Chapter Four

CONTROL FUNCTION OF ACCOUNTING
The history of long pre-occupation of accounting with external financial relationships, resulted in it, in the past, a tendency to become increasingly professionalized. Yet, recent developments in the environment surrounding business and accounting caused a shift of emphasis in accounting objectives from mere historical exposure to helping planning and control activities. Professionalized accounting, which is known in the literature as 'financial accounting', has usually been found to serve all parties external to the operating status of an economic enterprise. The financial statements thus, flow from financial accounting represents the sources of financial references effecting an enterprise. Generally, they consist of monetary records of actual past events. But in an environment of over expanding commerce, the need for more management command over the rational use of resources has been increasingly felt. In contrast to the stewards of the earlier generations, their successor in the present, could not avoid their involvement in the reproduction process of resources. Independent management group gradually took hold of the responsibility of management of resources.

for regeneration and caused the most remarkable milestone in the socio-economic environment - the separation of ownership from management.

Conventional financial accounting, therefore, eventually fell short of meeting the demands of the modern management in conducting and supervising an enterprise. Because, as explained by Smith, "... only those information which deals with historical, actual dollar consequences and are objectively verifiable, find expression in financial accounting records and, of that portion only the aggregate presented in the final product of the financial accounting process". It is true that since no one can alter or undo what has already happened, but are only useful in retrospect. Management needs information, not as historical reference but as an aid to control over enterprise operations. In fact, the need for enterprise operating data was felt for internal management purposes much earlier than the preparation and presentation of reports became an enforceable law, as part of legal requirement of corporate reporting. Accounting for

* The word 'information' is used here, presumably in the sense of 'data' or 'facts' and not in the technical sense of the term, as used now-a-days.

internal management often leaves much to be desired. The ethics of reporting for proper management are not limited to the statutory accounting regulations. Any and all accounting obstacles can be overcome in a practical way for purposes of internal reporting if the end result thus flow is closer to truth or seems more helpful in the management of the enterprise. Accounting system itself cannot prescribe any action. It only contributes to the enterprise management as a source of supplying adequate financial information. For purposes of internal management, by far the major realm of modern accounting service falls into an area where the accountants' personal judgement directed towards the known purposes for the data add great value to the information. Good accounting provides continuous opportunities for the management to improve by capitalizing past experience. Accounting function, therefore, moved further ahead.

Management Accounting :

Accounting thus stepped into a new orientation and gradually evolved into an instrument at the disposal of management. Accounting function, accordingly, recanted to account for performances in terms of net income rather than
the measurement of status of investment. Present day emphasis has veered from balance sheet to profit and loss account. In recognition of the latter's enhanced significance and, contrary to the age-old views, balance sheet has been looked upon as complementary statement creating a link between two successive income statements. Financial statements, now-a-days, are considered as report on management stewardship for the resources placed at their disposal. Yet, for purposes of statutory reporting, balance sheet is considered the principal statement. In an environment of changing socio-economic needs, accounting reports must not only reflect what just happened i.e.; to spell out the truth about enterprise status at any given moment and progress for that period, but to contain such information that help management functions. Although the traditional accounting functions have not been abandoned, the present day emphasis has been directed towards the maturation of different techniques for internal marshalling of enterprise data and a renewed emphasis on the interpretative potential within accounting. It is argued that accounting reports when properly analyzed and interpreted, certainly contributes to the

understanding of the inherent interrelationships among the various groups of data and enriches operating judgements. Accounting definitions also are redefined in the changed context to include the idea of interpretation of results through retrospective analysis. The word 'interpreting' thus has been incorporated in the AICPA's (American Institute of Certified Public Accountants) official definition of early 40's. The new definition which also came through the Institute Committee on Terminology, therefore, reads,

"Accounting is the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of a financial character, and interpreting the results thereof."

