CLOUD BASED ACCOUNTING: THE PERSPCETIVE OF ACCOUNTING PROFESSIONALS OF SRI LANKA

By

L.M. Livera

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Department of Accounting

Faculty of Management Studies and Commerce

University of Sri Jayewardenepura

Nugegoda

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AUTHENCITY STATEMENT

I certify that the attached material is my original work. No other person's work or ideas have been used without acknowledgement. Except where I have clearly stated that I have used some of this material elsewhere, I have not presented it for examination / assessment in any other course or unit at this or any other institution.

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SUPERVISOR CONFIRMATION STATEMENT

I certify that the above statement made by the candidate is true and that this project is suitable for submission to the Department of Accounting, University of Sri Jayewardenepura for the purpose of evaluation.

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Signature of the Supervisor Signature of the Supervisor

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Date

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Table of Contents

List of Tables

1 Introduction

1.1 Background of the Study

For years, financial accounting has been considered a formal and a widespread source of information within organizations (Chapellier, 1994). Thus, it can be called as the language of business as it provides financial information which assists the decision making process of stakeholders. Through the financial statements information on financial position, profit and cash flows are disseminated. In a turbulent business world, accountants should always exploit emerging technologies to fulfill their tasks more efficiently and accurately. One of the emerging technology which has been identified by the Association of Chartered Certified Accountants is cloud technology (Chua, 2013). Due to the effects of digitization of business and intense use of internet, a new epitome has emerged which is acknowledged as cloud computing (Dimitriu & Matei, 2014). Cloud computing allows service providers to share their computing resources with many users upon request and in a remote setting. Most commonly used cloud services are: Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platforms as a Service (PaaS) and Business Process as a Service (BPaaS) (Mell & Grance, 2011). It is factual that cloud computing is obtaining a great deal of momentum as it increases the flexibility of businesses and reducing initial costs spent on infrastructure.

This novel technology has reformed accounting profession in a plausible way. Accounting in the cloud has become a contemporary domain which is powered by cloud computing technology. Cloud accounting or online accounting has being defined as a software that acts like an accounting application installed on users' computers, though it is performed on servers offering online services and users can access them through web browsers (Dimitriu & Matei, 2015). Using cloud technology, accountants can access to financial data from any location providing they have access to internet. The emergence of cloud accounting will dilute the effects and provide answers for challenges arising from globalization, rapid advances in technology, rise of big data, widespread use of internet based applications and standardization (Dimitriu & Matei, 2015). Accounting professionals should be ready to embrace the changes occur in the business environment keenly as it is important to evolve in accordance with the reality that we are facing today.

Accountants should objectively evaluate the effects of these changes with respect to accounting standards, key financial reporting and management information systems. Insights

into this force would be advantageous to reshape the future of the organization they support. Professionals must study the challenges and opportunities created by this particular emergent technology using their analytical and problem solving skills (Strauss, Kristandl & Quinn, 2015). It is believed that cloud applications will lessen the challenges faced by accounting professionals such as increasing complexity of the business environment, enhanced competition at a global level, the reduction of the business cycles and continuous need for global accounting standard practices.

Will this new technology replace the human factor involved in the accounting process? What are the risks faced by accountants who do not adapt this new technology? What are the risks associated with cloud accounting? , these are the questions that are left unanswered. But accounting professionals can focus on value adding work with the opportunity of automating the time consuming and repetitive work. They will be in position to consolidate their role as advisors on finance and accounting for businesses (Chua, 2013).

This study attempts to increase the awareness and acceptance of cloud accounting among accounting professionals and add value to the existing knowledge on this novel paradigm. Also, it will examine the benefits and threats linked to cloud accounting, possible reasons for not adapting this technology and possible factors impacting the intention to use cloud accounting as it is seen through the eyes of accounting professionals.

1.2 Problem Statement & Research Question(s)

Cloud based technology, a new era of technology has brought unprecedented innovative ways to link accounting professionals throughout the world. The accountants can identify cloud computing as a mean of optimizing its activities through cloud applications (Dimitriu & Matei, 2014). Cloud computing has eliminated the need for in house technology infrastructure reducing initial and maintenance cost of organizations (Ebenezer, Omane-Antwi & Kyei,2014). This shows that the various and considerable advantages ensured by cloud services has been expanded to the accounting domain as well (Dimitriu & Matei, 2014). Unlike traditional accounting which is distributed and deployed on premise, cloud accounting applications are designed for web deployment (Du & Cong, 2010).

With the introduction of cloud accounting, accounting workflow would be faster and more efficient. It enables the access to factual and real time data which in return increases the

transparency of financial information reported through cloud platform (Dimitriu & Matei, 2014). Also, it will help to extend and improve collaboration and communication with other professionals in business (Chua, 2013). Security and reliability will remain as top concerns of adapting cloud accounting.

