

# Adoption of Cost and Management Accounting Techniques: Survey Study on Selected Manufacturing Firms in and Around Addis Ababa, Ethiopia.

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DOI: 10.29322/IJSRP.10.02.2020.p98112

<http://dx.doi.org/10.29322/IJSRP.10.02.2020.p98112>

**Abstract:** In today's competitive world of business, having accurate information is the key factor in distinguishing between the loser and the winner. Cost and management accounting embrace a range of techniques essential to all phases of product life cycle from providing reliable information for strategic decision making to managing construction and maintenance of costs. This study attempts to investigate the degree of Adoption of cost and management accounting techniques in Selected Manufacturing companies in and around Addis Ababa, Ethiopia. Further, factors affecting the adoption of those techniques were examined. Finally, the perceived effect of adopting these techniques on the company's operating efficiency and financial performance were evaluated. In doing so, Descriptive and explanatory research design were used for achieving multi-dimensional objectives of this study. Simple Proportional Allocation stratified sampling Technique was employed for determining the sample size from each stratum of manufacturing firms. Total sample of 91 manufacturing firms in and around Addis Ababa were included in this study & structured survey Questionnaires were distributed to each of them. Consequently, 65 usable Questionnaires were collected back and used for analysis and discussion of results. The finding of this study revealed that, currently selected Ethiopian manufacturing firms in study area are gradually adopting cost and management accounting techniques. The widely adopted cost and management accounting tool was budgeting control techniques with weighted mean average of 3.94 and standard deviation of .634. Throughput accounting was the least adopted techniques by respondent firms. Further, multiple regression model analysis result indicated that, 80.8% of variation in adoption of cost and management accounting techniques by manufacturing firms in and around Addis Ababa was explained by factors included in the model. finally, finding of this study indicated that, there was significant effect of adopting cost and management accounting techniques on sample manufacturing firms operating efficiency and financial performance. The researcher recommended the management of Ethiopian manufacturing firms to give due consideration for adoption and implementation of sophisticated cost and management accounting techniques since it helps them to compete successfully and improve overall performance of their organization.

**Key words:** *Cost and Management Accounting Techniques, Cost Accounting, Ethiopian Manufacturing firms, Management Accounting.*

## 1. Introduction

Ethiopia's manufacturing sector is among the key productive sectors of the economy identified under GTP I (2010-2015) which can spur economic growth and development because of its immense potential for wealth creation, employment generation and poverty alleviation (AACCSA, 2015). The manufacturing sector makes an important contribution to the Ethiopian economy and employs about 173 thousand people in the year 2014/2015. The sector had about 2,610 manufacturing establishments in the same year and for this study purpose they are divided into eight broad sub-sectors namely food and beverage products, textile and apparel products, leather and leather products, wood and pulp products, chemical and chemical products, rubber and plastic products, other non-metallic minerals products and metal and engineering products industries (AACCSA, 2015). Those firms have different objectives to be achieved like; profit maximization, plant diversification, proper utilization of resource and filling customer needs. In doing so, the necessity of cost and management accounting tools is increased for effective and efficient achievement (Tessema, 2012). The reasons for this are; the domestic and global competition getting severer due to globalization, decreasing profit margins, increasing input

prices due to the tightening energy sources, economic crises and the like. (Rao, 2015). As stated by Rao and Beg (2015) companies operating in developing countries have also begun to implement cost and management accounting practices which were first adopted by companies operating in developed countries. As a result of industrialization, the need for accounting profession was emerged and then business managers and management accountants needed in private companies were mostly transferred from State Economic Enterprises (Aysan, 2006).

In the last decades, cost and management accounting has gained importance as private sector developed in almost all areas. Large industrial enterprises set up cost and management accounting segments in accounting departments (Aysan, 2006). Furthermore, curricula of faculties of economics and administrative sciences included cost accounting and/or management accounting along with financial accounting. The disciplines are specifically different in their definition but interconnected in the organization for useful and purposeful achievement.

Management accounting is the part of the management process that is focused on adding value to organizations by attaining the effective use of resources in dynamic and competitive contexts. It contains all the information which is officially gathered to support the decision making in production. It is used for internal purposes and therefore different from financial accounting which is used for reporting for external stakeholders (Andreas, 2013). Cost accounting is the process of accumulating and accounting for the flows of costs in a business. It is defined as a technique or method for determining the cost of a project, process, or thing through direct measurement, arbitrary assignment, or systematic and rational allocation. The appropriate method of determining cost often depends on the circumstances that generate the need for information. This can be information such as material cost, production cost, product cost, investment calculations, and budget (Drury, 2001).

Manufacturing firms highly dependent on information released from cost and management accounting personnel such as; details information regarding cost of raw material, cost of labor force and other inputs has to be clear for the firm's management before starting the operations. Further, manufacturers are surrounded by different decisions which need powerful and tactical human and system for selecting the best alternatives (Ahid & Augustine, 2012). A critical managerial function is decision making. Those decisions may make from; marketing, production, financial and non-financial perspectives. A primary objective of decision-making is to achieve optimum utilization of the business's capital or resources. In management accounting, the objective is not necessarily to make the best decision but to make a good decision. Because of complex interacting relationships, it is very difficult, even if possible, to determine the best decision. Management decision making is highly subjective. Whether a decision is good or acceptable depends on the goals and objectives of management. Consequently, a prerequisite to decision making is that management have set the organization's goals and objectives. For instance, management must decide strategic objectives such as the company's product line, pricing strategy, quality of product, willingness to assume risk, and generate profit (Ahid & Augustine, 2012)

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. Strategic decisions are non-quantitative in nature. Strategic decisions are based on the subjective thinking of management concerning goals and objectives. Tactical decisions are quantitative executable decisions which result directly from the strategic decisions. 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. Once a strategic decision has been made, then a specific management tool can be used to aid in making the tactical decision. For example, if the strategic decision has been made to avoid stock outs, then a safety stock model may be used to determine the desired level of inventory (Hilton *et.al.*, 2000).

Management accounting deals with those decisions that require quantitative data. In a technical sense, management accounting consists of mathematical techniques or decision models that assist management in making quantitative type decisions. For any type of decision discussed above, adoption and implementation of cost and management accounting techniques are important for efficient and effective achievement of organization's objective (Hilton *et.al.*, 2000). Some of those modern cost and management accounting techniques needed to be adopted by manufacturing firms for purpose of reducing and managing their cost includes; Activity based costing/management, Target costing/management, Just-in time, Life-cycle costing, Kaizen costing or management, and so on. There are also other cost and quality maintaining tools like, Business process Re-engineering, Balanced score card and Total quality management etc. (Drury, 2001). The purpose of this study is to assess the adoption of these cost and management accounting techniques by manufacturing firms in and around Addis Ababa, Ethiopia.