Robert C. Peterson's effort of defining the extended boundary of accounting, incorporating modern developments, also stressed on the analysis of financial reports over and above the

recording of day-to-day transactions and the preparation of obligatory periodical reports. Accounting, therefore, has been observed gradually interwoven with management process itself. Littleton,\(^6\) in this respect, observed that "from its very inception and through all of its developments, accounting methods and measurements have been closely intertwined with managerial processes". John L. Carry,\(^7\) in this connection, draw an interesting conclusion, which in his language goes, "I think it is more accurate to say that accounting is inherent in management—end is at the heart of management. Accounting is there ....... it is inescapable. The accounting function can be poorly executed but it cannot be avoided". From this background, an accounting for management thus demanded a break-through in the traditional structure and resulted in move towards accounting for performances. Management accounting thus appeared and, therefore, it has been the intellectual environment around which accounting thought has been incubated in the next stage.

Management accounting which is also variously designated as 'managerial accounting' or 'accounting for

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management' seems to be one of the recent developments
in this field. The term managerial accounting was being
used for the first time in 1949. But historical references indicate that the earliest recorded use of management
accounting techniques date back to the reign of Nebuchad-
nezzar, King of Babylon, starting in 604 B.C. Its modern
demonstration possibly, came through the definition of the
Management Accounting Team on the subject, that visited
the United States under the auspices of the Anglo-American
Council on productivity as early as in 1950. The team
defined management accounting as "the presentation of accoun-
ting information in such a way as to assist management
in the creation of policy and in the day-to-day operations
of an undertaking". American Accounting Association's
(AAA) Committee drew an inference that, "... traditional
accounting concepts are too narrowly defined to be applicable
to the area of internal reporting .... A more promising
approach would be to recognize that the objectives of internal
reporting are, indeed, quite different from that of external

8. Kilvington, K.H; "The management accountant : a British
Study" Management Accounting, May, 1975, p.36.
9. Claude, G.S; The History of Management Thought, New Jersey,
Prentice-Hall Inc., 1972, p.10 in Iqbal, M Saffar,
Historical overview of developments in cost and
managerial accounting, printed in Working Paper
Series, Vol.2, Virginia, Academy of Accounting
Historians, 1979, p.311.
10. Murphy, Mary E; Managerial Accounting, New Delhi, East-West
reporting, and to develop a separate body of concepts applicable to this area of reporting.\textsuperscript{11} A statement of Basic Accounting Theory of AAA in 1966 defines management accounting as "the application of appropriate techniques and concepts in processing the historical and projected economic data of an entity to assist management in establishing plans for reasonable economic objectives and in the making of rational decisions with a view toward achieving these objectives".\textsuperscript{12} The discipline of accounting thus, has been blessed with newer concepts and its horizon, has accordingly been redefined to encompass newer objectives. Glover and Coleman,\textsuperscript{13} in this regard defined accounting,

As a tool of management through which many standards may be established, the efficiency of the business progress determined, the results of operations measured and compared and the basis for pre-planning the course of business progress is formed.

Management accounting system caters more to the specific needs of the internal users of the data for the establishment and operation of internal control within an

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\textsuperscript{12} AAA, A Statement of Basic Accounting Theory, 1966, in Iqbal, M.Zafar, Ibid., P.311.
\textsuperscript{13} Glover, J.G and Coleman, L.M; Managerial Control, New York, Ronald Press, 1937.
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enterprise. It anticipates the use of accounting facts and adopts the processing of data to bring out those control elements which are vital in the control process. Management accounting reports are generally intended to inform all management personnel, of the changes that are frequently occurring within the enterprise and the surrounding. An evolution of information about the surrounding has been considered very significant because of the fact that there are so many entities, external to the operating responsibility, making decisions affecting that business which instantaneously create a different environment with the same factors affecting the same business. Vatter, in this regard, observed with precision, that in the dynamic business environment, an instantaneous picture of enterprise status and progress at any given time is obsolete the next moment and, therefore, is only a history. Instead of traditional financial accounting attributes (objectivity, validity, absoluteness, etc.) relating to accounting facts which can command universal confidence and acceptance, in management accounting greater emphasis has been placed on those characteristics which enhance the value of information in its variety of uses i.e. flexibility, uniformity, comparison.

etc. American Accounting Association termed this field of study as 'managerial accounting' and tentatively defined accounting by a Committee as,

"a composite of data gathering techniques embodied in a system whose focus is managerial planning, decision making and control."  

