FACTORS INFLUENCING ADOPTION OF COMPUTERIZED ACCOUNTING INFORMATION SYSTEM BY SMALL AND MEDIUM ENTERPRISES: CASE OF JIMMA TOWN SMALL AND MEDIUM ENTERPRISE

PREPARED BY: ALEM ZERIHUN

UNDER GUIDANCE OF

MAIN ADVISOR: ABIY GETAHUN (ASST. PROFESSOR)

AND

CO-ADVISOR: MR. HAMDU KEDIR (MSC)

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DECLARATION

This Research is prepared by Alem Zerihun, entitled: “Factors Influencing Adoption of Computerized Accounting Information System by Small and Medium Enterprises” is my own original work, which has not been presented for degree in this University or any other universities and that all sources of materials used for the thesis have been properly acknowledged.

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ABSTRACT

The study investigated factors that influence adoption of accounting information system with respect to the barriers which can influence SMEs from taking advantage of CAIS system and expected benefits derived by adopting the system. A mixed research approach was used to answer the research questions that emerge through the review of existing literature. The study statistically analyzes data obtained from the survey questionnaire. A research framework developed based on technology-organization-environment framework and Technology acceptance model to guide the study to guide the study. A sample size of 125 SMEs were chosen from a population of 181 SMEs using the stratified sampling followed by random sampling. Questionnaires and interviews were used for data collection.

The result of the study indicated that, the major barriers SMEs faces in the adoption of CAIS are, security risk, lake technological availability , lack vender support, lack computation, lack of government support, financial constraints, lack of skilled labor to implement CAIS, high implementation cost , lack of technical and managerial skills on the use technological innovation ,strongly influence non adoption of CAISs by SMEs whereas owner/manager's resistance to changing, as well as Satisfaction with Manual System are weak predicators of non adoption by SMEs. The study also identified perceived ease of use and perceived usefulness as a driver of adopting CAIS. The researcher recommended government intervention through providing finance, subsidies as well as training on CAIS to SMEs through micro and small enterprise development agency for easy adoption.

Keywords: Accounting information system; Small to Medium Enterprises; Adoption; ease of use

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ABBREVIATIONS

AIS: -Accounting Information System,

AU: - African Union,

BA: - Bachelor of Art,

BSC: - Bachelor of Science,

CAIS: - Computerized Accounting Information System,

CSA:-Central Statistical Agency,

DOI: - Diffusion of Innovation,

EC: - European Commission,

EDI: - Electronic Data Interchange,

EPR:-Enterprise Resource Planning,

FMASE: - Federal Micro and Small Enterprises agency,

GDP: - Gross Domestic Product,

ICT: - Information, Communication and Technology,

ILO: - International Labor Organization,

IT: - Information Technology,

PEOU:-Perceived Ease of Use

PEU:-Perceived Ease of Use

PU:-Perceived Usefulness

SME: -Small and Medium Enterprise,

SPSS: - Statistical Package for Social Science,

TAM: - Technology Acceptance Model

TOE:-Technology Organization Environment Framework

TVET: - Technical Vocational E Training

UK: - United Kingdom,

UNDP: - United Nations Development Programme,

UNIDO: - United Nation Industrial Development Organization,

VIF:-Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1.Back ground of the study

Small and Medium enterprises (SMEs) are vital contributors to the overall performance of an economy. SME is drawing attraction in developed and developing countries as well as in transition countries (Namani, 2009). Moreover, in Africa, the SME sector is one of the most important industrial sectors capable of meeting the challenges of eradicating poverty. Generally, the SME sector accounts for nearly 90 percent of African economies. It is the largest source of employment, providing a livelihood for over three quarters of the working population, especially women. The sector is the backbone of almost every economy on the continent. However, the relative share of the sector in total output and exports is generally much lower as compared to other parts of the world (AU, 2013). Small and medium sized enterprises are an important ingredient for stable and equitable growth in any national economy. Ethiopia takes the development and expansion of SME's as the main way to solve many of the social problems. At present various reforms and development activities are being carried out. One of these is the promotion and development of SME's in the city. The program has been started thirteen years (2002/03 G.C) ago to enhance the promotion of the sector, emphasizing on employment creation through the development of SME's (Jimma city trade and investment office 2013). Yet despite specific global efforts to strengthen the SME sector, these businesses face a number of stifling financial and regulatory barriers, particularly in developing countries. In Ethiopia one of the main problems of SME's may be their access to finance and proper accounting recode and use of AIS.

Since the 1960s to date, SMEs have been given due recognitions especially in the developed nations for playing very important roles towards fostering accelerated economic growth, development and stability within several economies. They make-up the largest proportion of businesses all over the world and play tremendous roles in employment generation, provision of goods and services, creating a better standard of living, as well as immensely contributing to the gross domestic products (GDPs) of many countries (OECD 2000). Over the last few decades, the contributions of the SMEs sector to the development of the largest economies in the world have beamed the searchlight on the uniqueness of the SMEs; and this have succeeded in overruling previously held views that SMEs were only "miniature versions" of larger companies (Al-Shaikh 1998).

However, it appears that considering the enormous potentials of the SMEs sector, and despite the acknowledgement of its immense contribution to sustainable economic development, its performance still falls below expectation in many developing countries (Arinaitwe 2006). This is because the sector in these developing countries has been bedeviled by several factors militating against its performance, and leading to an increase in the rate of SMEs failure. These factors include the unfavorable and very harsh economic conditions resulting from unstable government policies; gross under capitalization, strained by the difficulty in accessing credits from banks and other financial institutions; inadequacies resulting from the highly dilapidated state of infrastructural facilities; astronomically high operating costs; lack of transparency and corruption; and poor record keeping and lasting support for the SMEs sector by government authorities, to mention a few (Oboh 2002, Wale-Awe 2000).

Despite the importance of financial reporting, management accounting and control practices, it is unfortunate to find that these practices are often inadequate and lacking among SMEs. Except for yearly taxation returns and some form of profit and loss statements, other statements such as balance sheet, cash flow statement, fund statement, production report, variance report, are infrequently used. These manual records was cumbersome, slow, and prone to human errors of translation, increases workload of accountants, relatively slower internal control & reporting, quality of data and some others such as the issue of backups. Without adequate, effective and timely financial reports and analysis, the SMEs are losing out on the benefits from those practices such as improved monitoring of financial health and progress, improved ability to anticipate fortunes or failures, better assessments of financial risks and greater ease in financial planning and control. Most importantly, in the context of SMEs requiring extra capital to grow, regular financial reports can provide indications on their ability to produce steady cash flows and to service debt. It has been established that the use of appropriate financial reporting and management accounting practices could be one of the determinants of company survival particularly SMEs (Gorton, 1999; Holmes, 1991). To ensure the contribution of SME's to the economy the enterprise should perform efficiently, which is effective through practicing accounting information system. In Jimma these enterprise may not practice accounting information. The aim of this paper is identifies factors influencing non adoption of accounting information systems in small and medium enterprise in Jimma town.

1.1.1. Overview of Small and Medium Enterprises

The importance of Small and Medium Sized Enterprises (SMEs) cannot be overlooked in the economic development of any country since SMEs play a critical role in every country's economic development and Ethiopia is no exception. The concept of SMEs is relative and dynamic. There is no universal definition of SMEs that is widely accepted as the definition is dynamic and depends largely on a country's level of development (Aruwa and Gugong, 2007; Mutula and Brakel, 2007). The definition of SMEs differs from one country to another but is often based on employment, assets or a combination of both. Jutla et al. (2002) state that SMEs have been defined against various criteria such as the value of assets employed and the use of energy. Rahman (2001) ascertains that SMEs are defined by a number of factors and criteria, such as location, size, age, structure, organization, number of employees, sales volume, worth of assets, ownership, through innovation and technology. Storey (1994) added that the number of employees is considered to be an appropriate measure of SMEs because of the differences in organizational structure that occur with size. Aruwa and Gugong (2007) affirm that each country tends to derive its own definition based on the role SMEs are expected to play in that particular economy. SMEs are defined for this study by adapting the definition given 2012 by Ethiopian Federal Micro and Small Enterprises agency (FMaSE): **Small enterprise** is those enterprises hired 6 up to 20 employee or total asset amount birr **100,000** up to **1.5** million birr for industry sector and **50,000** up to **500,000** not greater than for services sector.

Medium Enterprise are enterprises found in manufacturing and service sectors of the Ethiopian economy with hired 21 up to 100 employee or a total asset more than 1.5 million birr and a total asset of more than Birr 500,0002 **(**Addis Ababa MSE's development agency bureau, 2012 as cited on Addis Ababa Communication office bureau). Hence, according to officer of FMaSE interview, the limit for medium enterprises and definition for large enterprises are not stated so far.

1.1.2. The need for computerized accounting systems by SMEs

SMEs, like any other profit-seeking organizations, are expected to strive to achieve profitability through quality and price competitiveness of their products and services.

Importance of Computerized accounting information system on Small Scale Businesses Small businesses remain an important part of the business environment ((Holmes & Nicholls, 1988; Norwell, 1998; Mitchell, Reid & Smith, 1998). Mitchell, Reid & Smith (1998), underscoring the strategic importance of accounting to firms, noted that the use of

management accounting information could be linked to the success or failure of an SME. In order to survive, SME owners and managers need updated, accurate, and timely accounting information (Lohman, 2000; Amidu and Abor, 2005). Accounting systems are responsible for analyzing and monitoring the financial condition of firms, preparation of documents necessary for tax purposes, providing information to support the many other organizational functions such as production, marketing, human resource management, and strategic planning. Without such a system, it will be very difficult for SMEs to determine performance, identify customer and supplier account balances and forecast future performance of the organization. The primary purpose of an accounting information system (AIS) is the collection and recording of data and information regarding events that have an economic impact upon organizations and the maintenance, processing and communication of such information to internal and external stakeholders (Stefanou, 2006). When organizations adopt e-accounting, they usually discover that even though computerized accounting systems handle financial data efficiently, their true value is that they are able to generate immediate reports regarding the organization (Hotch, 1992). According to ehow (2012), no business can succeed in the long term without knowing exactly where its profits come from, what its expenses are and how much it is making and spending each month-it needs accounting. With the globalization of trade and investment, as well as dynamic technological changes taking place, the SMEs need to gear themselves to face stiffer competition in the future. This is only possible when financial resources and use of relevant technology, among other factors, are available and adequate, cost effective and properly utilized (El Louadi, 1998). In today's competitive market, SMEs need to recognize that AIS has the potential to improve productivity, quality and performance - areas that are essential for their survival and success. In addition to the basic financial reports, SMEs also need non-financial information such as price changes, market trends, and customer behaviors to survive and grow (Chenhall & Morris, 1986). The constantly changing environment requires more timely information be made available. The openings of the previously closed economies of countries including China and Vietnam that offer lower labor costs will further intensify the already intense global competitive environment for Malaysia's SMEs. Therefore, it is believed that for the owners/managers of the SMEs it is becoming extremely difficult to make good decisions without the use of AIS.

1.1.3. Accounting Information Systems

Accounting information plays an important role in the business. The basic objectives of accounting are to provide financial information to the managers, owners and the stakeholders

that are the parties who are interested in an organization, to help them reduce uncertainty in decision-making. To attain such objectives various financial statements are prepared. The common financial reports generated from the accounting systems of unlisted SMEs are the income statement and balance sheet. The income statement conveys the company's revenue, expense, and net income (or net loss) for a specific time period, which is very crucial for decision-makers. The balance sheet supplies information on company's position in terms of assets and how the assets are required (Anthony, Hawkins, and Merchant, 2011).

Generally, the financial reports are rarely prepared for control and decision making purposes but just for meeting the statutory and legal requirements (Ismail and Mat Zain, 2009, Sarapaivanich, 2003).

Furthermore AISs, cover the fullest range of organizational activities and processes and are adopted with the aim of achieving substantial cost savings as well as improved access to tried and tested solutions as they also provide an opportunity to update procedures and align them with perceived examples of "best practice" (Pollock and Cornford, 2004). In that regard AISs encompasses a set of business applications used to carry out common business functions such as accounting, human resources management, stock management. The fundamental nature of comprehensive AIS is to computerized business processes and most importantly, to produce real-time data (Nah et al., 2001; Themistocleous et al., 2001).

Themistocleous et al., 2001) Accounting Information systems are capable of producing real-time information for management to respond to, thus improving control and strategic decision-making (Spathis and Constantinides, 2003). Real time information is necessitated by the fact that AISs provide fairly easy access to all the data as and when it is needed as the data will be stored in a single computer data base, where the user just searches for the required information.

1.2. Statement of the problem and Research questions

Accounting reports are the principal source of information for the management of SMEs (McMahon, 2001; Son, Marriott and Marriot, 2006). An efficient accounting information system (AIS), in particular computer-based AIS is essential to capture and produce relevant information, which assist firms in managing their business (Ismail and King, 2006). However, financial aspect of SMEs has been poorly managed and became one of the major key failure factors of SMEs (Mohd Harif and Osman, 2008). In addition, Ismail, Abdullah and Tayib (2003) report that usage of computerized AIS is also minimal among SMEs, thus insufficient to generate important indicators of the firms' financial performance. Using a manual system compared to a computerized accounting system has its limitations such as relatively weaker internal control procedure and lower level of accounting information reliability.

Even though most of small businesses prepare financial reports for statutory purposes (Tanwongsval and Pinvanichkul, 2008), many fail to use the reports (Sarapaivanich, 2003). SMEs owners or managers either lack the knowledge or skill for using financial statements (Maseko and Manyani, 2011) or they are less ware that they can use it to help them in the financial decision process (Sarapaivanich, 2003). SMEs were also reported to have poor control and make business decisions based on ad-hoc basis , due to lack of internal proficiency (Berry, Sweeting, and Goto, 2006) most SMEs obtain accounting information and control through informal means (Perren and Grant, 2000). This means that they do not utilize financial report information as a tool for planning, controlling and decision making purposes.

Furthermore, it is claimed that SMEs lack awareness of the benefits they, as small businesses, could gain from using the AIS (Simmons et al., 2008, Stockdale and Standing, 2006, Chen and McQueen, 2008, Apulu).

