

CHAPTER ONE

ACCOUNTING AND COSTING SYSTEM

Accounting

Accounting refers to the various record-keeping activities carried out as a result of business transactions. As a system, it is a quantitative information system which has to do with business transaction and the exchange or transfer of value in respect of goods and services.

The foundation of accounting is book-keeping which involves the analysis, classification and recording of financial transactions in the book of account; while Accounting is concerned with recording, measuring and reporting the incomes and expenditures of an organization to interested parties, among others are owners and managers.

Accounting as a discipline is divided into two major parts; Financial Accounting and Management Accounting.

Financial Accounting

Financial Accounting forms the reports of owners of business and it has been defined as “the analysis” classification and recording of financial transactions and ascertainment of how such transaction affect the performance and financial position of a business –CIMA.

The field of financial accounting is concerned mainly with how accounting can serve the following set of people;-

- i. Shareholders (existing and potential shareholders) use financial reports to decide whether to buy or sell the company's share.
- ii. Loan creditors (existing and potential creditors) use financial accounting information to decide whether to buy or sell the loan stock at a given price.

techniques in the ascertainment of costs and analysis of savings and/or excesses as compared with standard “-CIMA Terminology.

From the above discussion, it can be inferred that book-keeping is the basis of recording system of financial transactions while cost accounting is the foundation of reporting to managers, Sometimes, costing is used as being synonymous to cost accounting but for the sake of clarity, costing can be described as the process of determining the cost of doing something e.g. The cost of manufacturing an article, rendering a service or performing a function. The article manufactured or service rendered or the function performed is known as the object of costing.

Why Costing Accounting

Cost accounting as a tool is an essential aid to management in establishing prices and providing information for day to day control and operations.

Based on the fact that management needs costing information to perform its principal roles of planning, controlling and decision making, a cost accounting department is often established in business organizations for the achievement of the following objectives among other :

- i. To arrive at the cost of production of every unit, job, operation, process, department or service and to develop cost standard.
- ii. To analyze and classify with special reference to the cost of products and operations the same expenditure which in the financial accounting had been recorded and summarized under nominal account.
- iii. To identify and analyze sources of economics and any inefficiencies in production. The waste can be in form of materials, time or in the use of machinery equipment and tools.
- iv. To provide in details the periodic profit and loss accounts and balance sheet for the whole business by department and individual product at intervals like weekly, monthly or quarterly and to indicate the exact cause(s) of a decrease or an increase in profit or loss shown by the financial accounts;
- v. To provide the cost information necessary for realistic stock valuations;

- ii. To divide business into logical parts/ sections which can be used to accumulate cost for subsequent distribution;
- iii. To ensure that costs are recorded and controlled by means of budgets;
- iv. To assist in relating costs to individual responsibility.

A factory can be divided into cost centers (such as a person or a homogeneous group of person, a machine or group of machines and a location like department) to analyze cost to natural units, this division of factory into cost centers enables detailed costs to be recorded and controlled by the means of budgets.

Forms of Cost Centers:-

Among other forms of cost centers are:-

- i. **Process cost center:** - This is a cost center in which a specific process or a continuous sequence of operation is carried out. For instance in a bakery, the mixture stage of the bakery operation is a process cost center and machining of the mix of flour is another process cost center.
- ii. **Service cost center:** This is a cost center for the provision of service or services to other cost centers e.g. Staff canteen, training center, Staff medical center. It should be emphasized that this term does not apply where the output of an organization is a service rather than goods.
- iii. **Production cost center:-** This is a cost center in which production is carried on e.g. works or production department.
- iv. **Administration Cost Center:-** This is a cost center in which the whole organization is being directed, controlled and administered e.g. personnel department.
- v. **Selling cost center:-** This is a cost center in which orders are soliciting for and efforts are made to find and retain customers e.g. Selling department.
- vi. **Distribution cost center:-** This is a cost center in which products are made to reach their destination e.g. distribution department.

Cost Coding

A code is a system of symbols designed to be applied to a classified or specified set of items, to give a brief and accurate reference facilitating entry, collation and analysis.

In order to facilitate the collation and processing of a wide variety of data, costing system needs symbols, codes and accounts numbers.

Coding is apparently more needed with mechanized and computerized accounting system than manual accounting system.

The Importance of Coding are:-

- i. It enables account to be located quickly;
- ii. Coding aids to reduce data storage since items are coded with short description.
- iii. It avoids ambiguity which arise if descriptions are used;
- iv. Coding aids memory and helps clerical work to be carried out speedily and efficiently.
- v. Through the use of coding, errors in cost classification can be minimized.

Characteristics of Coding System:-

A good coding system should possess the following features to be useful:-

- i. It should be simple, easily remembered, the notation used for coding should be avoid ambiguity.
- ii. It should ensure that each item has one and only one code i.e. it should be unique.
- iii. It should consist of either all numeric or all alphabetic characters. The use of numerous strokes and brackets should be avoided.
- iv. It should be as brief as possible.
- v. It should signify or show something about the item being coded if possible. For instance part of the code for vehicle tyres could indicate the actual size of the tyre. Thus a code for a 185x15 tyre would include 185.

- vi. It should be of equal structure and length for uniformity and consistency. This is also to facilitate processing and avoid missing of characters.

Sequence Coding-

This is a method of coding whereby similar or related items are grouped together in the classification and given numbers in serial order.

This method does not allow for the introduction of extra items into a group of similar items as each new item has to take a number at the end of the list.