In appreciation of the role of accounting in modern management, Vatter 16 remarked that "accounting provides the basic framework into which the variables of managerial measurements are oriented. Every business operates in terms of financial results and, the structure of accounting serves to tie together the combined effects of the forces and factors with which the management is concerned." While discussing the trend of modern accounting, Smith 17 remarked that, "although the great distinction between financial and managerial accounting lies in the different ways the data are employed, yet some aspects of financial reporting may be modified to suit the peculiar needs of the management.


The traditional reports can serve the management in much the same fashion as they serve external interests, and in addition they can provide a point of departure for recasting basic information in a variety of needed forms. Specially, in its appraisal functions, management is concerned with much the same issues as other users of financial statements. management must acquire facility in financial statement interpretation and analysis. The ability to modify the financial statements to reflect these various types of information is one of the important phases of managerial accounting". Sanders, Matsfield and Koore also expressed that generally accepted accounting principles should be able to identify procedures for accumulation and processing of such information that satisfy the needs of internal management in all important aspects. Homburger and Dent also believed that the "users of published financial statements are interested in substantially the same type of information which management has developed to meet its own needs". Accounting thus, has been defined,


"as the ..........art of making significant summaries, analysis and interpretation of business transactions and events primarily of a financial character and communicating the results of actions to persons who make decisions and form judgement".  

Scientific management concept, in the post industrial revolution period, also engendered new advances in the area of analysis and interpretation of costs, the pressures of growth, recession and recovery, stringent competition, etc. Above all, heavy risks in investment, in this century, placed great emphasis upon accounting in management planning and control.  

Referring to Mattessich, Iqbal advocates general, scientific approach to accounting theory, because it is believed that financial accounting does not endeavour to relate new scientific achievements to the body of accounting knowledge.


Accounting reports have always been a necessary companion in the exercise of control in matters of activities relating to finance. Although, accounting for control, in its strict sense, emerged from within the broad concept of management accounting, yet, historically, it could be observed that accounting originated and incubated in an idea of control. Stewardship records of the medieval period and their reports would, in a simple way, serve the purpose of Lord's control over the manors. Even control would have been exercised in the houses of lords through the use of stewardship reports. Basically, stewardship function of accounting has been rooted deep in the control objectives, which in earlier days was meant to account for the resources to the overlords and to prevent fraud and in modern times required to evaluate management performances for the funds and to pinpoint corrective actions, when necessary. Thus, the idea of control could be found inherent in every efforts of accounting from its beginning.

'Control' is sometimes defined, "as the analysis of present performances in the light of some standard, in order to determine to what extent the accomplishments measure up to the plan or standard. It is also noted as a process of
securing conformity to a plan and the application of information feedback." Bill Harper defined 'control' as "compelling events to conform to plan". "Control" as has been described by Anthony, "in the sense it is used in business management, has to do with the attempts of one person to direct or influence the actions of other persons". Smith used the term control in a different sense and suggested to view it "as the restriction of behaviour to pre-determined patterns". He explained that control refers to the process of ensuring the accomplishments of plans by making necessary corrections to deviations from plan. Corrective action is, possibly, the fundamental characteristic of control. Caplan, in this respect, defined, "the accounting system is a control device which permits management to identify and control undesirable performances".