Management of SMEs in Ethiopia relies lightly on information generated from the AIS employed by the enterprise. The traditional way of recording, summarizing and reporting company financial reports led to less optimal decisions and also this manual accounting systems consisted of paper ledgers, and calculators. However, with this system it was possible for errors to be introduced into the data since they could go undetected for quite some time. Like many other industries, the accounting industry changed with the arrival of personal computers. A computerized accounting system is able to handle financial data efficiently and plays an important role towards the carrying out of these transactions. Besides this, the factors affecting technology adoption in the SMEs, and particularly by SMEs in

Ethiopia, has not been investigated or documented thoroughly until now, meanwhile, computerized accounting information system adoption by SMEs is highlighted as an emergent area, with limited research having been carried out so far (Thomas et al., 2011). On the back of the above arguments, this research intended to investigate the potential benefits and barriers of computerized accounting information system (AIS) adoption in SMEs

In order to address the research problem, the following questions would be administered:

- Do small and medium enterprises adopt Accounting information system?
- What are the main barriers that inhibit small and medium enterprise to adopt accounting information system?
- What are the major benefits of using the Computerized Accounting Information Systems (CAIS)?
- What are the effects of not adopting CAISs by small and medium enterprises?

1.3. Objective of the study

The general objective of this study is to identify various barriers and drives of adopting accounting information systems by small and medium enterprise in Jimma Town

Specific objectives

- To explore the level of adoption of accounting information system in small and medium enterprise in Jimma.
- To identify benefits /drives to small and medium enterprise of adopting computerized accounting information system
- Investigate the main barriers that inhibit small and medium enterprise to adopt computerized accounting information system
- To determine the effects of not to adopting AISs in small and medium enterprise

1.4.Significance of the study

The outcomes and results of this research will have potential value to small and medium enterprises as well as other firms to understand the barriers and opportunities related with adoption of computerized accounting system and its advantages in providing their operation. In addition, this study expected to help other researchers who will be interested to conduct further study regarding the issue under investigated by providing use full information.

The study would provide a theoretical basis about benefit and barriers of adopting accounting information system. It would provide practical guidance for accounting information systems

implementation in small and medium business and it would also provide empirical and practical contributions for organization in effectively applying accounting information system in their operations.

1.5. Scope of the study

The study is delimited to the Jimma city SME's to investigate factors that influence non adoption of computerized accounting information system on Small and Medium enterprise.

1.6. Limitations of the study

Difficulty to get the address of the enterprises to be studied and there was many challenges to get the required data from some firms, and there is little research on the accounting practices of SMEs in Ethiopia or even in developing countries generally. Therefore, most of references in this study were based on research undertaken in developed countries. Comparability was a problem in this study because of the differences between businesses in developed and developing countries, in term of organizational, structural, environmental, and management variables.

1.7. Structure of the paper

The research paper is divided into five chapters. Chapter one presents the introduction part, which contains, back ground of the study, statement of the problem, research questions, objectives of the study, scope & limitations of the study and significance of the research paper. Chapter two presents the literature review regarding the Theoretical Framework, TOE frame work, TAM framework, Empirical Studies, Barriers of Adopting CAIS, Benefits and Effect of Non-Adopting CAIS and Conceptual model Chapter three presents research methodology, which contains four basic headings: first, introduce research design; second the research approach used in the study, third, research strategy, and finally the research method adopted. The research results and discussion is presented in chapter four. The final part chapter five summarizes the findings concludes the paper and forward some recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Theoretical Framework

Many researchers have been used different frame works in the study of adopting new technological innovation. Among frameworks that have been developed based on the past studies includes, the Technology-organization-Environment framework (TOE) (Tornatzky & Fleischer 1990),which identifies three basic Factors for the adoption of technological innovation, i.e., technological factors, organizational and environmental factors. Technology Acceptance Model(TAM) (Davis, 1989), which posit the two sets of beliefs, i.e., perceived ease of use (PEOU) and perceived usefulness (PU) to determine individual's acceptance of a technology. PEOU refers to the degree to which an individual believes that using a particular system would be free of physical and mental effort, PU on the other hand is related to users' perception of the degree to which using a system will be beneficial (Alsabbagh & Molla 2004).

2.1.1. Technology- organization- Environment (TOE) framework

TOE framework was proposed by Tornatzky and Fleischer; it is designed for studying the likelihood of adoption success of technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, *et al*, & Ellis 2009; Chang *et al* 2007, Zhu & Kraemer 2006). According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Based on this, the researcher adopts the TOE framework to summarize possible key factors affecting AIS adoption by SMEs. For each context, various factors have been identified from the literature but only those that are considered relevant for AIS adoption are included in the framework. Details of factors considered in this study are discussed below.

2.1.1.1. Technological Factors

As per TOE, the technological context of an organization is important in influencing the adoption and implementation of new IT/IS. Tornatzky & Fleischer (1990) describes technological context as both internal and external technologies relevant to the firm. In more detail, technological context refers to the innovation that is to be adopted by the organization (Teo et al., 2004) or characteristics that relates to the technologies available to an

organization (Chau & Tam, 1997). Its main focus is on how technology characteristics themselves can influence the adoption process (Chau & Tam, 1997). It includes current practices and equipment internal to the firm, as well as the pool of available technologies external to the firm (Tornatzky & Fleischer, 1990).

Compatibility: Likewise, compatibility is another technological characteristics perceived by individual which was suggested by theory as a driver of the decision to adopt a new system. It also defines as the extent to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters (Rogers, 1983).

In most organizations, it is realized as compatibility with IT infrastructure (Henderson *et al*., 2012). In order to adopt new technology, Shaharudin *et al*. (2012) described that the existing infrastructure should be compatible with the new technology. This means the existing infrastructure is important to the firm's adoption decision, in which, the more an innovation is perceived as consistent with present systems, procedures and value systems of the potential adopters especially in term of infrastructure, the more likely it will be adopted (Henderson *et al*., 2012).

Compatibility is an important consideration in a firm's CAIS innovation adoption decision because, with a high level of compatibility, the organization needs to make minimal adjustments and changes, which implies less resistance to adoption (Thong, 1999). Furthermore, compatibility suggests lesser risk to potential adopter and makes the innovation more meaningful to the organization (Yoon, 2009). However, lack of incompatibility may cause low adoption and utilization (Alam, 2009). When technology is viewed as significantly incompatible, major adjustments in processes that involve considerable learning are required (Low *et al.,* 2011). Sharing this view, Huy (2012) described the incompatibility of new technologies with existing procedures, value systems and infrastructure negatively affects the attitudes of users and increases their resistance to change, which in turn hinder the adoption of the technology.

Compatibility is important in the context of CAIS as CAIS has the potential to change the business reporting system. Adopting CAIS also can introduce additional systems integration issues. The incompatibility of CAIS with current processes and legacy system is a significant factor for non-adoption of CAIS. The incompatibility of the software in term of data format with the business nature might be a barrier to the use of CAIS. These incompatibilities could result in encountering resistance in the CAIS adoption.

Another barrier is that CAIS adoption replaces many of the manual work procedures used in firm transaction recording systems and can lead to significant changes in work practices and procedures. According to Premkumar *et al*. (1994), organization's resistance to change due to changes in work procedures and possible loss of jobs as a result of automation of document processing functions is a major inhibiting factor in the use of technological innovation.

Complexity: Complexity is another important technological factor that needs to be studied in depth in innovation adoption. Complexity refers to the degree to which an innovation is perceived as difficult to use (Roger, 1983).

Generally, complexity is widely recognized as a key barrier to CAIS adoption (Thong, 1999). Henderson *et al*. (2012) suggested that the complexity of innovation technology originates from systems integration issues and the tagging process. For example, in the case of CAIS, the difficulty of the tagging process stems from the specialized financial knowledge required to tag financial data. Lack of basic accounting knowledge might cause difficulty in keying in data. In Davis *et al*. (2009), manual AIS users stated that the complexity of CAIS system and that no one in their firm knew how as one of the reasons for not using CAIS. And for adopters, the most influential factor that encouraged them to maintain the usage of CAIS was ease of use. Thus, complexity of an innovation can act as a barrier to the implementation of new technology such as CAIS. As well, complexity of one particular system during implementation will become the inhibitor that discourages the greater usage of the innovation (Low *et al.*, 2011).

In another point, Henderson *et al*. (2012) described that some technological innovation is not perceived to be complex; however, the changes in the business processes, organizational culture and environment introduce additional complexity. Earlier, Ramamurthy *et al*. (1999) has argued that integrating a new system with various internal applications can be complex due to the uniqueness of individual firm's system environment. As such, many researchers perceived complexity as reflecting a match between the technical skill required to use the innovation and skills the organization possessed (Rui, 2007; Low *et al.*, 2011; Premkumar *et al*., 1994; Lin, 2008). For that reason, an innovation could be considered as complex by some firms who lack associated knowledge and skill, but not complex by some firms who have the necessary knowledge and skill (Rui, 2007). Hence, it could be suggested that complexity is a fit-based concept between the technical skill required and skills firms possess (Rui, 2007).

SMEs, due to lack of in-house expertise and large information systems staff may make new technology seem complex, difficult to implement and may take a long time to understand

(Premkumar *et al*., 1994). Although an innovation may appear to be useful to the firm, it may not have necessary expertise to use it, thereby increase the risk in the adoption decision and also creates greater uncertainty for successful implementation (Huy, 2012). In other words, firms may not have confidence in this innovation if they assume the technology is a complex system.

CAIS could be perceived as a complex innovation, especially for SMEs, since it is a hybrid innovation with record keeping (changes in method of recording) and technological (require IT infrastructure) implication. Previous studies have indicated that a complex innovation requires greater resources and skills to adopt, and requires increased cognitive effort on the potential adopter, thus, the perceived complexity of the innovation technology is expected to influence the decision to adopt them negatively (Lin, 2008)

2.1.1.2. Organizational Factors

Organizational factors of adoption technological innovation can be influenced by the organizational context. The organizational context refers to the characteristics and resources of the organization (Tan & Felix, 2010). It looks at the structure and processes of an organization that constraint or facilitates the adoption and implementation of innovations (Chau & Tam, 1997).

Financial resources: Financial resources are an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size (Kuan 2001 & Iacovou 1995).Therefore, it is expected that the availability of financial within the adopting firms is important for AIS adoption.

Employees IT Level: Nguyen (2009) suggested top management or the owner-managers are not only people who contribute to the success of the business. It is clear that in most firms, employees also make a contribution and they have a major impact on the rise or fall of the businesses (Nguyen, 2009). From this point of view, employees are assets, as a firm's success depends on them. They are a resource that needs to be developed (Nguyen, 2009). This is also refers to IT adoption success. At this point many studies suggested that the level of employees IT knowledge influence the adoption of technological innovations (Ifinedo, 2012; Thong & Yap, 1995; Zhu *et al*., 2006)

Employees IT level refers to the level of IT knowledge or experience that the employees have (Hung *et al*., 2010). Relevant IT knowledge and experience variables have been investigated in many studies. Kuan and Chau (2001) found that prior IS experience influences the

adoption of new technologies. Study by Caldeira and Ward (2002) proved that the firms that revealed the lowest levels of satisfaction with IT/IS adoption and use did not have sufficient IS/IT knowledge to implement their systems. Also Antlova (2009) suggested one of the main barriers preventing acceptance of ICT, especially by SMEs is knowledge and skills regarding IT. Many other studies also found IT knowledge and technical skills are the important factors in the adoption of new technologies. This factor also has been found to be positively related to IT adoption (e.g. Scupola, 2009; Thong, 1999).

However, since typically SMEs lack of this expertise, many of them unaware of new technologies (Thong, 1999; Premkumar and Roberts, 1999) or tempted to postpone adoption of the innovation until they have sufficient internal expertise (Hung *et al*., 2010). Ramdani *et al.* (2009) mentioned that those organizations that do not have much IT/IS experience may not be aware of new technologies and may not desire to the risk by adopting them. Therefore, Premkumar and Roberts (1999) suggest that keeping employees informed or aware of the new IT allows them to maximize the resources that can help be more productive. Hence, if employees of SMEs are knowledgeable about IT, the businesses may be more willing to adopt technological innovations (Ifinedo, 2012; Thong & Yap, 1995; Zhu *et al*., 2006)

Based on these discussions, the employees IT level can be seen as important to the technological innovation adoption including CAIS. The evidence from previous literature suggests that the availability of IT knowledge among employees will help a firm to adopt CAIS systems.

Satisfaction with Manual System: Satisfaction is one of the most important concepts especially in marketing and information system, and has attracted much of research interest (Limayem & Cheung, 2008). Lots of researchers have suggested that user satisfaction is one of the key influencers leading to system success (Chen *et al*., 2009). Satisfaction with manual systems may be defined as a positive attitude and response towards a manual system. In the CAIS context, satisfaction with manual system associates with the extent to which users believe the manual system meet their information requirements.

According to Chau and Tam (1997), low satisfaction level with existing system which generally referred to as performance gap, will provide the impetus to find new ways to improve performance. In an organization, a performance gap may result from a low satisfaction level with existing performance of the existing systems or inability to serve the organization's new needs (Chau & Tam, 2000). This means that the greater the satisfaction with the existing systems, the lower the incentive to change to a new system (Chau and Tam,

1997). Using the organizational context of a TOE framework and on the basis of the above arguments, in their study on organizational adoption of open system, Chau and Tam (1997) hypothesized that higher levels of satisfaction with the existing systems will negatively influence the possibility of open systems adoption. The result showed that satisfaction level with the existing systems has a negative relationship with the open systems adoption decision, thus support their hypothesis.

This study builds upon this line of argument and posits an equivalent relationship in the CAIS context. However, in contrast to Chau and Tam's (1997) study which measured satisfaction with existing system in term of the evaluation on existing computer system, and as a new contribution, this study developed new items specifically refers to the satisfaction with manual accounting information systems practices. At the same time, this study attempt to examine the openness to change from non-computerized to computerized system.

Satisfaction with manual systems may be defined as a positive attitude and response towards a manual system. In the CAIS context, satisfaction with manual system associates with the extent to which users believe the manual system meet their information requirements.

Using CAIS could improve the financial management and record keeping practices (McChlery *et al.,* 2005), thus problems in or with manual system may lead to the likelihood of CAIS adoption. Therefore, in the context of adopting CAIS, the satisfaction level with manual systems should be closely related to the need for improvement and thus, the adoption decision. In this case, whenever the manual systems satisfiy the needs of the organization, the propensity to change should be lower. This means that if the manual system meets the requirements of the users, the users' satisfaction with the system will increase, thus resulting in refusal of adopting CAIS. This suggests that deferring using CAIS might be a result from high satisfaction from using the manual system. Thus, satisfaction with manual system was introduced for the first time and especially developed for non-adopters model in this study. This variable was predicted as negatively affecting the willingness of CAIS adoption among non-adopters.

2.1.1.3. Environmental Factors

According to the TOE framework, factors that pertain to the environmental context influence organizational adoption of technological innovations. The environmental context is the area in which the firm does business (Tornatzky and Fleischer, 1990) or in another words concerns the surroundings of the organization, looking at how external influences affect the motivations or barriers to adopt an innovation (Teo *et al.,* 2004).

