CHAPTER-3
MANAGEMENT ACCOUNTING AND DECISION MAKING

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3.5 Chapter Summary
The previous chapter introduced the background information on study area. This chapter presents a review of the literature surrounding the objectives of the research and the research questions posed. To achieve this goal, a brief review of the literature concerning the concepts of management accounting and decision making that is relevant to the research problem is given. In the last two decades, management accounting studies have received considerable attention. The findings of these studies highlight a significant role for management accounting systems in organizations in which management accounting information is now used in planning, decision-making, control, performance measurement and business strategy in most organizations (Akbar, 2010).

In general, this chapter is outlined in five sections. The first section outlines the theoretical aspects of the study such as the concept of management accounting, management and management accounting information. Then cost terms, concepts and methods; decision making and the role of management accountant; and using management accounting information for decision making, are reviewed. These bodies of literature provide a basis for investigating the role of management accounting information system on managerial decision making. Finally, the chapter ends with a summary.

3.1 Management Accounting in Organizations

3.1.1 Management accounting definition

Management accounting is often defined as a system that provides useful information for managers in terms of decision making, planning, control and performance evaluation (Drury, 2007). According to the Chartered Institute of Management Accountants (CIMA), Management accounting is defined as “the process of
identification, measurement, accumulation, analysis, preparation, interpretation, and communication of information (both financial and operating) used by management to plan, evaluate and control within an organization and to assure use of and accountability for its resources” (2005). A definition by Atkinson et al. (2001, p.5)\(^4\) describes management accounting as:

‘A value-adding continuous improvement process of planning, designing, measuring, and operating both nonfinancial information systems and financial information systems that guides management action, motivates behavior, and supports and creates the cultural values necessary to achieve an organization’s strategic, tactical, and operating objectives.’

Horngren, Foster and Datar (2007) define management accounting as: Management accounting focuses on reporting to internal parties. It measures and reports financial and non-financial information in a format that is most useful for managers to make decisions which achieve specified goals of an organization. Managers use this information to choose, communicate and implement strategy. They also use management accounting information to coordinate product design, production and marketing decisions.

Garrison and Noreen (2003) define managerial accounting as: managerial accounting is concerned with providing information to managers- that is, to those who are inside an organization and who direct and control its operations. Managerial accounting can be contrasted with financial accounting, which is concerned with providing information to stockholders, creditors and others who are outside an organization.

First, all five definitions put heavy weight on information. Information is not limited to financial information as all five definitions explicitly state that management accounting is about financial as well as non-financial information. Thus, the type of information is not what limits management accounting. Since management accounting is information-centric, facilitating research on management accounting with research on information systems seems promising (Rom, 2008).

Second, managers are external to management accounting. It is the role of management accounting to assist or guide managers. Managers use management accounting information to fulfill the goals of the organization by for example planning and controlling activities.

Third, if managers and their actions are external to management accounting, so is management control. Management control is a broader concept that also embraces for example the design of the organization (Anthony and Govindarajan, 2007).

Fourth, management accounting has a number of tasks in relation to assisting manager’s decision making. The first task regards building up a database of information. This task includes the activities of measuring, collecting and classifying information. The second task is to analyze the information so that it is more easily used by managers. The third task is to report or communicate the information that has been collected and analyzed. Since tasks of management accounting are an essential part of the definition of management accounting, the framework should have a task focus. A task focus is also what Mauldin and Ruchala (1999) wish to bring into research on accounting information systems. The tasks that will be used throughout this thesis are data collection, analysis and reporting following the definition of management accounting.
The definitions supplied by all five sources seem to be very much in synchronization. In order to provide a comprehensive definition, management accounting is in this thesis defined as the collection, analysis and reporting of information in order to assist managers in reaching the goals of the organization.

3.1.2 Management and managerial accounting information

Many different kinds of organizations affect our daily lives. Manufacturers, retailers, service industry firms, agribusiness companies, nonprofit organizations, and government agencies provide us with a vast array of goods and services. All of these organizations have two things in common. First, every organization has a set of goals or objectives. Second, in pursuing an organization’s goal, managers need information. The information needs of management range across financial, production, marketing, legal and environmental issues. Generally, the larger the organization is, the greater is management’s need for information (Hilton, Ramesh and Jayadev, 2008). Managerial accounting is part of an organization’s management information system. Managers rely on managerial accounting information for decision making, improvement, and control in organizations (Atkinson et al., 2001).