Roy used the term 'control' as a technical language

having other connotations as well but precisely, applicable in enterprise management for the detection and reporting on variances and the remedial measures taken in response thereof. 'Planning', as he pointed out, is that part of the work of management consisting of budget making and fixing up various standards in terms of costs, where necessary. He suggested that planning is undertaken prior to control and planning and control, the two together, are said to make management complete. Barrett described that control and planning are complementary to each other. Planning involves allocation of resources according to choices for the enterprise operations and the control involves the process of determination and confirmation to the fact that the choices are carried out according to plan and to the best possible utilization of resources. Horngren expressed the opinion that 'planning' means the selection of objectives as well as their attainment and 'control' means the implementation of plans and the use of feedback so that objectives are optimally attained. Caplan used the term planning as a synonym to accounting

system and described it as a 'goal-allocation' device which permits management to select its operating objectives and to decide and distribute them throughout the firm i.e.; assign responsibility for performance. Luneski\textsuperscript{32} remarked that 'control' includes the organization of resources and the direction of their use.

**Control through accounting**

It is variously recognized that accounting is not an end in itself, it is a means toward the end. This is equally applicable for purposes of control also. Accounting reports serve as an aid to management control function. The dimension of control expanded with the appearance of various forms of business organizations as well as in their objectives and the gradual increase in the alternative courses of actions with the same resources. The objective of medieval control was limited, in most cases, to the prevention of fraud and misappropriation of manorial resources. The system was as simple as that of the objective. Simple accounting report would serve the objective of the medieval accountability. Accountability objective has moved over the centuries away

from the original fraud prevention to the area of managerial efficiency judgement. "The disclosure of financial information" as observed by Lee, has been aimed at protecting shareholders from originally, fraudulent practices and nowadays from inefficient management. Accounting thus primarily serves as an aid to management in its attempt to improve efficiency, minimize costs of operations, increase profitability of operations and so on, which in one phrase may be called 'management control'. "Management control", as has been defined by Anthony, "is the process of assuring that resources are obtained and used effectively and efficiently in the accomplishment of enterprise objectives". While describing the functions of accounting, Rorem and Karrigen defined "accounting" as "a tool for use in the control of economic activities. It is a device for measuring and interpreting certain facts of an enterprise". The necessity for efficiency measurement thus appeared as a very important element in the management control process.

Efficiency measurement:

The history of accounting, up to and in the contemporary period, has been viewed in terms of its developments as an instrument of management control. Emphasis, in the past, was placed, for most part, in the direction of providing management with the information essential to intelligent piloting of business activities. With the increase in the scope and complexities of business operations, the discipline has been developed and expanded, accordingly, through newer and newer techniques to meet the ever increasing needs of the business managers. A recent Dutch definition of accounting can be referred which stresses on the use of financial messages for the 'management and operation of an entity'. It follows that,

"Accounting is the systematic recording, processing and supplying of information for the management and operation of an entity and for the reports that have to be submitted thereon". 36

Bhandari and Kulsrestha defined accounting as

"the art of collecting, analyzing and interpreting financial data to meet the information requirements of the various interests concerned with the operation of an enterprise."

Modern management requires information about different aspects of the enterprise on a day-to-day basis which help proper evaluation of operating conditions. Accounting reports, as designed for internal management, help the comparative, and not the absolute, measures of management performance for past activities. Control aspects thus come out of comparative measures and the propriety of accounting functions largely depends on how its methods are used to measure and set in comparison with the significant factors involved in financing and operating a business. Any comparative measure is based on some 'standard' against which actual performances are compared. So in accounting, standard is a reference point for making comparison, as it pertains to financial aspects of an enterprise. It may be in the form of

an objective or an expectation or a norm to establish measurement or a restriction on activity. A difference is thus likely to appear at least in a few instances. In any case, such a deviation of actual performance from the standard, takes on a unique significance in the management control process. The measurement of deviation is essential for initiating some corrective measures as a remedy. Thus, it requires analysis and interpretation of related accounting facts to determine the areas of corrective actions and to ensure control. Therefore, some standard for measuring the fidelity of actual performance is an essential control feature.