Vendor Support: One of the important aspects of the IT adoption process is the assistance of external support such as IT/IS vendors. Vendor support refers to the existence of support from IT/IS vendor for employing and using the systems (Ramdani *et al*., 2009). This construct has not only been found to be a significant construct in IS success, but also a determinant that positively influences IS innovation adoption.

Many researchers agreed that the availability of IS vendor can mitigate the lack of IT expertise in most SMEs. Thong *et al*. (1996) noted that due to the nature of SMEs, which generally lack of IT expertise and skills, firms should seek professional vendors when it comes to IT adoption. Ramdani *et al*. (2009) suggested that with increasing support from the third party, firms are more willing to adopt IS innovations. Nguyen (2009) pointed that quality advice from IT professional such as IT vendors is always useful for management or owner-manager as many of them do not have sufficient experience or understanding of IT. Ifinedo (2012) then stressed that vendor support should be considered in the planning process and implementation of IT adoption. And recently Yang *et al*. (2013) also supported the crucial role of external vendor for the implementation of IT innovations, especially when the organization is unfamiliar with the technology (Yang *et al*., 2013). According to Proudlock *et al*. (1999), the employment of such external support can overcome knowledge gaps and guide firms in implementing appropriate IT.

The availability of external support especially vendor also has been shown to be an important factor in several adoption studies, especially in small organizations. Study by Thong *et al*. (1996) of 114 small businesses in Singapore found that external IT expertise plays an important role in the IT implementation process. One year after, study by Igbaria *et al*. (1997) also indicated that external support is a significant variable influencing system satisfaction and usage. More recently, the results from Ellis and Belle's (2011) study on open source software adoption in South African identified technical support as a facilitator to the ongoing operation of the ICT infrastructure. Most organizations in their study felt they could not function without reliable ICT support services.

Regarding CAIS, the introduction of CAIS may expose the firms with new skill requirements. With little internal IT/IS expertise, SMEs in Malaysia are believed to rely on the advice and support from CAIS vendors. The degree to which a vendor possesses CAIS skills may make it easier for SMEs to adopt and use the CAIS without extensive in-house expertise, thus can help lower the barriers in adopting CAIS. Furthermore, researchers

elsewhere have found vendor support to be an important factor in the adoption and usage of innovation technologies; therefore, this study also predicts the same effect on CAIS.

Competition: It has long been empirically recognized that competition can put pressure on organizations to adopt an innovation (Thong, 1999; Zhu *et al*., 2003; Yoon, 2009). In high competitive markets, IT innovation adoption is necessary to maintain and achieve competitive advantage (Yoon, 2009). Non-adoption of an IT innovation that is adopted by others in such an environment may result in competitive disadvantage.

Porter and Millar (1985) argue that IT adoption can enable an organization to achieve competitive advantage in either cost or differentiation. In other words, by adopting IT, an organization can lower its costs and differentiate itself from competitors. The argument by Porter and Miller can be applied to the context of CAIS. Adopting CAIS may enable firms to differentiate it in several ways especially from competitors who have not adopted CAIS. For example, CAIS may help a firm to provide a standard and proper preparation of financial information, thereby allowing financial data to be automatically extracted and efficiently analyzed by the top management. This benefit thus enhancing its differentiation in term of accurate information for decision making compared to their non-adopters counterpart.

Many researchers who applied Institutional Theory (Alatawi *et al*., 2012; Yoon, 2009) believed that when firms face pressures from their external environments, they are likely to adopt innovations that others in their environment have already adopted. In other words, firms are likely to adopt a technology when they perceive that the number of their competitors that have already adopted the technology increases (Yoon, 2009). They also intend to adopt the technology if they perceive that competitors that have adopted the technology have benefited or succeeded from using it. Because their competitors have already adopted the technology, firms will then intend to do the same in order to achieve organizational legitimacy. Organizational legitimacy is referred to the acceptance of an organization within its external environment (Yoon, 2009). Those who choose not be follow the trend, risk themselves from being left behind and may at a disadvantaged position as opposed to their competitors (Chong & Ooi, 2008; Chong & Chan, 2012; Ghobakhloo *et al*., 2011b).

It is reasonable therefore to assume that the more a company feels a pressure in its operating environment, the more likely it will adopt a ‘best practice’. In some instances, these pressures force companies to look for best practices in the future (Zailani *et al*., 2009). For that reason, competitive pressure is generally perceived to have a positive influence on the adoption of

innovation technology and is one of the widely mentioned reasons for organizations to adopt IT. It has driven many researchers to analyze the strategic rationale underlying the relationship between competition and technology innovations (Ghobakhloo *et al*., 2011; Zailani *et al*., 2009; Hameed & Counsell, 2011; Varukolu & Park-Poaps, 2009; Chwelos *et al*. 2001).

In the CAIS context, the SMEs is predicted to be more likely to adopt the technology if they find that many of their competitors have started using it. Salwani *et al*. (2009) noted that decisions to engage in a particular behaviour depends on perceived number of similar others in an environment that have already done likewise. It seems therefore competition is one of the main reasons for SMEs to adopt CAIS. It also seems rational to believe that the competition affects the adoption of CAIS when SMEs perceive that the technology may differentiate them from others and assist them to achieve superior firm performance. The SMEs also may consider adopting CAIS when they perceived themselves threatened of losing competitiveness to their counterparts within the industry.

Government Support: Above discussion in environmental context described that competition and external support from vendors are important in technological innovation adoption. The other pressing and practical reasons for SMEs to adopt IT might also come from government support (Kuan & Chau, 2001). Government Support refers to the commitment and assistance provided by the authority to encourage the spread of IT/IS innovation in its context (Ifinedo, 2012).

Government has great influence over any kind of companies (Yang *et al*., 2012). For instance, Yang *et al*. (2012) suggested that the formulation of related regulations can become limitations or entry barriers for companies' investments, or subsidies that can motivate the companies to adopt information technologies or to develop new techniques. However, McKenzie (2006) described that governments around the world are eager to see small businesses to adopt technological innovations.

The development of digital technology and the emergence of new products and services require formulation of a new policy and regulatory framework. These policies include direct research and development (R&D) funding, agency level research policy, investment tax credits, industry policy and R&D tax credits (Yang *et al*., 2012). This is because without parallel development of laws, policies and strategic directions by government can result in abuses and discourages the adoption and use of technological innovation (Riyard *et al*., 2009). Sharing this view, many studies suggested government through regulations can

encourage the adoption of innovation in organizations. Thatcher *et al*. (2006) pointed out that the existence (or non-existence) of government policies and incentives are influential in encouraging (or discouraging) companies to adopt technology. Riyard *et al*. (2009) mentioned that government through setting up infrastructure and enacting rules and regulations can create environment for SMEs for technological intake. Recently, Yang *et al*. (2013) suggested government involvement through policies and support can influence the decision to adopt new systems to a large extent.

Besides regulatory framework, many researchers agreed government support in terms of providing incentives would facilitate innovation adoption and usage. In Looi's (2005) study, government initiatives like the e-government program, entrepreneurship development program and the information support program were found to be the dominating factors for internet growth and IT adoption (Looi, 2005). More recently, Hameed and Counsell (2012) mentioned that by providing training, guideline, financial assistance, technical support, independent advice and other incentives government can encourage adoption of IT in organizations. Yang *et al*. (2012) when discussed the role of government in influencing adoption of IT suggested the subsidies that the government offers will encourage the companies to accelerate the pace of their introduction of new IT so that they can improve the condition of their operations and, in turn, influence the performance of the IT implemented by the companies. This is to say that government can stimulate the introduction of new IT in the companies through the institution of certain regulations or the provision of related assistances.

Many studies also suggest the important of government role as one of the external related factors that is very important to break through the barriers of ICT adoption. Study by Lee & Kim (2004) on driving factors and barriers of e-business in Korea found that the government related factors are very important in the reduction of the main barriers and the creation of the atmosphere of ICT adoption in SME sector especially related to the cost issues. Lee and Kim (2004) stressed that the cost issue seems to be difficult to solve by SMEs, per se, because of the inferiority of the SMEs' environment. Their study also revealed the type of government support that SMEs wished in their study are mostly related to the reduction of cost burden such as financial support of development of ICT service platform, funds for training and tax cuts. Lee and Kim (2004) suggested that the main role of government is to open the way for using IT without the burden cost and to create the atmosphere of IT usage through systematic support to let the SMEs realize benefits of IT and to give more motivation in all possible areas.

It is clear therefore, government involvement plays an important role in promoting technological innovations, facilitate the adoption and break through the barriers of innovation adoption in organizations (Tan *et al*., 2009). Several researchers in recent years have studied the role of government in the adoption of innovation technology and it is generally agreed that the government support has a positive relationship on adoption of innovation technology (Dhurbakula & Kim, 2011; Riyard *et al*., 2009; Lin, 2008; Iacovou *et al*., 1995; Kuan & Chau, 2001). The important of government influence also made some studies expand the TOE framework to four dimensions in which government dimension has been extracted as another important dimensional factor (e.g. Riyard *et al*., 2009; Durbhakula & Kim, 2011).

According to the literature review as discussed above, government entities are among the most powerful institutional forces affecting innovation. One can see that the more appealing the government's assistance is the more contribution the government can make toward innovation technology adoption in a firm. Regarding CAIS, this is to say that government can stimulate the introduction of this technology in the firms through the institution of certain regulations or provision of related assistances.

This is also argued by Padel (2001), that the technological, organizational and environmental context under which adopters function has a critical role on the outcome of the diffusion process. The implication of this argument and the recommendation by Kiplang'at and Ocholla (2005) are that the context in which diffusion happens is critical, the adopters do not operate in a vacuum, and the unfavorable context in which adopters operate, particularly in the case of developing countries such as Ethiopia, has a detrimental effect on the outcome of diffusion of innovation. For example, in Ethiopia, because of government support, with the absence of CAIS venders and consultant and government policies on the telecommunications sector has only one service provider; as result of this and other technological, environmental and organizational factors, adoption of ICT is negatively influenced. In the context of Ethiopia, where adoption of ICT is highly influenced by government policies such as taxation, human resource, and economic policies, to ignore these facts and only focus on personal characteristics is simply to grossly simplify the adoption process and ignore major factors in the innovation and diffusion study.

2.1.2. Technology Acceptance model (TAM)

Another key theory widely used in information technology adoption literature is the Technology Acceptance Model (TAM). TAM was developed by Davis (1986) to explain the user adoption of technology in organizations. TAM posits that two factors, perceived

usefulness and perceived ease of use, are the two main determinants of system usage in organizations (Taylor & Todd, 1995a; Davis, 1989). It is asserted that the systems designer has some degree of control on these two factors. In TAM, Perceived Usefulness (PU) is defined as the degree to which an individual believes that using a particular system would enhance his or her job performance whereas, Perceived Ease of Use (PEOU) is the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis, 1989).

Perceived ease of use: - refers to the degree to which a person that using a particular system would be free from effort (Davis 1986).

Perceived usefulness: - refers to the degree to which an organization that using a particular system would enhance or improve its job performance.

According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system.

TAM was developed to explain and predict particular IT usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyses the perception of users on the adoption of CAIS

The frameworks discussed above have their own advantage and disadvantages based on the nature of the study. In this study, Technology-organization-environment framework and technology acceptance model were used to have a more precise forecast on the barriers and drivers of adopting CAIS in SMEs.

2.1.3. Barriers to Accounting Information System Adoption by SMEs

SMEs are characterized by their reluctance to take risks (Small Business Advisory Group, 2004) and they are cost-conscious (Zhang and Morrison, 2007), due to their limited access to capital resources (Hausman, 2005, Oyelaran-Oyeyinka and Lal, 2006, Grandón et al., 2011). These characteristics have supported the description of SMEs as slow adopters of technology in general and AIS in particular (Alam et al., 2011, Beekhuyzen et al., 2005). However, this slow growth has been attributed to various adoption barriers faced by SMEs (Kartiwi and MacGregor, 2007).

Lack of External consultants and vendors support: In adopting computer based accounting information systems by small businesses, hiring a consultant is a common practice. However, one of the common criticism of vendors, accounting firms and consultants is that they 'do not provide suitable support and unable to understand the small and medium business market and that the level of support provided by them is only adequate or less than adequate (Okwena,et al.,2011).

Lack of Finance: The restriction on finance in SMEs is a crucial factor affecting technology adoption (Ayeh, 2006, Grandon and Pearson, 2004). The costs of adoption are often perceived to be too high (AlGhamdi et al., 2011, Ghobakhloo et al., 2011). In line with this Wang (2004), established that accounting information technology adoption by the SMEs in West China has a relatively low success rate due to various reasons, such as the relatively low development degree of the marketisation, economically backwardness, apart from the characteristics of SMEs, including small-size, poor credit reputation, and weak innovation capability. . Furthermore small equity capital, also contribute to non adoption of AISs by SMEs. Small equity capital is caused by failure to secure loans from banks and other lenders due to lack of collateral security and high probability of failure.

Lack of skilled labor: This factor relates to the available number of technology-qualified personnel in the area of business of the SME (Apulu and Ige, 2011and Hadjimanolis, 1999).Similarly, the lack of skills and training can be described as factors which affect the adoption of AIS in SMEs. The skill deficiencies appearing in SMEs include not only technical abilities but also management skills (Arendt, 2008). Many SMEs do not develop training plans that can help employees to acquire the skills necessary for their business. Besides, the lack of technological backgrounds in SMEs has usually hindered them in adopting AIS. Owners/managers are usually reluctant to invest in the training of employees because they are afraid that following the completion of such training and having improved their qualifications, the employees will leave and find employment in large companies that offer better salaries (Apulu and Latham, 2009a). The majority of SME owners/managers are skeptical of investing in AIS due to the cost implications associated with training employees as well as the cost implications for maintaining their ICT equipment.

Lake of infrastructure readiness: In order to do AIS, an SME needs to have the necessary CAIS infrastructure such as a personal computer, Laptop, printer, and any similar device, and also be connected to Internet or other communications network. An essential element would

be power to run any of this electronic equipment, which is easily available in developed nations but may not be so for many SMEs especially in rural areas of the developing world

Lake of Government Support: The other pressing and practical reasons for SMEs to adopt AIS might also come from government influence (Kuan & Chau, 2001). Government influence refers to the commitment and assistance provided by the authority to encourage the spread of AIS innovation in its context (Ifinedo, 2012).

Lake of Competitive pressure: - Lack of Competitive pressure can strongly influence any SME not to adopt AIS initiatives and it may affect the SMEs perception towards AIS system. As implied in previous studies (Quaddus & Hofmeyer 2007; Gibbs, Kraemer & Dedrick 2003).