According to the Code of Ethics for Professional Accountant issued by International Ethics Standards Board of IFAC (2015), a key principle that should be practiced is professional competence and due care. Accountants should provide their competent professional service based on the current developments in practice. Therefore, a professional accountant is responsible to evolve in accordance with the latest changes of technology with due diligence.

"Digital transformation is still new to many businesses in Sri Lanka. Sri Lankan accounting professionals are not aware of or do not adopt technological changes in the accounting paradigm as fast as developed countries. They live with the basic systems provided to them by their employers."

-Saman Jayewardene, Director Finance, Eureka Technology Partners (Pvt) Ltd (Appendix 2)

In the context of Sri Lanka, cloud accounting has not gained enough popularity among accounting professionals. Since they are as a part of the connected world, should be aware and accept these technological changes for the betterment of the profession.

As it is relatively a new phenomenon in the Sri Lankan context, this study would explore the extension of knowledge about cloud based accounting among the accounting professionals and identify the perceived benefits and threats of implementing this technology. Also, this study would explore the possible factors that could impact the intention to adopt cloud based accounting in the future.

This study will fill the gap of local literature by examining the current level of awareness and acceptance of cloud accounting of accounting professionals as the researchers in Sri Lanka have not yet chartered this novel area of study.

1.3 Research Objectives

The main objective of the study would be to explore the level of awareness and acceptance of cloud accounting among accounting professionals in Sri Lanka. A unified cloud platform would support the accounting professionals to move beyond outdated accounting processes and support their clients smartly and more efficiently. Cloud accounting would allow the rigid accounting process to closely mirror the dynamic changes made to accounting information (Dimitriu & Matei, 2014). Thus, this shows the importance of learning about this new technology by accounting professionals.

Most of the previous studies done on this subject are mostly oriented towards determining the reasons for adoption or non-adoption and opportunities or risks associated with cloud computing. There is a deficiency in researches done about cloud accounting. Therefore, this study would significantly contribute to the development and survival of the accounting practice.

The specific objectives that will be as follows;

Among accounting professionals of Sri Lanka,

1. The level of awareness of cloud accounting.
2. Perceived benefits and threats of cloud based accounting.
3. Possible of reasons for not adopting cloud accounting.
4. The factors impacting the intention to use or usage behavior of cloud accounting.

1.4 Significance of the Study

This study focusing on cloud accounting; awareness among accounting professionals is reinforced by various studies that explains the importance of exploring the above mentioned research objectives. As mentioned before being aware of the cloud based accounting would aid the accounting professionals not only to survive in the changing world but to prosper in their profession.

1.4.1 Theoretical Contribution

As a developing nation, Sri Lanka must understand what it needs to have to achieve a competitive edge over the developed countries of the world. It's the duty of the accountants to analyze the costs and benefits of this technology with due diligence and give insights to organizations they work for. But Cloud accounting as a new phenomenon, have gained little attention of the accounting practitioners and researchers of Sri Lanka. Therefore there is a dearth of local literature on this very subject. Many studies have been conducted in developed countries; mainly in European countries but not in Sri Lankan context. Through this study the researcher tries to bridge the gap in the local literature adding value to the existing knowledge on cloud based accounting.

1.4.2 Practical Contribution

Cloud accounting is considered as an optional solution for accounting and financial reporting needs, as it provides different platforms of reporting through electronic databases. This technology would increase the accuracy, efficiency and reliability of the accounting procedures (Shkurti & Muza, 2014). Also, it enables the shareholders, managers and other stakeholders in making better decisions as it automatically generates real time financial reports which depicts the current state of the company. Since it is user friendly, it will make the accounting language easy to understand and use (Dimitru & Matei, 2014). As an accountant play a key role in ensuring the right information gets to the right person at the right time, getting insights into this technological development would be beneficial (Strauss, Kristandl & Quinn, 2015).

As cloud based accounting would affect the accounting practice in many forms, it is essential to gain insights into this by policy makers, regulatory bodies, educators, auditors and accountants. They will need to gain a greater understanding of how cloud accounting could impact the revenue recognition, fixed assets, tax management and performance management of a company (Johnson et al, 2013). According to Du & Cong (2010, p.5), the use of cloud will inevitably change a company’s operating environment and thus making the auditors evaluate the risks associated with the changes.

Therefore, this study would have practical implications as cloud accounting has become a growing concern in developing countries. This study will draw attention of accounting

professional to this specific development and thus it will increase the awareness and acceptance of cloud technology among accounting professionals of Sri Lanka.

1.5 Research Methodology

Cloud accounting is a new phenomenon in the context of Sri Lanka. As the objectives of this study are researched way forward, many hypotheses would be developed to examine the level of awareness of cloud accounting among accounting professionals. The hypotheses would be tested to come up with the significance impact it has on the dependent variables.

A positivistic paradigm with a quantitative approach would be employed as this study is conducted to examine the current state of cloud accounting in practice and the professional accountants' perception about this advancement in technology. The approach used will be justified as it tries to determine a causal relationship between the variables tested, to generalize to a larger group of individuals than those who are participating in the investigation and to understand behavioral patterns and the reasons behind that behavior.