A management control process, as pointed out by Vatter, possibly with rare exception, is built around a financial structure. Efficiency measurement also implies an analysis of management performances in terms of finance. Thus, analysis and interpretation of accounts data seem to be the fundamental aspect of efficiency measurement. Efficiency measurement again, is a pre-condition to control. Interpretative aspect of accounting has also been stressed by Aschar who defined accounting as,

Barrett also advanced a sort of definition which reads, "Accounting is a body of knowledge and techniques which is applied to the understanding and control of economic forces and activities and to performance and efficiency as they relate to economic actions."

Modern accounting innovations permits internal accounting system to assume high degree of sophistication and enables the system to provide materials for evaluation as well as control. Accounting thus has been defined by Bauer and Darby as "the mechanism and body of principles by means of which business activities are recorded, classified, periodically summarized and interpreted."


Bedford, Perry and Wyatt\textsuperscript{42} also described accounting in a manner similar to that of the former and stated that,

"Accounting is primarily a method of analysis based on a record of various economic activities of an enterprise".

Analysis and interpretation of accounts data help the measurement of enterprise efficiency in totality as well as in terms of cost per unit of output, return per unit of output, return per unit of capital or any other measure that the management requires. Precisely, analysis and interpretation help create an environment of reasoning and relevance in management actions. In other way, they may be looked upon as parts of control measures. The essence of reasoning had been deep rooted in accounting from its beginning. Historically, the term accounting refers 'to account for'. It means to give reasons. In Italy, the birth place of modern accounting, it was known by the word "ragionerie" during the medieval period.\textsuperscript{43}

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\textsuperscript{42.} Bedford, N.Mr et. al.; Advanced Accounting, New York, John Wiley & Sons, 1973, P.3. \\
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Cost accounting:

Analysis and interpretation gradually encompassed cost data as an element of outstanding significance in the control process. The use of some elementary cost estimates for setting wage scale, fixing price, preventing misappropriation of raw materials, etc., had been evidenced throughout the medieval period. As pointed out by Garner, twelfth and thirteenth century Genoese Ship's Scribes, their records bear the earliest evidence of costing concepts, which at that time was essential in order to make proper allocation of revenues and expenses to numerous sponsors of each voyage. Also the accounts of Datini and Niccolo of Prato, during fourteenth century, could be found adequately detailed to indicate the determination of cost of production. Records of the Del Bene Firm (1318), are one of the earliest examples of cost book keeping which aptly provided considerable additional information to the management and owners. Dracci accounts of the fifteenth century exhibited many elements of cost accounting system, notably control of cost of production.

46. Ibid., p.304.
47. Garner, P; Evolution of Loc.Cit., p.304.
Florentine Medici Family's accounts (1431) of industrial partnership in wool and silk business, also bear a testimony of the use of the concept of cost of production.\textsuperscript{48} In the Fugger Family's accounts, one could see the beginning of the accumulation of cost information through separate books as early as 1577.\textsuperscript{49} Early English industrial development also claims a reasonable share in the history of the evolution of cost accounting system. Calculation of cost by products can be traced in the medieval English manufacturing system during fourteenth and fifteenth centuries.\textsuperscript{50} Craft-Guild system of the fourteenth century (England) woolen cloth manufacturers required the keeping of separate accounts of costs by products and processes through separate memorandum books for the information of its members. Cost, at that time, was the means of decision making regarding fixation of 'asking price' and a minimum 'acceptance price' for the same. The growth of cost accounting, as a separate branch, possibly owe its root to those memorandum books of the Craft-Guild.

During the reign of Henry VII (1485-1509), in England, an industrial community of woolen manufacturers was established.