Complexity of AIS: Complexity of AISs also affects the adoption of AISs by SMEs. Where MSEs owners perceive AISs to be too complicated and beyond their needs, they are less likely to adopt the technology (Gibson et al., 2000) suggested how AISs adoption and implementation could be a highly complex task in which strong managerial and strategic competences are required to achieve the best fit between the business peculiarities and the system itself and to deal with the unavoidable organizational impact induced by an AIS implementation. Both strong managerial and strategic competencies are a deficiency in SMEs and thus it results in failure to adopt AISs. Thus, complexity of an innovation can act as a barrier to the implementation of new technology such as CAIS.

Incompatibility of CAIS: The incompatibility of CAIS with current processes and legacy system is a significant factor for non-adoption of CAIS. The incompatibility of the software in term of data format with the business nature might be a barrier to the use of CAIS. These incompatibilities could result in encountering resistance in the CAIS adoption. An innovation's incompatibility is defined as the degree to which it is perceived as being inconsistent with the existing values, past experiences and needs of the potential adopter Rogers EM, (1995) Tornatzky and Klein (1982) in their meta-analysis found it to be barrier of adoption CAIS.

Resistance to change: The resistance to move away from traditional ways of doing business towards automated methods is the other barrier (Thulani et al., 2010, AlGhamdi et al., 2011). This incorporates not only the negative attitudes of staff towards technology adoption, and their resistance to change, especially among those lacking technical skills, but also the negative attitudes of the businesses themselves towards technology in general, which

constitutes a significant barrier to technology adoption (Dyerson and Harindranath, 2007, Heung, 2003, Thulani et al., 2010, Warden and Tunzelana, 2004). Furthermore, some labor market institutions have commented that the adoption of technology by SMEs is an attempt to save on labor costs (Crespo-Cuaresma et al., 2008).

2.1.4. Benefits of Adopting AISs

Information technology that a few years ago was within reach of only large companies can now be employed by MSEs, thereby increasing their competitive advantage (Malone, 2001 and Porter ,2003). Competitive advantage is gained through efficient processing of customer orders thereby improving customer satisfaction. More so AISs provide an opportunity for business to improve their efficiency and effectiveness in decision making thereby allowing firms to gain competitive advantage.

Furthermore AISs, cover the fullest range of organizational activities and processes and are adopted with the aim of achieving substantial cost savings as well as improved access to tried and tested solutions as they also provide an opportunity to update procedures and align them with perceived examples of “best practice” (Pollock and Cornford, 2004). In that regard AISs encompasses a set of business applications used to carry out common business functions such as accounting, human resources management, stock management. The fundamental nature of a comprehensive AIS is to computerize business processes and most importantly, to produce real-time data (Nah et al., 2001; Themistocleous et al., 2001).

Beke J, (2010) suggested that there is an improvement in accounting quality and decision making associated with using AISs. Quality decisions occur since AISs ensures easy access to information records that are properly kept. Beke (2010) further argued that AISs tended to have standardized forms of data analysis as provided by the information system which is in support of Pollock and Cornford, (2004) who argued that AISs also provide an opportunity to update procedures and align them with perceived examples of best practice.

Although usual information systems offer managers services in transaction processing, reporting and provide information for decision-making purposes, these functions appear insufficient in the new business environment where automation, effectiveness and efficiency in operations, coupled with real-time data are considered important factors for business success (Al-Mashari, 2001; Themistocleous et al., 2001). Accounting Information systems are capable of producing real-time information for management to respond to, thus improving control and strategic decision-making (Spathis and Constantinides, 2003). Real time information is necessitated by the fact that AISs provide fairly easy access to all the data as

and when it is needed as the data will be stored in a single computer data base, where the user just searches for the required information. In support of this Booth et al., (2000) said that AISs have proved to be quite effective in transaction processing but less effective in reporting and decision support. In contrast, the soundness of a decision is enhanced by well documented valid information that is obtained from AISs and thus this coupled with the expertise of an individual will guarantee sound decisions.

In support of Booth et al (2000), Granlund and Malmi (2002) further argued that a common organization-wide information structure and integrated information system could produce significant benefits for global organizations. It has been found that AISs provide general benefits in terms of increased transaction processing efficiency, more accessible information of a higher quality and greater support for adhoc reporting. Evidence from a survey on companies who have adopted AISs and their impact on management accounting practice confirms a number of such benefits (Spathis and Constantinides, 2002). The most highly-rated perceived benefits involve increased flexibility in information generation, improved quality of reports, increased integration of accounts applications and improved decisions based on timely and reliable accounting information. More specifically, AISs are expected to: reduce costs by improving efficiency through computerization and enhance decision-making by providing accurate and updated organization wide information; both of which should then lead to improved company performance (Poston and Grabski, 2001).

In contradiction AISs benefits are only feasible if the costs of adopting AISs do not outweigh the benefits. Where the costs are higher than the benefits then no benefits are realized from using such a system by SMEs. In line with this, Sajady, et al, (2008) argued that, although information generated from AISs can be effective in decision-making process, purchase, installation and usage of such a system is beneficial when the benefits exceed its costs. In support, Corner (2000) in support argued that benefits of AISs can be evaluated by its impacts on improvement of decision-making process, quality of accounting information, performance evaluation, internal controls and facilitating company's transactions.

However, a counter argument argues that determining the benefits derived from the adoption of accounting information systems has been an elusive goal for academics and practitioners alike. Irani and Love (2001) proposed a framework for the challenges associated with categorizing benefits. As one moves from strategically-oriented information system projects through tactical to operationally-oriented projects, the benefits accrued go from those that are generally intangible and non-quantitative in nature to more tangible and quantitative ones.

This is in agreement with (Murphy and Simon, 2002) who argued that when benefits derived from an accounting information system become quantitative in nature the whole idea of AISs benefits becomes a misty hill which is difficult to clear. Once benefits derived from AISs become quantitative, it is most likely that the concept of cost benefit analysis will come into play and, for SMEs once the costs of using AISs are greater than the benefits, and then there will be no need to continue using such a system as it is costly. This contradicts with Shang and Seddon (2000, 2002) who argue that the types of benefit that organizations can gain by using AISs can be classified along five dimensions: operational, managerial, strategic, information technology infrastructure and organizational.

However in order for MSEs to reap the benefits of using AISs, there is need for full capacity utilization of AISs by probably employing highly skilled personnel. In support of this Flynn (2002) argued that for these benefits to accrue AISs adopted need to be effective hence the effectiveness of AISs is evaluated using evaluation models according to the purpose of usage.

Perceived Ease of Use (PEOU) is the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis, 1989).

However, human behavior based on perceived ease of use and perceived usefulness play a paramount role in influencing the adoption of AISs by SMEs. Users that perceive AISs to be useful and easy to use are more likely to adopt the technology than those that do not. In support of this, Legrisa (2003) suggested that perceived ease of use and perceived usefulness are the two most important factors in explaining accounting information technology adoption. Thus the behavioral intention of chief executive officer of SMEs to adopt accounting information technologies is influenced by their perception of the characteristics of electronic means. Therefore, chief finance officers who perceive accounting information technologies to be superior, compatible and easy to understand, are more willing to adopt electronic means.

2.1.5. Effects of not Adopting AISs

Non adoption of AISs has negatively affected business firms as they cannot enjoy those benefits inherent with the use of AISs. This has negatively affected the operations of SMEs to such an extent that some of them have even failed to survive.

Randall and Horsman (2004) found that the lack of AISs use contributed to small enterprise failure. Furthermore lack of AISs usage results in poor decision making by SMEs as information from their records is mainly in form of incomplete records. Incomplete records makes it even harder for sound decisions to be made as they require a expert in accounting to

interpret them into information, a deficient which often lacks in SMEs. In tangent with this, Mia and Chenhall (2003) argued that failure to adopt and implement AISs is the reason why most companies fail to make sound decisions as their information keeping tend to be haphazard as the firm grows.

Raymond et al, (2001) however argues that failure to do adopt AISs by organizations resulted in shoddy accounting reports and information. He further noted that AISs do computerize most if not all standard accounting reports such as financial statements, accounting ratios and failure to adopt this technology means that SMEs have to produce these records manually, coupled with lack of proper accounting expertise results in shoddy accounting reports. In support, Holmes (2003) stressed that lack of AISs use is a barrier that prevented external accountants from providing sound management accounts reports.

In support of Mia and Chenhall (2003) as well as Randall and Horsman (2004), Hall and Young (2005) established that lack of AISs use was the major reason why most small enterprises made unsound decisions. Furthermore they showed that AISs was an important deficiency in 38 per cent of the 241 failed small enterprises surveyed in China However non adoption of AISs by SMEs can only negatively affect their business operations only if the benefits of adopting significantly outweigh the effects of non adoption. Where both adoption and non adoption results in neutral consequences that is neither positive nor negative consequences, then there is no need to adopt the technology in the first instance as there is no value addition. In support, Nejad et al (2008) highlighted that adoption of AISs is only beneficial where costs of adoption are outweighed by the benefits. They established that when the costs of adopting and implementing AISs are greater than the benefits then firms that do not adopt such systems will not have any disadvantage.

2.2. Empirical studies

The aim of his study was focused on analyzing the status of accounting information system in Ethiopia (Jimma) and investigates the main barriers and benefits' of implementing accounting information system by SMEs. So this part of the paper presents the empirical evidence on the idea of the paper.

Aminreza et al., 2011: The survey study was examined barriers to adoption accounting information system among a sample of 88 **Iranian** manufacturing SMEs. In-depth study of eleventh barriers to adopt AIS (governmental regulations, lack of information on market & technology, lack of qualified personal, availability of finance, cost of finance, too high direct

innovation costs, excessive perceived economic risk, international regulations, and uncertain demand dominated by established enterprises) were done through distributing questionnaire. The study identified reasons SMEs were not adoption; 55.8% due to factor constraining and market condition was 29.4%. Finding also revealed that the economic factors such as excessive economic risk, lack of finance & high cost of innovation are significant impeding propensity of SMEs innovation.

Moreover, the study showed that the most significant barriers are associated with costs, whereas the least significant are associated with lag of information and also the survey results show that Iranian SMEs aren't collaborating with adoption of AIS & higher education institutions; they don't see university as a main source of information (Aminreza et al., 2011).

Mohd and Syed, 2010, this study conducted in **Malaysia** food processing industry in 2010 identified some barriers inhabiting adoption of AISs. The study was conducted using quantitative methodology with the help of survey questionnaires to collect information from SME owners and/or manager. Set of questionnaires are mailed to 500 SME food processing companies in 2010. The study identified four most important factors: of this financial constraint, lack of skilled labor, high implementation and cost barriers are main factors which inhabiting innovation; and government and market barriers are the second most important barriers to AIS.

Aradhana Relhan., (2013) carried out a study on E-Accounting Practices of SMEs in India. The contribution of this study lies in the empirical analysis of the determinants of e-accounting adoption. The results of the study may give some evidence on the managers' intentions of small and medium-sized accounting agencies towards e-accounting and thus predict future use of e-accounting systems.

The study examined the e-accounting practices among Indian SMEs. The study revealed that almost all the SMEs sampled attach a lot of importance to financial information by employing at least degree holders and Chartered Accountants to handle their accounting information. The study also showed that majority of the firms put in place accounting software's to generate their financial information. This has the tendency to reduce cost, provide quality report, eliminate duplication, increase reliability of work, and provide sufficient space to store data and process information for management decision in a timely manner. In terms of functionality, the results of the study showed that almost all the SMEs use the software for accounts receivables functions as well as accounts payables, inventory management, payroll, fixed assets management, bank reconciliation and cash management.

The results of the study also revealed that majority of the SMEs encounter problems in supply of electricity with the frequent breakdown of their accounting system. We found that almost all the SMEs are generally satisfied with the performance of their accounting software. It is recommended that SMEs in India adhere to good and standard accounting principles in their operations. The adoption of e-accounting would ensure proper accounting practices as good accounting practices have several implications for entrepreneurs and SME managers. Good accounting and control systems could assist in evaluating the performance of the organization and its managers. SMEs with proper books of accounts are often capable of attracting external financing easily. SMEs that maintain good accounting and management information tend to be viewed favorably by finance providers.

According to (Abu-Musa, 2004) in his paper the objective of the study is to investigate the significant perceived security threats of computerized accounting information systems (AIS) in Saudi organizations. An empirical survey using a self administered questionnaire has been carried out to achieve the study. The survey results have revealed that almost half of the responded Saudi organizations have suffered financial losses due to internal and external CAIS security threats. The statistical results also revealed that accidental and intentional entry of bad data, by employees' sharing of passwords, introduction of computer viruses to CAIS, suppression and destruction of output , unauthorized document visibility, and directing prints and distributed information to people who are not entitled to receive are most significant perceived security threats to CAIS in Saudi organizations .

Arkoh, et al., (2012) carried out a study to examine the accounting information system practices among small business in the Kumasi metropolis. Both primary and secondary data were used. The instrument used to gather data were questionnaires, interview and observation. The questionnaires were administered to the various small business owners in the metropolis. Interview was used to obtain from the respondent on how their accounting records are kept. The findings revealed that, due to lack of knowledge in accounting information system keeping manual books of account and improper records were kept by most small and medium enterprises in the metropolis. Again, many business owners showed reluctance to be trained or attend further studies due to the cost involved in training and education. The study recommended that financial statements of small enterprises should be requested for approval of loans by banks. In addition, laws should be enacted in order to improve the record keeping practices of micro entities so that they have access to credit facilities from any financial institutions.

In a similar study, Lawrence (1997) defined three categories. These she termed company, personal and industry barriers. Company barriers, found by Lawrence, included low availability of technology use within the business, limited financial and technical resources available, organizational resistance to change and lack of perceived return on investment. Barriers categorized as personal included lack of information on AIS, management preferring conventional approaches to business practice and inability to see the advantages of using AIS. Industry barriers included some respondents believing that the industry, as a whole was not ready for AIS.

Senik, et al., (2012) "carried out a study on the accounting information needs, management and usage among Malaysian SMEs restaurants. The findings of this study revealed that small medium sized restaurants managers did not possess enough skill and qualifications to better utilize the accounting information system. The small firm owner who is normally the one that manage the firms' account or hired account personnel, had limited skills and proficiency in managing and using accounting information system. Besides, they were unaware of the advantages of outsourcing their accounting work to the professionals. They recommended the need of training for the restaurant's owner/manager on the importance of handling and using accounting information system. The research employed qualitative research method of face-to-face interview using purposive sampling. The present research will use quantitative method using random sampling technique".

Legrisa (2003) Users that perceive AISs to be useful and easy to use are more likely to adopt the technology than those that do not. In support of this, Legrisa (2003) suggested that perceived ease of use and perceived usefulness are the two most important factors in explaining accounting information technology adoption. Thus the behavioral intention of chief executive officer of SMEs to adopt accounting information technologies is influenced by their perception of the characteristics of electronic means.