Managerial accounting is concerned with providing information to managers—that is, people inside an organization who direct and control its operations. Managerial accounting provides the essential data with which organizations are actually run. Because it is manager oriented, any study of managerial accounting must be preceded by some understanding of what managers do, the information managers need, and the general business environment (Garrison and Noreen, 2003). So, effective management

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5 Management Information System (MIS) is a combination of people, procedures and machines intended to provide information for management decision making.
accounting systems can create considerable value to today’s organizations by providing timely and accurate information about the activities required for their success.

Therefore, managerial accounting information includes:

1. Information on the costs of an organization’s products and services. For example, managers can use product costs to guide the setting of selling prices. In addition, these product costs are used for inventory valuation and income determination (Horngren, Datar and Foster, 2007).

2. Budgets.

   A budget is a quantitative expression of a plan.

3. Performance reports: These reports often consist of comparisons of budgets with actual results. The deviations of actual results from budget are called variances (Horngren, Datar and Foster, 2007).

4. Other information which assist managers in their planning and control activities. Examples are information on revenues of an organization’s products and services, sales back logs, unit quantities and demands on capacity resources (Atkinson, Kaplan and Young, 2005).

Managerial accounting is a staff function that supports the management process by providing reports to aid management. Managerial accounting reports are designed to meet the specific needs of management and aid management in planning long-term strategies and running the day-to-day operations (Warren, Reeve and Duchac, 2009).

The typical phases of management process in organizations, that is, planning, controlling, organizing, communicating, and motivating, coincide with the phases of management accounting: accounting planning, accounting control, organization of
management accounting, accounting communication, and a motivation aspect of the management accounting (Black, Champion and Brown, 1967).

In this context, management accounting information plays a vital role in all phases of the management process. Management accounting is therefore an integral part of the management process. Accordingly managerial accounting information is designed to meet the specific needs of a company’s management. Historical data, which provide objective measures of past operations and estimated data, which provide subjective estimates about future decisions. Management uses both types of information in directing daily operations, planning future operations, and developing business strategies (Warren, Reeve and Duchac, 2009).

Therefore, managerial accounting is an important part of any organizations management information system. According to Hilton, Ramesh and Jayadev (2008), the five main objectives of managerial accounting activity are:

1. Providing managers with information for decision making and planning.
2. Assisting managers in directing and controlling operations.
3. Motivating managers towards the organization’s goals.
4. Measuring the performance of managers and sub-units within the organization.
5. Assessing the organizations competitive position to ensure the organizations long run competitiveness

Since managerial accounting is geared to the needs of the manager rather than to the needs of outsiders, it differs substantially from financial accounting. According to Warren, Reeve and Duchac (2009), unlike the financial statements prepared in financial accounting, managerial accounting reports do not always have to be:
1. Prepared according to generally accepted accounting principles (GAAP). This is because only the company’s management uses the information. Also, in many cases, GAAP are not relevant to the specific decision-making needs of management.

2. Prepared at fixed intervals (monthly, quarterly, yearly). Although some management reports are prepared at fixed intervals, most reports are prepared as management needs the information.

3. Prepared for the business as a whole. Most management reports are prepared for products, projects, sales territories, or other segments of the company.

Atkinson et al. (2001) have stated that the operational and financial information provided by management accounting should be determined “by the information needs of individuals inside the company and should guide their decisions.” In this perspective, managers have a variety of management accounting tools at their disposal. Each of these provides one or more specific types of management accounting information, and these various tools can thus support, enable, and encourage managers in their decision-making. According to the authors, management accounting has four organizational functions.