The sampling frame that is considered to test hypotheses will be accounting professionals who are handling the accounting function both in the audit and commercial fields, possessing either an academic or/and a professional qualification in accounting or finance and also who are based in Sri Lanka. A representative sample of accounting professionals would be derived from the population limiting to a number of 75 to 100 respondents after examining the member directories of the professional institutions and academic records of the University of Sri Jayewardenepura. At least an 80% respondent rate is expected in conducting this research. The sample would be selected on random basis. If circumstances changes, convenience sampling method would be used.

Sources of data would be two fold; survey questionnaire and current literature analysis. The questionnaire would be developed using the current literature. Expert opinion would be taken and a pilot survey would be done to refine the questionnaire. By using these two sources the objectives of the research would be explored way forward.

Data would be collected with respect to the phenomenon; cloud accounting awareness among accounting professionals in Sri Lanka and possible factors impacting the intention to use it from the participants who are selected on a random basis with the help of a survey

questionnaire. Questionnaires would be distributed among the sample selected using both offline and online methods. The current literature would be gathered to support the information collected through the questionnaire.

The level of awareness of cloud accounting will be analyzed using descriptive statistics. The perceived benefits and threats of cloud accounting and possible factors impacting non-adoption of cloud accounting would be analyzed using descriptive statistics and one sample t-test will be used to examine whether there is a statistically significance difference compared to the mean value. Using regression analysis, causality relationships will be derived between the intentions to use cloud based accounting and the factors impacting the intention to use it. The Technology Acceptance Model would be used to determine the factors that would possibly affect one's decision to adopt cloud accounting.

1.6 Scope and Limitations of the Study

The study would only examine the awareness of cloud based accounting and perceived benefits and threats as it is difficult to examine the adoption rate of cloud based accounting solutions by accounting professionals since this is a relatively a new phenomenon. Since it is a new paradigm, there exists a scarcity of literature about cloud based accounting as well. Therefore this study would add more value to the existing knowledge on cloud accounting and make accounting professionals aware of its benefits and risks.

1.7 Structure of Chapters

The main body of the research report comprises of five chapters. First chapter encompasses the background of the study, research problem, research questions, purpose and the objective of the study and the significance. Chapter two elaborates the extant literature on awareness about cloud based accounting, perceived benefits, threats and possible reasons for non-adoption and possible factors impacting the intention to use or usage behavior according to Technology Acceptance Model 2. Chapter three focuses on the conceptualization and operationalization of the concepts along with the research design, sampling and data analysis techniques of the study. Chapter four would include all the findings and discussion and

finally, chapter five would present the summary and conclusions along with directions for future research.

1.8 Chapter Summary

This chapter lays the foundation to the study. This chapter stresses the background and research issue underlying the study. This study is important both on a theoretical and practical perspectives. The broad objective of this research is to examine the current level of awareness and acceptance of cloud accounting of accounting professionals in Sri Lanka. In achieving this, the study intends to fulfil four specific objectives; to assess the level of awareness, perceived benefits and threats, possible reasons for non-adoption of cloud accounting and possible reasons behind the intention to use among accounting professionals. The scope, methodology adopted and structure of the chapters are also elaborated in this chapter.

2 Literature Review

2.1 Overview

This section discusses the extant literature in relation to cloud computing, cloud accounting, its practical application, benefits and threats associated with this new paradigm and possible factors impacting the intention to use cloud accounting. The study of current literature is important as the impact of cloud technology has reached the accounting function as well (Dimitriu & Matei, 2015). Therefore, it is important to gain an understanding about these key areas before exploring this phenomenon.

2.2 Concepts

This part of the chapter provides the definitions of the concepts; cloud computing and cloud accounting before moving forward to elaborate the implications of this technology.

2.2.1 Cloud Computing

The dawn of the internet brought technological changes at a more rapid pace than previous, and businesses and consumers have witnessed these technological changes in the past two decades. As early risers, relatively young companies such as Google, Amazon and Facebook have considered taking such technologies deeply within their business models (Strauss, Kristandl & Quinn, 2015). In today's competitive marketplace, customer experience is fundamental, and cloud computing is a proven mean to ensure a high level of service. 'Cloud' has remodeled the way that people and institutions collaborate, communicate, share and store information and the manner that they obtain Information Technology resources or services for their personal and professional use (Dimitriu & Matei, 2014).