\textsuperscript{49} Feller, R.B; Early contributions to cost accounting, Management Accounting, Dec., 1973, p.12, in Iqbal, Ibid., P.304.

in the country villages by the discontent guild participants. By doing so they hoped to organize more profitable industry and market. Instead of creating fair chances for themselves, such establishment of community outside the long founded guilds caused severe competition. Cost records became a pre-requisite in the environment for success as well as for combating competition. Separate accounting techniques to record costs, which is known as 'cost accounting' today, gradually emerged. The transformation of small scale domestic system into large scale industrial enterprises brought about a pressing need for the subsequent developments in cost accounting system. Garner, however, concludes, "... certain modern cost techniques and practices had their origin in the period 1400-1600. Even the purpose of the early systems appears modern, in that they were set up (1) to establish accounting control over the steps of production, and (2) to curb wastes in the use of material and labour". Yet, rapid developments in cost accounting methodology and their wide scale adoption in practice could be seen during


the period 1885 to 1920. It was in 1885, Metcalfe's
book *Cost of Manufactures* first published which exerted
a great impact on the accounting profession and laid down
the milestone in cost accounting. There could be found
some other references of cost accounting literature before
Metcalfe. Among the notables, John Collin's description
of the perfect method of merchant accounts (1697), Payen's
description of job costs system and process costing (1817),
Cronhelm's illustration of process costing method (1810),
were found to contribute significantly to the development
of cost accounting. But the steady growth of different
concepts in the field of accounting resulted in a realiza­
tion that, the best part of the developments of cost
accounting would be, to adopt itself within the framework
of financial accounting. Subsequent efforts led the
professionals and academics to seek an integration of the
cost records into financial accounts. Rapid advances in
both the accounting and costing methodology during the
present century, thus presented the concept of "Integrated
Accounting System". Garke and Fells (1887, *Factory Accounts*)

53. Edwards, R.S; "Some notes on the early literature and
55. Edwards, R.S; Loc.Cit., also Chatfield, M. Ibid.
were among the first who were strong proponents of integration of costing and financial records. Lewis\textsuperscript{57} (1896) advocated the integration of cost and financial records. Arnold\textsuperscript{58} (1903) also emphasized the integration of cost and financial records in the United States.

Although the preparation and use of separate cost accounts could be traced to the earlier days, yet the accounting profession failed to foresee the potentials of cost estimates and their effects on management as well as on production control.\textsuperscript{59} It is interesting to note that cost analysis, as a well defined methodology, of the present era, originated for control purposes from the engineering adaptation and analysis of cost values associated with the production process. It was in the late nineteenth century, that some production engineers pioneered the idea of using cost estimates in efficiency measurement and control.

The changing structure of the society, which accompanied and to some extent caused - industrial revolution, created a demand for efficient cost accounting and a

\textsuperscript{57} Iqbal, M.Zafar, Ibid. p.307.
\textsuperscript{58} Ibid., p.308.
continuous flow of cost data. It was felt that adequate cost information contain the elements of analysis of the flaws and consequences of past actions. Age-old emphasis on cost ascertainment for pricing has been renewed with more emphasis on what it is called . ... Cost control. The idea that, the more accurate the cost records, the more effective and efficient has been the management performance, became widely accepted.

The present century industrial environment experienced stringent competition which, specially following World War I, was affected, to the worst, by unprecedented competition. In such a competitive environment, cost control became the focus of all attention. Cost data became instrumental in the management control process. The old merchandising adage, "goods well bought are already half sold", has possibly been found to influence the modern industrial environment. All possible efforts have been directed towards cost control from a pre-conceived awareness that profit formation begins with production and after production, little scope is left to increase profitability. Enterprise goals, as regards operations, thus have begun to be clearly spelled out in terms of costs, both elementwise and centerwise. The traditional cost accounting system thus
stepped into new horizons of accounting developments. The need for analysis of costs by elements and their variances grew from such a background, which ultimately became a very important accounting technique of the running generation, under the title "standard cost system".