## 1.1. Statement of the Problem

Among business organization classified in the world; Manufacturing firms are well known in terms of their contribution to one country economic development and profitability size generated within a given period of time. In Ethiopia also, manufacturing sector is among the key productive sectors of the economy identified under GTP I (2010-2015) which can spur economic growth and development because of its immense potential for wealth creation, employment generation and poverty alleviation(AACCSA, 2015). Though sector has such positive advantages, there are number of challenges and difficulties that hinders the achievement of the required objectives. Some of those factors in manufacturing firms include; domestic and international competition due to globalization, increase in price of input due to tightening energy sources, technological development, experience and level of education of employees, economic crises etc. (Rao, 2015).

In today world of competition, managing and controlling such factors; create the need of Cost and Management Accounting Techniques in manufacturing firms more than ever. Because, Manufacturing firms were highly dependent on information released from cost and management accounting personnel. For instance, details information regarding cost of raw material, cost of labor force and other inputs has to be clear for the firm's management before starting the operations. in addition to this, manufacturers are surrounded by different decisions which need powerful and tactical human and system for selecting the best alternatives (Tessema, 2012).

The management of organization is responsible for making various decision after relevant information were provided by responsible bodies whose supported by Cost and Management Accounting techniques adopted. For that reason, companies operating in developing countries like Ethiopia are also liable for adopting and implementing cost and management accounting tools which initially adopted by developed countries in order to make effective and significant decision (Tessema, 2012). Cost Accounting as information basis, support the manager of organization by providing relevant information that help them for purpose of planning, controlling and decision making. Over last few decades gathering relevant information which satisfy need for management of the business for making decision has been emphasized as the fundamental task of cost accounting (Panciu, 2011). The researcher strived to assess whether Ethiopian manufacturing companies in study area are implementing cost and management accounting techniques for; evaluating efficient utilization of their resource, measuring overall operational efficiency and financial performance. To the researcher knowledge, there are insignificant number of studies undertaken regarding adoption and practice of cost and management accounting techniques in Ethiopian manufacturing firms. Some of reviewed literatures around this area were as follow starting from foreign countries experience to that of our country since it become easy for identifying the gap of the study.

According to empirical study conducted on Turkish manufacturing companies the adoption and practice of cost and management accounting tools is relatively high (Uyar, 2010). The other study was undertaken in Sweden which designed to investigate the informational relationship between Management accounting and operations management in companies. The Results from this research showed that there are many factors to be considered when choosing and designing an appropriate Management accounting system. Contextual factors which include market, manufacturing strategy, Technology, and size of organization were considered (Andreas, 2013).

In the other related literature, Mazumder, (2007) carried out a study on Application of Management accounting techniques in decision making by Manufacturing Firms in Bangladesh. They found out those modern techniques such as Activity Based Costing, just in Time, Total Quality Management, Process Reengineering and Theory of constraints are not used in public and private sector manufacturing enterprises, but a few multinational corporations use the modern techniques particularly Just- in- Time system and Total Quality Management. The final paper reviewed for concern of relating this thesis with evidence from foreign countries was conducted on cost and management accounting practice on Indian manufacturing companies and finalized with result which stated, the most widely used product costing method is job costing; and pricing decisions is the most important area where costing information is used. Furthermore, decreasing profitability, increasing costs and competition, and economic crises are among few factors which increase the perceived importance of cost and management accounting tools (Rao, 2015).

In Ethiopian case there are no such sufficient studies which directly related to the problem under study but the researcher made his best for identifying the Gap for this study. One of few literatures around this area was the study conducted on significance of Cost management tools for decision making in Ethiopian private limited manufacturing companies (Tessema, 2012). Findings of this study revealed that Budgetary Control followed by Funds Flow Analysis, Absorption Costing, ABC Analysis, Segment Reporting, and finally Total Quality Management (TQM) have been frequently high-ranking techniques (Tessema, 2012).

Based on those empirical evidence, the researcher attempted to identify research gap from two angles. The *first* was modifying the problem stated in previous research which is about the significance of Cost management tools for decision making in to degree of Cost and management accounting techniques adoption and practice in Selected Ethiopian manufacturing firms & its effect on firms operating efficiency and financial performance. *Secondly*, examining some of the factors which affects the adoption and

implementation of these techniques in selected manufacturing firms of Ethiopia by enlarging the sample size taken by Tessema, (2012) which incorporated only private limited companies from any manufacturing firms in and around Addis Ababa city regardless of ownership. To sum up, this study assessed the adoption of Cost and management accounting techniques in selected Ethiopian manufacturing firms by applying the experience of developed and other developing countries disseminated through online literatures. Further, the above research gaps were investigated by setting the following research questions and objectives;

### **1.2. Objectives of the Study**

The overall objective of this study was examining the adoption and practice of cost and management accounting techniques in the operation of Ethiopian selected manufacturing firms for the last five years. For purpose of executing overall objective of this study, the following particular objectives were formulated;

1. To assess the adoption of cost and management accounting techniques in selected manufacturing firms in and around Addis Ababa, Ethiopia.
2. To investigate the factors affecting adoption of this techniques in selected manufacturing firms of study area.
3. To evaluate the perceived effect of adopting cost and management accounting techniques on those firm's operating efficiency and financial performance.

### **3. Methodology**

This study adopted a descriptive and explanatory survey design. According to Ngechu, (2004) it is appropriate where the study seeks to describe the characteristics of certain groups, estimate the proportion of people who have certain characteristics and make predictions. This study sought to collect data from the manufacturing companies at one point in time (cross-sectional) to investigate the degree of adoption of cost and management accounting techniques and its impact on operating efficiency and financial performance of selected manufacturing companies in Ethiopia

#### **3.1. Source of Data and Data Collection Techniques**

The choice of particular method of collecting data depends upon the purpose of collecting data, the information being collected, and the resources available for the researcher and the skills of the researcher (Kothari, 2004). Accordingly, the data for this study was collected from both primary and secondary sources. Primary data are those data that are gathered for a specific purpose or for a specific research project by effort of researcher. Primary data are more accurate and reliable compared to secondary data (Ngechu, 2004). The source of primary data for this study were company's finance vice president, finance officers, budget and cost department employees who have the understanding regarding the subject under study. The secondary sources of data were obtained from published articles in business journals, books, thesis, company reports and publications, websites and related documents. The researcher prefers this type of data because respondents may not have time and willingness to answer all question specially regarding financial performance effectively. acquiring secondary data are more convenient to use because they are already condensed and organized (Saunders *et al.*, 2003). Moreover, analysis and interpretation are done more easily.

