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Cost Accounting: Its use with information technology systems

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Abstract

This article reviews cost accounting and its use to information technology systems and identifies its extensive contribution to accounting research. Using literature reviews, it can be seen how managers can make decisions from reports generated by cost accounting by utilizing increasingly advanced information technology systems. Technology system today makes it easier for accountants and managers to

produce financial and non-financial information. Information systems using emerging information technology that are often used by accounting-related organizations include chart of Accounts, Electronic Data Processing Systems (EDP) and Electronic Data Interchange (EDI). Cost calculation system that can usually be implemented to information technology is Activity Based Costing and Just In Time.

Keywords: Cost Accounting, Information Technology Systems

1. Introduction

In understanding the function and understanding of cost accounting can begin with the thought that the company in managing and achieving its objectives requires tools that are management that can later help the company in its management and in achieving the company's desired goals. In its operational activities all levels of management require cost data. The cost data is used in the company's operational decision-making process to achieve the company's objectives efficiently and effectively (Wibowo and Meilani, 2009:8/1-2) ^[13].

As we already know that accounting broadly has 2 types namely financial accounting and management accounting. However, cost accounting is not separate from the two types of accounting above but rather part of the two that will be interconnected. From the two types of accounting above including cost accounting in it will later produce non-financial information related to the cost of obtaining or using resources in an organization required by the company in decision making. Example: calculating product cost is one of the cost accounting functions that meet financial accounting needs in assessing inventory and at the same time management accounting needs in making decisions such as choosing the product to be marketed. The emphasis of cost accounting on cost calculation is not on its decision making, management accounting emphasis is on alternative creation and retrieval (Dewi, Kristanto & Dermawan, 2015: 3) ^[2].

In the process of recording, classifying, contriving and presenting, as well as interpretation of cost information is made depending on who all the processes are intended for. If the cost accounting process is intended for users outside the company by having to pay attention to financial accounting characteristics, then cost accounting is part of financial accounting. However, if the cost accounting process is intended to meet the needs of users within the company by having to pay attention to the characteristics of management accounting then thus cost accounting is part of management accounting.

Cost accounting is one of the specifics in accounting, just like other accounting, it's just that what distinguishes it from other accounting such as government accounting, tax accounting and so on is the study of data. Cost accounting reviews cost data to be classified, recorded, analyzed and reported in accounting information reports (Dewi and Kristanto, 2013: 1) ^[3]. Cost accounting was once considered to apply only to manufacturing companies, but nowadays every type and size of organization or company can benefit from the use of cost accounting. The use of cost accounting is now used by private and government companies including state-owned enterprises and bumd such as financial institutions, transportation companies, professional service firms, hospitals, educational institutions as well as marketing and administrative activities in manufacturing companies. Nowadays, most people increasingly feel information as one of the basic needs in addition to other important needs. Along with that, information has changed shape into a tradeable thing such as television stations, newspapers, radio and the internet. The rapid, dynamic and broad environmental change is supported by the advancement of information technology in all fields.

Many human activities related to information systems, whether realized or not, information systems have helped many people (Hidayatullah, 2010) ^[5]. Computer-based information processing began to be known by people and until now there has been a lot of software used by people as a data processing tool to produce information. In the field of accounting, computer-based accounting information processing systems are widely offered with the aim of making it easier for accountants to produce reliable, relevant, timely, complete, understandable, and tested information (Maharsi, 2000: 128) ^[6]. With the existence of information technology makes people faster and at a cheaper cost in obtaining information from between cities or even between countries. This is where the role of accountant or management organization must be quickly responsive to environmental changes and technological developments if the organization wants to survive with a lot of learning to improve its performance.

2. Theoretical framework

2.1 Cost accounting

Cost accounting is one of the areas of accounting aimed at the process of tracking and analyzing costs related to the activities of an organization that in the process produces goods or services. Some economists have their own definitions of cost accounting.

According to Mulyadi (2012: 7) ^[8] cost accounting is the process of recording, classifying, summarizes and presentation of the cost of making and selling products or services, in certain ways, as well as interpretation of it with the object of cost accounting activities is cost.

