A STUDY ON THE USE OF ACCOUNTING DATA FROM MANAGEMENT ACCOUNTING INFORMATION SYSTEM FOR MANAGEMENT DECISION-MAKING

(THE CASE OF MEDIUM AND LARGE-SIZED PRINTING COMPANIES IN ETHIOPIA)

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ABSTRACT

This study examines the use of accounting data from management accounting information system for management decision-making within medium and large-size companies (MLCs) in Ethiopia, in printing industries. In this study, exploratory and descriptive research designs are applied. The study focuses on large and medium sized units with over 30 employees or annual sales 1.5 million birr ($90,000), because it can be assumed that a systematic management accounting information system (MAIS) is little used by smaller units. Stratified
random sampling approach was used for sample selection. A triangulated approach to data collection was adopted in this study utilizing a mail and hand delivered survey followed by a number of semi structured interviews. The level of use of accounting data from MAIS reveals that ‘decision-making’ rank first followed by the ‘cost control’. Managers noted an increase in better decision making by managers after using accounting data from MAIS.

**Key Words:** Accounting, Decision making, management accounting, MAIS

**INTRODUCTION**

Managers know that there is no single factor that guarantees corporate success. However, they also know that there are certain essential factors without which organizations simply cannot be managed. In this context, Bhimani (1993) argued that an essential factor for survival in a permanently competitive environment is the availability of the relevant information that enables managers to act. Perera (1989, p. 141) contends that —accounting is a product of its environment, and a particular environment is unique to its time and locality. The accounting practices of developing countries have been shaped by Western countries accounting systems (Prather-Kinsey 2006). However, the status of their current accounting systems differs from country to country.

The American Accounting Association formulated the definition of Accounting as the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Accounting a language that communicates economic information to people who have an interest in an organization—managers, shareholders, potential investors, creditors, government and the employees. The accounting literature identifies quite a number of specialized fields of accounting. Among them, financial accounting is the original field of accounting. Its main purpose is to record
transaction details in monetary terms and prepare financial statements and reports in accordance with GAAP. The other part of accounting, Management accounting is defined as a system that provides useful information for managers in terms of decision making, planning, control and performance evaluation (Drury, 2004, p. 20).

Management accounting is the most important component of information system within an organization. The main purpose of Management accounting information is to provide information that is useful to decision making. The decisions that have to be made in order to ensure effective resources allocation requires a variety of information that only management accounting can make available to managers. The primary focus was on providing information for planning and controlling the productivity and efficiency of internal processes. As a whole, the information provided was directly relevant to the task of optimizing cost, time, and asset utilization. Accordingly, this has a tremendous impact on the entire organization’s profitability (Kaplan and Atkinson, 2001).

However in Ethiopia there has been no literature that has discussed the use of accounting data from MAIS in management decision-making in private and public sectors. Therefore there is a need for “triangulation” in the research by providing evidence from developing countries like Ethiopia. To remedy this I have undertaken a study with the aim of obtaining a broad overview of the use of accounting data from MAIS in management decision-making in Ethiopia printing industries the case of medium and large-size organizations.
LITERATURE REVIEW

The MAIS provides information needed to satisfy specific management objectives. At the heart of a MAIS are processes; they are described by activities such as collecting, measuring, storing, analyzing, reporting, and managing information. Information on economic events is processed in to outputs that satisfy the system’s objectives. Out-puts may include special reports, product costs, customer costs, budgets, performance reports, and even personal communication (Hansen and Mowen, 2007). Management accounting information plays a vital role in all phases of the management process. Managers can use management information, amongst other things, not only to be able to compare actual with expected operating results and to manage by exception (Simons, 1995), but also for monitoring, detecting change, identifying problems and opportunities, and disseminating information (Mintzberg, 1972), or for operational planning, performance evaluation, communication of goals and strategy formulation (Hansen and Van der Stede, 2004). Such a report might compare the actual and expected costs of defective materials. If the cost of defective materials is unusually high, management might decide to change suppliers.

Management accounting is part of an organizations management information system. Thus, managers rely on managerial accounting information to plan and control an organizations operation (Hilton, 1997).
The three main objectives of MAIS are:

1. To provide information for costing out services, products, and other objects of interest to management.
2. To provide information for planning, control and evaluation.
3. To provide information for decision-making (Hansen and Mowen (2007)).