##### **3.1.1. Data Collection Instruments**

After source of data is clearly identified the next step is finding the most appropriate way of collecting data for study under the process. As indicated in the above paragraph there are two sources of data collection namely, primary and secondary. But the question is, which instruments of primary and secondary data sources are relevant for this study? Accordingly, the researcher used survey study instruments from primary data collecting instruments for different reasons. for instance, reliable and accurate information are gathered if primary data instruments are used than that of secondary sources. The adoption of the survey design, in this study, was to gather information that is not available from document, records and make conclusions about adoption of cost and management accounting techniques and its significance in the firm based on responses of a sample respondents. The questionnaires were more of structured and distributed to each strata of the manufacturing firms in and around Addis Ababa, Ethiopia. Total of 91 copies of questionnaires were distributed by obtaining a minimum of one observation from each manufacturing samples. Finally, 65 usable responses were collected back with 71.4% response(return) rate. The un returned questionnaires may be due to lack of sufficient time and committed respondents.

#### **3.2. Sample Size and Sampling Techniques**

Sample were used instead of the whole population for many reasons. some of basic necessity of taking samples were; There could be resource (time, finance, manpower, etc.) limitations which would make it difficult to study the whole population, Sampling provides much quicker results than does a census, and there is also an argument that the quality of a study is often better with sampling than

with a census Abdi, (2012/13). Considering the above mentioned and other limitations, taking the census of manufacturing firms in Ethiopia is challenging. As a result, the researcher had included manufacturing firms in and around Addis Ababa, in this study as sample unit. In doing so, the manufacturing firms were grouped in to large strata based on their activities and previous studies experiences by using non- overlapping stratified sampling techniques.

Sample size of each Stratum was determined by using simple proportional allocation stratified sampling formula discussed in the following table (i). This technique is selected by researcher due to absence of information regarding stratified sample variance of each stratum and for including representative sample of manufacturing firms in and around Addis Ababa, which expected to fulfill some criteria like size, location, technological advancement and accessibility of using modern cost and management accounting techniques. From total population of manufacturing firms in Ethiopia according to secondary data prepared by Central statistical Agency since, 2015/16, there are 1,017 manufacturing firms found in and around Addis Ababa. Total population of **Strata** before sampling were listed in table (i) below. The sample size determination formula used here is obtained from lists of simplified formula for proportions. According to Yamane, (1967) simplified formula for computing sample by using Assumption of 95% confidence level and 5% level of precision was given as follow:

$$n = \frac{N}{1+N(e)^2} \quad \text{where; } n \text{ is sample size, } N; \text{ target population size, and } e; \text{ is level of precision}$$

The researcher used this formula only for determining sample size of whole manufacturing firms in and around Addis Ababa. Many researches mainly in Social stream used between 90-95 percent confidence level. For determining sample size of this study 10% level of precision was used considering the time, cost and other limitation to acquire the target sample size. The following is target sample size.

$$n = \frac{1017}{1+1017(.1)^2} = 91^* \quad *: \text{ rounded to next digit}$$

After sample size was calculated, the Researcher applies the following simple Proportional allocation formulae for determining specific number of representative samples received from each *Stratum* of manufacturing firms.

$$ni = \frac{Nj}{N} * n \dots\dots\dots (2) \quad \text{Where; } n; \text{ is predetermined sample size from target population., } n_i; \text{ is sample size of each } \textit{Stratum} \text{ of manufacturing firms, } N_j; \text{ population of each } \textit{Stratum} \text{ in manufacturing firms in and around Addis Ababa.}$$

The following Table (i) displays detail procedures of determining particular sample size of each stratum of manufacturing firms.

Table i: Lists of Total number firms and sample size from each stratum

Group of firms or strata	Total Number of firms ( <i>N<sub>j</sub></i> )	Sample size ( <i>n<sub>i</sub></i> ) i; e: $n_i = \frac{N_j}{1017} * 91$
Food and Beverages	395	35*
Textile and Apparel Products	45	4*
Leather and Leather Products	20	2 *
Wood and Pulp Products	95	9*
Chemical and Its Products	40	4 *
Rubber and Plastics	120	11*
Non-Metallic Products	140	12*
Metal and Engineering Products	162	14*

<b>TOTAL</b>	<b>1017 (N)</b>	<b>91* (n)</b>
		<b>i;e <math>n = \frac{1017}{1+1017(.1)^2}</math></b>

Source: compiled by researcher                      \*- decimal point was rounded to next digit.

**3.3. Method of Data Analysis and Presentation**

Data analysis is the process of bringing order, structure and meaning to the mass of information collected (Mugenda *et al.*, 2003). Given that the study conducted using a descriptive and Explanatory approach, data collected by survey questionnaires were analyzed by using the following tools. first of all, the collected data were filled on the MS. Excel and copied to the software named Statistical Package for Social Sciences (SPSS V-20). The name, value label and measurement level were immediately given for all Variables included in the study. The SPSS output was further presented by using Graph like; bar, pie chart and histogram and Table. The discussion and analysis made for these results by using descriptive and inferential statistics. The descriptive techniques employed for presenting and analyzing results obtained were measure of central tendency like; Average mean, measure of dispersion like; Standard deviation and Range, frequency distributions like; valid percentages. Causal and Inferential statistics were also used for analysis and discussion regarding the relationship between dependent and independent variables included in this study. Pearson Product Moment Correlation analysis (r) was used for purpose of examining the relationship between independent and dependent variables. Variance inflation factor (VIF) and tolerance rate were employed for purpose analyzing the collinearity problem among independent variables. Multiple linear regression model was used to indicate the linear relationship between variables. Coefficient of determination (R<sup>2</sup>) revealed the overall variation in dependent variables which explained by independent factors incorporated in the model. Over all Significance of this model was indicated using F-statistics. The standardized partial correlation coefficient results which computed by SPSS-V-20, were used for testing significance of relationship between variables and discussing the changes in dependent variables due to single independent variables keeping another factors constant.

**4. Results and Discussion**

**4.1.Descriptive Statistics Analysis**

**4.1.1. Cost and Management Accounting Techniques Adopted and implemented**

Different researches and literature reviews supports the significance of Adopting Cost and Management Accounting Tools specially in manufacturing companies for different purposes. for instance, according to Tabitha &Ogunbade, (2016), The more the development of the market economy indicates the more the significance of the cost and management accounting techniques. To keep pace with this increasing market economy, it becomes imperative for the manufacturing companies to adopt a new cost management accounting technique. It is also important for the manufacturing companies in Ethiopia (Tessema, 2012).

As revealed in Article by Tessema, (2012), Cost and management accounting tools are essential to exert control over cost and to appraise management performance in different segments of an organization particularly in manufacturing organizations. The implementation of the total cost and management accounting methodology helps top management in their decision making, to select projects and prioritize them, and give the final decision whether to implement or not, and if they decide to do whether to make it or buy it. Cost and management accounting embrace a range of techniques essential to all phases of an asset life cycle, from providing reliable information for strategic decision making, to managing construction and maintenance of costs. A firm that fails to reduce costs as rapidly as its competitors will find its profit margins squeezed and its existence threatened (Charles *et al.*,2012).