Cloud computing does not have a universal definition, thus it has been defined differently by many authors. According to The US National Institute of Standards and Technology (NIST), cloud computing is a model that enables ubiquitous, convenient, on demand network access to share pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction (Mell & Grance 2011, p. 2). In 2008, Buyya et al. defined cloud computing as 'a type of parallel and distributed system consisting of a collection of interconnected and virtualized computers that are dynamically provisioned and presented as one or more unified computing resources based on service level agreements' (cited in Dimitriu & Matei, 2014, p. 3). Kaplan (2008) has

defined cloud computing as a broad array of web based services aimed at allowing users to obtain a wide range of functional capabilities on a 'pay as you go' basis that previously required tremendous hardware/software investments and professional skills to acquire. Cloud computing is the realization of the earlier ideals of utility computing without the technical complexities or complicated deployment worries (cited in Vaquero et al. 2009, p. 3). Vaquero et al. (2009, p. 2) has provided a definition considering all the features of cloud computing which is 'clouds are a large pool of easily usable and accessible virtualized resources (such as hardware, development platforms and/or services). These resources can be dynamically reconfigured to adjust a variable scale, allowing also for an optimum resource utilization. This pool of resources is typically exploited by a pay per use model in which guarantees are offered by the Infrastructure Provider by means of customized service level agreements', while Wang et al. (2010, p.3) defines it as 'a set of network enabled services, providing scalable, QoS guaranteed, normally personalized, inexpensive computing platforms on demand, which could be accessed in a simple and pervasive way'. All the definitions assume a similar perspective when defining this concept. Accordingly, cloud provides the organizations with a flexible, on demand and elastic computing resources. It links all the parts of the organization with a virtual server, to which people can get connected if provided an internet connection also it emphasizes the fact that the requirement of huge investments in hardware and software is no longer needed.

This technology has been identified as a new domain in the history of technological development. Based on user requirements, service models of cloud computing have been categorized namely infrastructure as a service (IaaS), platform as a service (PaaS) and Software as a service (SaaS) (Mell & Grance, 2009). Brandas et al. (2015) has identified another service model as business process as a service (BPaaS). Cloud computing services generally refer to either or a combination of the above. In IaaS model, infrastructure vendors provide physical storage space, processing capabilities, virtual CPUs and database services (Brandas et al. 2015). In other words, the service provider provides the user with the processor speed, memory, storage and network services that the user can utilize in full capacity and can install the operating system and other software on. Like the other models, the user is unaware of where these computers are, how they are configured or how they are maintained. They only request this service within the specified quality standards (Armutlu & Akcay, 2013 cited in Ozdemir & Elitas, 2015). SaaS model offered as a service along with its required updated web based versions that address the corporate or end user and that may

contain the financial and office applications and even the software of email service given to the individual users (Armutlu & Akcay, 2013 cited in Ozdemir & Elitas, 2015). The end user pays the software provider a subscription fee for the service and the software is hosted directly from the software providers' servers and is accessed by the end user through the internet (Brandas et al. 2015). In Platform as a Service model, the environment created to develop new applications is offered as a service. You can build a new application of your own, that runs in the infrastructure of the establishment providing cloud service, and you can provide service to the users through the servers of the establishment. These services can be development tools, configuration management and deployment platforms (Armutlu & Akcay, 2013 cited in Ozdemir & Elitas, 2015). Brandas et al. (2015) has described PaaS as a set of software and product development tools for development, testing, deployment, hosting and application maintenance hosted on the provider's infrastructure. Software developers can create applications on the provider's platform through the internet.

There are three types of cloud deployment; private cloud, public cloud and hybrid cloud (Mell & Grance, 2009). A private cloud is a deployment model whereby cloud infrastructure is operated exclusively for a single organization. This can be managed by the organization or by a third party and may exist on or off premises. Private clouds are appealing to organizations that require more control over their data, and additional IT infrastructure investment is not an issue (Aleem & Sprott, 2012). It is a model which is preferred in situations when there is a need for the high level data security and privacy. Private cloud provides service to the limited number of users of the establishment behind a firewall. Web-based accounting applications that utilize cloud computing have such a structure (Selvi, 2011 cited in Ozdemir & Elitas, 2015). In a public cloud, the infrastructure is owned by the cloud service provider and is responsible for the overall security and operations of cloud services. The consumer use clouds infrastructure with a low degree of control but it offers enhanced data efficiency and cost effectiveness (Aleem & Sprott, 2012). These are also called as the public domain services over Internet as well as belonging to a third party that provides cloud computing service. Here, the user groups access to the services through the web applications. For example, Amazon, Google etc. (Yıldız, 2011 cited in Ozdemir & Elitas, 2015). A hybrid cloud is a composition of two or more clouds (private, community or public) developed to serve a particular purpose. Typical hybrid setup organizations may consider running non-critical applications in a public cloud while keeping business critical services in their private cloud to maintain some relative control. The integration and interoperability of hybrid model

is an issue mainly because lack of industry standards to address cloud standardization (Marks & Lozano, 2010 cited in Aleem & Sprott, 2012). Today, most of the web-based accounting applications have obtained a hybrid structure by integrating the cloud computing facilities to their applications more (Ozdemir & Elitas, 2015).

