CHAPTER-9
SUMMARY AND CONCLUSION

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This chapter draws a conclusion to the thesis by discussing findings from Chapter 6, Chapter 7 and Chapter 8 that answer the research question posed in Chapter 1, and discusses these findings in the light of the previous research from the literature review carried out in Chapter 3 and Chapter 4. The chapter begins by summarizing the chapters of the thesis and main findings of the research related to the research questions. Then it discusses the major contributions of this research for both academics and practitioners. Finally, the chapter ends with a discussion of limitation of the study, recommendations for future research, and conclusion of the study.

9.1 Summary of the Thesis

This section presents the main issues from Chapter One through Chapter Eight. In other words, it intends to reflect on what has been done and how it has been achieved in this study.

Chapter 1 presents the background of the research which leads to aims and problems of this research. A management accounting information system (MAIS), part of an organization’s wider management information systems (MISs) is an information system that produces the information required by managers to manage resources and to create value. It provides timely and accurate information to facilitate efforts, to control costs, to measure and improve productivity, and to devise improved production processes. The MAISs also provide information to satisfy the short term and long-term decision-making needs of management. Even though, numerous studies in management accounting system have provided substantial empirical and theoretical contributions to the field of managerial accounting this area of research was still in its infancy. More research is needed.
Surveys of the role of MAIS on managerial decisions have focused mainly on companies in developed countries. However in Ethiopia there has been no literature that has discussed the role of MAIS on managerial decisions 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, the researcher focuses with the aim of obtaining a broad overview of the role of MAIS on managerial decisions in Ethiopia printing industry in the case of medium and large scale companies.

The present study aims to solve this research problem. Based on the above reasoning, this study attempts to answers the following research question. “To what extent does management accounting information system play an important role in providing managers with valuable, timely and relevant information to help them to enhance managerial decisions in medium and large scale printing companies in Ethiopia?”

Chapter 2 presents a review of the background of study area about Ethiopia’s location, demographics, government and economy with a special focus on the industrial sector. Moreover, the state of accounting and profile of printing industry in Ethiopia are reviewed. The printing industry is one of the largest and most geographically diverse manufacturing industries in Ethiopia. At present there are about 170 private owned and 4 publicly held printing companies in Ethiopia, that employ more than 30 employees, or annual revenue above 1.5 million ($90,000).

Chapter 3 presents an in-depth discussion on the management accounting and decision making concept by touching on the various definitions, tasks, techniques, processes and other related issues. Whereas, in chapter 4 the theoretical concepts and studies related to the role of MAIS on managerial decisions were reviewed. The
review includes the theoretical concept of MAIS such as the concept of MAIS, operational model and characteristics of MAIS, factors influencing data quality in MAIS, traditional versus sophisticated MAIS, and usefulness of MAIS; and various related studies conducted in this important field of research under the headings of cost accounting system and pricing policy, usage of management accounting techniques, information characteristics of MAIS, and the use of MAIS.

Chapter 5 presents the research design and methodology applied in this study. Several philosophical beliefs of researchers are discussed. The philosophical standpoint of the researcher falls into the territory of positivism and interpretive. The deductive research approach is applied and the study is designed within exploratory and descriptive research categories. A survey research strategy was chosen and conducted by using both self-administered and mailed questionnaires to collect quantitative data at a single point of time, cross-sectional. Moreover, this chapter elaborates details of research methodologies in regard to sampling procedures and questionnaire development.

The collected data are coded and analyzed by using statistical software program, SPSS version 16.0 and Microsoft Office Excel 2007. Univariate, bivariate and multivariate statistics were used for data analysis. The major statistical techniques used in the study include χ² test, Z-test, and ANOVA. Moreover, descriptive statistics are used as well to describe the basic features of the data in the study.

Chapter 6 has analyzed and discussed findings related to the managerial and organizational characteristics of Ethiopian printing companies. The analysis of demographic characteristics of the respondents indicated that the sample of the study was relevant to achieve the objectives of this study. Tests of validity and reliability
were applied to the variables of the study. Reliability was evaluated using a reliability coefficient of Cronbach’s alpha. The internal reliability test indicated that all the variables were in the acceptable range. A chi-square analysis was used to test the study hypotheses. A total of nine hypotheses were tested. Seven hypotheses were accepted.