According to Dewi and Kristanto (2013: 1) ^[3] when reviewed from its function, cost accounting can be defined as an activity that produces cost information that can be used as a basis for consideration in management decision making.

According to Wibowo and Meilani (2009: 10/1-4) ^[13] cost accounting is one of the branches of accounting science which is a management tool in systematically monitoring and recording cost transactions and then presenting cost reports.

According to Pirmaningsih (2016: 1) ^[9] Cost Accounting (Cost Accounting) identifies, devalues, measures, reports, and analyzes various elements of direct and indirect costs related to production as well as marketing of goods and services. Cost Accounting also measures performance, product quality, and productivity.

To meet management's needs in decision making, cost accounting develops various concepts of cost information for decision making, such as: opportunity costs, hypothetical costs, surcharges, avoidable costs, and lost revenue (Mulyadi, 2012: 8) ^[8].

According to Priharto (2020) ^[10] the functions of cost accounting are

- a. To calculate the cost of product principal: The goal is of course to know how much has been spent so that it can be calculated to determine the basic price of the product or service. This needs to be done if you want to know the profit or loss in advance before the product starts to be distributed.
- b. Detailing the price of product principal: In cost accounting, the record price of principal is detailed from the smallest to the largest. So the error in pricing the product feels impossible as long as the cost recording is precise and detailed.
- c. As basic information related to cost and expense planning: Of course, this planning requires valid and written arguments so that the implementation (action) is

in accordance with the company's expectations. Well, cost recording is required as a valid argument material.

- d. As data of budgeting process: Cost accounting is also made to be the basis of data used in the budgeting process. Because before the budget is made, it must be detailed in advance what should be provided and what the total cost is. If in the absence of correct and detailed cost recording, of course the budget cannot be created because it is considered incomplete data.
- e. As cost information for control: The last function is as financing information that will be reported to the supervisor or management. So that the stakeholders can carry out a series of controls and such. If the nominal financing record is too large, the management can lower it or vice versa. This will not be possible if previously there was no recording of production and distribution costs of the product.

The cost according to Mulyadi (2012: 8) ^[8] is the sacrifice of economic resources, as measured in units of money, that have occurred or that are likely to occur for a specific purpose.

In cost accounting, fees can be grouped into several groups determined by the objectives to be achieved or biased by different costs for different objectives to be achieved. So according to Mulyadi (2012: 13-16) ^[8], the cost can be classified according to:

- a. Cost classification by expenditure object: The name of the expense object is the basis for the cost classification. Examples in paper companies are the cost of merang, the cost of straw, the cost of color substances, the cost of soda, etc.
- b. Classification of costs according to the main function in the company: In manufacturing company there are 3 main functions, namely: production function, marketing function, and administration & general function. Then the cost can be grouped into:
 - Production cost: the cost of processing raw materials into ready-to-sell finished products. Example: raw material cost.
 - Marketing costs: the costs that occur to carry out product marketing activities. Example: advertising costs.
 - Administrative & general costs: costs for coordinating product production and marketing activities. Example: employee salary costs.
- c. Classification of costs according to cost relationship with something financed: In relation to something financed, fees can be grouped into two groups, namely:
 - Direct Cost: the cost that occurs that the sole cause is due to the existence of something financed. Example: direct labor costs.
 - Direct cost: the cost is not only caused by something financed. Example: factory overhead costs.
- d. Classification of costs according to its behavior in relation to changes in activity volume: In conjunction with changes in activity volume, costs can be classified into
 - Variable cost: the total amount changed in proportion to the company's activity volume. Examples: raw material costs and direct labor costs.
 - Semivariable cost: the change fee is not proportional to the change in activity volume. Example: contains elements of fixed costs and variable cost elements.
 - Semifixed cost: a fixed cost for a certain level of activity volume and changes by a constant amount at a certain production volume.
 - Fixed cost: costs whose total amount fixed in the range

- of the volume of certain activities. Example: production director's salary.
- e. Classification of costs on the basis of the period of benefits: On the basis of the period of benefit, the cost can be divided into:
- Capital expenditures: expenses that have the benefit of more than one accounting period (usually one calendar year). Example: expenses for the buyer of fixed assets.
 - Income expenditure: expenses that only have benefits in the accounting period of the occurrence of such expenses. Examples: advertising costs and labor costs.