Premkumar and Roberts (1999) presented a model of AIS adoption decision in rural SMEs. The model includes three categories of determinant latent variables, comprising ten factors: innovation characteristics (relative advantage, cost, complexity and compatibility), organizational characteristics (top management support, size and AIS expertise) and environmental characteristics (competitive pressure, external pressure and vertical linkages).

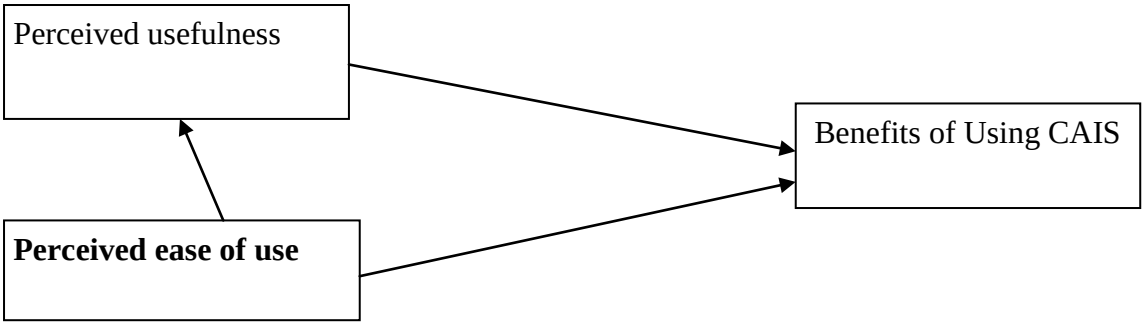
Studying AIS adoption in SMEs, Thong (1999) identified four main factors affecting the adoption decision: CEO characteristics (innovativeness and knowledge), AIS characteristics (relative advantages, compatibility and complexity), organizational characteristics (business

size, employees' knowledge and information intensity) and environmental characteristics (competition). Here, information intensity is the degree to which information is present in the product or the service.

In general, Review of Empirical studies shows the main obstacles and barriers that oppose SMEs adoption of AIS are the concerns of complexity, Incompatibility of AIS, lake of knowledge, lack of competition among SMEs, and reluctant of owners /managers to change and the aforementioned models include three broad constructs affecting innovation adoption. These constructs are organizational readiness (top management support, employee knowledge and business size), technology/ innovation attributes (relative advantages, trialability, compatibility and ease of use) and environmental pressures (external and competitive pressure). Although different studies mostly use the same constructs, the items within each construct can vary.

2.3. Conceptual Model

Figure .2.1. Technology Acceptance Model (TAM)

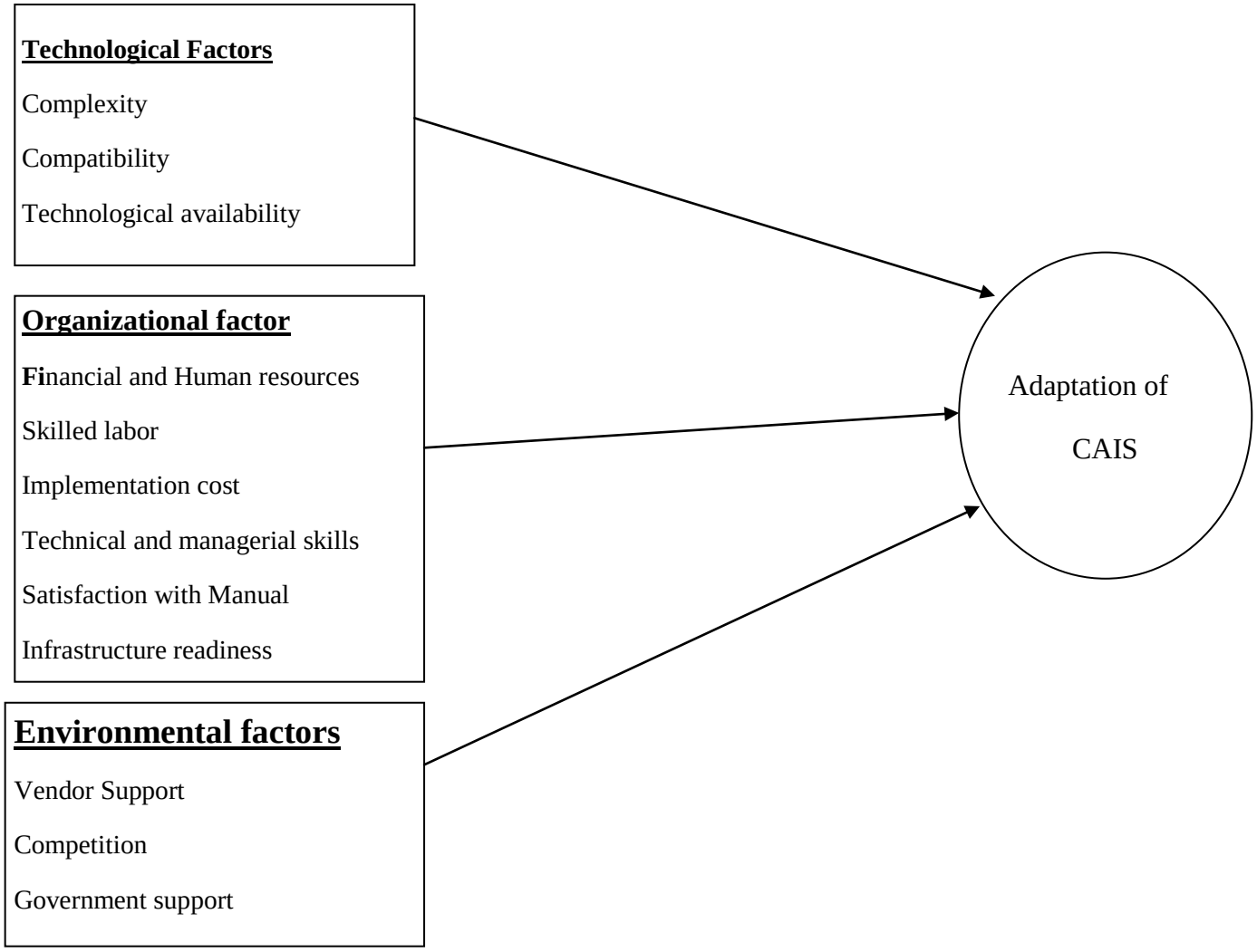


Source: Davis (1986)

TAM was developed to explain and predict particular CAIS usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various CAIS technologies. For this study researcher uses two basic factors of TAM, i.e, perceived ease of use and Perceived usefulness to analyses the perception of users on the adoption of CAIS by SMEs.

According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Based on this, the researcher adopts the TOE framework to summarize possible key factors affecting E-banking adoption as shown in Figure 4.1.as follows

Figure: 2:2.Technology-Organization-Environment framework



Source: Tornatzky and Fleischer (1990)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Research design

The purpose of this thesis is to conduct a descriptive research in order to describe the current situation of the problem and answer the research questions which are in the form of „what", and to highlight the most important factors that can negatively or positively affect the adoption of AIS in SMEs. Moreover, this research aims to explain the phenomenon and assess the current situation of SMEs. Therefore, Descriptive research is being used in to full fill this approach. Descriptive data are typically collected through a questionnaire to them. Babbie, (2009) says "survey researchers sample respondents who answer the same questions.

3.2. Research Approach

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (Alhamdani *et al.* 2006).The research approach in this study is chosen based on the purpose and the research questions set out to be addressed. According to Creswell (2003, p.13-15) There are three basic types of research approaches, quantitative, qualitative, and Mixed approach.

3.2.1. Quantitative Research Approach

Quantitative research approach is based on the philosophy of post positivism world view. It is also reductionist in that the intent is to reduce the ideas into a small, discrete set of ideas to test, such as the variables that constitute hypotheses and research questions. In addition, quantitative approach uses statistical methods in describing patterns of behavior and generalizing findings from samples to population of interest, and employs strategies of inquiry such as experiments and surveys (Creswell 2003).

3.2.2. Qualitative Research Approach

Under qualitative approach or social-constructivist world view, inquirers generate or inductively develop a theory or pattern of meaning rather than starting with a theory as in post positivism. Qualitative researchers tend to use open-ended questions so that participants can express their views and meanings are constructed by human beings as they engage with the world they are interpreting (Creswell 2003).

3.2.3. Mixed research approach

Mixed research approach or pragmatist world view is not committed to any one system of philosophy and reality. In this approach, inquirers draw liberally from both quantitative and qualitative assumptions.

In order to achieve the objective of this study and answer the research questions researcher adopts mixed research approach to examine the factors influencing non adoption of accounting information systems by small and medium enterprise to converge across qualitative and quantitative methods (triangulating data sources). Employing this approach is used to neutralize or cancel the biases of applying any of a single approach and a means to offset the weaknesses inherent in a single method with the strengths of the other method (Creswell 2003). Mixed research approach opens door to multiple methods of data collection and helps to generate the findings to a population and develop a detailed view of the meaning of a phenomenon or concept for individuals (Creswell, 2003; pp. 12-22). This research approach pose the researcher to the challenges that need for extensive data collection, the time-intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research (Creswell, 2003; pp. 210).

3.3. Research strategy

The most important condition for differentiating among the various research strategies is to identify the type of research question being asked (Creswell, 2003; Hair *et al.* 2006; Leedy, 1989; McNabb, 2004; and Yin, 1989). It is possible to identify some situations in which all research strategies might be relevant and other situations in which two strategies might be considered equally attractive. We can also use more than one strategy in any given study. To this extent, the various strategies are not mutually exclusive. But we can also identify some situations in which a specific strategy has a distinct advantage (Yin, 1989; p. 20).

According to Yin (1994), there are five strategies to collect data and get results: experiment, survey, archival analysis, history and case study. In addition, there are three criteria to determine the research strategy: types of research questions, control over behavioral events, and focus on present events

In this study, Survey approach has been chosen, because the research questions are focused on: What are the main factors which influence non adoption of accounting information system by SMEs? What are the major benefits of using the Accounting Information Systems

(AIS)? What are the effects on small and medium enterprises of not adopting AISs? So the types of questions are in the form of „what". This research does not require control over behavioral events but it focuses on current issues.

3.3.1. Type of Data

Primary and secondary data were used in this study. The data was collected through, interviews, and questionnaires. This gives specific responses to the research questions. Primary data is recognized as data is gathered for a specific research in response to a particular problem through interviews and questionnaires. Additional data were obtained by examining various documents, including, annual reports, local and international news paper related with issues AIS, books and journal articles.

3.4. Research Method

This research paper intended to examine the main factors influencing non adoption of accounting information systems in small and medium enterprise in 125 sampled MSEs in Jimma. To undertake this research, the specific methods of data collection used were survey, semi-structured interview and document sources. Survey for the quantitative strategy was used through distributing self-administered questionnaires. Questionnaires were distributed to all managers or owners or finance department professional staff of the sampled SMEs. Those respondents were selected because, they are deemed to be knowledgeable about Accounting Information system and could provide important perspectives on its adoption.

3.4.1. Survey Design

Since the research questions mainly focus on "what" questions; it is justifiable rationale for conducting an exploratory study and more likely to favor survey than others (Yin, 1989; pp. 17-18). Survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. Its purpose is to generalize from a sample to a population so that inferences can be made and it is also economical and rapid turnaround in data collection (Creswell, 2003; pp.153-154); and this method is important for collecting large amounts of raw data using question and answer formats (Hair *et al.* 2006). Survey had conducted via self-administered questionnaire from the sampled SMEs staff; because questionnaire is a common place instrument for observing data beyond the physical reach of the observer (Leedy, 1989; pp. 142). The main advantage of survey is its ability to accommodate large sample sizes at relatively low costs, ease of administration and ability to tap in to factors that are not directly observable (Hair *et al.*,2006)

As briefly discussed in the above, questionnaire was distributed to the sampled small and medium enterprise managers or owners, and semi-structured interview was conducted with the micro and small enterprise development agency at Jimma to get more evidence regarding the theme.

The questionnaire was divided into three sections. Section I captured basic demographic information of the respondents such as age and educational back ground, Section II captured information about the nature of the barriers faced in the adoption and usage of accounting information system and Section III sought to determine the perceived benefits of using accounting information system.

3.4.2. Population of the Study

Ozo (2007) States that population is the totality of people or object being considered. The population of this is all the SMEs in Jimma town, but for the purpose of this study, the population size will be restricted to owners /managers of the selected SMEs in Jimma town.

The population of the study was first divided into sub-population based on sections which comprises of;

a) Managers/Owners SMEs/ Accountant
b) Managers of SMEs development agency

Population Distribution Table

S.No	Section of work	Frequency			Total
		Small enterprise	Medium enterprise	MSE development agency	
2	Managers/Owners/ Accountant	54	127		181
3	Managers of MES development agency			2	2
	Total	54	127	2	**183**

3.4.3. Sampling Design

Sampling/sample size is a process of selecting a proportion of the population considered adequate to represent all the existing characteristics within the target population for the purpose of generating the finding from the sample itself.

The sample will be obtained using the formular – Taro Yamene's formular below:

$$n = \frac{N}{1+Ne^2}$$

Where;

n = Sample size

N = Population Size

e = Significant level of error (0.05) or 5%

$$N = 181$$
$$e = 0.0025$$

$$n = \frac{181}{1+181(0.0025)}$$

$$n = 124.61 = \underline{125}$$

The firms in the sample were randomly selected from micro and small enterprise development agency database of SMEs. The sample was stratified by grouping SMEs into small and medium. The number of firms in each of these strata of the sample was adjusted to increase the accuracy of the survey across activities and size classes.

The reason is that in Stratified random sampling specific characteristics of individuals are represented in the sample and the sample reflects the true proportion of individuals with certain characteristics of the population (Jfowler, 1988). The purpose of stratifying firms in this form is to draw representative sample from each stratum. From SME's in Jimma, population for this study is firms exist in different kebeles of the town. The size of the population in general is 54 Small and 127 Medium enterprises (Jimma town, micro and small enterprise development agency 2015). Hence small companies constituted 30% of the sample and medium 70% of the sample and the sample size are 125 of SME's of which small enterprise 38 and medium enterprise staffs are 88. From the list of the population every 2nd of the enterprises was selected from each stratum.

3.4.4. Method of Data Collection

In order to collect sufficient data that can answer the research questions, researcher designed two surveys; the first was a questionnaire to get quantified results. The second survey was

interviews aimed to collect data from management of micro and small enterprise development agency.

In addition to questionnaire and interview, data collected from different published and unpublished materials has been also used.