Chapter 7 presents many issues related to the cost accounting system and pricing policy applied by medium and large scale printing companies in Ethiopia. The chapter begins with analyses of data on costing system. The current cost accounting practices for manufacturing cost, cost center, cost accumulation procedures adopted were all covered. Finally, the pricing policies adopted by the printing companies were presented.

Chapter 8 has addressed related to the major topic of the study, i.e. the role of management accounting information system on managerial decisions. A total of five hypotheses were tested. All hypotheses were accepted. The results of the study indicated that the adoption rate for traditional management accounting techniques was higher than advanced management accounting techniques. The results also reveal that there is a strong support for the statement that MAIS plays a major role in management decisions.

9.2 Summary of the Research Findings

The importance and role of management accounting information system within the business environment has grown exponentially in recent years. In the light of changes in technology and its use in the business environment it would seem to be crucial that MAIS be adopted within the medium and large scale printing companies in Ethiopia.
Thus, this study is designed within exploratory and descriptive research categories in the context of Ethiopia and aims to achieve the six objectives identified in Chapter one. Data were analyzed through descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistic (chi-square test, Z-test and ANOVA) to achieve the objectives of the research. The summary of result is presented in the following sub sections.

9.2.1 The results of the descriptive statistics

The study had six specific objectives outlined in Chapter 1, Section 1.3 and highlighted below:

i) Information about the accounting staff. The findings from the main questionnaire indicated that most of the accounting functions of medium and large scale printing companies in Ethiopia were done by 3 to 5 accountants, including the analysis of cost data and preparation of financial reports. The results showed that the majority of respondents of medium and large scale printing companies stated they have sufficient number of accountants to handle the accounting functions. Those respondents that have not sufficient accounting employees had indicated the reasons for not recruiting additional accountants. The reasons cited for not recruiting additional accounting employees is that the companies are not willing to employ more accountants’. This implies either management of these companies have limitation in recognizing the role of accountants, or that the accountants have not demonstrated their roles in the form of preparing and providing useful and timely financial and cost information to management for managerial decisions. In other words, the accountants are involved more in the routine and clerical accounting duties, and hence additional accountants are not recognized as necessary. Furthermore, the results showed that the majority of
the respondents stated that they have moderate and highly competent accountants, and hence more accountants are not required.

**ii) Cost accounting system and pricing policy.** The findings of the questionnaire survey covered many issues related to the cost accounting system and pricing policy applied by the sampled printing companies. The following outcomes highlight the cost accounting system and pricing policy applied by medium and large scale Ethiopian printing companies:

- **Costing system:** The result showed that the job order cost (customer order cost) system is used by all printing companies sampled in the study. The results of the study indicated that the nature of production activities of printing companies warrants the use of customer order costing system since products are heterogeneous and are based on customer specifications. This result supports the idea that companies making one of a kind or special order products use job costing (Ngu, 1977).

- **Manufacturing cost:** The results showed that the direct material cost (cost of paper and stamp handle) has the largest portion of manufacturing cost followed by manufacturing overhead and direct labor costs. The costs of direct materials and direct labour are charged to the job, but manufacturing overhead are accumulated and allocated to each job on the basis of direct labour cost or machine hours. It supports the recommendation made by various researchers (Ersoy et al., 2006; Uyar, 2008; First research, 2009) that direct material cost has the largest portion in manufacturing costs, followed by manufacturing overhead and direct labor costs.
• Cost center: The result showed that a variety of cost centers are observed in the printing companies. 76% of the printing companies have computer, camera, printing, platin, and binding cost centers. The remaining 24% have computer, camera, cord, GTO, speed master, web, platin, cutter and stitching cost centers. The results of the study indicated that common cost centers observed in all printing companies under study are Computer, Camera, and Platin.

• Cost accumulation procedure: The results suggested that the costs accumulated for product costing purposes in the Ethiopian medium and large scale printing companies are categorized as direct materials, direct labour, and manufacturing overheads. The direct material, direct labor and manufacturing overhead costs are accumulated for each job in a job cost sheet. The results of the study indicated that for 43% of the respondents the source documents (forms) they use for cost accumulation purpose are: production order, job order cost sheet, material requisition, material issue voucher, and labor time tickets (job tickets and time cards). The remaining 57% of the respondents use only job order cost sheet, material requisition, material issue voucher and labor time tickets as basic source documents for accumulation of production costs. In setting the pre-determined manufacturing overhead rate, 24 percent of the printing companies use direct labor hour as a base for the labor intensive operations and use machine hours as a base for the machine intensive operations. The remaining 76 percent use direct labor hour as a base for all cost centers.
The result supports the idea that direct labour hours and machine hours are used for cost allocation (Drury et al., 1993; Wijewardena and Zoysa, 1999). The result also indicated 15 percent of the printing companies under study determine three rates: Manufacturing Overhead Rate, Selling and Distribution Expense Rate, and General and Administrative Expense Rate. The remaining 85 percent companies determine and use only manufacturing overhead rate.