The competitive environment demands the development of sophisticated cost management accounting practices to keep cost down. From early on, the Japanese manufacturers recognized that the most efficient way to keep costs down was to design them out of products rather than to reduce costs after products entered production. Nowadays, companies managers need cost systems to perform three primary functions: Valuation of inventory and measurement of the cost of goods sold for financial reporting because of the external circumstances with investors, creditors, regulators and authorities; Estimate of the cost of activities, products and services and customers because of the internal managers needs to understand and improve the economics of their operations; and Provide accurate and timely cost information and economic feedback to managers and operators about process efficiency to make both strategic decisions and operational improvements (Saaydah & Khatatneh,2014). Successful manufacturing companies are those which adopt cost and management accounting tools to evaluate outcomes associated with their operations and to overcome various

problems, such as, asset utilization management, operating at lower cost, reliable and timely information improved and continuous profitability and optimizing the value/wealth of the firm(Tessema, 2012).

Manufacturing companies are categorized in to different groups based on their operation. for purpose of achieving their various objectives they have one common feature that was; Planning, controlling, and making decision regarding their daily operation (Andreas, 2013). In doing so, at least every class of manufacturing firms need to use Cost and Management Accounting information for success of their operation. This study assessed degree of adoption and implementation of this Techniques within different groups of Selected samples of 65 manufacturing companies in and around Addis Ababa, Ethiopia. To arrive at the exact analysis and interpretation the researcher used *Weighted Arithmetic Mean and standard deviation* as the statistical technique for the data gathered. The participants were asked to indicate the extent to which the following cost and management accounting techniques are adopted and implemented in their manufacturing firms. The Scoring ranged from 1 (never implemented) to 5 (Always implemented).

Table iii: Cost and Management Accounting Techniques adopted and Implemented by selected Manufacturing firms.

<b>Cost and Management Accounting Techniques</b>	<i>Total Observations</i>	<i>Weighted Mean</i>	<i>Standard D.</i>
Activity based costing	65	3.14	.634
Activity based management	65	2.94	.704
Balanced Score Card	65	3.03	.612
Budgeting	65	3.94	.659
Business re-engineering process	65	2.97	.637
Just in time	65	3.32	.664
Kaizen costing	65	2.98	.927
Life Cycle Costing	65	2.60	.703
Standard Costing	65	3.28	.673
Strategic management	65	3.06	.634
Target costing	65	2.97	.684
Through put Accounting	65	1.34	.477
Total quality management	65	3.29	.765
Variable costing	65	2.92	.669
Variance analysis	65	3.12	.650

Source: own survey data Collected from 65 sample of manufacturing firms in and around Addis Ababa, Ethiopia processed by SPSS V-20.

As results of descriptive statistics computed by SPSS V.20 displayed in the above *Table (v)* depicted; the most frequently adopted and implemented Cost and Management Accounting Techniques by most of sample manufacturing firms was Budgeting Tools with

weighted Average mean of 3.94 & .634 standard deviation .This result indicates that still Traditional Costing and Management Accounting Techniques would have a priority in application throughout the sample of 65 firms in and Around Addis Ababa .There are many classification of budgeting tools but in this specific study the respondents of sample company were asked about general budgeting techniques for accomplishment of their organization activities relating to cost and budget . The other finding depicted in the Above Table (v) point out that some of manufacturing firms in and around Addis Ababa currently adopted Just in time (JIT) with weighted mean value of 3.32 along with.664 standard deviations. Just in time was one of modern tools used for reducing unnecessary costs like holding cost of Raw materials if not purchased at right time. So, the above data revealed that there are some of sample firms which start adoption and implementation of these techniques mainly manufacturer of fresh product like; food and beverages supposedly used this tools for controlling unnecessary costs.

The remaining tools Including; Total quality management (TQM), Standard costing (SC), Activity Based Costing (ABC), Variance Analysis (VA), Strategic Management (SMA), and Balanced Score Card (BSC) has scored mean value and (Standard deviation) of 3.29(.765), 3.28(.673), 3.14(.634),3.12(.650),3.06 (.634) and 3.03 (.612) respectively. This shows sample of respondent firms were significantly on the track of adopting these techniques because they have average mean score of greater than 3. The Cost and Management Accounting Techniques which has lower Mean score comparing to others in terms of adoption and implementation includes; Throughput Accounting (TPA), Life Cycle Costing (LCC), Variable Costing (VC) Activity Based Management(ABM), Business reengineering Process (BPR), Target Costing(TC) and Kaizen Costing (KC) with weighted average mean score &(Standard deviation) of 1.34 (.477), 2.60(.703), 2.92(.669),2.94 (.704), 2.97 (.637),2.97(.684) and 2.98 (.927) respectively.

This shows that selected manufacturing companies adopts Cost and Management Accounting techniques for accomplishment of their normal operation even if there is variation on degree of implementation. Generally, every manufacturing company needs Budgeting tools at highest level for achievement of their activities. According to Result obtained from respondent companies, Throughput accounting is never adopted and implemented in any of the selected manufacturing companies in and around Addis Ababa. When we see the general classification of these techniques, Traditional Cost and Management Accounting Techniques are still significantly implementing in selected manufacturing companies. This result was similar with job of Dugdale, Jones &Green (2005) that found out, the old techniques still being practiced in the UK manufacturing firms including the heavily criticized standard costing, Absorption costing and Marginal costing.

This finding is also parallel with that of Tessema, (2013) who conducted study on “significance of Cost management techniques for decision making” in Private manufacturing companies of Ethiopia. The other research finding which confirm the presence of a reasonable level of adoption of CMATs was work of Karajan, Mwangi &Nyaanga , (2012) carried out on *Adoption of Modern Management Accounting Techniques in Small and Medium (SMEs) in Developing Countries: A Case Study of SMEs in Kenya* and the job of Saaydah & Khatatneh, (2014) carried out on *The Level of Adoption of Some Recent Cost Management Tools and the Perceived Effect on the Performance of Jordanian Manufacturing Companies*. It is also parallel with effort of Tabitha & Ogungbade, (2016). On the other hand, this finding is opposite to the study carried out by Ermias, (2013) which supports increased usage and advancement level of Management Accounting techniques in Ethiopian manufacturing firms in the last five years.

#### **4.1.2. Purpose of Cost and Management Accounting information for Managers**

According to Garrison *et al.*, (2010); managers use Management accounting information to develop, communicate, and implement strategy. They also use management accounting information to coordinate product design, production and marketing decisions and to evaluate the overall company’s operating performance including their employees. Management needs helpful cost management systems, employees who are proficient in understanding some important cost terms and cost flows in organization, proper handling of indirect cost and overhead allocation particularly in a manufacturing environment that uses either job order or process systems. Additionally, Andreas, (2013), Garrison *et al.*, (2010), & Weygandt *et al.*, (2008) introduced the use of environmental and target costing, just-in-time manufacturing, kaizen costing, and benchmarking scheme to minimize the cost of making and keeping a product for a long period of time. Likewise, their books highlighted and call the attention of using budgets for planning and coordination functions, by way of determining the level of capacity-related and flexible resources, managing the budgeting process, interpreting the production plan, comparing actual and planned results, preparing periodic and continuous budgeting, controlling discretionary expenditures and the role of budgeting in service and not-for profit organizations.