Table 3.1 shows the four main functions of management accounting: operational control, product and customer costing, management control and strategic control. The four different functions relate to the different demands for management accounting information.
### Table 3.1: Functions of Management Accounting Information

<table>
<thead>
<tr>
<th>Operational control</th>
<th>Provide feedback to employees and their managers about efficiency and quality of tasks performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product and customer costing</td>
<td>Measure the costs of resources used to produce products or services and to deliver the product or service to customers</td>
</tr>
<tr>
<td>Management control</td>
<td>Provide information about the performance of managers</td>
</tr>
<tr>
<td>Strategic control</td>
<td>Provide information related to the company’s financial, technological innovations, market share and customer satisfaction.</td>
</tr>
</tbody>
</table>

Source: Adapted from Atkinson et al. (2001, p.11)

### 3.2 Cost and Costing Methods

In the continuous changing business environment, managers must understand their customers and their costs. Accounting reports contain a variety of cost terms and concepts representing a lot of information. Managers who understand these terms and concepts are able to best use the information provided, as well as avoid misuse of that information. This understanding is a common theme for all successful business. A common understanding of the meaning of cost terms and concepts facilitates communication among managers and management accountants. In a more accounting sense, a cost is defined by Horngren, Foster and Datar (2007) as a resource sacrificed or forgone to achieve a specific objective. Other experts, namely Atkinson et al. (2001) defines the cost, as the monetary value of goods and services expended to obtain current or future benefits. It is very common to quantify costs in terms of money for getting goods and services.
For planning, decision-making and control purposes, cost is typically defined in relation to a cost object. It is defined by Drury (2007), as anything for which a separate measurement of costs is desired. Atkinson et al. (2001) define a cost object as something for which a cost must be computed. That is any activity that requires information about the costs involved in performing that activity. It may be an activity, or operation in which resources, like materials, labour, etc. are consumed. A cost center is defined by Garrison and Noreen (2003) as a business segment whose manager has control over costs but not revenue and investment funds. Hilton, Ramesh and Jayadev (2008) define cost center as an organizational sub unit, such as a department or division, whose manager is held accountable for the costs incurred in the sub unit.

A major question concerning costs is whether they have a direct or an indirect relationship to a particular cost object. Direct costs of a cost object are costs that are related to the particular cost object and can be traced to that cost object in an economically feasible (Cost-effective) way. Lucey (1993) defines cost allocation as that part of cost attribution which charges a specific cost to a cost centre or cost unit. The purpose of allocating costs to cost units or cost centers is to determine with accuracy the amount of costs used to perform a particular activity; this is done with the goal of easing the unit cost determination. Cost allocation deals only with indirect costs that are allocated to a cost object (Drury, 2007).

Today business and industry needs costing systems to meet their individual requirements. Costing experts believe that it may not be possible to devise a single costing system to fulfill every body’s needs. They have developed different methods of costing for different industries depending upon the type of manufacturer and their nature. Lucey (1993) defines costing methods as the methods of costing designed to
suit the way goods are processed or manufactured or the way that services are provided. It therefore refers to the various methods that can be used to come out with the cost of an activity. It appears that the costing method must suit the product or service to cost.

Historically, two costing methods, job order costing and process costing have been used to cost product and services and many companies continue to use these traditional costing systems (Garrison and Noreen, 2003). The job order costing system seeks to estimate costs of production for different jobs included in specific customer orders. Within organizations treating each job as a single output unit, or when multiple products are produced within a given period, this type of costing system is most relevant (Garrison, Noreen and Brewer, 2007; Atkinson, Kaplan and Young, 2005). The type of industries where job costing can be used, namely: printing, furniture, hardware, ship-building, heavy machinery, repairs and other similar work. These are industries where the companies offer a wide variety of products or services.

Drury (2007) has described the procedures used in a job costing system and the accounting entries necessary to record the transactions taking place in a company using job costing. While analyzing the various costing methods, he stated that job costing should be used when the company output is made of various jobs or orders from separate customers; he also stated that there are two alternative ways of designing a job costing system: either as an integrated cost accounting system or as an interlocking cost accounting system. Drury (2007) advocated the use of an integrated cost accounting system as this reduces or avoids the duplication of records as found in an interlocking system.
Lucey (1993) also examined the mechanics of a costing system where job costing is employed. He first stated that this system must be used where the work to be performed is on customer's requirements. Secondly, this system must be based on good records obtained from production, works documentation, material and labour bookings. The documents used here are the Material requisition forms, time tickets and the job cost sheet. The material requisition forms, labour time tickets must be used for the assignment of direct materials and labour to the various jobs; then concerning the manufacturing overheads, they must be assigned using the predetermined overhead rates. The predetermined overhead rates generally use labour or machine time as the allocation bases.