3.4.5. Questionnaires

As indicated in the above, the staffs of the sampled 125 Small and medium enterprises staffs were included in the survey. A questionnaire was distributed to all 125 professional staffs of 125 sampled small and medium enterprises. Questions present in the form of affirmative statements, relating to the concepts on AIS and to identify their intention on the challenge and opportunities of using accounting information system, in such a way to enable measurement of the respondent's opinions.

The questionnaires were structured in close-ended type and responses to the questions were measured on a five Likert rating scale where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N) =3, Disagree (D) = 1; and Strongly Disagree (SD) = 5; the use of Likert scale is to make it easier for respondents to answer question in a simple way. In addition, this research instrument will permit an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is median (or average response) and mode (or more frequent responses) (Hole 2011).

3.4.6. Variables for the study

This study investigates CAIS adoption, non-adoption, and the level of adoption amongst SME in Jimma. Organizational and technical and environmental factors is the variable that is most likely to influence the reluctance of non-adopting firms, who may not be (or think they are not) ready to adopt technology. This construct was therefore described in this study as the barriers negatively affecting adoption as a result of SME non-readiness. Meanwhile, benefits and environmental pressures are assumed to positively affect adoption.

TAM states that the perceived usefulness and perceived ease-of-use of innovation affect firms' attitudes over whether or not to adopt it. Additionally, some antecedents of perceived

usefulness and perceived ease-of-use are given, in the form of external variables. By developing TAM, this study extends perceived usefulness to cover the perceived benefits of adoption, and TOE state technological, organizational and environmental factors to denote perceived barriers to adoption.

The operational definitions of the main constructs in this study are as follows:

Perceived benefits: all benefits that managers perceive could be achieved through the adoption/ adoption level of CAIS, which would improve the competitive position of their firm in the market. These benefits could relate to quality of improved accounting quality, improved quality of reports, Flexibility in information generation, lowering costs, eliminates duplication of efforts, effectiveness & efficiency in decision making. Increase competitive advantages and increase reliability and accessibility

Barriers to adoption: organizational, environmental and technological factors negatively affecting the adoption decision. These factors are perceived by managers as inhibitors, dissuading them from adopting CAIS or from achieving its perceived benefits.

These barriers can be related to the availability of resources, skilled labor, the internal organizational readiness of the firm, or the attributes of the adopted technology itself, in terms of its compatibility, complexity. The barriers could also be external, relating to the readiness of government, customers or suppliers, or security as follows.

Technological factors :(High level of complexity to use AIS, incompatible with our business current system, Lake technological availability, confidence with the security aspects of CAIS)

Organizational factors :(Lack of financial resources, Lack of infrastructure readiness, Lack of skilled labor to implement AIS, High implementation cost associated with AIS, Owner/manager's resistance to changing from traditional ways, Owner/manager's awareness about AISs, Satisfaction with Manual System)

Environmental factors: (Lack of Vendor Support (consultants, and accounting firms, Lack of competition, Lake of Government support)

3.4.7. Interviews

In the qualitative strategy, semi-structured interview was conducted with the relevant body at Jimma town micro and small enterprise development agency, the major purpose of this

interview was to corroborate certain facts that the investigator already thinks have been established (Yin, 1989; pp. 89). Therefore, the semi-structured interviews were conducted to enhance and supplement the results of questionnaires.

3.5. Method of Data Analysis

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Yin, 1989; pp. 105). The researcher analyzed the data collected through survey to statistical population concerning the adoption of accounting information system. The data collected via questionnaires was analyzed with descriptive statistics and multiple linear regressions analysis was undertaken using statistical package for social scientists (SPSS). Furthermore, Wolcott (1994) cited in Creswell (2003; pp. 184), suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that was collected from the interview and reviews of documents were interpreted qualitatively. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003).

3.6. Summary of the Methodology

The methodology part of this study was based on the research paradigm developed by Foster (1998) as: Research purpose, research approach, Research strategy and specific research methods employed. The purpose of the study was to explore the main barriers and drivers of adopting CAIS and describe the current situation in the adoption of the system in Jimma SMEs. The research approach employed in this study was both quantitative as well as qualitative (mixed) approach. The research strategy used in the study was survey study. Data was collected by using questionnaire and interview. Finally data collected from various sources were analyzed by using statistical package for social scientists (SPSS).

CHAPTER FOUR

RESULTS AND DISCUSIONS

4.1. Introduction

As it is discussed in the methodology part of this study, data collected by using different techniques were analyzed in this chapter by using triangulation approach. A total of 125 questionnaires were distributed across the various SME in Jimma, out of which the whole 125 were completed and retrieved, representing 100% retrieval (response) rate. Out of the 125 questionnaires administered 37 and 88 were distributed to Small and Medium scale enterprises respectively. The number of questionnaires retrieved from small and medium scale enterprises are 37 and 88 respectively. This represents a retrieval rate of 100% for both small and medium scale enterprises. In addition to questionnaire, the researcher conducted an interview with only small and micro enterprise development agency managers for the reason that it was not well-situated to interview all SMEs Owners or managers; In order to analyze the research results; Statistical Package for the Social Sciences (SPSS) software is used. SPSS is a computer program used for statistical analysis. SPSS fit with quantitative approach and survey strategy which were adopted in this research; SPSS has many features and properties which can provide appropriate results, these results lead to achieve research purposes.

4.2.Demographic information of the respondents

The study participants on survey questionnaire have different personal information; besides these differences they introduce different responses towards CAIS Adoption, and the factors that influence CAIS adoption. The following discussion shows these differences. The demographic profile of respondents, participated in this study was shown in table 4.1 as follows.

Table 4.1, Respondents' Demographic profile

		Frequency	Percent
Number of your employees	Six to twenty (**Small Enterprise**)	37	30.4
	Twenty one to hundred nine(**Medium Enterprise**)	88	69.6

Year of enterprise established	1-5 years ago	50	40
	6-10years	58	46.4
	Over 10 years	17	13.6
Manager of your business	The owner	103	82.4
	Employed manager/salary manager	22	17.6
Academic background	Less than grade 9	11	8.8
	Grade 9 to twelve complete	44	35.2
	TVET/Diploma and above	70	56
Professional background	Accounting	3	2.4
	Management	5	4
	Others	62	49.6
	Total	70	56

Source: Own survey of SMEs

SMEs are defined for this study by adapting the definition given 2012 by Ethiopian Federal Micro and Small Enterprises agency (FMaSE): Small enterprises is those enterprises hired 6 up to 20 employees and Medium Enterprise are enterprises are those hired 21 up to 100 employees. As it is shown on the above table, the highest percentage of responding enterprises in this study was medium enterprises that form 69.6% of respondents. In the case of classification of respondents by number employees the highest percentage of participants are (21-100 employees) on the other hand 38 (30.4%) were small enterprises. Most of the enterprises consists 58 (64.4 %) were established between 6-10 years while 50 (40 %) of the enterprises established between 1-5 years and the older firms constitute 17(13.6%).

SMEs can be managed by different individuals such as; by owners, by employee/salary manager or some other individuals. The largest proportion of sampled SME's 103(82 %) was owner-managed, 22(17.6 %) were salary-managed firms.

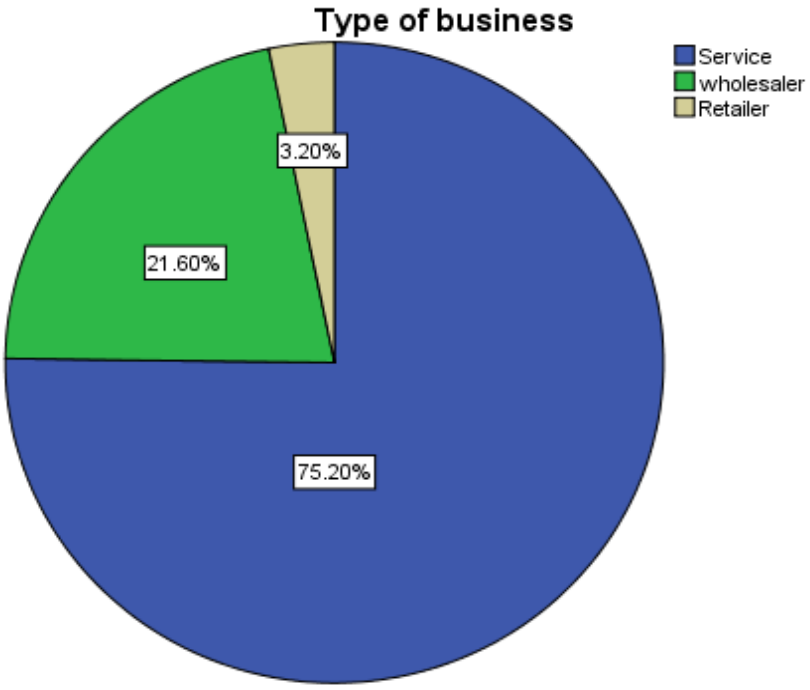
As for academic qualifications, there were smaller number of owner-manager who had less than grade nine which forms 11(8.8%) then those who were grade 9 to 12 complete 44(35.2%) the survey result also shows that large number of owners -manager those who were TVET/Diploma and university graduates with BA/BSC degree and above are forms 70(56%) which has professional qualifications in Accounting, Management and economics and other. Managers/owners academic qualifications of the sampled SMEs were relatively

educated which may have helped these firms to adopt computer based accounting information system.

4.2.1. Type of Business

The respondents were requested to indicate the business type in which their company belonged. As shown in Figure 4:1 below, the respondents were mainly from three business type: service, wholesale and retail. The highest percentage of respondents (75.2%) was from service delivery business, followed by 21.6% who were from wholesale companies. The rest of the accountants worked for retail business (3.2%).

Figure 4.1 Type of Business



4.2.2. Level of use of CAIS

The number of SMEs who did not use the CAIS was high. As shown in Table 4.2, almost all (92.8%; n = 125) of the SMEs regarded themselves as non-users of the CAIS and were still essentially using the manual accounting system. 9 (7.2%) SMEs regarded themselves as current users of some kind of accounting software.

Table 4.2: Frequencies of Respondents' Level of use of AIS

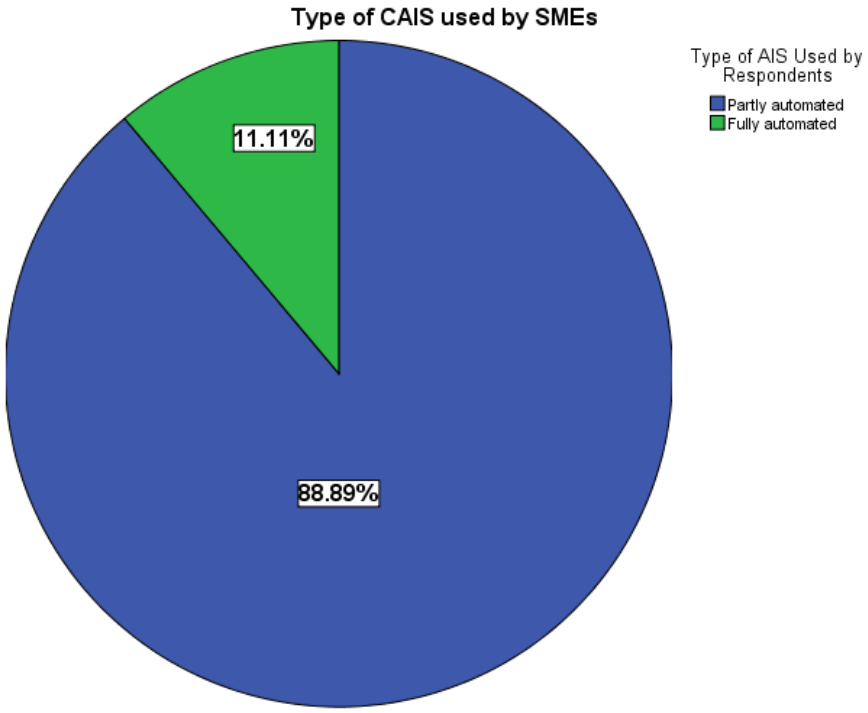
	Yes	No	Total
Using Computerized Accounting Systems	9(7.2%)	116(92.8%)	125(100%)

Source: Own survey of SMEs

4.2.3. Type of CAIS used by SMEs

However, among these users, only 1 (11.1 %) indicated that they currently used fully automated CAIS for the entire accounting cycle, while 8 (88.8 %) used partly automated CAIS in their workplaces as it shown in figure 4.2 below.

Figure 4.2 Type of used CAIS by respondent



4.3.Barriers of adopting CAIS

Although there are many associated benefits with the adoption of CAIS, there are many reasons which obstruct implementation of the system. In case of SMEs in Jimma, many SMEs still using manual system and don't have access to take advantage from CAIS.

Aminreza et al., 2011 observed the following reasons which may be considered as hindrance factors for the use of computer based accounting systems. These hindrance factors include

lack of skills and skilled manpower to implement CAIS, Owner-manager's resistance to changing works Practices, Lack of infrastructure readiness and Lack of financial resources. Moreover, factors that can affect adoption of CAIS in the country regarding the technological factor, organizational factor and Environmental factor were analyzed in the following sections

4.3.1. Technological factor

The issues raised in this study in relation with technological factor are the relative advantages (perceived benefit) the firm gained from adoption of CAIS and the relative disadvantages (perceived risk) which hinder SMEs from the adoption of new technological innovations.

Table 4.3 Technological factors

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
High level of complexity of CAIS	24(19.2%)	66(52.8%)	6(4.8%)	29(23.2%)		125
Incompatibility of CAIS with current process	30(24%)	52(41.6%)	8(6.4%)	35(28%)		125
Lake technological availability	21(16.8%)	39(31.2%)	1(0.8%)	48(38.4%)	16(12.8 %)	125
Lack of confidence with the security aspects of CAIS	17(13.6%)	36(28.8%)		71(56.8%)	1(0.8%)	125

Source: Own survey of SMEs

The above factors were cited as having an influence towards the adoption of AISs by SMEs. About 66(52.8%) of the respondents disagree that level of complexity of AIS plays a minor role in non adoption of AISs while 24(19.2%) of the respondents strongly disagree that it plays a lesser role in the adoption of AISs where as about 29(23%) of the participants strongly argued that level of complexity of AIS are affected the SMEs adoption of CAISs. This implies that level of complexity of AIS is weakly behind non adoption of AISs by SMEs.

