose the balance sheet and profit and loss account are prepared in comparative form. Comparative statements may be made to show.

- Absolute data (rupee amount or money value),
- Increase or decrease in absolute value data in terms of money value and
- Increase or decrease in absolute data in term of percentage.

1. Comparative Income Statement:
The comparative income statement gives an idea of the progress of a business over a period of time. The changes in absolute data in money values and percentages can be determined to analyses the profitability of the business.
2. **Comparative Balance Sheet:**

The comparative balance sheet analyses is the study of the trend of the same items, group of items and computed items in two or more balance sheet of the same business enterprise at different dates. The changes in periodic balance sheet items reflect the conduct of a business. The changes can be observed by a comparison of the balance sheet at the beginning and at the end of a period and these changes can help in forming an opinion about the progress of an enterprise.

2. **Common-Size Financial Statement:**

Profitability is an indication of the efficiency with which the operations of the enterprise are carried on. Quantification of profitability or measurement of profitability is needed for taking policy decision under difference circumstances. The profitability can be measured in terms of different components of income statement or balance sheet. The other tools of measurement cannot explain the changes that have taken place from year to year in relation to total assets, total liabilities or total net sales. Common size analysis can make a comparison between different size firms much more meaningful since the numbers are brought to a common base percentage. Common size statement converts financial statement by expressing absolute rupee amount into percentage.\(^{14}\)

1. **Common Size Income Statement:**

Common size income statement can be shown as percentages of sales to show the relation of each item to sales. A significance relationship can be established between the items of income statements and volume of sales. The increase in sales will certainly increase selling expenses and not administrative or financial expenses. In case the volume of sales increases to a considerable extent, administrative and financial expenses may go up. In case the sales are declining the selling expenses should be reduced at once. So, a relationship is established between the sales and other items in income statement and this relationship is helpful in evaluating operational activities and operational efficiency of a concern.

2. **Common Size Balance Sheet:**

A statement in which the balance sheet items are expressed as the ratio of each asset to total assets and the ratio of each liability to total liabilities is called common size balance sheet.
3. Trend Analysis:
Trend analysis makes it easy to understand the changes in any item or a group of items over a period of time and to draw conclusion regarding the changes in data. For this purpose, a base year is chosen and the amount of that item relating to the base year is taken equal to one hundred and index numbers are calculated for other years based on the amount of that item in those years. It is a dynamic method of analysis showing the changes over a period of time. For proper trend analysis, the trend should be studied at least over a period of not less than five years. This method of analysis indicates the direction in which a concern is going and upon this basis for future can be made.

❖ Utility of Trend Analysis:
This method of analyzing financial statement is more important due to its following merits:

➢ Summary Presentation: The problem in this method is presented in a summary from as larger figures are converted into percentage or ratios which are comparatively more useful.

➢ Direction of Change: The direction of changes can be even more clearly and easily represented by graphs and bar diagrams.

➢ Simple Method: this method of analysis is simple and easy to present. The results obtained can easily be understood by a common man. More trained personnel’s are not required as an average person can analyses the data.

➢ No Possible of Errors: in this method, the possibility of committing errors is reduced because results obtained from percentage changes in data can be verified from absolute changes.

4. Value Added Analysis:
The concept of value added is considerably old. Value added is the wealth a reporting entity has been able to create through the collective effort of capital, management and employees. Value added is the wealth that a firm creates by its own efforts. Value added statement is the indicator of corporate performance for shareholders and stakeholders who contributes in the process of addition of value to product. The value added statements has several advantages. The value added statement is a good measure of the overall productivity of the firm and it is out of the value added that the
firm rewards all interested parties. Value added based ratios are useful diagnostic and predictive tools. Value added statement is very good measure of the size and importance of an enterprise.