3.3 The Concept of Decision Making and the Role of Management

Accountant

3.3.1 Decision-making

Managers make numerous decisions during the day-to-day operations of a business and in planning for the future (Warren, Reeve and Duchac, 2009). Decision making is an essential aspect of modern management. Before discussing what decision-making is, let us discuss what decision is, because decision-making is a process of deciding. In the Webster dictionary a decision is described as a conclusion arrived at after careful consideration. Moreover, Longman (2000) defines that “decision as a choice or judgment that you make after a period of discussion or thought”. Longman’s definition is very clear but it gives rise to a question on the definition of deciding or decision-making.

Fremount et al. (1970) defined decision-making as the “conscious and human process, involving both individual and social phenomenon based upon factual and value
premises, which concludes with a choice of one behavioral activity from among one or more alternatives with the intention of moving toward some desired state of affairs”. It represents a course of behavior or action about what must or must not be done. According to Trewartha and Newport (1982), “Decision making involves the selection of a course of action from among two or more possible alternatives in order to arrive at a solution for a given problem”. The art of decision-making provide us a variety of approaches, methods and techniques helpful and useful for making high quality of decision.

Good and effective decisions can only be made when right information is made available at the right time to the right recipient. Right decisions give direction for a right course of action. Daft (1983) stated that when an organization is designed to provide correct information to managers, decision processes work extremely well and tasks will be accomplished. However, when information is poorly designed, problem-solving and decision processes will be ineffective and managers may not understand why. Therefore, corporate decision making process is the most critical process in any organization. The following figure outlines the framework in which decisions should be made.

Figure 3.1: A Framework for Decision-making

![Diagram of Decision-making Framework]

Decisions require information

Quantifiable (Numerical)  Non-quantifiable (Qualitative)

Source: Adapted from Clarke (2002, p.5)
According to Simons (2007), the decision-making process can be characterized by the following:

1) Decision-making is not the end of the process. It extends through to achieving results and is a continuous process.

2) Accountants contribute to the strategic planning and enterprise governance framework, which articulates the business's competitive position and objectives,

3) Individuals' personal contexts and attitudes can impair decision-making, but business partners can address this problem by championing evidence-based decision-making.

4) Business partners can help to "frame" a decision, provide management information, and contribute insights and analyses alternatives to help the decision maker.

As defined by Baker et al. in their 2002 study, “efficient decision making involves a series of steps that require the input of information at different stages of the process, as well as a process for feedback. In this study the decision-making model proposed by Drury is chosen, which can be rather categorized in a sequential form. Decision context and type can vary and the outcome depends often on the decision maker. Although in sequential models there are some common steps that can be found by making almost every decision. These steps that can be applied as a framework for the decision making process are useful regardless of the decision’s type, context and maker.

Drury’s model includes seven stages that follow each other. The five stages of this model belong to the decision-making process, also called planning process that is described as “making choices between alternatives”. At the end of the decision
making process he adds other two stages called the control process that should
measure and correct the concrete performance of the alternatives chosen. A basic
understanding of decision making is essential because most information systems are
designed to support decision making in one way or another (Effy, 2009).

3.3.2 Types of decisions

There are different types of decision. According to Drucker (1990), there are four
basic criteria, which determine the nature of decision and the level of authority that
should be decided: There are (i) future times involved; (ii) the qualitative factors; (iii)
whether a decision is rare or routine and repetitive; (iv) whether the impact of a
decision is on other function areas or on the businessman as a whole (James, 1998).
Decisions are typically characterized as unstructured, semi-structured and structured.