Cloud computing has allowed several computer programs to run simultaneously on multiple computers. The shared service through the cloud platform can be accessed from wherever at any point of time providing internet connection (Ebenezer, Omane-Antwi & Kyei 2014). In comparing cloud with traditional information technology, the industry is now focused on providing on time services rather than selling hardware or software to users. The pricing method in cloud computing is similar to that of utility services where users pay for the usage with a fixed portion, a variable portion, or both. For these reasons, cloud computing is sometimes referred to as "utility computing." But the decision as to what is the extent of using cloud computing lies with the company; what portion of the enterprise's IT portfolio is to be put in the cloud and what portion is to be kept on-premises (Du & Cong, 2010).

Cloud computing has five essential features, namely on demand self-service, resource pooling, rapid elasticity or scalability, measured service and broad network access. Cloud computing can be identified as a facility that is being provided by external providers on a pay per use basis. It is also considered as an option most of the non-IT firms are very pleasant with and considered as an outsourcing of IT function. It is linked with the concept of virtualization since it runs on a centralized, distributed and utility network (Doherty, Carcary & Conway, 2015).

The current business world is gradually moving into an online environment as the cloud paradigm is consistently evolving, expanding and merging with the various domains and professions. The accounting field has proven to be receptive towards cloud based solutions and has already begun to exploit them. Cloud solutions for book keeping were among the first applications that were introduced as online services and could make accountants' job easier. Cloud based accounting is particularly beneficial for the accounting domain because today's financial managers are demanding efficient, affordable and user-friendly software, that is not only meant for executing repetitive financial tasks and issuing accurate reports, but it is also able to adapt according to future business requirements and technological trends (Dimitriu & Matei, 2014). The study published by the Association of Chartered Certified Accountants (ACCA) and Institute of Management Accountants (IMA) in 2013, has identified the most

promising technology trends that will greatly transform the accounting world over the next five to ten years and beyond. It has also specified that cloud based technology will certainly be a common asset in the economic environment and in our everyday lives.

2.2.2 Cloud Accounting

For decades, financial accounting has been considered an official and a common source of information within organizations. According to the underlying accounting standards and rules, financial accounting provides a representation of the financial position of any given company (Chapellier, 1994). Thus, it can be called as the language of business as it guides the decision making process of stakeholders (Mohammadi & Mohammadi, 2014). Also, it serves for other multiple purposes as well, such as; business valuation, financial analysis and planning and controlling (Ionescu et al. 2014).

Unfortunately, traditional accounting systems often do not support businesses properly due to reasons such as systems are too large and complex to comprehend in entirety, inability to reflect the changes that happen at the economy and tax laws, not administering the information provided and inefficiency of traditional systems (Christauskas & Miseviciene, 2012). As there exists a turbulent business world, accountants should always exploit emerging technologies to fulfil their tasks more efficiently and accurately. One of the emerging technologies which have been identified by the Association of Chartered Certified Accountants is cloud technology (Chua, 2013).

An official definition of cloud accounting has not yet established but certain authors have described it merging cloud computing and accounting principles. "Cloud accounting or online accounting" acts like accounting applications installed on users' computers, but it is performed on servers offering online services and uses can access them through web browsers" (Dimitriu & Matei 2015, p.2). Mihalache (2011) defines cloud accounting as 'a modern concept in computer processing of accounting data based on the concept of cloud computing, which represents a set of distributed computing services, applications, access to information and data storage without the user having to know the physical location and configuration of systems providing these services' (cited in Bosoteanu, 2016). Another definition identifies cloud accounting as an accounting software product which can be accessed anytime and from any place with an internet connection, and which does not require previous installation and or management or its own servers (Tugui & Gheorghe, 2014 cited in Bosoteanu, 2016). The practice does not require installing software in your computer or

owning a server, cloud service providers provide remote servers and accounting applications. They grant online access to manage and maintain the financial records for a fee (Ebenezer, Omane-Antwi & Kyei 2014). This is also referred to as ‘e accounting’, ‘web accounting’ and ‘real time accounting’ by numerous authors (Ionescu et al. 2014).

All the definitions emphasize the fact that it is an online accounting application provided through internet which will not limit to a single physical location. It can also be called as transactions performed over the cloud using internet.

According to Dimitriu & Matei (2014, p. 7), the world of bookkeeping is shifting towards online products. Due to the emergence of accounting software, the practice of accounting has improved immensely. Cloud accounting has emerged to the convergence of basic principles of cloud computing and activities carried out by accounting software companies (Dimitriu & Matei 2014, p.3). The accounting professionals must develop insights into these factors that will ultimately reshape the future of organizations. This says the importance of evaluating the effects of the changes with relation to the entire accounting system covering standards, processes and accounting staff. From the role of accountants, through to the content of financial reporting standards would be changed to reflect the changes that occur due to cloud based accounting (Dimitriu & Matei, 2014).

Cloud accounting solutions possess the ability to transform the way that accounting applications are used by the accountants and thus modernize the entire business world. What differentiate cloud accounting from the traditional way of accounting is that it has the capability to demonstrate the current financial state of business as the statements could be prepared on real time basis (Dimitriu & Matei, 2015).