Also the result shown on the above table indicated 41.6% and 24% of the respondents strongly disagree and disagree that incompatibility of CAIS with current process is not factor that can hinders adoption of technological innovation by SMEs. Whereas 28% of the respondents agree that Incompatibility of CAIS with current process is another factor that can

hinders adoption of technological innovation by SMEs. This implies that incompatibility of CAIS with current process is also weakly behind non adoption of AISs by SMEs

while the result shown on the above table revealed that lack of technological availability considered as barrier for the adoption CAIS system, were 48(38.4%) of the respondents agree and 16(12.8%) of the respondents strongly agree that lack of technological availability plays a paramount role in non adoption of AISs, whereas 16.8% were strongly disagree and 31.2% disagree of the respondents revels that lack of technological availability does not hinder non adaptation of CAIS. Similarly the result shown on the above table revealed 71(56.8%) agree and 1(0.8%) strongly agrees that that lack of confidence with the security issue is strongly considered as barrier for the adoption CAIS system. This result confirms the finding of According to (Abu-Musa, 2004) in his paper the survey results have revealed that almost half of the responded Saudi organizations have suffered financial losses due to internal and external CAIS security threats and also suggest that greatest challenge among the CAIS is winning the trust of owners –managers in the issue of lack of technological availability as a key inhibitor in the adoption of CAIS.

4.3.2. Organizational Factors

One of the basic issue related with organizational factor is, the availability of financial as well skilled human resource to implement the system. In this study costs related with the implementation of CAIS, technical or managerial skills and financial resource required to implement CAIS were considered as organizational factors.

As it is shown in the following table 4.4, Financial constraints as well as high implementation cost associated with CAISs directly affect adoption of AISs by SMEs as indicated by a high agreeing participant rate of 59(47%) and 42(34%) respectively. 15(12%) and 39(31%) strongly agree that financial constraints and high implementation cost associated with CAISs highly affects the adoption of CAISs by SMEs whilst 38(30%) and 41(33%) disagree respectively. Wang (2004) confirmed that SMEs either do not have sufficient resources or are not willing to commit a huge fraction of their resources due to the long implementation times and high fees associated with AISs implementation.

Lack of infrastructure as well as lack of skilled labor to implement CAIS directly affect adoption of AISs by SMEs as indicated by a high agreeing participant rate of 43(34%) and 63(50%) respectively. 28(22%) and 20(16%) strongly agree that lack of infrastructure and lack of skilled labor highly affects the adoption of AISs by SMEs whilst 41(33%) and

30(24%) disagree respectively. Owner-manager's resistance to changing work practices does not affect non adoption of AISs by SMEs as was indicated by a high disagreeing response rate of 61(49%) and 22(18%) were strongly agree . However only 38(30%) agree that reluctance is behind non adoption of AISs whereas 4(3.2%) strongly agree that SMEs are just reluctant to adopt AISs.

About 53(42%) of the respondents agreed that Lack of technical and managerial skills on the use technological innovation plays a paramount role in non adoption of AISs with 21(17%) simply strongly agreeing that it plays a role in the adoption of AISs where as about 38(30%) of the participants disagree that Lack of technical and managerial skills on the use technological innovation does not affect SMEs‟ adoption of AISs. In addition large number of respondents 71(57%) were disagree that satisfaction with Manual System as can not considered as a barrier for the adoption of CAIS.

Table 4.4 Organizational Factors

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Lack of financial resources	13(10%)	38(30%)	59(47%)	15(12%)	125(100%)
Lack of infrastructure readiness	13(10%)	41(33%)	43(34%)	28(22%)	125(100%)
Lack of skilled labor to implement CAIS	12(10%)	30(24%)	63(50%)	20(16%)	125(100%)
High implementation cost associated with CAIS	3(2%)	41(33%)	42(34%)	39(31%)	125(100%)
Owner-manager's resistance to changing work Practices	22(18%)	61(49%)	38(30%)	4(3.2%)	125(100%)
Lack of technical and managerial skills on the use technological innovation	13(10%)	38(30%)	53(42%)	21(17%)	125(100%)
Satisfaction with Manual System	7(6%)	71(57%)	30(24%)	17(14%)	125(100%)

Source: Own survey of SMEs

The above results were also supported by an interview script received from micro and small enterprise development agency, which indicated that, „compared with manual accounting system, using different technological innovation in SMEs is used to perform accounting

practices at lower costs. This finding is consistent with the finding of Rasoulina & Javaheri(2006) which suggests, cost, infrastructure, managerial , time, information, legislation and regulation and economic as the most effective issues affecting the technological adoption. These issues can be either drivers or barriers. For instance, if a country has managed to achieve a cost reduction greater than the investment made in adoption of new technology, then the cost factor can be considered as a driver rather than as barrier.

In general, using of CAIS is not expensive when compared with traditional accounting system. On the other Lack of financial resources, Lack of infrastructure readiness, Lack of technical know how to implement AIS , Lack of skilled labor to implement CAIS and High implementation cost associated with AIS were considered as main barriers to adopt CAIS in SMEs.

4.3.3. Environmental Factors

Another factor which can affect the adoption of technological innovation is an external environment: in this study four basic environmental factors are considered, these are Government support, Venders support and competitive pressure. The result obtained from survey, questioner and literature regarding those four issues was presented in the following sections.

Table 4.5 Environmental Factors

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Lack of Vendor Support	13(10%)	32(26%)	61(49%)	19(15%)	125(100%)
Lack of competition	9(7%)	39(31%)	60(48%)	17(14%)	125(100%)
Lake of Government support	13(10%)	38(30%)	53(42%)	21(17%)	125(100%)

Source: Own survey of SMEs

Lack of technology consultants and accounting software vendors can also hinder the adoption of CAIS because they unable to create awareness of accountants' perceptions of the AIS. These consultants and vendors can subsequently lakes to provide or develop appropriate AIS applications that are more likely to be adopted by SMEs, the survey result also shows that 65(52%) of the respondents strongly agree that lake of vender support were a main barrier to adopt CAIS.

As it is stated in different CAIS literature, competitive pressure is considered as driver for the adoption of CAIS in developed country. However, lack of competition among SMEs and other firms hinders SMEs to adopt CAIS. Respondents were asked whether lack of competition among SMEs influence adoption of CAIS and the result obtained from survey is shown that 76(60.8%) strongly agree that lake of computation is a contributory factor in non adoption of CAISs by SMEs, moreover 42(33.6%) of the respondents agree that lake of computation among SMEs were another main factor on non adoption of AISs in SMEs.

The study of Kuan & Chau (2001) survey of Australian SME suggest that, government initiatives are the most significant factor determining the extent and deployment of CAIS adoption. Similarly the study of (Quaddus & Hofmeyer 2007 & Dedrick 2003) noted that vender support is the major driver for the adoption of CAIS.

As it is depicted on the above table, respondents were asked whether, lack of government support is an inhabiting factor for the adoption of CAIS. 55(44%) of the participants strongly argued and 54(43.2%) of the participants argued that lack of government support is greatly behind non adoption of AISs by SMEs, only of 16(12.8%) do agree about the effect of. On the other hand an interview conducted with micro and small enterprise development agency managers confirms that, Ethiopian government in collaboration with UNDP were doing on improvement of national infrastructure and provide training on entrepreneurship, financial management and E-accounting to SMEs that will encourage our SMEs to adopt different technological innovation lack of government support.

In general environmental factors (Lack of Government support, Lack computation, Lake of Vender support) were considered as main barriers to adopt CAIS

4.4.Benefits/Drivers of adopting CAIS

An advantage that is expected to be gained from the adoption of CAIS covers both direct and indirect benefits for the SMEs. Direct benefits include savings on operational cost, improved organizational functionality, improve decision making, improved efficiency, saving of time and increased profitability. Indirect benefits include the opportunity or intangible benefits such as improved customer's satisfaction through improved services, improved experience and fulfillment of their changing needs and lifestyle (Legrisa (2003)).

Benefits of adopting CAIS system considered in this study were classified based on technology acceptance model (TAM), as perceived ease of use (PEU) and perceived usefulness (PU).

Table 4.6 Perceived Usefulness

	Response				
	Disagree	Neutral	Agree	Strongly Agree	Total
Improve quality of accounting reports	26(21%)		83(66%)	16(13%)	125(100%)
Eliminates duplication of efforts	1(0.8%)	25(20%)	47(38%)	52(42%)	125(100%)
Increase reliability and accessibility	26(21%)		50(40%)	49(39%)	125(100%)
Improve Internal control	21(17%)		62(50%)	42(33%)	125(100%)
Speed and efficiency	40(32%)		37(30%)	48(38%)	125(100%)
Lowering costs	37(30%)	4(3%)	67(54%)	17(14%)	125(100%)
Improved accounting quality	27(22%)		57(46%)	41(33%)	125(100%)
Flexibility in information generation	1(0.8%)		49(39%)	75(60%)	125(100%)
Effectiveness & efficiency in decision making	43(34%)		54(43%)	28(22%)	125(100%)

Source: Own survey of SMEs

It means that the largest number of respondents 81 or (646.8%) out of the total was strongly agreed that adaptation of CAIS anticipate to improve quality of accounting reports. These result implies, that using CAIS system believed by SMEs generate reports within a short period of time. Aging report, inventory status report and pay their bills on line with just a click of mouse and a touch of button. On the other hand using CAIS is more convenient in terms of saving time, speed and efficiency, were the study result shows that 46(36.8%) of the respondent strongly agree that adoption of CAIS is expected that it is convenient in terms of saving time, speed and efficiency and 43(34.4%) of the respondents disagreed .

According to sample results, 60(486%) of the participants agree in addition 44(35.2%) of the participants strongly agree that adoption of AISs Improve internal control reports, furthermore 49(39.2%) agreeing and 50(40%) strongly agree adaptation of CAISs Eliminates duplication of efforts to them and 66(52.8%) of the participants agree that adaptation of CAISs expected to reduce cost, this is in line with Poston and Grabski, (2001) who

highlighted that adoption of ERP systems is expected to reduce costs by improving efficiency through computerization, and enhances decision-making by providing accurate and updated information leading to improved company performance.

4.4.1. Perceived Ease of use

One of the basic benefits related with the use of CAIS is the perceived ease of use. Legrisa (2003) suggests that adopting CAIS expected to reduce the workload over the staff or accountant and it's easy to have more satisfied customers. On the other hand Robinson (2000) indicated that CAIS provides convenience not only to firms and also to customers. The data obtained from the survey in this study also confirms the finding of Legrisa (2003) and Robinson (2000) and the result were shown in table 4.6 as follows.

Table 4.7 Ease of Use

	Response					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
CAIS usage helps our business to compete		36(29%)	3(2.4%)	70(56%)	16(13%)	125(100%)
CAIS usage helps us to provide effective customer services	3(2%)	29(23%)		79(63%)	14(11%)	125(100%)
Using CAIS is easy for our employees	11(9%)	33(26%)	7(6%)	64(51%)	10(8%)	125(100%)
Information produced by CAIS is easy to understand		38(30%)	4(3%)	67(54%)	16(13%)	125(100%)
Time taken to master the use of AIS is short		44(35%)	5(4%)	69(55%)	7(6%)	125(100%)

Source: Own survey of SMEs

Regarding ease of use as a benefit of adopting CAIS, respondents were asked whether they `strongly agreed, Agreed, Neutral, and Disagreed or strongly disagreed‟ based on five questions shown in the above table 4.7. The result for all statements of the field expected to indicated that, 84(67.2%) of the study result agree that usage CAIS helps our business to compete and 79(63%), of the study result agree that usage CAIS usage helps us to provide effective customer services. in addition 72(58%) of the study result strongly agree that Using CAIS is easy for our employees and also 66(53%) of the study result agree that Information

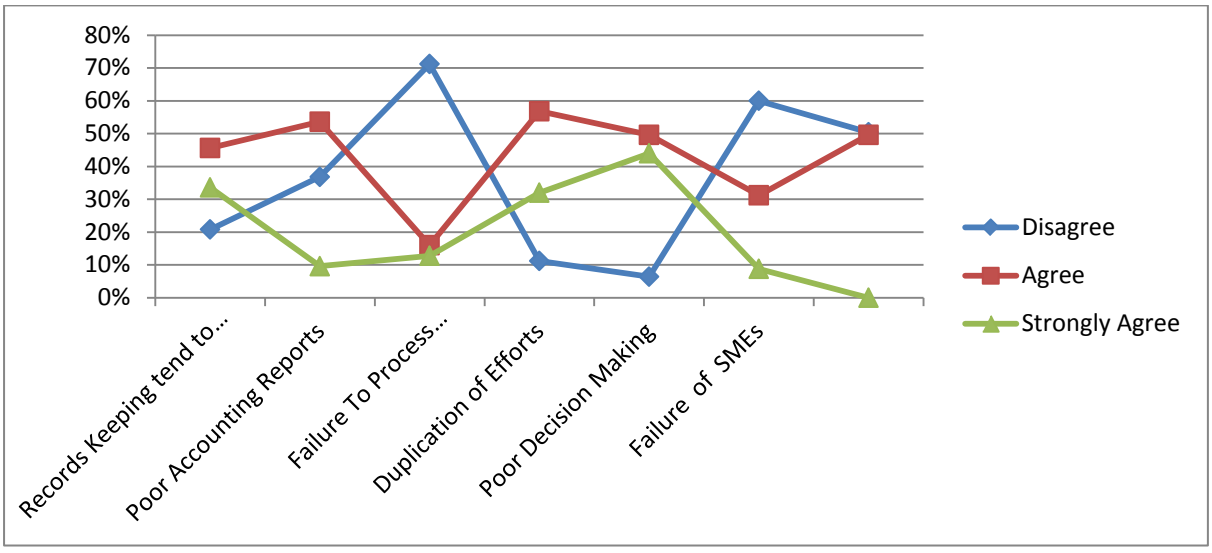
produce by CAIS is easy to understand, finally 49(39%) of the respondent strongly agree and 45(36%) of the respondent strongly agree that Time taken to master the use of CAIS is expected to be short which means that respondents of the sampled agreed with the idea that perceived ease of use in terms of, simplifying accounting activity, is a predictable factor for the ability to adopt CAIS. More over an interview result were also support the result of questionnaire that it indicated, it is an option less to implement CAIS to simplify the SMEs accounting activity and improve customer satisfaction.

This study were consistent with the finding of Aradhana (2010) which shows that there is a clear agreement about the importance of making the CAIS because of it is easy to deliver service to customers, also the finding of this study is in line with the result found by Hoppe *et al.* (2001) which suggest that the more complex a new technology is perceived to be, the less likely it will be adopted and the more ease of use the more likely to be adopted.

4.5.Effects of Non Adoption of CAIS on SMEs

Non adoption of AISs has negatively affected business firms as they cannot enjoy those benefits inherent with the use of AISs. This has negatively affected the operations of SMEs to such an extent that some of them have even failed to survive. Lack of CAISs usage results in poor decision making by SMEs as information from their records is mainly in the form of incomplete records. Incomplete records makes it even harder for sound decisions to be made as they require a expert in accounting to interpret them into information, a deficient which often lacks in SMEs Randall and Horsman (2004) and the result were shown in table 4.6 as follows.