Garrison and Noreen (2003) have stated that 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. Management accounting information refers to the accounting information used inside the organization. By tradition, accounting information has been considered financial in its nature. Different types of financial information include for instance, cost of producing a product or service or cost incurred in departments. However, management accounting information has begun to encompass also non-financial information such as quality as well as subjective measurements for example, customer satisfaction. (Atkinson et al., 2001)

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 (Atkinson et al., 2001).
Warren, Reeve, and Duchac (2008) described how Managerial accounting information is designed to meet the specific needs of a company’s management. Management accounting information includes historical and estimated data.

1. Historical data, which provide objective measures of past operations
2. Estimated data, which provide subjective estimates about future decisions

Thus management uses both historical and estimated data in directing daily operations, planning future operations, and developing business strategies. MAIS provide timely and accurate information to facilitate efforts to control costs, to measure and improve productivity, to devise improved production processes, and to report accurate product costs so that pricing decisions, introduction of new products, abandonment of obsolete products, and response to rival products can be made (Johnson and Kaplan, 1987). According to Banbury and Naphiet (1979), the management accounting information system is useful to communicate within the organization to achieve financial goals, and useful as a performance measurement tool in organization. Furthermore, Collin (1982) noted that the management accounting information system is useful in communicating role expectations and organizational climate. It could also be used for motivational purpose associated with role performance. Having a good management accounting information system will ensure the availability of necessary information in a timely manner, thus helping them making better decision for the companies, especially in time of crisis. It is very obvious that the use of accounting data from MAIS for management decision-making should be considered as an important subject to be studied.
OBJECTIVE OF THE STUDY

The main objectives of the study are to see whether the printing companies in Ethiopia are using accounting data from MAIS in order to assist the managers with information relevant to decision making.

HYPOTHESIS

After reviewing relevant literature, the following variable was hypothesized.

H1. Using of accounting data from MAIS lead to better decision-making by managers.

METHODOLOGY OF THE STUDY

A triangulated approach to data collection was adopted in this study utilizing a mail and hand delivered survey followed by a number of semi structured interviews. The interviews were intended to improve the richness of the data already collected from the surveys. Some textbooks, journals, newspapers etc. have been consulted in order to build up the framework of the study. In this study, exploratory and descriptive research designs are applied. The study focuses on large and medium sized units with over 30 employees or annual sales 1.5 million birr ($90,000), because it can be assumed that a systematic MAIS is little used by smaller units (Lukka and Granlund, 1996). The list of sample printing companies was prepared from a list of printing companies maintained by Ethiopian Business directory on 2010 for the purpose of studies. The total population of the study was 246 large and medium-size printing companies.
A table of recommended sample sizes (n) for populations (N) with finite sizes developed by Krejcie and Morgan and adapted by Patten (2004), was used to determine estimated sample size. For this study, a 5% margin of error was selected because it has been used in most studies in business research. According to the table, and for purposes of this study, the researcher used a population size N= 246 large and medium-size printing companies and thus a sample size goal of n=120 large and medium-size printing companies. Stratified random sampling approach was used for sample selection.

For each of the sampled companies, a questionnaire was distributed to General Managers, Marketing managers, Production managers, Finance managers and Managerial accountants. They were chosen as the target respondent as they are believed to represent the major management accounting information system stakeholders within the organization and could be expected to have a better understanding of the information issues within the organization. There were a total of 600 questionnaires distributed to the general managers, marketing managers, finance heads, production managers and managerial accountants of the sampled printing companies. An overall response rate of 89% was achieved. The survey was conducted between November 2011 and January 2012.

Data collected during the survey were analyzed with the help of Statistical Package for the Social Sciences (SPSS version 16). A range of statistical procedures are adopted to explore the research questions posed and to test the hypotheses.
RESULTS AND DISCUSSION

Frequency use of accounting data from MAIS

Survey respondents were asked the level of use of accounting data from MAIS’. The level of use of accounting from MAIS was assessed in the context of four areas- planning and budget, decision making, performance measurement and cost control.