5. Fund Flow Analysis:
In financial statements, balance sheet shows assets, liabilities and equity of the firm at a certain moment of time. Profit and loss account depicts operating results over a period of time. Both these financial statements do not depict the flows of funds and changes in the items of assets and liabilities between two dates. Hence, a funds flow of funds and statement is prepared to know the different sources of funds and their different uses. This funds flow statement is a summary report of financial operations of a business enterprise, in which it is explained, how business activities are financed and how the financial resources of the business are being used.

6. Cash Flow Analysis:
In any business, it is essential to known the sources of cash and the items on which it is spent. Funds flow statement does not provide such information, because many items not relating to cash are included in funds flow statement. Therefore, to know about the flows of cash during an accounting period, a separate statement known as cash flow statement is prepared. Thus, cash flow statement is a statement of inflows (sources) and outflows (users) of cash and cash equivalents in an enterprise during a specified period of time. With this statement, the causes for variation in the cash balance between any two dates are interpreted.

7. Cost Volume Profit Analysis:
Cost volume profit analysis is a technique for studying the relationship between cost volume and profit. Profit of an undertaking depend a large number of factors. But the most important of these factors are cost of manufacture, volume of sales and the selling prices of the products. The CVP relationship is an important tool used for the profit planning of a business. The CVP relationship is of immense utility to management as it assets in profit planning, cost control and decision making.

8. Ratio Analysis:
Analysis of financial statement based on ratios is known as ratio analysis. Ratio analysis is a technique of presenting internal and external events affecting the business transaction relating to its operations, operating results and achievement of
pre-determined goals and objectives of a business in brief and summary form. According to Belverd-E-Needless “Ratio guides or short cuts that are useful in evaluating the financial position and operations of a company and in comparing them with previous years or with other companies. The primary purpose of ratio is to point out areas for further investigations. They should be used in connection with a general understanding of the company and its environment.”15 In short ratio analysis is the process of determining and presenting is the relationship of items or group of items in the financial statement.

8.1 Concept of Ratio Analysis:

According to J. Batty “The term accounting ratio is used to describe significant relationships which exist between figures shown in a balance-sheet, in a profit and loss account, in a budgetary control system or in any other part of the accounting organisation.” The accounting ratios indicate a quantitative relationship which is used for analysis and decision making. It provides basis for inter-firm as well as intra-firm compression. The ratios will be effective only when they are compared with ratios of base period or with standards or with the industry ratios. The financial statements viz. income statement and balance sheet report what has actually happened.

“Analysis of an enterprise by financial ratios enables the financial manager as well as interested external parties, to evaluate the firm’s financial performance and condition rapidly by making comparisons of ratios obtained from the firm with ratios obtained from other comparable firms.”16 In the words of Helfert, “Ratio analysis provides guides and clues especially in spotting trends towards better or poor performance, and in finding out significant deviation from any average or relatively applicable standard.” Thus, ratio analysis enables the user to better understand financial statements than by looking at the absolute quantities alone. According to Parkinson, “Ratio which are generally used are grouped in four convenient areas-those concerning the liquidity of the business, its ability to pay the bills when they fall due; the ratios relating to the performance and including the profitability ratios, the ratios on the structure as this has a bearing on the security of loan and the availability of finance, and lastly the financial ratios which look at performance and structure from the view point of the investor and the financial markets.”
Industrial sickness in India is rampant. One possible reason for industrial sickness is the poor management of liquidity. A firm in order to remain in existence and sustain its activities as a going concern must remain liquid and meet its obligations as and when they become due. A classification system of the functions of financial management links the twin goals of liquidity and profitability. The functions are directed towards achieving either or both of these goals.

### 8.2 Ratios can be expressed in two ways:

1. **Times**
   When one value is divided by another, the unit used to express the quotient is termed as “Times”. For example if out of 100 students in a class, 80 are present; the attendance ratio can be expressed as follows:

   \[
   \frac{80}{100} = 0.8 \text{ times}
   \]

2. **Percentage**
   If the quotient obtained is multiplied by 100, the unit of expression is termed as “percentage”. For instance, in the above example the attendance ratio as a percentage of the total number of students is as follows:

   \[
   0.8 \times 100 = 80\%
   \]

Accounting ratios are, therefore, mathematical relationships expressed between inter-connected accounting figures.