Figire4:3 indicating Effects on SMEs of not adopting AISs



Failure to adopt AISs greatly affects SMEs as records keeping tend to be haphazard as was indicated by a high agreeing response rate of 45.6%. 33.6% of the respondents also strongly agree that without CAISs information tends to be chaotic with only 20.8% arguing that lack of AISs does not affect information keeping. SMEs also tend to produce poor accounting reports as shown by 53.2% agreeing response rate. 9.6% strongly agree that non adoption of AISs to a large extent affects the quality accounting reports. In support of this Raymond et al, (2001) however argued that failure to do adopt AISs by organizations resulted in shoddy accounting reports and information. In contrast only 37% argue that failure to adopt AISs does not affect quality of accounting reports. 57% of the respondents agree that non adoption of AISs results in duplication of efforts with a corresponding 32% strongly agreeing that there is high duplication of efforts. However, 11% argue that non adoption of AISs does not result in duplication of labor. Non adoption of AISs does not result in failure by SMEs to process customer orders. This was indicated by a 71% disagreeing respondents rate. 16% of the respondents argue that non adoption of AISs results in failure to process customer orders on time whilst 13% strongly agree that there is high rate of failing to produce customer orders timely. Non adoption of AISs has no effect on the competitive advantage of SMEs. This was indicated by a split opinion as 50.4% of the respondents argued that non adoption of AISs does not reduce the competitive advantage of SMEs whilst a corresponding 49.6% argued that non adoption of AISs reduces the competitive advantage of SMEs. In contrast Mia and Chenhall (2003) highlighted that failure to adopt AISs results in reduced competitive advantage of SMEs. Non adoption of AISs does result in poor decision making as shown by a 50% agreeing response rate. 44% of the participants strongly argued that non adoption of AISs does result in poor decision making. In contrast Holmes (2003) stressed that lack of AISs use is a barrier that prevented external accountants from providing sound management accounts reports that resulted in poor decision making. Failure to adopt AISs does result in failure of SMEs. This was indicated by a high disagreeing response rate of 60% whereas 31% argued that non adoption does result in failure of SMEs. Only 9% strongly agreed that lack of AISs greatly resulted in SMEs failure. However, Randall and Horsman (2004) found that the lack of AISs use contributed to small enterprise failure.

4.6.Reliability Assessment of the Measures

Table 4.8 shows the Cronbach's alpha values for all the research factors. All alpha values exceeded the recommended threshold of 0.7. The values ranged from a low of 0.791 for Technological factors, 0.835 for Organizational factors, 0.873 for perceived benefit and 0.964

for environmental factors. This means that the all items developed to measure the factors were considered internally consistent and acceptable measures**.**

Table4.8. Reliability of the Measures

Factors	N of items	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
Technological Factors	4	0.791	0.803
Organizational Factors	7	0.835	0.827
Environmental Factors	3	0.964	0.9640
Perceived Benefit	9	0.873	0.858

Source: Own survey of SMEs

4.7.Multicollinearity

To check whether there is Multicollinearity in the model the simple correlation coefficients between the explanatory variables have been examined.

Multicollinearity is concerned with whether there is significant correlation between the independent variables that could hinder their relative importance in explaining the dependent variable (Pallant 2004; Tabachnick & Fidell 2007). The Pearson correlation matrix was used to check this issue. Correlations that lay below the threshold value of 0.80 were considered to exhibit no problem of Multicollinearity. However, to further assess any potential Multicollinearity that may not be evident in the correlation matrix, a tolerance factor and variance inflation factor (VIF) were also used. A tolerance value of less than 0.10 would indicate that the multiple correlation with other variables was high, thus suggesting the presence of Multicollinearity among the independent variables. A VIF value above 10 would indicate Multicollinearity and would be a concern.

Table4.9. Multicollinearity

	Collinearity Statistics	
	Correlation Coefficients	VIF
Technological factors	0.744	1.059
Organizational factors	0.256	3.913

Environmental factors	0.262	3.813
Benefit of CAIS	0.821	1.086

Following the same argument, as one can see from table above, values of all the correlation coefficients between explanatory variables are lower than 0.80 and VIF there VIF value above 10 is no severe Multicollinearity between the explanatory variables under consideration.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presents the summary of findings, discussions, conclusions and recommendations. It is divided into five sections; the first section presents the summary of findings, the second section presents discussion of findings as per study objectives, the third section presents conclusions of the study, the fourth section presents recommendations of the study while the fifth section presents suggestions for further research.

5.2. Summary of Findings

Guided by the technology-organization–environment (TOE) framework, this study has identified a number of barriers and benefits/drivers for CAIS adoption. TOE, is classified in to four factors to determine barriers for the adoption of CAIS. The technological barriers, identified in this study were high level of complexity to use AIS, incompatible with our business current system, Lake technological availability, and Lack of confidence with the security aspects of CAIS. The finding identified under technological factor were also consistent with other studies on technology adoption in different countries, Abu-Musa (2005), both of them found that security risk is the major barrier for the adoption of CAIS.

In the case of organizational factor, financial constraints, lack of skilled labor to implement CAIS, high implementation cost, lack of technical and managerial skills on the use technological innovation, strongly influence non adoption of CAISs by SMEs whereas owner/manager's resistance to changing, lack of financial resources were considered as barrier for the adoption of CAIS and it is consistent with the finding of Aminreza (2011) and Mund and syed (2010). On the other hand lack of technical and managerial skills to use and implement the system is considered as barrier for the adoption of CAIS in SMEs.

Most barriers to CAIS adoption identified in this study were come from external Environments; specifically those are lack of computation, lace of venders support and lack government support was taken as barriers for the adoption of CAIS in SMEs.

The study also identified basic benefit a firm could get from the adoption of CAIS system. Those benefits were considered as a driving force for the adoption of the system. The benefits were classified based on technology acceptance model (TAM) as perceived ease of use and

perceived use fullness. Perceived ease of use is taken as a major benefit of using CAIS system. At the same time this finding supports the study of Arndhana Relar (2013).The other benefit found in the study were based on its usefulness in terms of time and cost saving.

In general the finding of the study, offer other benefit for the adoption of CAIS, such as Improved quality of accounting reports, Eliminates duplication of efforts, Increase reliability, Improve Internal control and accessibility, Speed and efficiency, Lowering costs, Improved accounting quality, Flexibility in information generation, Effectiveness & efficiency in decision making

5.3. Conclusion

This study aims at investigating the main barriers and drivers of adopting CAIS by SMEs. To achieve the proposed objective basic frame works were used, i.e. Technology-organization-Environment (TOE). On the other hand both quantitative as well as qualitative (mixed) research approach was employed in the study. CAIS system, were not well adopted by SMEs operate in Jimma. This is due to low level Government support, Lack of computation and lack of Vender support which can initiate SMEs to implement the system.

In addition to the above three basic factors affecting adoption of CAIS, Result of the study also shows that security risk and financial constraints, lack of skilled labor to implement CAIS, high implementation cost, lack of technical and managerial skills on the use technological innovation, strongly influence non adoption of CAISs by SMEs whereas owner/manager's resistance to changing, lack of financial resources adoption are other major barriers for the system. The level of security risk associated with CAIS and lack of technological availability is also another challenge for the adoption of CAIS.

On the other hand, the study reveals that the benefits of technological innovation are well known to the SMEs and represent a formidable force to drive adoption of the system. In general perceived Ease of use is one of the basic benefits for CAIS, in which it enables SMEs owners or managers to perform accounting activities in a simple way. The other driving force for the adoption of the system is perceived usefulness, in which, it is used for time saving and cost reduction, eliminating duplication of effort, strengthen internal control and efficiency in decision making. This and the other benefit identified in the study were considered as a very great potential for SMEs to improve their current accounting system.

In general, the findings of this study offer additional insights to SMEs on technological adoption situation and its implications for CAIS growth in SMEs as an example of a

developing country. Furthermore, the understanding of the barriers to CAIS adoption identified in this study may help to identify the best course of actions to promote its development. It will also be valuable to all SMEs in the country to increase their awareness and understanding of CAIS benefits.

5.4. Recommendations

CAISs vendors should strive to provide custom made CAISs packages that suit the needs and requirements of SMEs. Also the packages should be easy to use and affordable. More so AISs vendors should hold workshops with SMEs in order to educate them fully on the benefits of adopting AISs.

The importance of governmental bodies' initiatives to increase the awareness of CAIS benefits to SMEs, support their start-up costs, and alleviate their training concerns has already been established. Highlighting SMEs that have already adopted CAIS as role models and publicizing their success stories should stimulate non-adopters to adopt CAIS and thus enhance their competitive advantage. SMEs need tailored advice on CAIS implementation. And also ensure that it provide easy access to computerized CAISs through financing the purchasing of computerized AISs by SMEs by providing subsidies on those SMEs that purchase AISs. More so government through the Ministry of Small to Medium Enterprise should provide collateral security to SMEs through providing financing of purchasing of initial assets of SMEs so that they may in turn use the assets as collateral assets to access loans from banks. Also SMEs should strive to employ qualified human resource personnel that are competent to use computerized AISs. This will make it easy to adopt AISs.

SMEs should invest time and money in educating staff and management about CAIS and its benefits.

It is proposed that the government should provide appropriate incentives to encourage the use of CAS. Usually fully integrated accounting software is very expensive to obtain and tax relief from this acquisition by the government will reduce the financial burden of SMEs. In the information age and globalization, time relevant and the actual information in hand, a correct result needs to achieve by SMEs in Ethiopia as a whole.

Data security is another important issue of the computerization of accounting systems, although our evidence shows that the majority of respondents have a data security problem and implementation of various security measures, there is a need to strengthen security measures, especially among the minority.

With respect to trying to introduce non-users to a CAIS, it may be useful to consider business operators those who are uninformed about the benefits of using a CAIS. This lack of knowledge may be a further result of the deficiency in IT skills as reported by almost half of the non-user respondents Government should set up training organizations offers a CAIS

specific skills development program targeted to those involved in small businesses, to avoid reluctance among retailers about the effectiveness in computer self-efficacy.

More research is needed to further validate the findings, in order to increase the generalization of the results in different areas within Ethiopia. Re-testing the research findings and the recommendations in different regions within Ethiopia especially, will help to determine whether the findings have the same impact or are less significant in other areas.

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ANNEXES

Annex I: questioner

INTRODUCTION

We will undertake a study on factors influencing adoption of accounting information systems by small and medium enterprise case of Jimma town SMEs. We would therefore be very grateful if you could offer us the necessary support by answering this questionnaire in the best possible means you can. We wish to assure you that the information gathered here will be used strictly for the study alone and thus kept confidentially.

Section I: GENERAL INFORMATION

Name of enterprise: _____ (Optional)

1. What is the type of your business?
   [ ] Service [ ] wholesaler [ ] Retailer
2. What is the number of your employees?
   [ ] five to twenty [ ] twenty one to ninety nine
3. When was the enterprise established?
   [ ] 1-5 years ago [ ] 6-10years [ ] over 10 years
4. Who is the manager of your business?

   [ ] The owner [ ] employed manager/salary manager [ ] someone else

5. What is your academic background?

   [ ] Illiterate [ ] less than grade 9 [ ] grade 9 to twelve complete

   [ ] TVET/Diploma e) BA/BSC and above

6. If your answer for Q.6 is TVET/Diploma and above what is your professional background?

   [ ] Accounting [ ] Management [ ] Economics [ ] Others

7. Has your company ever considered using Computerized Accounting Systems (CAIS)?
   [ ] Yes [ ] No
8. If no, how does the company capture its operations, especially in the preparation of financial statements

[ ] Manually [ ] Microsoft tools

9. If your answer to Q9 was (yes), are the CAIS?

[ ] Partly automated; a combination of manual and computer application

[ ] Fully automated

Section II: **QUESTIONNAIRES RELATED WITH BARRIERS AND BENEFITED OF ADOPTING ACCOUNTING INFORMATION SYSTEM**

Instruction: Below are lists of statements pertaining to Adoption of AIS. Please indicate whether you agree or disagree with each statement by ticking (√) on the spaces that specify your choice from the options that range from ""strongly agree" to „"strongly disagree" .Each choice was identified by numbers ranged from 1 to 5.

Key: 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree

Part I: Questionnaires related to barriers of adopting AISs

The following are some barriers the SMEs faces, when adopting AIS, please indicate level of your choice.	1	2	3	4	5
I. **Technological factors**					
High level of complexity to use AIS					
Using CAIS is incompatible with our business current system					
Lake technological availability					
Lack of confidence with the security aspects of CAIS					
II. **Organizational factors**					
Lack of financial resources					
Lack of infrastructure readiness					
Lack of skilled labor to implement CAIS					
High implementation cost associated with CAIS					
Owner-manager's resistance to changing work Practices					
Lack of technical and managerial skills on the use technological innovation					

Satisfaction with Manual System					
III. Environmental factors					
Lack of Vendor Support (consultants, and accounting firms)					
Lack of competition					
Lake of Government support					

Any other barriers? Please specify below.

_____

_____

_____

Part II: Questionnaires related with the drivers of adopting CAIS system in SMEs

The following are some of the perceived benefits the company derived from the adoption of CAIS, please indicate your choice	1	2	3	4	5
Using of CAIS Would Improved accounting quality					
Using of CAIS Would Improved quality of reports					
Flexibility in information generation					
Using of CAIS Would Lowering costs					
Using of CAIS Would Eliminates duplication of efforts					
Effectiveness & efficiency in decision making					
Using of CAIS Would Increase competitive advantages					
Using of CAIS Would Increase reliability and accessibility					
Using of CAIS Would Improve Internal control					
Speed and efficiency					
Perceived Ease of Use					
CAIS usage helps our business to compete					

CAIS usage helps us to provide effective customer services.					
Using CAIS is easy for our employees.					
Information produced by CAIS is easy to understand.					
Time taken to master the use of AIS is short					

Any other benefits? Please specify

_____

_____

_____

Part III: Questionnaires related with Effects of Non Adoption of AIS on SMEs

The following are some of the effect the SMEs not adopting AIS, please indicate your choice					
Records Keeping tend to Be Haphazard					
Poor Accounting Reports					
Failure To Process Customer Order					
Duplication of Efforts					
Poor Decision Making					
Failure of SMEs					
Reduced Competitive Advantage					

Interview questionnaires designed for micro and small enterprise development agency (Jimma town)

1. As your opinion what are the barriers and benefits of adopting Accounting information system by SMEs?
2. Is there any official direction by the agency to enforce SMEs to use accounting information system?
3. Is there any special procedure that guides SMEs in implementation of accounting information system?