In a benchmark study conducted by the Cloud Accounting Institute, the most widely deployed cloud solution areas are accounting or financial management. Among managers with plans to acquire SaaS solutions, 74% pointed to accounting or financial management software solutions (Cited in Brandas et al. 2015).

As far as the researcher has understood by reviewing the current literature is that, cloud computing is the next generation of computing and it has extended its assistance to wider range of stakeholders through its features. Cloud accounting can be called as an extension of cloud computing, as cloud accounting paradigm is a combination of cloud computing principles and accounting practices. Studies prove that cloud accounting is gaining momentum in recent days but this has not gained the attention of local researchers.

2.2.2.1 Practical Implications of Cloud Accounting

Considering the fact that the accounting department of every organization is a valuable advisor, serving the public interest, it is vital for accountants to keep up with technology trends that can assist and develop the profession and the entire business landscape (Dimitriu & Matei, 2014). IT infrastructure plays a major role in a business since it is on which business heavily depend on to process daily business information such as procurement, sales, production, customer relationships, payroll etc. Therefore, it is imperative for accounting professionals to understand their importance of cloud on business (Du & Cong, 2010).

Since all the financial operations are performed virtually in cloud based accounting, it has eliminated the need to hire an accountant or a bookkeeper (Dimitriu & Matei, 2014). In the national research study carried out by CCH (Commerce Clearing House), it was revealed that almost two third (64%) of SMEs would consider replacing some of the roles that accountants currently perform with a cloud based accounting system. Should the accountants be concerned about losing work if SMEs embrace the cloud was one important problem arose in the pursuit of the research. More than half (52%) of accountants surveyed were concerned about losing work due to replacement of their services with cloud based services - with only 3% extremely concerned. Also, more than half of SME owners or managers will be considering looking for a new accountant if their current accountant was reluctant to investigate and embrace cloud based accounting software (CCH, 2013).

Accountants need to be receptive and understand current and upcoming digital technologies, so that they can harness their potential benefits. If we are to experience another progress in accounting, we will have to think outside the box and give technology a chance. A new insight into the future is gradually emerging for the modern accountant; cloud accounting could be the next step in the evolution of the accounting practice (Dimitriu & Matei, 2014).

Being proactive can help accountants, and those they work for, to make better tactical and strategic decisions and to gain competitive advantage. Accountant can explore ways of establishing actual costs of cloud technology, educate those outside the finance function on the complexity of total cost calculations, clarify national and international tax regulations and complications and demand more granular use of and price data from cloud vendors (Chua, 2013).

Shkurti and Muza (2014) has affirmed that cloud computing is considered as beneficial in accounting as well and is introduced as an optional solution for accounting and financial reporting needs. Several accounting packages vendors in Albania have already endorsed cloud computing in their array of products. Even though the levels of information about cloud computing and its advantages and disadvantages are considerable, this new technology is not as dominant in accounting industry as it already is in other industries. On one hand, professional training organizations, universities, companies themselves should offer more trainings and informative sessions about the technology.

The accounting profession must firstly achieve the insight regarding these forces that will reshape the future of the organizations they support. Secondly, accountants should objectively evaluate the effects of these changes in relation to the entire accounting system: standards, processes and staff. Thus, the impact of future change includes all accounting aspects, from the role of accounting employees, through to the content of financial reporting standards and the reformation of tomorrow's accountant. A cloud accounting provider can actually eliminate the need to hire an accountant or bookkeeper, because the service will perform any financial operation or transaction as a 'virtual' finance manager. Large accounting companies like KPMG, PricewaterhouseCoopers, Ernst & Young, Deloitte, Sage or SAP have each presented their own cloud offer and also published White Papers that present the benefits and functionalities provided through different types of services (Dimitriu & Matei, 2014).

The potential downsides of cloud accounting cited by the skeptical accountants such as, security issues, the loss of internet connection and therefore, the interruption of the business activities, can be mitigated or even excluded through strict and specific contractual clauses (Dimitriu & Matei, 2014). Bechtel (2013) argues that cloud computing has partly complicated the work of the accountants and auditors especially of forensic accountants whose obligation is to protect the integrity of the digital evidence (cited in Shkurti & Muza, 2014).

Even though accountants should always keep up with technological trends they should continue to take a cautious attitude toward adopting cloud-based solutions, especially when it comes to moving sensitive financial data or customer information to the cloud (McDonald & Thompson, 2015).

In a nutshell, cloud accounting would redefine the role of accounting professionals and the accounting practice in the near future. It is the duty of the accountants to keep up with the new technological trends and adjust accordingly.

2.3 Theories aligned with the Objectives

The new technology acceptance and adoption of automated tools in workplaces can be explained using different models which are widely used in researches about behavioral patterns of individuals such as, Theory of Planned Behavior, Technology Acceptance Model, Theory of Reasoned Action and Innovation Diffusion Theory. Unfortunately, previous researches have indicated that, most of the technologies being introduced are either underutilized or not utilized at all. Therefore, analysts must first gain a fundamental understanding of the user, including his or her needs, wants, and expectations about new systems using above models (Morris et al. 2005).