- Pricing policy: The results showed that regarding the pricing policy, all the printing companies under study used cost-plus pricing method. Thus, this implies the pricing policy of printing companies under study has close relation with the product costs. This result supports the idea that managers in a majority of firms rely on full cost information for pricing (Govindarajan and Anthony, 1983; Shim and Sudit, 1994; Triest and Elshabet, 2007). The results of the semi structured interviews indicated that prices depend on product type, volume of orders, and quality level required by the customers.

**iii) Extent of use of management accounting techniques.** The findings from the main questionnaire indicated that budgeting, variance analysis, material resource planning, variable costing, and ratio analysis were being given major weight with a mean of greater than 4 followed by cost volume profit analysis, absorption costing, standard costing and target costing with a mean between 3 and 4. Inter-firm comparison, activity based costing, total quality management, kaizen costing, value added accounting, strategic management accounting, economic value added, just in time, balanced scorecard, back flush costing, life cycle costing and throughput costing were being given less weight with a mean of less than 3 by all Ethiopian medium and large scale printing companies. The results of the study indicated that ‘traditional
management accounting techniques’ were found to be used more often than ‘advanced management accounting techniques’. This implies that the management accounting information systems employed in Ethiopian medium and large scale printing companies were not particularly sophisticated. This result supports the idea that the adoption rate for traditional management accounting techniques was higher than for the recently developed (Ghosh and Chan, 1977; Chenhall and Langfield, 1998; Adler et al., 2000; Chan, 2002; Hossain et al., 2006; Chandra and Mazumder, 2007; Triest and Elshabet, 2007; Farjana and Rahana, 2010; Farjana and Amran, 2011).

The results of the semi-structured interview supported the above results and indicated that management accounting techniques of Ethiopian printing companies contain other traditional management accounting techniques including financial statement analysis; fund flow analysis and cost benefit analysis.

iv) Important factors and characteristics of MAIS. The finding from the main questionnaire covered many issues related MAIS quality factors, important factors for evaluating the performance of MAIS, and extent of MAIS exhibited in information characteristics.

The following outcomes highlight the important factors and characteristics of MAIS:

- The importance of the MAIS quality factors: The results showed that all the mean scores addressing the importance of the MAIS quality factors ranged from 3.64 to 4.69. This shows that there is agreement that these four factors- accuracy, up to date, completeness and consistency are important in ensuring the quality of MAIS in the organization.
Important factors for evaluating the performance of MAIS: The results reveal that the mean score addressing the important factors for evaluating the performance of MAIS ranged from 3.32-4.67. The result of the study indicates that ‘The systems are easy to use’ is the most important factor in evaluating the performance of MAIS.

Extent of MAIS exhibited in information characteristics: The results reveal that the mean score addressing level of use for the different information characteristics of MAIS ranged from 2.87-4.54. The study found that the type of information perceived to be useful by managers was breadth of scope, timeliness, levels of aggregation, and integration nature. In sum all the above information characteristics have been identified as potentially important in assisting managerial decision making.

v) Role and use of MAIS in support of managerial decisions. The mean score addressing the level of use of accounting data from MAIS in the different areas (planning and budget, decision making, performance measurement and cost control) ranged from 3.17 to 4.33. 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. This result supports the idea that management accounting information is now used in planning, decision-making, control, performance measurement and business strategy in most organizations (Akbar, 2010).

The finding from the main questionnaire indicated that more than eighty three percent of respondents’ use MAIS in support of managerial decisions. The result of the study also shows that managers of printing companies place a major weight on the use of MAIS to product costing and pricing decisions, profitability decisions, and cost
management decisions. The results of the semi-structured interviews were consistent with the above reported findings.