Unstructured decisions

The unstructured decisions are normally subjective and do not follow any definite set
of rules. Many decision situations in the real world are unstructured because they are
subjected to too many random or changeable events or involve too many unknown
factors or relationships (James, 1998). It occurs when the relevant parameters as well
as the influencing relationships are unknown (Mallach, 2002). The manager does not
know the information required. The information system can be of no help to the
manager under this type of situation (Ismail, 2011). The senior management of the
company is responsible for making the decisions for the unstructured problems,
because the problem requires many sources of information, and the evaluation
procedure is not easy. In addition, this kind of decision depends on the personal
experience of the decision maker (Laudon and Laudon, 2006). For unstructured
decisions cost system, sales and production, R and D planning etc., techniques can be
used.
Semi structured decisions
Semi-structured decisions occur in an environment where the relevant parameters are mostly known and where influencing relationships are suspected or are approximately known (Mallach, 2002). In such cases the MIS can provide assistance to the decision maker through provision of information. Middle management in the firms is responsible for making the semi structured decisions. However, they face more structured decisions, but their decisions include unstructured components (Laudon and Laudon, 2006). For semi-structured decisions, e.g., production, scheduling, cash management, overall budget, new product planning, etc., techniques can be used.

Structured decisions
Structured decisions follow a set of rules. This means that both the relevant parameters and relationships are known (Mallach, 2002). Structured decisions involve routine and repetitive problems for which standard solutions exist (Rainer and Cegielski, 2011). Effy (2009) added, since the steps are known, and they must be followed the same way, this yields to getting the same solution for the same problem all the time. Any decision process that can be defined in a procedure and issued to any organization is an example of structured process. For example account receivable, inventory control, the reorder point; determination of the economic order quantity, short-term budgeting and the safety stock are structured decision systems which provides analyses of determination to assist in decision-making (Ismail, 2011). The structured decisions can be automated and can be computerized. The objectives of an MIS is to ensure that all the structured decisions are computer generated and the managers need not spend much time in making structured decisions (James, 1998). Operational management and team leaders tend to execute and handle the structured decisions (Laudon and Laudon, 2006).
3.3.3 Classification of decisions

In management accounting, it is useful to classify decisions as:

1. Strategic and tactical
2. Short-run and long-run

**Strategic and tactical decisions**

In setting goals and objectives, it is useful to distinguish between strategic and tactical decisions. Strategic decisions are broad-based, qualitative type of decisions which include or reflect goals and objectives (Montana and Charnov, 2008). Strategic decisions are non quantitative in nature. Strategic decisions are based on the subjective thinking of management concerning goals and objectives. March (1988) defines strategic decision as one which is made during a current time but whose primary effect will be felt during some future time. Strategic decisions affect organizational structure and objectives. Strategic decision cannot be delegated lower than a particular level. Thus, Strategic decision-making function is largely the task of top management (Montana and Charnov, 2008).

Prasad (1997) stated that tactical decisions are tactical in nature and called routine decisions. They are important and repetitive and need little thought with few alternatives. The decisions are taken up by middle level management, such as divisional or departmental managers (Montana and Charnov, 2008). Tactical decisions support and compliment organizational strategy. The tactical decision may be delegated to lower levels in the organization (Ismail, 2011). Moreover, what might be strategic decision for one organization may be tactical decision for another? (Prasad, 1997) The distinction between strategic and tactical is important in management accounting because the techniques of management accounting pertain
primarily to tactical decisions. Management accounting does not typically provide techniques for assisting in making strategic decisions.

**Short-run versus long-run decision-making**

As stated above, decisions can be grouped into short- and long-term decisions. It is necessary to consider decisions from both perspectives. Drury (2007) defined the short-term is usually as being one year or even less. In short-term decisions the importance of the time value of money is low. These decisions are mainly based on today's data. Short-term decisions can usually be changed easily as opposed to long term ones.

Short term decisions include whether to accept special orders, how many parts or other raw materials to buy (or whether to make the parts internally), whether to sell a product or process it further, whether to schedule overtime, which products to produce, and what price to charge (Jackson, Sawyers and Jenkins, 2008). Other short term decisions affecting all organizations include assigning tasks to individual employees, whether to advertise, and whether to hire full-time employees or to outsource.