2.3.1 Theory of Reasoned Action

In 1980, Ajzen and Fishbein formulated the Theory of Reasoned Action. This resulted from attitude research using the Expectancy Value Models (Fishbein, 1968 cited in Shareef et al. 2009). They formulated the theory after trying to estimate the discrepancy between attitude and behavior. The fundamentals of the theory have come from the field of social psychology. Social psychologists attempt to explain how and why attitude affects behavior. That is, how and why people's beliefs change the way they act. Theory of Reasoned Action has three general constructs: (1) behavioral intention, (2) attitude, and (3) subjective norm. Ajzen and Fishbein (1980) proposed that a person's behavior is determined by the person's intention to perform the behavior and that this intention is, in turn, a function of the person's attitude toward the behavior. One of the potential reflectors of possible behavioral outcome is intention (Shareef et al. 2009).

One might have the belief that adopting modern ICT is good for one's professional career. It enhances efficiency and also effectiveness. However, it is time consuming to learn and resources are also not always available. Each of these beliefs can be weighted based on one's perception of the merits of those beliefs. Subjective norm is regarded as a combination of perceived expectations from relevant individuals or groups along with the intention to comply with these expectations (Shareef et al. 2009). The beliefs of these people are weighted by the person's likelihood to perform an anticipated behavior. It comprises motivational or

attitudinal factors that capture how persons are engaging to perform the intended behavior (Ajzen 1991 cited in Shareef et al. 2009). So, Theory of Reasoned Action conjectures that behavioral intention is the most influential predictor of behavior (Shareef et al. 2009).

In a nutshell, this model has developed to provide parsimonious explanations of informational and motivational influences on behavior. It can also be considered as a deliberative processing model, as it implies that individuals make behavioral decisions based on careful consideration of available information (Conner & Armitage, 1998).

2.3.2 Innovation Diffusion Theory

Innovation Diffusion Theory's primary intention is to provide an account of the manner in which any technological innovation moves from the stage of invention to widespread use (or not). Though not concerned with information technology exclusively, diffusion theory offers a conceptual framework for discussing acceptance at a global level. Diffusion theory speculates five characteristics of innovations that affect their diffusion: relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the technology's outputs and its gains are clear to see). Each of these characteristics on its own is insufficient to predict either the extent or the rate of diffusion, but studies have demonstrated that innovations giving advantages like compatibility with existing practices and beliefs, low complexity, potential trialability, and observability, will be more extensively and rapidly diffused than an innovation with the cluster of opposite characteristics (Dillon & Morris, 1996). Innovation diffusion theory suggests that factors at the level of the individual user are also important. Early studies have divided technology or innovation adopters into five categories depending on their speed of uptake: innovators, early adopters, early majority, late majority, and laggards (cited in Dillon & Morris, 1996).

The surveys showed that although the participating firms had few or no programmers, many had plans to increase their computer applications in mid 19s. They also showed that the enthusiastic involvement of managers and employees who were open to change could encourage IT growth, in this case, cloud accounting, in any firm. Many factors have been identified by authors such as the proportion of applications developed and run internally or externally, computer planning and control, end user involvement, intensity of computer

literacy and interactive systems (Raymond 1985, DeLone 1988, Montazemi 1988 cited in Cragg & King, 1993).

The globalization of the market economy is extremely helpful in understanding technology diffusion and adoption in developed countries as well as in some developing countries regarded as Asian giants, such as Singapore, Hong Kong, Taiwan, Malaysia, South Korea, China, Singapore, Thailand, and India. However, the diffusion of ICT and acceptance of online systems do not follow a single track for all countries. In each country, the different economic and government policies and differences in social, cultural, and behavioral aspects are very significant and prominent (Shareef et al. 2009).

2.3.3 Theory of Planned Behavior and Technology Acceptance Model

According to Morris et al. (2005), the theory of planned behavior is a general model of behavior developed in psychology and has been adapted to study technology adoption and use, while technology acceptance model was developed in the information system literature with the specific purpose of studying technology adoption and use.

Ajzen (1991) has explained the underlying assumption of the theory of planned behavior as follows; “intentions to perform different kinds of behaviors can be predicted with high accuracy from attitude toward the behavior, subjective norms and perceived behavioral control; and these intentions, together with perceptions of behavioral control account for considerable variance in actual behavior.” Concepts referring to behavioral dispositions, such as social attitudes and personality traits have played an important role in attempting to predict and explain the human behavior (Ajzen 1988, Campbell 1963, Sherman & Fazio 1983, cited in Ajzen, 1991). The central factor in this theory is the individual’s intention to perform a given behavior. These intentions capture the motivational factors that influence a behavior. Motivational factors are considered to be indications of how hard people are willing to try and how much of an effort they are planning to exert in order to perform the behavior (Ajzen, 1991).