There is a strong support for the statement that MAIS plays a major role in management decisions. The findings are consistent with the organizations’ increased reliance on the use of MAIS in support of managerial tasks, and managers’ higher professional ratings after using MAIS. The result supports the idea that the management accounting information is perceived as an important element to have in helping the organizations particularly the managers to communicate with their colleagues in decision-making process (Gaidiene and Skyrius, 2006; Hayes, 1997). The results of the study also indicate that 54 percent of respondents respond that managers’ professional standing in the organizations is higher after using MAIS in managers’ task. This implies managers of Ethiopian medium and large scale printing companies see MAIS as an enabling technology.

9.2.2 The results of testing the first set of hypotheses

Six hypotheses (H1, H2, H3, H4, H5, and H6) were developed to test the relationship between respondents’ level of education, study field, work experience, knowledge of management accounting, adopting technological equipment and using computers in administration and financial aspects with the use of MAIS in organizations. To test these hypotheses a ‘chi-square test’ was employed at confidence level of 95%. It is observed from Table 9.1 below that the calculated values of $\chi^2$ for H1, H2, H3 and H4 are observed to be more than the tabular value of the $\chi^2$ distribution at $p= (0.05)$. The study has found that H1, H2, H3 and H4 are significant and it may be concluded that these have meaningful effects on the perception of the respondents’ answers to the research question, thus the results supported and accepted H1, H2, H3 and H4.
Whereas the calculated values of $\chi^2$ for H5 and H6 are observed to be less than the tabular value of the $\chi^2$ distribution at $p = 0.05$. The study has found that H5 and H6 are insignificant. These variables have no impact on the results of this research; thus H5 and H6 are rejected.

Table 9.1: Results of Testing the First Set of Hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Degree of freedom</th>
<th>Calculated value</th>
<th>Table value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>9</td>
<td>29.959</td>
<td>16.919</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>15</td>
<td>35.01</td>
<td>24.996</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>12</td>
<td>27.640</td>
<td>21.026</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4</td>
<td>9</td>
<td>23.573</td>
<td>16.919</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5</td>
<td>6</td>
<td>7.651</td>
<td>12.52</td>
<td>Rejected</td>
</tr>
<tr>
<td>H6</td>
<td>3</td>
<td>4.399</td>
<td>7.815</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

*Level of significance .05

H1. There is a positive relationship between the levels of respondents’ education and the use of MAIS in the organizations. H1 is accepted.

H2. There is a positive relationship between study field of respondents’ and the use of MAIS in the organizations. H2 is accepted.

H3. There is a positive relationship between the work experience of respondents’ and the use of MAIS in the organizations. H3 is accepted.

H4. There is a positive relationship between the knowledge of managerial accounting of respondents’ and the use of MAIS in the organizations. H4 is accepted.

H5. There is a positive relationship between the degree of using technological equipment and the use of MAIS in the organizations. H5 is rejected.

H6. There is a positive relationship between using computers in administration and financial aspects and the use of MAIS in the organizations. H6 is rejected.
9.2.3 The results of testing the second set of hypotheses

Three hypotheses (H7, H8 and H9) were developed to test the relationship between the number of accountants employed, existence of adequate number of accountants, and competence of accounting personnel aspects with the use of MAIS in organizations. To test H7, H8, and H9 a ‘chi-square test’ was employed at confidence level of 95%. It is observed from Table 9.2 that the calculated values of $\chi^2$ for H7, H8, and H9 are observed to be more than the tabular value of the $\chi^2$ distribution at $p=0.05$. The study has found that H7, H8, and H9 are significant and it may be concluded that these have meaningful effects on the perception of the respondents’ answers to the research question. Therefore the results supported and accepted H7, H8, and H9.

Table 9.2: Results of Testing the Second Set of Hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Degree of freedom</th>
<th>Calculated value</th>
<th>Table value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H7</td>
<td>6</td>
<td>19.714</td>
<td>12.592</td>
<td>Accepted</td>
</tr>
<tr>
<td>H8</td>
<td>3</td>
<td>7.988</td>
<td>7.815</td>
<td>Accepted</td>
</tr>
<tr>
<td>H9</td>
<td>6</td>
<td>15.405</td>
<td>12.592</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

*Level of significance .05

H7. There is a positive relationship between number of accountants employed and the use of MAIS in the organizations. H7 is accepted.