### 8.3 Purpose and Types of Ratios:

A ratio form an integral part of the financial statement analysis and is used to measure the various aspects of a business. Financial ratios can be categorized according to the business’ financial aspect which is being measured by the ratio.

**The Different Types of Ratios:**

1. **Liquid Ratios:**
   Short-term creditors are primarily interested in liquidity or short-term solvency of the enterprise since their claims are to be met in the short-run. Liquidity or short-term solvency means the ability of the enterprise to meet short-term obligations as and when they become due. Inability to pay off short-term liabilities affects the
credibility of the enterprise. Continuous default on part of the enterprise leads to commercial bankruptcy which may lead to its sickness and dissolution.

2. **Solvency Ratios:**
Long-term creditors are primarily interested in long-term solvency of the enterprise since their claims are to be met in the long-run. Long-term creditors are the liabilities having maturity after one year. Long-term solvency means the ability of the enterprise to meet long-term obligations on the due date. Long-term lender of funds is basically interested in two things:
   a. Safety of principal which is given by way of a loan during the term of the loan.
   b. Regular servicing of the loan in the form of payment of interest on loan and repayment of installment of loan.

3. **Activity or Efficiency Ratios:**
Activity ratios measure the effectiveness with which a firm uses its available resources. These ratios help in commenting on the efficiency of the enterprise in managing its assets. These ratios are also called ‘Turnover Ratios’ since they indicates the speed with which the resources are being turned or converted into sales or cost of sales.

4. **Profitability Ratios:**
These ratios measure management’s overall effectiveness as shown by the return generated on sales and investment. Usually three types of profitability ratios are calculated.
   a. In relation to Sales
   b. In relation to Investments
   c. In relation to Equity Shareholders’ funds

**The Main Purposes Served by Ratios Include Allowing for Comparisons**
- between industries
- between companies
- between various time periods for companies
- between one company and its industry average
It should be noted that usually ratios hold no meaning if they are not benchmarked against a standard, such as past performance or the performance of another company. Therefore, the ratios of firms in each industry, experiencing different risks, competitions, and capital requirements are generally difficult to be compared.

8.4 Importance of Ratio Analysis:
Ratios are guides or shortcuts that are useful in evaluating the financial position of a company and the operations of a company from scientific facts. It helps in comparison of changes in static data from previous years to current year and with the comparison of other companies as well. In accounting and financial management ratios are regarded as the real test of earning capacity, financial soundness and operating efficiency of business concern.

➢ Simplifies Accounting Figures:
The most significant objective of ratio analysis is that it simplifies the accounting figures in much easier way by which anyone can be understood it quite easily even for those who do not know the language of accounting.

➢ Measures Liquidity Position:
Liquidity position of a firm is said to be satisfactory if it is able to meet its current obligation as and when they mature. A firm is said to be capable of meeting its current obligation only, if it has sufficient liquid funds to pay its short-term obligations within a period of year. Hence, the liquidity ratios are used for the purpose of credit analysis by banks and other short-term lenders.

➢ Measures Long-term Solvency:
Ratio analysis is equally important in evaluating the long-term solvency of the firm. It is measured by capital structure or leverage ratios. These ratios are helpful to long-term creditors, security analysts and present and prospective investors, as they reveal the financial soundness or weakness of the firm.

➢ Measures operational Efficiency:
Ratios are useful tools in the hands of management to evaluate the firm's performance over a period of time by comparing the present ratios with the past ratios. Various activity or turnover ratios measure the operational efficiency of the
firm. These ratios are used in general by the bankers, investors and other suppliers of credit.