The researcher Analyzed data regarding the purpose of Cost and management accounting techniques after response from 65 usable questionnaires collected back from manufacturing firms in and around Addis Ababa, for comparing the reality on the ground with that of theoretical perception. Respondent firms were asked to answer the purpose for which their company apply those mentioned Cost



and management accounting techniques and their response were analyzed by using descriptive statistics. The result was summarized in the following Frequency table that developed using SPSS V- 20.

Table iii: Summary of Result obtained for purpose of adopting CMATs.

<b>Purpose of CMATs:</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
for cost management and reduction	17	26.2	26.2	26.2
for quality improvement	5	7.7	7.7	33.8
for pricing decision	4	6.2	6.2	40.0
for budgeting decision	37	56.9	56.9	96.9
performance evaluation	2	3.1	3.1	100.0
<b>Total</b>	<b>65</b>	<b>100.0</b>	<b>100.0</b>	

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia

According to result depicted in the above table (vi), 56.9 percent of total respondent’s firm used CMAT for budgeting practices, followed by 26.2 percent of total respondent’s firm which apply those tools for purpose of cost management and reduction. This indicates most of selected companies were given priority for budgeting activities and give consideration for reducing cost of its inputs most probably cost of factor of production (land, labor, capital and other inputs).

On the other hand, as revealed in the table most of respondent firms does not apply those tools for purpose of performance evaluation, quality improvement and pricing decision. According to respondent’s firm only 3.1 percent of selected manufacturing companies apply CMATs for purpose of performance evaluation and 6.1 percent of companies were used this tools for making pricing decision and finally 7.7 percent of total respondents’ company apply those techniques for quality improvement. This indicates most of manufacturing firms included in the study did not properly evaluate its performance, it doesn’t accurately make pricing decision as per theoretical standard and also there is no that much focus on the quality of product produced. This finding is consistent with that of Dekker & Smidt (2003) which states the main objective of adopting target costing in 30 Dutch firms were for reduction of cost.

Further, this finding lends credence to the findings of Wijewardena & De Zoysa, (1999) whose study revealed that Australian Manufacturing companies place more emphasis on Cost control tools such as budgeting, Standard Costing and Variance Analysis at the manufacturing stage while their Japanese counterparts devote more attention to cost planning and cost reduction tools based on target costing at product planning and design stage. This finding is also consistent with result of Ashfaq *et al.*, (2014) who found out the determination of CMATs includes costing practices; budgeting practices & decision-making practices especially when traditional management accounting tools are concerned in the service sector of Pakistan.

#### 4.1.3. Results and Analysis for Effect of Adopting CMATs on Financial Performance.

Table iv: perceived effect of Adopting Cost and Management Accounting Techniques on Company's Financial performance.

<b>Financial performance indicators:</b>	<b>N</b>	<b>Min.</b>	<b>Max</b>	<b>Mean</b>	<b>S.D</b>	<b>Sig.(2tailed)</b>
Lowering product costs	65	4	5	4.85	.364	.000
More productive use of available resources	65	3	5	4.00	.559	.000
Improved operating profit	65	3	5	3.85	.643	.000

Higher return on assets	65	4	5	4.58	.497	.000
Higher return on equity	65	3	4	3.72	.451	.000
Better profit planning	65	2	4	3.40	.746	.000
Smoother budget preparation	65	2	4	3.25	.708	.000
More control over budget variances	65	1	4	3.15	.988	.000
Better ability to eliminate non-value-added activities	65	3	4	3.55	.501	.000
Better liquidity management	65	1	4	2.86	1.130	.000
<b>Over all Mean and Standard deviation</b>				<b>3.721*</b>	<b>0.66</b>	

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia

\*- Over all mean is significant at 1percent significance level.

The above Table (vii), shows the mean perceived effect of adopting cost and management accounting tool on each of several indicators of company's relation with Financial performance. This effect was ranked by using 5-point Likert scale starting from (strongly dis agree with one point to strongly agree with 5 point). According to the outcome displayed in the above Table (vii), the usable responses from sample of 65 manufacturing firms showed about 4.85 mean improvement on lowering product cost was found to be great achievement of applying CMATs. The other financial performance indicators which got mean score of 4.58 was high Return on Asset (ROA) achieved after implementation of those techniques. Respondent firms also verified that effect of adopting CMATs to some level improve their use of productive available resources with average mean of 4 point. The other consequences of using cost and management accounting techniques includes; improved operating profit, higher return on equity, better profit planning, smoother budget preparation, more control over budget variances, better ability to eliminate non-value-added activities and better liquidity management with average mean of 3.85, 3.7, 3.40, 3.25, 3.15, 3.55 and 2.86 respectively. We concluded that there is significant effect of adopting cost and management accounting techniques on financial performance manufacturing firm in the study area supported with overall mean of 3.721 (.6587 standard deviation). This result was consistent with that of Saaydah & Khatatneh, (2014) whose finding revealed positive and significant perceived effect of applying these tools on corporate operating efficiency, relations with customers and employees and accounting as well as market performance.

#### 4.1.4. Results and Analysis for Effect of Adopting CMATs on Companies Operating Efficiency.

Table v: Perceived effect of adopting cost and management accounting techniques on companies operating efficiency.

Operating efficiency indicators:	N	Min	Max.	Mean	S.D	Sig.(2-tailed)
Increased efficiency in product design	65	4	5	4.52	.503	.000
Better understanding of product contribution	65	3	4	3.72	.451	.000
Successful translation of corporate strategy to understandable operating concepts	65	3	5	3.97	.529	.000
Increased productivity of human resources	65	3	5	3.88	.801	.000
Increased efficiency in production operations	65	3	4	3.49	.504	.000

More efficient and smoother organization of production	65	2	4	3.31	.727	.000
Obtaining raw materials and components in the right quantity, quality and time	65	2	4	3.29	.824	.000
<b>Over all mean and standard deviation</b>				<b>3.74*</b>	<b>0.6198</b>	

\*-Over all mean is significant at 1 percent significance level.

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia.

The above Table (viii), shows the mean perceived effect of adopting cost and management accounting tool on each of several indicators of company’s relation with Operating efficiency. This effect was measured by using 5-point Likert scale starting from (strongly dis agree with one point to strongly agree with 5 point). According to the Mean consequence of using CMATs on firms operating efficiency indicators displayed in the above table; the usable responses from sample of 65 manufacturing firms stated about 4.52 mean improvements on efficiency in product design was found to be great achievement of applying CMATs. The other Operating efficiency indicators which got mean score greater than 3.50 were; Better understanding of product contribution, Successful translation of corporate strategy to understandable operating concepts, and Increased productivity of human Resources. The additional outcome of using Cost and management accounting techniques with average mean lower than 3.50 includes; increased efficiency in production operations, more efficient and smoother organization of production, and obtaining raw materials and components in the right quantity, quality and time. This result shows that there is significant effect of adopting cost and management accounting techniques on operating efficiency of sample of 65 selected manufacturing firm in the study area supported with overall mean of 3.74 & 0.6198 standard deviation. This result was parallel with that of Saaydah & Khatatneh (2014) whose finding shows positive perceived effect of applying these tools on firms operating efficiency, relations with customers and employees and accounting as well as market performance.