2.2 Information technology systems

The emergence of information technology is due to the spread of globalization, the harder the competition in doing business, the shorter the life cycle of goods and services offered due to the more development of these goods and services made in a fast time, as well as the increasing demand of consumer tastes for products and services offered. In overcoming this, companies are required to seek new breakthroughs or continuous improvement by utilizing technology. Originally, information technology was used only limited to data processing. So that almost all the activities of the organization today have been entered by the application and automation of information technology due to the continued development of information technology.

According to Maharsi (2000: 129)^[6] Information technology can be defined as a combination of computer and telecommunication technology with other technologies such as hardware, software, databases, network technology, and other telecommunication equipment. Furthermore, information technology is used in the organization's information system to provide information for users in the framework of decision making.

According to Meldona (in Martin, *et al.*, 2002:1) The complete definition of IT is computer technology used to process and store information and communication technologies used to transmit information. The definition of IT is very broad and covers all forms of technology used in capturing, manipulating, communicating, presenting, and using data to be converted into information.

Broadly speaking, information technology can be grouped into 2 parts, namely: hardware and software. Shell devices concern physical equipment, such as memory, printers, and keyboards. The software is related to the instructions for arranging the hardware to work in accordance with the purpose of the instructions (Hidayatullah, 2010)^[5].

Information systems using emerging information technology that are often used by accounting-related organizations include Chart of Accounts, Electronic Data Processing Systems (EDP) and Electronic Data Interchange (EDI). An account or estimate is a record to be able to accommodate transactions that will be recorded through a journal. The term ledger or ledger is a term for various approximate accounts. This collection of estimates or also these accounts are also usually often numbered and also for similar groups of accounts will be given an orderly number, this is what is known as the list of accounts / codes (Rangga, 2020)^[12].

EDP is the use of computer technology to conduct data processing oriented towards organizational transactions. This system is used to process transaction data that is routine (daily). This system cannot assist management's work with regards to decision making. This system is only useful for improving the timeliness and frequency of presentation of reports. Fundamentally, EDP is an application of accounting information systems in every organization. EDI is an inter-

computer communication with the aim of increasing effectiveness and reducing the work of a clerical nature (Maharsi, 2000: 129-130)^[6].

Included in the cost calculation system that often be implemented into information technology is

- a. Cost calculation system based on activity (Activity Based Costing System / ABCS) is defined as a cost calculation system where the shelter of factory overhead costs amounting to more than one is allocated using a basis that includes one or more factors unrelated to the volume (non volume-related factor). Activity based costing system is an accounting system that focuses on activities carried out to produce products (Dewi, Kristanto & Dermawan, 2015: 61)^[2].
- b. Just in time production (often called lean production) is a demand pull production system because each component in one production line is produced as soon as possible and only when needed by the next step in the production line. The just in time production system simultaneously aims to meet customer demand on time, with high quality products and total cost as low as possible (Dewi, Kristanto & Dermawan, 2015: 85)^[2].

3. Research method

This article uses literature reviews to identify cost accounting and the use of information technology systems in cost accounting and identify its extensive contribution to accounting research.

4. Analysis and results

A cost accounting system is a cost management subsystem designed to assign costs to each product, service and other cost object as determined by management. For external financial reporting, the cost accounting system must set a cost for the product to appreciate inventory and determine the cost of goods sold in accordance with the applicable rules (Hansen, *et al.*, 2009: 5-6)^[4]. At the individual product level, distorted product costs can cause managers to make significant mistakes in decision making. For example, managers may mistakenly consider a product that is in fact so profitable that in decision making it takes accurate product costs. Where possible, cost accounting systems must produce accurate product costs and meet financial reporting conventions simultaneously. If not, then the cost system must produce two forms of product costs which one meets the financial reporting criteria and one that meets the needs of management decision making.

An integrated and coordinated information system provides the information needed by the manager and communicates it as soon as possible in a form that can be understood by the information user. Accounting data is accumulated in various forms, methods and systems according to different types and sizes of businesses. The cost accounting information system must reflect the division of authority so that individual managers can be held accountable. The system should provide management with information that facilitates the immediate identification of activities that require attention (Soedijatno, 2006: 6-7)^[11].