Block Coding-

This is a method where blocks of numbers are used for similar types of expenses with spare numbers for future usage when new types of expenses in the group arise.

The method creates room for expansion. Extra numbers can be reserved for future usage when new items arise. e.g. If the code for depreciation is "25" and there are five types of fixed assets, the number for depreciation will extend from 2501-2505 in sequence coding but with block coding the numbers for depreciation could range from 2501-2530 leaving 2506-2530 as reserves for future use.

Mnemonic Codes-

This is a coding method where letters are used to describe the various items such as, D for depreciation, M for Maintenance etc. The method allows easy identification of various items as the representing letters relate to the item of expenses.

Decimal Coding-

This method applies where important items in a classification can be combined in a code number. This method is mostly used for book classification in libraries and it is capable of indefinite expansion.

Substitute for (a) in equation ----- (i)

$$6a + (42 \times 6.385) = 452$$

$$= a = \frac{452 - (42 \times 6.385)}{6} = 30.638$$

Cost function = 30.6 + 6.385 (x)

Illustration 2

The results of Koolin Division of Texas Limited over the last five years are summarized as follows:

Year:	1993	1994	1995	1996	1997
	\$'000	\$'000	\$'000	\$'000	\$'000
Sales	400	186	238	236	304
Costs:					
Materials	40	56	84	74	96
Labour	54	72	78	96	108
Overheads	<u>48</u>	<u>48</u>	<u>56</u>	<u>66</u>	<u>64</u>
Total Cost	142	176	218	236	268
Net Profit	<u>(2)</u>	<u>10</u>	<u>20</u>		<u>36</u>
Sales units	4200	5600	6800	6200	8000

The Koolin Division of Texas limited manufacturers a single product. Stock has been negligible at all relevant times. Price changes have been rare in Texas's business.

During the last five years, the only changes in the prices of resources used have been an increase in the price of materials of 25% three years ago (at the end of

$$Y^- = a + bx^-$$

$$Y^- - bx^- = a$$

$$a = 226.4 - 2.5865 (61.6)$$

$$2226.4 - 159.3284 = \underline{\underline{67.0716}}$$

$$\text{Cost function} = y = a + bx$$

$$Y = 67.0716 + 2.5865 (x)$$

Reinstate the cost function in absolute term assuming one unit of the product is to be produced and sold.

Cost function will be:

$$Y = \$67,0716 (1000) + (\frac{2.5865}{100} (X)) \quad \times 1000$$

$$100$$

$$= 67,072 + 25.865$$

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Learning Curve Theory

Introduction

As manufacturer (as with all other entrepreneurs), the main corporate objective is to maximize the owners' wealth through maximization of the company's profit.

To achieve this objective, effective pricing system to compete with other suppliers in the market must be in operation.

For price setting, the three elements of cost (i.e. material, labour and overhead) must be taken into consideration.

The focus of this section is on the cost prediction for labour by the use of learning curve theory. The uses and limitation of this theory shall also be discussed.

Wage Incentive Schemes:

The theory is important in any incentive scheme to be able to measure the performance accurately and forecast how the performance can increase with time. Learning effects must be considered when work measurement technique is used in establishing a standard time because to neglect the effect of learning curve will lead to pay drift to changes in output level.

Standard Setting:

This theory is important in setting of efficiency performance i.e.(standard) as learning curve expectation of time to do a job may be much more appropriate than a constant standard.

Limitation:

The theory suffers from the following defects:

It is only found in labour intensive operation and for production work like shipbuilding, electronics, construction and other non-creative works.

It assumes a certain degree of motivation amongst employees.

It assumes stable conditions at work (e.g. Of labour force and mix) which will enable learning to take place. For the fact that this is not always practicable the theory may be rendered useless.

Extensive breaks between productions of items must not be encouraged because workers will forget the production process and the learning process would have to be started all over again. It therefore assumes a continuous production process.

The learning process applies only to direct labour.

It is difficult to obtain enough accurate data to decide what learning rate is.

- iv. Adequate training of all staff and
- v. Top management support and involvement.

A cost control system may be faced with the following problems:-

- i. The system may be seen as divisive and threatening .The budgets for cost center divide the costs centers while the budgets also threaten the executive officers responsible for the cost centers.
- ii. There may be difficulties in setting budgets and standards.
- iii. The standard contains subject elements, there is no such thing as totally accurate standards or variance.

Cost control is concern with keeping expenditure within acceptable units and the prevailing assumption here is that cost control is satisfactory as much as costs do not exceed budget or standard.

Cost Reduction

Is the process whereby permanent savings are made without any reduction in the quantity and/ or usefulness of the products. The focus of cost reduction is to make real reductions in the production cost or buying prices of goods and services without reducing the suitability of these as far as the utility for its purpose is concerned.

Cost reduction is a planned approach of reducing expenditure, because it is excessive as a result of material wastage, too low labour productivity or excessive idle time etc.

Cost reduction schemes are planned campaigns to cut expenditure and they should be continuous, long-term campaigns, so that short term cost reductions are not reversed and forgotten within a short-time.

Cost reduction programmes may face the following problems:-

- i. Resistance by employees to pressure to reduce costs;

AUTHOR'S PROFILE

My name is Odewoye Francis Sunday, A graduate of Electronics and Telecommunications Engineering. From Nigeria, married, writing Research, Educational and stories books are my work. I am a professional Registered Engineer, Registered with Engineering Council, United Kingdom (UK) and also registered with the Council for the Regulation of Engineering in Nigeria (COREN).

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