- **Measures Profitability:**
  The management as well as owners of a firm is primarily concerned with the overall profitability of the firm. Profit and loss account reveals the profit earned or loss incurring during a period, but fails to convey the capacity of the firm to earn in terms of money of sales. Profitability ratios help to analysis earning capacity of the firm. Return on investment, return on capital employed, net profit ratios etc. are the best measures of profitability.

- **Facilities Inter-firm and Intra-firm comparisons:**
  Ratio analysis is the basic form of comparing the efficiency of various firms in the industry and various divisions of a firm. Absolute figures are not suitable for this purpose, but according ratios are the best tools for inter firm and inter firm comparison.

- **Trend Analysis:**
  Trend analysis of ratios reveals whether financial position of the firm is improving or deteriorating over years because it enables a firm to take the time dimension into account. With the help of such analysis one can ascertain whether the trend may be increasing.

### 8.5 Benefits of Ratio Analysis:

The ratio analysis forms an essential part of the financial analysis which is a vital part of business planning. The key benefits of ratio analysis include:

- **Determines profitability**
  Ratio analysis assists managers to work out the production of the company by figuring the profitability ratios. Also, the management can evaluate their revenues to check if their productivity. Thus, probability ratios are helpful to the company in appraising its performance based on current earning.

- **Helpful in evaluating solvency**
  By computing the solvency ratio, the companies are able to keep an eye on the correlation between the assets and the liabilities. If, in any case, the liabilities exceed the assets, the company is able to know its financial position. This is helpful in case they wish to set up a plan for loan repayment.
Better financial analysis

Ratio analysis is also helpful to recluses, in addition to shareholders, debenture holders, and creditors. Besides, bankers are also able to know the profitability of the company to find out whether they are able to pay the dividend and interests under a specific period.

Performance analysis

Ratio analysis is also helpful in analyzing the performance of a company. Through financial analysis, companies can review their performance in the past years. This is also helpful in identifying their weaknesses and improving on them.

Forecasting

At present, many companies use ratio analysis to reveal the trends in production. This provides them an opportunity for estimation of future trends and thus the foundation for budget planning so as to determine the course of action for the growth and development of the business.

8.6 Limitations of Ratio Analysis:

Ratio analysis suffers from a number of drawbacks. Difficulty in comparison due to:

- Ratios are calculated from financial statements which are affected by the financial bases and policies adopted on such matters as depreciation and the valuation of stocks.
- Financial statements do not represent a complete picture of the business, but merely a collection of facts which can be expressed in monetary terms. These may not refer to other factors which affect performance.
- Over use of ratios as controls on managers could be dangerous, in that management might concentrate more on simply improving the ratio than on dealing with the significant issues. For example, the return on capital employed can be improved by reducing assets rather than increasing profits.
- A ratio is a comparison of two figures, a numerator and a denominator. In comparing ratios it may be difficult to determine whether differences are due to changes in the numerator, or in the denominator or in both.
- Ratios are inter-connected. They should not be treated in isolation. The effective use of ratios, therefore, depends on being aware of all these
limitations and ensuring that, following comparative analysis, they are used as a trigger point for investigation and corrective action rather than being treated as meaningful in them.

- The analysis of ratios clarifies trends and weakness in performance as a guide to action as long as proper comparisons are made and the reasons for adverse trends or deviations from the norm are investigated thoroughly.

1.11.2 **Statistical Techniques:**

Use of statistical techniques has become a normal phenomenon in any type of analysis. There are various statistical techniques have been used in the financial analysis like Average/Mean, Standard Deviation, Index Numbers, Correlation and Regression Analysis, Analysis of Time Series, T-Test, F-Test, $\chi^2$-Test or Chi-Square Test.\(^{11}\)

1.11.3 **Mathematical Techniques:**

Financial analysis also involves the use of certain mathematical tools such as Programme Evaluation and Review Techniques (PERT), Critical Path Method (CPM), and Linear Programming etc. However, they are not useful for the present study.
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