#### 4.2. Inferential Statistics Results

##### 4.2.1. Factors affecting the adoption of cost and management accounting techniques in selected manufacturing firms in and around Addis Ababa.

The respondents’ firms were asked about the factors which has influence on the adoption of Cost and management accounting techniques in their organization. The researcher arranged alternatives for them by using five-point Likert scale rating from strongly dis agree with 1-point to strongly agree with 5-point scale. The results of this data were processed by SPSS V-20. Causal and Inferential statistics were employed to examine relationship between variables and perform tests for postulated hypothesis regarding the relationship between factors included in the model and Adoption of CMATS.

##### 4.2.2. Correlation results and analysis

Table vii: Pearson Product Moment Correlation Result and Analysis.

	TECAV	COMPET	COMPS	AGEOFC	EDULVL	EMPLEXP	HCI	AMS	AOS	CMAT
TECAV	1									
COMPET	.220	1								
COMPS	.367**	.119	1							
AGEOFC	.227	.026	.477**	1						
EDULVL	.149	.116	.094	.070	1					

<i>EMPLEXP</i>	.380**	.310*	.508**	.444**	.104	1				
<i>HCI</i>	-.013	.087	.017	-.003	.065	.136	1			
<i>LMS</i>	.029	-.032	.032	.118	-.072	.004	-.201	1		
<i>LOS</i>	-.029	-.003	.087	-.176	.173	-.127	.326**	-.451**	1	
<i>CMAT</i>	<b>.569**</b>	<b>.415**</b>	<b>.682**</b>	<b>.595**</b>	<b>.103</b>	<b>.740**</b>	<b>.187</b>	<b>.082</b>	<b>-.092</b>	<b>1</b>

\*. Correlation is significant at the 0.05 level (2-tailed), \*\*. Correlation is significant at the 0.01.

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia.

According to Kothari, (2004), the Pearson Product Moment Correlation Coefficient is a widely used statistical method for obtaining degree of the relationships between two variables when the relationships between the variables is linear and when the two variables correlations are continuous. It also stated, the value of ‘r’ lies between ± 1. Positive values of r indicate positive correlation between the two variables (i.e., changes in both variables take place in the statement direction), whereas negative values of ‘r’ indicate negative correlation i.e., changes in the two variables taking place in the opposite directions. A zero value of ‘r’ indicates that there is no association between the two variables. When r = (+) 1, it indicates perfect positive correlation and when it is (-)1, it indicates perfect negative correlation, meaning there by that variations in independent variable (X) explain 100% of the variations in the dependent variable (Y). We can also say that for a unit change in independent variable, if there happens to be a constant change in the dependent variable in the same direction, then correlation will be termed as perfect positive. But if such change occurs in the opposite direction, the correlation will be termed as perfect negative. The value of ‘r’ nearer to +1 or -1 indicates high degree of correlation between the two variables (Kothari, 2004). The researcher used this basis to investigate the degree of relationship between Adoption of cost and management accounting techniques (dependent variables) and nine independent variables displayed in the above table (ix). Based on value of ‘r’ indicated in the above table (ix), there is no either perfect positive or negative correlation between variables. But there is positive correlation between Technological advancement (TECAV), Competition among firms (COMPET), Company size (COMPS), Age of companies ( AGEOFC), Employee experience (EMPLEXP) Employees level of education (EDULVL), High cost of implementation (HCI) and Availability of Management support (AMS) and Adoption of cost and management accounting techniques (CMATs).additionally there is negative correlation between cost and management accounting techniques and Availability of specialist (AOS) with ‘r’ value of **-.092**. it can be concluded that the variation in dependent variables included in this study was changed in the same direction (positive) with variation of eight independent variables and changed with opposite direction with one independent variable which is availability of Specialist (AOS).

**4.2.3. Tests for Multicollinearity**

Correlation among independent variables may pose problems in interpreting regression coefficients. This is not a problem of model specification, but of data (Hair et al., 2006). Although the magnitude of correlation coefficients is moderate, a lack of high correlation values does not ensure absence of collinearity, as the combined effect of two or more independent variables may cause multicollinearity. The conventional measures for multicollinearity are Tolerance and the Variance Inflation factor (VIF). The tolerance value is the amount of an independent variable’s predictive ability that is not predicted by the other independent variables in the equation (Hair et al, 2006). A Tolerance value of **1.00** indicates that a variable is totally unaffected by other independent variables. Theoretically, Rule of thumb states a VIF greater than **10** may suggest that the concerned variable is multicollinear with others in the model and may need to be excluded from the model.

Table vii: Collinearity statistics results

Variables	Standard. Coefficient	Collinearity Statistics	
	Beta	Tolerance	VIF

<b>TECAV</b>	.248	.788	1.268
<b>COMPET</b>	.220	.866	1.155
<b>COMPS</b>	.305	.585	1.711
<b>AGEOFC</b>	.247	.674	1.484
<b>EDULVL</b>	-.033	.932	1.072
<b>EMPLEXP</b>	.288	.557	1.795
<b>HCI</b>	.157	.841	1.189
<b>AMS</b>	.047	.777	1.286
<b>AOS</b>	-.054	.633	1.580

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia.

The result of the Tolerance values and VIFs test for multi collinearity displayed in Table (x) above showed that multicollinearity problem does not exist.

#### 4.2.4. Multiple regression analysis results and discussion

Table viii: Model summary for multiple regression model

<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>	<i>Change Statistics</i>				
				<i>R Square Change</i>	<i>F Change</i>	<i>df1</i>	<i>df2</i>	<i>Sig. F Change</i>
.914 <sup>a</sup>	.835	.808	.337	.835	30.962	9	55	.000

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia.

The above Table (xi), depicted the results of Multiple regression analysis model. It revealed that Adoption of Cost and Management Accounting Techniques measured by nine independent variables. it also presented R-value: .914, R<sup>2</sup>: .835, Adjusted R-square: .808. Coefficient of determination depicted that about 80.8 percent of variation in adoption of cost and management accounting techniques for sample of 65 manufacturing firms in and around Addis Ababa city was Explained by technological advancements, competition among those firms, size and age of firms, and employees related factors which incorporated in this model. The remaining 19.2percent was changed due to other factors which did not incorporated in this model. As revealed in Table (xi) This model significantly determined core factors which affect the adoption of cost and management accounting techniques in the sample of 65 manufacturing firms in and around Addis Ababa, Ethiopia.