H8. There is a positive relationship between the existence of adequate number of accountants and the use of MAIS in the organizations. H8 is accepted.

H9. There is a positive relationship between the competence of accountants and the use of MAIS in the organizations. H9 is accepted.
9.2.4 The results of testing the third set of hypotheses

To test H10, nine traditional management accounting techniques (TMATs) and twelve advanced management accounting techniques (AMATs) have been developed by the researcher after consulting different text books of management accounting. Multiple regression analysis was used to predict the direct effect of the independent variables (9 TMATs and 12 AMATs) on the dependent variable (support of managerial decisions). The overall $F$ statistic is significant at the 0.000 level and the adjusted $R^2$ indicates that the regression model explains 16.8 % of the variance in support of managerial decisions. The study has found that seven factors are significant in support of managerial decisions. Budgeting, material resource planning, variable costing, variance analysis, cost volume profit analysis and ratio analysis are significant at 5% level and balanced scorecard are significant at 10% level. The remaining sixteen factors have insignificant influence in support of managerial decisions.

9.2.5 The results of testing the fourth set of hypotheses

The study set out to investigate a number of research questions and objectives that the research was to fulfill. The assumptions are that, managers see MAIS as used to support of managerial decisions. There is a strong support for the statement that MAIS plays a major role in management decisions. The greater the degree of MAIS supports for the presumed managers’ tasks, the stronger the MAIS’ technological enhancement.

The results presented in Chapter 8 revealed that using of accounting data from MAIS was found to be significant reasons (H11) to better decision-making by managers, using of MAIS by managers was found to be significant reasons (H12) in support of managerial decisions, MAIS play a major role (H13) in managerial decision making
process, and managers see MAIS (H14) as an enabling technology. The researcher used Z-test statistics at confidence level of 95%. It is observed from Table 9.3 that the calculated value of Z for H11, H12, H13, and H14 are observed to be more than the table value 1.96, so the result of H11, H12, H13, and H14 are significant. Therefore the results supported and accepted H11, H12, H13, and H14.

**Table 9.3: Results of Testing the Fourth Set of Hypotheses**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Degree of freedom</th>
<th>Mean</th>
<th>Calculated value</th>
<th>Table value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H11</td>
<td>533</td>
<td>4.35</td>
<td>35.367</td>
<td>1.96</td>
<td>Accepted</td>
</tr>
<tr>
<td>H12</td>
<td>528</td>
<td>3.88</td>
<td>26.396</td>
<td>1.96</td>
<td>Accepted</td>
</tr>
<tr>
<td>H13</td>
<td>533</td>
<td>3.60</td>
<td>25.133</td>
<td>1.96</td>
<td>Accepted</td>
</tr>
<tr>
<td>H14</td>
<td>529</td>
<td>3.63</td>
<td>22.944</td>
<td>1.96</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

*Level of significance .05

**H11.** Using of accounting data from MAIS leads to better decision-making by managers. H11 is accepted.

**H12.** MAIS are used by managers in support of managerial decisions. H12 is accepted.

**H13.** MAIS play a major role in managerial decision making process. H13 is accepted.

**H14.** Managers see MAIS as an enabling technology. H14 is accepted.

**9.3 Contributions of the Research**

The current study is an attempt to remedy the shortage and fill the gap in the role of management accounting information system literature, especially in developing countries, such as Ethiopia. The thesis aims to make a valuable addition to management accounting research in general and the role of MAIS on managerial
decisions in particular as it relates to a developing country such as Ethiopia. The findings of this thesis shed light on the development of the role of MAIS on managerial decisions in Ethiopia which is a developing country currently undergoing rapid changes in the business environment. Thus, this research has two implications. These implications are discussed in the following sub-sections.

**Implications for academics**

The research detailed in this thesis makes a valuable addition to management accounting research in general and MAIS in particular as it comes from a developing country while most of the previous research in the field comes from developed countries. The study findings have a number of insightful implications for academics.

This research responds to many calls made recently by management accounting researchers (e.g. Modell, 2005; Van der Stede, young and Chen, 2005; Ahrens and Chapman 2006; Davila and Oyon 2008) to complement the quantitative approach with a qualitative approach to enhance the validity of management accounting research findings. Thus, this research utilised a survey research approach, which involved both a quantitative and a partially qualitative approach.