**Standard cost system**:

The use of cost estimates in the process of management control is not a new phenomenon. What is new and fundamental, in modern industrial world, is the analysis of variance with regard to cost. The concept of scientific management, which primarily emerged from the description of F.W. Taylor in 1903 on 'shop management' also contributed significantly to the cost consciousness of the operating managers. Not too far away with the effects of scientific management (1900-1910), the managers and engineers fell victim by themselves of an awareness that not the materials and finished products are flowing through the conveyer belt but the costs. Cost thus needed to be carefully analyzed and controlled. Presumably, all analysis vis-a-vis comparison produce variance, more or less, because

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the standard as used in comparison is rarely, if ever, perfect. Quite a large number of factors may be said to be responsible for the rise of this variance. But for purposes of accounting control, only cost variances are important. Thus modern stride in accounting, more precisely, cost accounting, stresses on variance analysis. Anthony \(^{62}\) defined the concept of variance analysis as, "the technique of decomposing a total difference into the elements that account for it". Smith \(^{63}\) termed the process of isolating the causes of non-fulfilment of standard as variance analysis in accounting for control and stressed on an understanding of the principal determinants of the results thus achieved. Usually, variance analysis exhibits the facts that accounted for the variations. Cost variance implies the difference between the actual costs incurred and the estimated costs corresponding to them.

In the history of accounting, earliest example of the application of standard cost system could be traced to the sixteenth century. Christopher Plantin, a Flemish printer and publisher, made use of standard costs, at that time, specifically, based on job-order system. \(^{64}\) But it did not continue due to

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lack of a force strong enough to break the mold of traditional outlook towards cost. The name of this force, as emerged in the first decade of the present century, is the scientific management movement. 'Predetermined costs in the form of estimates', which were necessary and logical forerunner of modern standard costing concept, owe its origin to the scientific-management concept. Such a movement created an awareness that effective accounting control can be achieved through a cooperative enterprise between accountants and efficiency engineers. Standard cost accounting system is the outcome of twentieth century technological development which added pressures for cost standardization. Standard cost system, thus came into full fruition in the first decade of the present century. In 1908, John Whitmore provided the first detailed explanation of standard cost system. He recommended the comparison between actual costs and 'proper cost'. But his description of proper cost was different from engineered standard cost. Still it was the beginning. It was in the same year Herrington Emerson appeared in the public through a series of articles, "efficiency as a basis for operation and wages", which advocated the establishment

of scientific cost standards. He pointed out that standard cost system is helpful to its users in identifying and hopefully eliminating waste and inefficiency in production.

The decade following 1910 experienced the large scale adoption of standard cost for purposes of proper efficiency and cost control. In 1911, G. Charter Harrison\textsuperscript{67} designed the earliest known complete standard cost system and in 1920, he explained the first set of formulas for the cost variance analysis. He is said to be the strongest proponents of the term "standard cost" for this topic, although there could be found other titles as well such as "predetermined cost", "estimated cost", "predicted cost", "budgeted cost", etc. The development of accounting in the subsequent period surrounding standard cost, is known in the literature as "standard cost accounting system". Standard cost is the predetermined cost in an environment of certain given conditions. Standard cost may be defined, in the language of Harrison,\textsuperscript{68} as used in its broad meaning, "as applying to costs that are scientifically determined in advance, in contrast to historical costs which are accounted after the event". The

\textsuperscript{67} Solomonsons, D; Loc. Cit., p.41 and Chatfield, K.. Loc. Cit., p.171.

essential feature of standard cost, then, is that it represents costs that should have been incurred rather than what were actually incurred. Erich Kohler defined standard cost as 'a carefully formulated advance estimate of what a future cost should be under conditions expected to prevail.' While predetermined costs in the form of estimates have long been used by business management, the present-day concept of standard cost is a product of scientific management movement. A comparison between those two costs produces important variances, which upon further analysis, exhibit controllable and uncontrollable areas for purposes of control. Standard cost accounting system provides the beginning of a new and improved mechanism for exerting a beneficial control over the efficiency in industrial operations. In the industrial environment, providing facts regarding variances and tracing out exceptions has become the major responsibility of modern accounting. Standard cost accounting, as used today, is its greatest modern demonstration of the ability to meet this responsibility.