Long-term decisions have effects on longer periods of time (Drury, 2007). Consequently, such decisions demand a firm’s resources for a longer episode of time. Such decisions can influence future decisions and can have an impact on long-term potentials. Strategic planning addresses long-term questions of how an organization positions and distinguishes itself from competitors. Long-term decisions about where to locate plants and other facilities, whether to invest in new state-of-the-art production equipment, and whether to introduce new products or services and enter new markets are strategic planning decisions (Jackson, Sawyers and Jenkins, 2008).
3.3.4 Management accountant’s role in decision making

The Accounting profession is the most challenging profession in the business world. From the allocation of resources, controlling, and measuring the business’s performance, the accountant’s role has become more important (Kariyawasam, 2009). The term management accountant refers to an individual who has a special accounting training and works in an organization (Cooper and Dart, 2009). Management Accountants are the professionals who are responsible for the financial reports and the management accounting control system within an organization. But beside this role the management accountant also provides information to their managers. They assist their managers in supporting, planning, controlling, directing, communicating and coordinating the decision-making activities of organizations in the private sector, as well as the public sector (Swagerman, 2003). Managers of an organization are considered to be the customers of the management accountant, so far as management accounting information is concerned, and management accountants should be continuously aware of the need to satisfy their requirements. It is clear that management accountants have -as they've always had - a significant contribution to make at each stage of the decision-making process.

Figure 3.2 depicts the six steps in the decision making process, and the management accountant role. The managerial accountant’s role in the decision-making process is to provide data relevant to the decision. Managers can then use these data in preparing a quantitative analysis of the decision. Qualitative factors are considered also in making the final decision (Hilton, Ramesh and Jayadev, 2008). Specifically, the role of management accountant in an organization is to support the information needs of management. However, the type, size, structure, and form of the organization can affect the complex role of management accountant (Kariyawasam, 2009).
In decision making, the managerial accountant collects and analyzes data and presents them for the managers to decide. Siegel and Kulesza (1996, p.22) argue:

‘Management accountants have become decision-support specialists who see their role as distilling diverse information; putting it into a useful format and facilitating management decision making.’

Source: Adapted from Hilton, Ramesh and Jayadev (2008)
For regular or short-term decisions management accountants can use cost-volume-profit (CVP) analysis, product profitability analysis, customer profitability analysis, and stock control models. For capital investment decisions management accountants can produce accounting rates of return and payback periods as well as more sophisticated signals based on discounted cash flow, e.g. net present value and internal rate of return. Also, management accounting systems can provide information on non-financial factors, such as quality of output, flexibility of processes and lead-times that could affect capital investment projects. Finally, management accountants can use risk analysis techniques such as probability analysis, computer simulation and ‘what if’ analysis (Abdel-Kader and Luther, 2006).

The role of aiding decision making makes mid-level operational managers the primary clients of management accountants. Here, the accountant’s main task is to provide managers with data required for self-control. The benefit associated with this style of management accounting function is its contribution to business decision making (Granlund and Lukka, 1998). However, the management accountant’s involvement can also stifle operational management initiative and creativity.

In his research, Doyle (1950) explains the extent to which cost analysis is a major role of the management accountant. The management accountant devotes a large share of his time in determining what cost should be at a given level of output and then analyzing why, in fact, that target cost was not achieved. An effective cost control program is usually built around the management accountant's reports and summaries of operating data, and management's corrective action taken as a result of studying these reports and summaries. Thus, cost control is the responsibility of both of the management accountant and management. The management accountant is responsible
for the recording and reporting phase of cost control, while management is responsible for taking corrective action (Crossman, 1953).

The managers in Pierce’s and O’Dea’s (2003) survey emphasized also team work. Management accountants should work as a member in the management team and be considered by him/herself and other managers as business managers with special knowledge in accounting and finance. In addition, Pierce and O’Dea (2003) suggest that future management accountants need not only have knowledge of accounting and finance but also knowledge of the company’s business especially understanding of production and sales activities.

In this new environment the management accountant must acquire a broad knowledge of the business, and add value to the organization by bringing financial expertise to the management process and participating as team players. The management accountant must now move into the spotlight and become an integral part of the management team by using a broader range of skills, utilizing both financial and non-financial indicators; taking decision-making roles in cross functional teams; and integrating operational and strategic control. The management accountant must broaden the nature of their role and become a strategic manager (Murphy, 2004).

In addition, Granlund and Malmi (2002) suggest that new work tasks of management accountants is to analyze information needs, redesign reports and design and implement new system interfaces. They argue that accountants are not disappearing in the future even though managers can prepare reports by themselves for example, with advanced on-line analytical processing (OLAP) tools. Their study showed that in most of the companies, managers lack the skills or time to conduct this type of analysis.
Consequently, management accountants are needed to transform the data into information and ultimately into knowledge.