Types of cost accounting information systems, namely:

a. List of Accounts (Chart of accounts)

Every private and government organization is no exception, must have a kind of ledger accounting system by means of data collected, identified, and coded for recording in journals and bookkeeping into ledger accounts in order for the

system to function properly. In order to be efficient, a chart of accounts is used that is well designed to classify costs and expenses.

According to Soedijatno (2006:8)^[11] the list of accounts is usually divided into two parts, namely:

- Balance sheet accounts for assets, liabilities and capital.
- Profit and loss statement for sales, cost of goods, factory overheads, marketing expenses, administrative expenses, and other expenses and income.

Table 1

Balance Sheet Accounts
Current assets (100-129)
Fixed Assets (130-159)
Intangible Assets (170-179)
Current Liabilities (200-219)
Long-Term Liabilities (220-229)
Capital (250-299)
Profit and Loss statement accounts
Sales (300-349)
Cost of Sales (350-399)
Overhead Factory (400-499)
Marketing expenses (500-599)
Administrative Expenses (600-699)
Other Expenses (700-799)
Other Income (800-849)
Income tax (850-899)

Source: (Aprillia, 2020:9)

The function of account numbers is to avoid confusion and errors created by different spellings and abbreviations of the same account title and is the simplest form of symbolization and importance when processing electronic data in use.

b. Electronic data processing systems (EDP)

Information systems aid decision making by collecting, classifying, analyzing and reporting data called data processing systems. This is useful if the company has more than one factory or branch that is widespread in between regions / cities or even can reach between countries with products produced varied so that eventually cause a lot of reports that must be made for users inside and outside the company.

The EDP system can be programmed to identify and report situations that deviate from certain limitations, so the concept of management based on exceptions is applied. The system also expands management's ability to use simulated mathematical models to plan operations. By studying alternative combinations of variables, managers reduce uncertainty in decision making (Soedijatno, 2006:8)^[11].

c. Electronic data interchange (EDI)

One of the information technology that is also important is using Electronic Data Interchange (EDI). With the use of EDI, the received documents can automatically command the computer. Integrated EDI provides managers with the opportunity to concentrate fully on strategic decision making and improve the ability to control some activities (Maharsi, 2020: 130).

The implementation of EDI in Just In Time (JIT) offers inventory control, directing orientation to the quality and efficiency of the workforce thereby reducing the costs of value-added activities. In Activity Based Costing (ABC), information technology can be applied to process cost information so that it can provide clarity on the source or cause of cost posts quickly and organized (Maharsi, 2020: 133).

5. Conclusion

Any organization whether it is private or government must require accounting in managing its finances. Accounting that we know is financial accounting and management accounting which between the two is not separate from cost accounting will later result in non-financial financial information made depending on who all the processes are intended for related to the cost of obtaining or using resources in an organization required by the company in decision making. Cost accounting was once considered to apply only to manufacturing companies, but nowadays every type and size of organization or company can benefit from the use of cost accounting. Computer-based accounting information processing systems are widely offered with the aim of making it easier for accountants to produce reliable, relevant, timely, complete, understandable, and tested information (Maharsi, 2000: 128)^[6].

Cost accounting is a management tool in monitoring and recording all costs that occur that will later produce useful information as a basis for consideration in decision making. Information systems using emerging information technology that is often used by accounting-related organizations include a chart of accounts containing account codes commonly used in the recording of led lists to facilitate accountants and avoid errors in recording. Electronic Data Processing Systems (EDP) is an information system that assists decision making by collecting, classifying, analyzing and reporting useful data if factories are scattered in various places and Electronic Data Interchange (EDI) makes accepted documents can order computers automatically so that managers can concentrate fully on decision making. The implementation of EDI in Just In Time (JIT) offers inventory control, directing orientation to the quality and efficiency of the workforce thereby reducing the costs of value-added activities. In Activity Based Costing (ABC), information technology can be applied to process cost information so as to provide clarity on the source or cause of cost posts quickly and organized (Maharsi, 2020:133).

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