Budgetary Control:

Most of the modern economic enterprises operate in terms of plans. The principal formal device for making economic plan is budget. It is an accounting technique used in management control and hence the name 'budgetary control'. The term budgetary control, as used in both accounting and management literature, is applied to management system in which all operations are forecasted in accounting terms and, so far as possible planned ahead. A control thus exercised through a beneficial comparison of actual performances with budgets. 71 Since management control process is built around financial structure, as mentioned earlier, it is best exercised through budget oriented plans in association with standard cost techniques.

A budget, in its narrow sense, is the quantitative expression of enterprise goals. It is a statement of plans, expressed in financial terms and hence incorporates accounts data. 72 A budget has also been described by Buckley and Mckenna 73 as a plan in quantitative terms. Budget has beed.

referred to as a communication device by Anthony, which tells each unit of the enterprise about what the management expects to do and shows the unit how its work fits in within the overall activity of the enterprise. Benston suggests that budget, as an accounting report, may serve as a reliable means of communication with the enterprise, where in top management informs the managers of the goals of the enterprise that it expects to fulfil. Uji Ijiri surmised that one purpose of accounting is to measure and report actual performance of the enterprise relative to its goals. It follows that management must know what these goals are before they can set up a control accounting system. Budget is thus referred to as the spelled out version of enterprise goals in terms of standard. Control is thus achieved through measuring performances, comparing actual performances with budget, reporting variations from standards and by taking corrective measures, where necessary for removal of differences.

A control system since is more related to individual's actions, budget happens to be the easiest means of influencing

the management behaviour. For budgetary control purposes, Linkert's findings suggest that the more participative the process of setting budgets, the more effective they are likely to be in terms of committing personal motivation towards their achievements. Participative budget generally commands grass root commitment. It is widely appreciated in recent decades for its effectiveness in exerting control and achieving better performance. Hofsted tested similar hypothesis that participation in budgeting leads to higher budget motivation and found a positive correlation between these factors. Budgetary control system stresses on self-control rather than a policing mechanism.

Responsibility Accounting:

Responsibility accounting is perhaps the late twentieth century addition to the current set of accounting techniques as an aid to control. This concept stems from a reenforcement of emphasis on "accountability by responsibility center". It involves such efforts of making the smallest areas of responsibility in the organization as the fundamental

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building block of accounting system. Responsibility center, as could be found in the control framework, refers to the operating divisions within an enterprise where responsibility in terms of decisions, actions and achievements can be located and the persons for their control can be easily identified. The focal points of discretionary activities within the organization usually designated as responsibility centers. Where the goals as well as the means for their accomplishments are determinable by the same individual, responsibility is assumed at its highest level.

In effect, responsibility centers are the control points in the operation of an enterprise around which organizational objectives are defined and informational feedback are arranged.

Responsibility accounting is the most sophisticated form of cost and management accounting. In the words of Eric Kohler, 80 "the method of accounting in which costs are identified with the persons assigned to their control rather than with products or functions is known as responsibility costing". At the same time, he described the management accounting system, as being involved with the actions of the managers and precisely sought to associate costs with the jurisdictional areas of the organization, to assign them

to the managers responsible for implementation and execution.  

Responsibility accounting refers to an accounting system that enables the control of expenditure by directly relating the reported expenditure to the individuals in the organization who are responsible for their control. Higgins referred to it as a system of accounting which is tailored to an organization so that costs are accumulated and reported by levels of responsibility within the organization. Vancil stressed that each manager in the organization has a responsibility for a part of the total activity and the accounting function of today is destined to yield a measurement of the financial effects of the activities that a manager is responsible for. Vatter inferred that one of the major tasks of modern accounting is the tracing of costs to the making of decisions. Responsibility accounting thus emerged as an information system for internal management to be used in the control of operations in terms of costs. Referring to Higgins it could be inferred that modern management control sought to emphasize upon one thing that budgets and responsible

individuals must be synonymous. Developments in accounting during the last few years bestowed in responsibility accounting such elements of information system and decision making. Thus the main objective of responsibility accounting is to make the accounting system a more effective management information system.