3.4 Using Management Accounting Information for Decision Making

The importance of accounting in managerial decisions has long been recognized in the literature. Particularly in the field of management accounting, actual cost data, cost estimates and cost analysis. Cost data and analysis helps managers in making decisions in such areas like pricing, profit planning, setting standard cost, capital investment decisions, marketing decisions, cost management decisions and others. The various decisions made through the use of management accounting information will be discussed in this section.

3.4.1 Product costing and pricing decisions

Product costs are widely used as major inputs in product pricing decisions. Hall and Hitch (1939) state the general pattern of price setting to be cost-based. Managers continue to use cost data and information as primary pricing concern. Diamantopoulos (1991) claims that, cost-plus pricing is by far and away the most widely used pricing approach. Cost-plus pricing is an inward oriented strategy, involving company and product considerations. Cost-based pricing situation focuses on the internal costs of the firm including fixed and variable costs, contribution margins, and so on. Several pricing strategies, such as target-return pricing, markup pricing, rate of return pricing, contribution pricing, contingency pricing are included as part of cost- based pricing strategies.

Lere (1986) presents three common product costs, namely variable costing, full absorption costing, and normal- overhead absorption costing. He mentioned that variable costing leads to the complete- analysis price for firms with linear cost curves
where demand and cost curves are deterministic and the decision maker is risk-neutral. Thus, it can be seen from the available literature that reliable cost data and cost analysis has become a basic input in pricing decisions in both product manufacturing and service organizations.

3.4.2 Cost management

Managers face diverse problems in running their organizations, some internal and others external in nature. Selling prices tend to become inflexible, employees get organized and demand higher wages and other benefits, taxes increase, and governments impose new regulations. As a result of these and other factors, managers soon realize that costs must be controlled and reduced if continuous profits were to be earned. Furthermore, management begins to think of efficiency in company operations and lower costs. To accomplish these desired results, managers need cost and statistical records of current performance to compare with planned performance as a means of watching and controlling costs (Crossman, 1953).

Jackson (1974) defines cost control as the guidance and regulation of the internal operations of a business, by means of modern methods of costing, through which manufacturing and sales performances are measured. He puts the purpose of cost control to be the discovery and correction of defects and weaknesses as these things consume resources of organizations unnecessarily and thereby increase its costs. Cost management identifies, collects, measures, classifies and reports information that is useful to managers and other internal users in cost ascertainment, planning, controlling and decision making (Jhamb, 2009). It refers to systems, method and practices employed by an organization to reduce costs of products and services without sacrificing quality.
Both cost control and cost management activities are important to assist management in its decisions and this is achieved through proper cost analysis. Current developments in cost and management accounting literature indicate the emergence of new concepts, which include value chain analysis, Activity-based Costing/Activity-based management (ABC/ABM), Target Costing, Life Cycle Costing (LCC), and Kaizen Costing. Consequently, the scope of cost analysis has been expanded to such areas as well. Monden (1989) presents three necessary steps in total cost management and these areas (1) planning a product that meets customers’ demand for quality, (2) determining a target cost under which customers’ demand for quality is attainable using a blueprint based on value engineering, and (3) determining which processes achieve the target cost in production performance.

3.4.3 Profit planning

Cost analysis is indispensable to profit planning. Profit planning involves the determination of operating plan of a business organization for the coming operating period and summarizing it in financial presentations in the form of projected income statement. Costs are one of the major inputs in profit planning and cost analysis in profit planning helps management to understand the relationship of cost, volume and profit and finally decide on the optimal operational activity level. Jaedicke and Robichek (1964) explain cost-volume-profit analysis being useful to determine the optimal level and mixes of output to be produced with available resources, i.e. in making the firm's short-run output decision. Cost-volume-profit analysis is a means for enabling management to decide whether to make or buy, to continue or discontinue a particular product, to increase production of a product, to introduce new lines, and so on.
3.4.4 Capital investment decisions

Capital investment decisions deal with how to select projects that increase rather than decrease the capital value of a business. It is a decision-making and control tool that focuses primarily on projects or programmes that span multiple years (Bhimani et al., 2008). Capital investment decisions basically examine two major items, namely benefits and costs. Thus, analysis of both the benefits and the costs are made and such analysis is commonly called cost-benefit analysis. Cost-benefit analysis as widely used technique for deciding whether to make a change or not and involves adding up the value of the benefits of a course of action, and subtracting the costs associated with it. Costs are either one time costs, or may be ongoing. The benefits are most often received overtime. Cost-benefit analysis can be carried out using only financial costs and financial benefits.