Table ix(a): ANOVA test results for Multiple Regression

	<i>Sum of Squares</i>	<i>Freedom</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>Regression</i>	31.685	9	3.521	30.962	.000
<i>Residual</i>	6.254	55	.114		

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia.

The above table (xii), presented the summary results of analysis of variance and F- tests statistics for multiple regression analysis data processed by SPSS V-20. It shows mean square value of 3.521, F-statistics with value of F: 30.962 which is significant at 0.000 or at 1 percent significance level. The value of *F* is large enough to conclude that the set of independent variables as a whole were contributing to the variance of cost and management accounting techniques measured by those factors and further it revealed the significance of the multiple regression model employed for this study.

Table x: Coefficients results for Multiple Linear Regression Model

$$CMAT: -1.957+0.248TECAV+.220COMPET+.305COMPS+.247AGEOFC.033EDULVL+.288 EMPLEXP+.157HCI+.047AMS -.054AOS.$$

Model	Unstandardized Coefficients		Standard Coefficients	t-statistics	prob.
OLS	B	Std. Error	Beta	T-value	Sig
(Constant)	-1.957	.627		-3.120	.003
TECAV	.279	.070	.248	4.015	.000*
COMPET	.204	.054	.220	3.747	.000*
COMPS	.301	.071	.305	4.257	.000*
AGEOFC	.256	.069	.247	3.707	.000*
EDULVL	-.030	.052	-.033	-.576	.567
EMPLEXP	.287	.073	.288	3.921	.000*
HCI	.241	.091	.157	2.635	.011*
AMS	.034	.045	.047	.759	.451
AOS	-.072	.091	-.054	-.791	.432

\* coefficient is significant at 1 percent significance level

Source: SPSS V-20 output processed from data of 65 surveyed manufacturing firms in and around Addis Ababa, Ethiopia

The above Table (xiii), revealed the coefficient result of Variables along with their t-value and significance level. According to result depicted in Table (xiii) above, out of nine factors identified as independent variables, six variables have significant influence on the adoption of CMATs based on the t-statistics and probability of each variable. The remaining three factors found to be insignificant considering their significance value computed using SPSS V-20. Those significant factors at 1% level include; Technological advancement with coefficient value (beta) of 0.248 Competition among the firms with beta value of 0.220, Company size with value of .305, duration of firms in the operation with coefficient value of 0.247, Employee duration within the organization (employee experience) with beta value of .288, and high cost of implementation with beta value of 0.157. The remaining insignificant factors were; Company employee’s level of education with coefficient value -0.033, Availability of management support with coefficient of .047 and Availability of specialist with value of -0.054. To sum up, Company size and technological advancement are the most significant factors affecting the adoption of cost and management accounting techniques in manufacturing firms in and around Addis

Ababa, Ethiopia. It can also be noted that availability of specialist was found to be most insignificant factor affecting the adoption of cost and management accounting techniques in study area.

## 5. Conclusion

According to the result analyzed in preceding chapter, 60 percent of manufacturing firms in and round Addis Ababa city were manufacturer of food and beverages which are privately owned followed by eight companies which are manufacturer of non - metallic products. Manufacturer of rubber and plastics product found to be Small number of manufacturing firms in and Around Addis Ababa, Ethiopia. This implies, Food and beverages are still dominant agro processing industries in Ethiopia as well as in the study area (AACCSA, 2015).

The finding also revealed nearly 68 percent of total respondent firms were owned by domestic private and approximately 23 percent of respondent company were owned by public(government). the remaining 6 companies were foreign owned firms. This shows current environment encourages the participation of private investors in the manufacturing sector of economy. As a result, there might be high competition among the sectors through implementing productive tools, reducing and managing the cost of production, drafting new competitive strategies and so, on. This rivalry leads to adoption of Cost and management accounting techniques for overcoming and winning such stiff competition. Thus, according to Hilton, (2000) The more the development of the market economy, indicates the more the significance of the cost and management accounting techniques adopted.

Further, its shows about 24.6 percent of total firms has 200 to 300 total employees followed by 21.5% of total respondent firms with total employee of greater than 400 and 20% of sample manufacturing firms which between 100 to 200 employees were engaged in their operation. This shows still there is huge gap which need to be covered regarding employment opportunities in the manufacturing firms in and around Addis Ababa city administration comparing to ratio of total labor force found in the country. The findings showed that above half of total respondent firms were still using traditional machinery and equipment for their normal operation followed by those firms which use hybrid of latest and old machineries for their current operation. But only 6.2 percent of total respondent firms were using recent technology and tools for undertaking their objective of producing goods and services. In today competitive environment upgrading the system is very important issues to be raised in every manufacturing firms (Tessema, 2012).

The other major part of finding was the degree of Adoption of cost and management accounting techniques and its implementation in study area. Cost and management accounting tools are essential to exert control over cost and to appraise management performance in different segments of an organization particularly in manufacturing organizations (Hilton, 2000). Theoretically, the competitive environment demands the development of sophisticated cost management accounting practices to keep cost down. From early on, the Japanese manufacturers recognized that the most efficient way to keep costs down was to design them out of products rather than to reduce costs after products entered production. According to finding of this study total manufacturing firms included in this study has at least awareness about those techniques. But all techniques are not adopted and implementing by whole manufacturing firms equally.

The result revealed that from 15 Cost and management accounting techniques included in this study, the most frequently adopted and implemented techniques by all respondent's firms was Budgeting. According to different empirical studies; organizations manager's give attention of using budgets for planning and coordination functions, determining the level of capacity-related and flexible resources, managing the budgeting process, interpreting the production plan, comparing actual and planned results, preparing periodic and continuous budgeting, controlling discretionary expenditures. The other tools moderately adopted and practiced by many manufacturing firms in and around Addis Ababa includes; Just in time (JIT), Total quality management (TQM), Standard costing (SC), Activity Based Costing (ABC), Variance Analysis (VA), Strategic Management (SMA), and Balanced Score Card (BSC). on the other side, infrequently used cost and management techniques by all sample manufacturing firms was Throughput accounting.

The researcher also assessed the purpose of adopting cost and management accounting techniques in sample of manufacturing companies in Ethiopia. Theoretically cost and management accounting provides useful information for internal users mainly managers and other influential personnel in side organizations while financial accounting disseminates such information for external users like shareholders, government, investors, suppliers and customers. According to Garrison *et al.* (2010); Managers use management accounting information to develop, communicate, and implement strategy. Those developed strategies were cost strategy, pricing system, marketing and customer selection. They also use management accounting information to coordinate product design, production and marketing decisions and to evaluate the overall company's operating performance including their employee's performance. This finding also support the general purpose of those techniques.it revealed out from total respondent's firm 56.9 percent used CMATs for budgeting practices, followed by 26.2 percent of total respondent's firm apply those tools for purpose of cost

management and reduction. This indicates manufacturing firms were operated by employees who have awareness about the theoretical purpose of adopting CMATs.