Table 1: Frequency use of accounting data from MAIS

<table>
<thead>
<tr>
<th>Areas</th>
<th>Number of respondents for different levels of use</th>
<th>Mean</th>
<th>Rank(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To a moderate extent</td>
<td>To a great extent</td>
<td>To a very great extent</td>
</tr>
<tr>
<td>Planning and budget</td>
<td>183</td>
<td>260</td>
<td>91</td>
</tr>
<tr>
<td>Decision making</td>
<td>0</td>
<td>359</td>
<td>175</td>
</tr>
<tr>
<td>Performance measurement</td>
<td>443</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>Cost control</td>
<td>84</td>
<td>274</td>
<td>176</td>
</tr>
</tbody>
</table>

Source: Primary data

It could be seen from the table that out of the 534 respondents, with regard to planning and budget\(^1\) 260 respondents use to a great extent, 183 to a moderate extent, and 91 to a very great extent.

\(^1\)Ranking was base on the mean of levels of use of accounting data. It indicated that the higher the ranking is the more use of accounting data from MAIS.
In case of ‘decision making’, 359 respondents use to a great extent and 175 to a very great extent.

In relation to ‘performance measurement’, 443 respondents use to a moderate extent and 91 to a great extent.

Responses relating to ‘cost control’ 274 respondents use to a great extent, 176 to a very great extent and 84 to a moderate extent.

The mean score addressing the level of use of accounting data from MAIS in the different areas ranged from a 3.17 to 4.33\(^2\). This shows that the level of use of accounting data from MAIS in the four areas correspond to ‘moderate’ to ‘great extent level’ of use. The overall analysis relating to the level of use of accounting data from MAIS reveal that ‘decision making’ rank first followed by the ‘cost control’. ‘Planning and budget’ ranks third and ‘performance measurement’ ranks last.

To test the hypotheses of this research, I used z-test statistics at confidence level of 95%. The research hypothesis was put in the form of statistical hypotheses such as H0 and H1.

H0: Using of accounting data from MAIS not lead to better decision-making by managers.

H1: Using of accounting data from MAIS lead to better decision-making by managers.

This was investigated using the Question “How frequently you use the accounting data from MAIS in each of the following areas “, and in each case, a scale 1 to 5 was given to measure the use of accounting data from MAIS. The assumptions are that, the greater the degree of using of accounting data from MAIS, the better decision making by managers.

Furthermore, the z-test has a mean value of 4.35 corresponding to the p-value of 0.000. The p-value is significant indicating that there is a significant difference between the mean

\(^2\) The level of use of accounting data from MAIS in the four areas was measured by agreement through likert scale represented by 1 to 5 where 1 is not at all and 5 to a very great extent. In this result, mean value above 4 show very great extent toward the level of use of accounting data from MAIS in the four areas.
value and the hypothesized mean value (3). Managers noted an increase in better decision-making by managers after using accounting data from MAIS.

### Table 2: Z-test analysis outcomes

<table>
<thead>
<tr>
<th>Test used</th>
<th>‘Z’ Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of significance</td>
<td>0.05 percent</td>
</tr>
<tr>
<td>Calculated value</td>
<td>15.367</td>
</tr>
<tr>
<td>Table value</td>
<td>± 1.96</td>
</tr>
<tr>
<td>Result</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The calculated value related to Using of accounting data from MAIS is 15.367 which is higher than the table value at 5 percent level of significance. The Hypothesis is therefore accepted. It is inferred from the statistical analysis that using of accounting data from MAIS lead to better decision-making by managers because using MAIS in their organizations lead to better decision-making. On the average, there is evidence that managers see using of accounting data from MAIS gives better decisions.

**CONCLUSION**

The study has made a solid contribution to the knowledge of using accounting data from MAIS for management decision-making. Consequently, the researchers and practitioners especially in Ethiopia and other developing countries should respond to, incorporate and build on the findings of this research. The overall analysis relating to the level of use of accounting data from MAIS reveal that ‘decision making’ rank first followed by the ‘cost control’. ‘Planning and budget’ ranks third and ‘performance measurement’ ranks last. The assumptions are that, the greater the degree of using of accounting data from MAIS, the
better decision making by managers. Managers of large and medium-sized printing companies in Ethiopia noted an increase in better decision-making by managers after using accounting data from MAIS.

REFERENCE


12. Mintzberg, H. (1972) ; The myths of MIS ; California Management Review