3.4.5 Marketing decisions

Management accounting information from the viewpoint of marketing decision provides useful information needed to plan and control marketing costs and to devise appropriate marketing strategies for selling products based on their contribution margins to the total company profit. Beik and Buzby (1973) stated that marketing cost analysis relates the cost of marketing activities to sales revenues. A profit or loss statement must be constructed for any marketing component being analyzed. The approach consists of dividing the firm's costs into their functional categories. The functional category amounts are then assigned within the appropriate marketing classifications.

Dunne and Wolk (1977) indicated that contribution margin income statements by department are also useful for budgeting, performance analysis, short-run decision-making, pricing, and decisions between alternatives. Market segment income
statements are also useful for such marketing decisions as whether to drop a product line and whether to alter the physical distribution system. They also aid in the redirection of effort to the company’s more profitable products and markets.

**3.4.6 Setting cost standards**

Standard costs furnish information for cost control and as a pricing policy base. In standard costing the cost of a product or service is predetermined "scientifically". Any variance of actual cost of production from the predetermined normal cost of product may indicate waste or inefficiency, which is important information for management to control waste or inefficiencies. Standard cost is used as an average target product cost and followed up by comparing with the actual cost. Shank and Fisher (1999) warn that standard costing is a simple and suitable method for actual cost follow-up, but may lead to inappropriate decisions when used incorrectly in future planning. They state the main problem of standard costing as being that it does not provide enough information to enable management to control the overheads and other indirect costs related to the product.

**3.4.7 Life cycle cost determination**

Life cycle cost determination for a product or service is based on the principle that the cost of a product or service is the costs incurred throughout its whole life. James (1982) explains Life Cycle Cost Analysis (LCCA) becoming popular in the 1960s when the concept was taken up by U.S. government agencies as an instrument to improve the cost effectiveness of equipment procurement. From that point, the concept has spread to the business sector, and is used in new product development studies, project evaluations and management accounting.
Fuller (1995) defined Life Cycle cost analysis (LCCA) as a method for assessing the total cost of facility ownership which takes into account all costs of acquiring, owning, and disposing of the facility. He states that LCCA is especially useful when comparing project alternatives that fulfill the same performance requirements, but differ with respect to initial costs and operating costs. Thus, Life-cycle cost determination estimates the costs of a product throughout its whole life, which becomes an important input in preparing life cycle cost analysis report for managerial decision making.

### 3.4.8. Product/ Customer profitability

Meghji (2005) stated that a profitability analysis starts with gathering pertinent, accurate and timely information. Sales by location, product or customer must be obtained from the company's financial statements and supporting management information systems. The ultimate goal in a profitability analysis is to use comparable information to identify products, customers or locations that are underperforming, to help make decisions that will increase the overall profitability of the company. It is important to set minimum performance criteria for each of the key profitability measures.

Koch and MacDonald (2003) define customer profitability analysis as a decision tool used to evaluate the profitability of a customer relationship. Horngren, Foster and Datar (2007) also explain the two elements of customer profitability (customer revenues and customer costs). Managers find customer profitability analysis useful for several reasons. First, it frequently highlights how vital a small set of customers is to total profitability, managers need to ensure that the interests of these customers receive high priority. Second, when a customer is ranked in the "loss category," managers can focus on ways to make this customer more profitable in the future.
3.5 Chapter Summary

In Chapter 3 literatures related to managerial accounting and decision making were reviewed. The review includes theoretical concepts about management accounting; cost terms, concepts and methods; the concept of decision making and the role of management accountants; and using management accounting information for decision making. The next chapter will examine the theoretical concepts and studies related to the role of management accounting information system.