In addition to the different stages that were used in developing the main questionnaire, a pilot study was conducted to develop an effective questionnaire and to validate the main research instrument. These procedures are also an important contribution to management accounting research methodology since one of Van der Stede, young and Chen (2005) key findings was the importance of the use of a pre-testing procedure in management accounting research. Therefore, a pre-test of a survey instrument is one of the important procedures employed to respond to a key criticism of the survey...
method. Thus, it is reasonable for researchers to claim that data is reliable and valid since the study variables were selected carefully after the conduct of a pilot study.

**Implications for practitioners**

The study findings have implications and recommendations for practitioners (both managers and accountants) to improve their MAIS. Published accounting research has been noted as not being accessible to practitioners. James and Johnson (1994) state that researchers need to do a better job of communicating with practitioners ‘and in examining real-world phenomena and finding relationships’ that can be useful for practitioners. With this in mind, this section aims to distil the central messages from this research for the role of MAIS on managerial decisions.

Firstly, the findings of this research will enable managers to be aware of the role of MAIS on managerial decisions as a vehicle to organizational effectiveness in Ethiopian medium and large scale printing companies.

Secondly, It also helps accountants in printing companies to know their roles in the managerial decision making process, particularly in supplying useful financial reports to management to aid managerial decisions;

Finally, the outcome of this study is believed to be useful as a spring board for further research in the area since there was no study conducted on the topic selected for the study as related to Ethiopian printing industry.

**9.4 Limitations of the Research**

Like any research study, this thesis had a number of limitations. All possible steps have been taken to avoid shortcomings and errors in the collection of data. All possible care and skill was exercised to derive the conclusions and bring out the
findings of the study. In spite of all the efforts taken by the researcher in this regard the present study has to be considered in light of the following research limitations:

Firstly, the study focused primarily on medium and large printing companies in Ethiopia and therefore may not be valid for small companies or other companies. So the collected data may spell out only the attitude of respondents based on their experiences when working in medium and large scale printing companies, in Ethiopia.

Secondly, the current study adopted a cross-sectional design, which was conducted at one point in time and did not show the role of MAIS on managerial decisions over time. Furthermore, time and funding constraints prohibited the researcher from using a larger sample.

Thirdly, As far as methodology is concerned, some variables could not be measured properly. This could be attributed to a number of reasons: (1) designing the questionnaire was based on a number of studies that have been conducted in an environment which is extremely different from the Ethiopian environment, (2) the lack of experience in the Ethiopian companies with respect to dealing with scientific research and (3) the large gap between the academic research that has been taught in the universities and what has already been applied in practice.

Fourthly, as this study is basically a field survey, the general limitations pertaining to a survey strategy apply here. Therefore, one must be careful in generalizing the findings of this study to be applicable to other countries and to other industries, as these findings are specific to medium and large printing companies in Ethiopia.

Finally, since this study is one of the first to investigate the role of MAIS on managerial decisions in medium and large scale printing companies in Ethiopia, many
emerging research issues were postponed to future research projects. Despite these limitations, this research provided useful insights on the role of MAIS on managerial decisions in Ethiopia which has had limited research completed in this field. However, the limitations of this research create many possibilities for future research.

9.5 Recommendations for Future Research

The current study presented has explained several key issues, both with regard to management accounting information system and decision-making process, which need to be clarified by future research. In this section, several issues and directions for future research are identified.

This study is about the role of management accounting information system on managerial decisions in medium and large scale printing companies in Ethiopia. There are some conclusions from the study. The question now is how to conduct this interdependent relationship in other industries in Ethiopia. Moreover, comparative studies, particularly among developing countries, are highly recommended in order to understand the variations in the role of MAIS on managerial decisions. Further research also needs to investigate differences between the small, medium and large printing companies in terms of the documents and procedures of management accounting information system in developing countries.

The current study was limited to medium and large printing companies in Ethiopia. There are opportunities here to study a wider variety of industries which would improve the findings and validate the research instrument. In addition, further research may investigate the extent of using some relevant multiple measures among
the small industrial companies. Similar studies could also be conducted in other countries particularly in developing nations in Africa.

The current study used a cross-sectional design, and it would be valuable to conduct a more extensive longitudinal study using a mixed methodology approach to ascertain whether the variables in this study and the role of the MAIS on managerial decisions are consistent over time.