This finding is consistent with result of Dekker and Smidt (2003), Wijewardena & De Zoysa (1999) and Ashfaq *et al.*, (2014). Once those techniques are adopted by manufacturing firms there is various outcome followed their implementation. From different consequences of adopting cost and management accounting techniques the researcher examined operating efficiency and financial performance of selected manufacturing firms for this study purpose. Operating efficiency indicators used in this study are; Increased efficiency in product design, better Understanding of product contribution, Successful translation of corporate strategy to understandable operating concepts, Increased productivity of human Resources, Increased efficiency in production operations, more efficient and smoother organization of production, and obtaining raw materials and components in the right quantity, quality and time. To sum up, there was highly significant effect of adopting CMATs on operating efficiency of manufacturing firms in and around Addis Ababa city depending Overall average mean of 3.74 and Standard deviation of 0.6198.

Financial performance indicators used for this study includes; Lowering product costs, more productive use of available resources, improved operating profit, Higher return on assets, Higher return on equity, better profit planning, Smoother budget preparation, more control over budget variances, better ability to eliminate non-value-added activities, and better liquidity management. According to this study finding from this all indicators, improvement on lowering product cost was found to be great achievement of adopting and applying CMATs in manufacturing firms in and around Addis Ababa. According to theoretical review of literature, using more accurate cost information while determining the optimal product mix of a company put together management to make better decisions; and as a result, may have a greater effect on the success of a company. But most of the time, cost and management accounting tools were not used and implemented as expected due to different internal as well as external factors affecting their implementation. using multiple linear regression model nine independent variables were taken as influential factors affecting the adoption of cost and management accounting techniques in the manufacturing firms in and around Addis Ababa. Those independent factors include; Technological advancement (TECAV), Competition among the firms (COMPET), Company size (COMPS), Age of company since establishment (AGEOFC), Education level of employee (EDULVL), Employees experience (EMPLEXP), High cost of Implementation (HCI), Availability of management support (AMS), and availability of specialist (AOS).

The Model summary result obtained by SPSS V-20 reveals coefficient of determination **0.808**. This indicated about **80.8** percent of variation in Adoption of cost and management accounting techniques for sample of 65 manufacturing firms in and around Addis Ababa city was explained by variables included in this model. This model also revealed the coefficient result, t-statistics and P-value of each variables and their relationship with dependent variables. Generally, this finding revealed Company size, employees experience, Age of the firms, technological advancement and competition among the firms identified as influential factors that positively and significantly affect the adoption of cost and management accounting techniques in the manufacturing firms included in the study area and to the contrary employee's level of education, availability of specialist and Availability of management support were among insignificant factors in determining the adoption of cost and management accounting techniques in manufacturing firms of study area.

## 5.1. Recommendation

Based on the summary of major finding of this study, the researcher forwards the following points as recommendations for manufacturing firms included the study area;

- ❖ Manufacturing firms in and around Addis Ababa city need to turn their face toward adopting of most sophisticated cost and management accounting techniques because Cost and management accounting tools are essential to exert control over cost and to appraise various organization's performance in different segments of an organization particularly in manufacturing organizations.
- ❖ Competition among manufacturing firms have to be encouraged since, competitive environment enriched development of recent technologies like; cost and management accounting practices which can be used to keep cost down, proper utilization of asset, generate reliable and timely information and obtain continuous profitability and optimizing the value/wealth of the firm.



- ❖ It is better for manufacturing companies in study area to have separate cost and management accounting department since, the execution of theory in to practice become easy and they become competent firms. The segregation of duties is the core factor of success.
- ❖ Manufacturing firms included in this study area shall possibly create strong relationship with other manufacturing firms specially with those operated for long period of time because information regarding those firm's experience about significant cost and management accounting techniques for making purposeful decision can be easily communicated.
- ❖ The Researcher recommends those manufacturing firms in and around Addis Ababa, to give emphasis for improving product quality and setting appropriate price since the achieved output would noticeably profit.
- ❖ Hiring experienced human power would be better for successful implementation of cots and management accounting tools in the operation of manufacturing firms in and around Addis Ababa. Because the finding of this study revealed the positive and significant influence of Employee experience on degree of Cost and management accounting techniques adoption and implementation.

## 5.2. Limitation of The Study

There are many limitations which reduces the effectiveness of this study; some of them are listed in following;

The scope of this study was limited to investigating the degree of Adoption of Cost and management accounting techniques and assessing factors affecting adoption of those tools based on sample of 65 usable responses from manufacturing firms in and around Addis Ababa. So, the result cannot be generalized for all manufacturing firms in the country. Further, there are numerous cost and management accounting tools practiced by manufacturing firms over this world but for this study only few of them were investigated. Additionally, the method of data collection in this study was only Structured questionnaire hence data validity, might be low. There are only few factors affecting the adoption of cost and management accounting techniques included in the model. The last but not least limitation of this study was arising from low respondents' willingness to give real response, and lack of researcher experiences. Despite the above-mentioned limitation, the researcher has tried to its best and the result is believed to contribute to the cost and management accounting practice in manufacturing firms of our country.

## 5.3. Area of Future Research

This study was done to cover the gap identified in the literature part. But there are several points remaining for future research on the area of cost and management accounting techniques. For instance, Further research need to take large samples of manufacturing firms in Ethiopia for arriving on general conclusion regarding adoption of cost and management accounting techniques. Further, it is advisable if the future research conducted on this area will add other method of data collection like, interview, observation and focus group hence accurate data will be collected. Adoption of sophisticated cost and management accounting tools and its impact on overall performance of organization success will also be area of future research. There is negative relationship between level of Education and Adoption of CMATs in manufacturing in study area. So, it needs further research to dig out the reason behind it. The comparison of Contemporary management accounting techniques and Traditional costing based on financial performance in Ethiopian manufacturing firms will be also the target future research area. Finally, it is important if Further research include sample from manufacturing companies of other countries with similar or almost the same micro and macroeconomic environments and operation system since the findings would enhance a cross-country comparison regarding the implementation level of cost and management accounting tools and their impact on financial performance.

## ACKNOWLEDGMENT

First and foremost, I would like to thanks the Almighty Allah for every blessing that he enriches me with in my whole life. To the next, I would have deeply indebted to my Advisers Dr. Deresse Mersha L. (PH. D) and Mr. Mohammed Getahun. (MSC.) for their influential support in motivating and inspiring me by providing constructive comments, modifications to my effort & suggestions till the completion of this thesis. In addition, I would like to thanks my parents specially My Mom & Dad for their everlasting guidance in strengthening and supporting me to track on right path till this time. Further, I indebted for my perpetual friend jamo for her countless pick-me-up when I was exhausted with this study. finally, I would like to say Thanks!!! Thanks!! Thanks! everybody who were in position of supporting me by any means you can during span of conducting this thesis.

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