Developing the management accounting information system is a long-term investment and consumes time, money and effort. It requires extensive hard work and supplementary financial and nonfinancial resources. For instance, in addition to attending workshops and formal training seminars, Ethiopian printing companies should exchange information with international firms in order to find out the most recent techniques that can be used in developing the management accounting information system. However, the costs of carrying out this exchange of information vary according to various factors such as company size, company’s activity, the degree of complexity in the business’s operations, the tendency toward development within the firm, the nature of relationships with the international companies and the logical problems that might hamper accessing the required information. In addition, Ethiopian firms should exchange information in terms of applying the decision making process and how a company can achieve positive results from such an application, particularly when comparing high and low technology. Since it is beyond the scope of this thesis, I leave this question for future research.

Nevertheless, decision making is also not an easy task. Managerial accountants and managers need special communication skills, particularly when developing the management accounting information system. The quality of this development is also
highly dependent upon the personal characteristics of managers and managerial accountants. When studying the management accounting information system and its relationship with management decision making process, future research should not only consider organizational, technological and environmental factors, but should also take into account personal characteristics of managers and managerial accountants. Thus, future research on the impact of these characteristics would deepen our understanding of the relationship between the management accounting information system and decision making process.

9.6 Conclusion

A number of conclusions may be drawn from the key findings of this study. The purpose of the study has been to analyze the role of MAIS on managerial decisions in the Ethiopian medium and large scale printing companies. In this study, management accounting information system has been viewed as an effective vehicle for obtaining necessary information that managers need in order to help them carry out the decision-making process properly.

The thesis contributes to management accounting studies in six ways. Firstly, the study introduces an overview of the Ethiopian printing industry including products, acquiring technological equipments, cost accounting system and pricing policy. Secondly, the study investigates whether medium and large scale printing companies in Ethiopia have sufficient and competent number of accountants to handle the accounting function and the management of the companies recognizes the role of accountants. Thirdly, the study evaluates the usage level of management accounting techniques among Ethiopian medium and large scale printing companies. Fourthly, the study analyses the important characteristics and quality factors of MAIS. Fifthly,
the study evaluates the use of accounting data from MAIS for managerial tasks. Lastly, the study explores the role and use of MAIS in support of managerial decisions.

The findings of this study will, without doubt, be useful to general managers, marketing managers, production managers, finance managers, management accountants, and other industries in the Ethiopian private and public sectors.

To summarize, there are many conclusions from the study, but the major conclusion is that, since the majority of managers of medium and large scale printing companies in Ethiopia have very little knowledge of managerial accounting and their understanding of the importance of MAIS in managerial decisions is low, and measures should be taken to increase the knowledge of managerial accounting and their understanding of the importance of MAIS on managerial decisions. This is only possible when these printing companies should arrange short term trainings, seminars or work-shops on the role of MAIS on managerial decisions to all managers that are involved in managerial decisions.

Understanding, identifying and generating appropriate managerial reports for management by the majority of accountants are difficult due to the printing companies not having sufficient number of accountants to handle the accounting functions. Hence, to increase understanding and to generate appropriate managerial reports the companies should hire sufficient and competent accounting personnel. In this way the accountants have demonstrated their roles in the form of preparing and providing useful and timely financial and cost information to management for managerial decision and control. These companies should also give trainings to the accountants on the preparation of managerial reports.
The current MAIS practice that managers use to make business decisions in most of the printing companies in Ethiopia generated limited types of cost reports to management on a regular and special basis. Hence, it would have been possible to generate additional cost reports from the existing MAIS that provide useful information to management for managerial decision making and control. Additional cost reports from the existing MAIS are regular reports such as sales variance report, labour variance report, manufacturing overhead variance report, and wastage variance report. Special reports such as equipment replacement analysis report, make or buy analysis report, acquisition of machine analysis report, job profitability report, and analysis of costs of cost centers should be prepared from the existing MAIS.

Overall, this study contributes to the literature by showing how printing companies in Ethiopia use management accounting information system in providing managers with the information they need, to identify the problems of the management accounting information system and finally to provide some suggestions for change.

Management accounting information can provide a useful, timely, valuable and adequate information if its system is effectively developed and supported by financial and nonfinancial resources. This empirical study has further suggested the need for more in-depth comparative studies before generalizing the results. The study has made a solid contribution to the knowledge of MAIS. Consequently, the researchers and practitioners should respond to incorporate and build on the findings of this research.