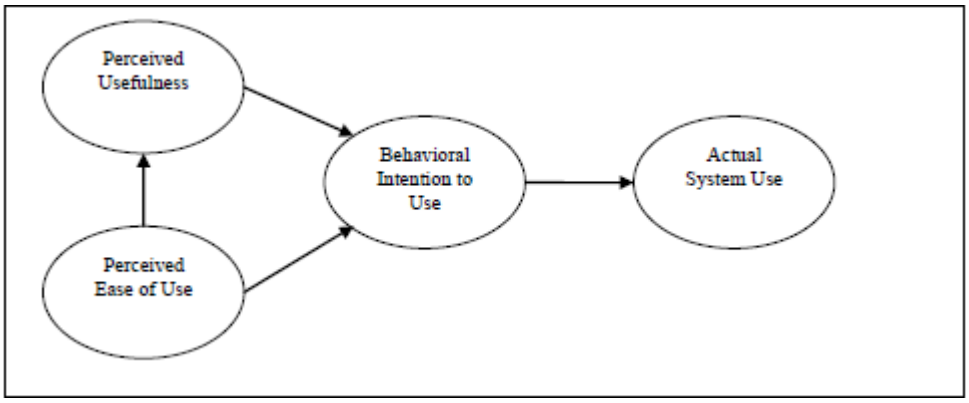


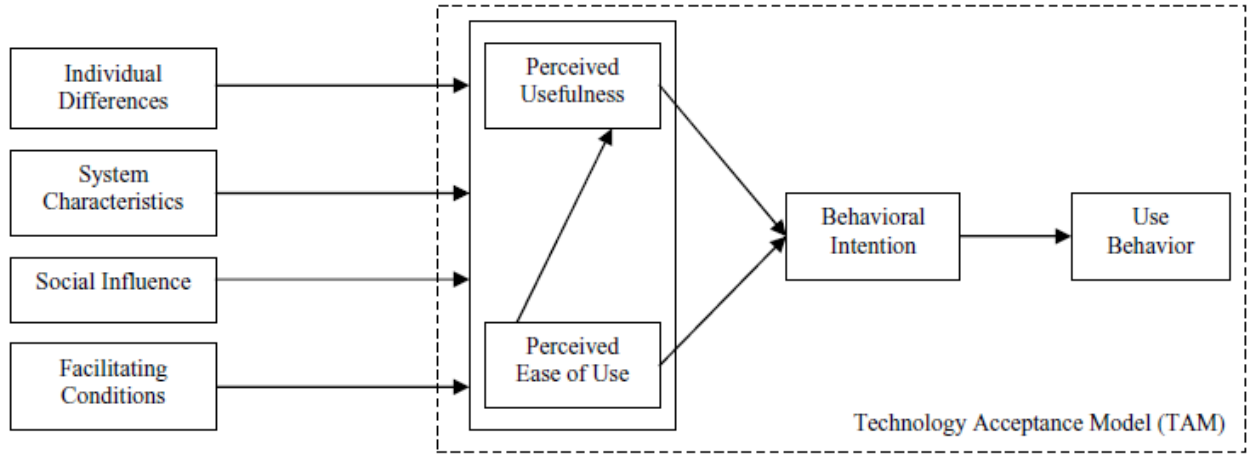
Figure 1 TAM Model Ajzen (1991)

The most extensively employed model of IT adoption and use is the technology acceptance model (TAM) that has been shown to be highly predictive of IT adoption and use (Venkatesh & Morris, 2000). The Technology Acceptance Model has emerged as a powerful way to represent the antecedents of system usage through beliefs about two factors; the perceived ease of use and the perceived usefulness of an information system (Davis 1989, Davis et al. 1989, 1992 cited in Taylor & Todd, 1995). The intention in Technology Acceptance Model is determined by attitude towards usage as well as by the direct and indirect effects of perceived ease of use and perceived usefulness, where perceived usefulness defined as the extent to which a person believes that using and IT will enhance his or her job performance and perceived ease of use defined as the degree to which a person believes that using an IT will be free of effort (Venkatesh & Bala, 2008). The practical utility of the model stems from the fact that ease of use and usefulness are factors over which a system designer has some degree of control. To the extent that they are key determinants of usage, they provide direction to designers of new technology such as cloud technology as to where efforts should be focused (Taylor & Todd 1995). TAM constantly describes about 40% of the variance in individuals' intention to use an IT and actual usage (Venkatesh & Bala, 2008). One of the commonly mentioned criticism of TAM has been the lack of actionable guidance to practitioners (Lee, Kozar & Larsen, 2003 cited in Venkatesh & Bala, 2008). In order to address this limitation work has been done to identify the determinants of key predictors in TAM namely, perceived usefulness and perceived ease of use by way of TAM2 model (Venkatesh & Bala, 2008).

2.3.4 Extension of the Technology Acceptance Model (TAM2)

In the study done by Venkatesh and Bala (2008), they have developed a theoretical framework synthesizing prior research on TAM, which represents a cumulative body of knowledge accumulated over a period of time (Figure 2).

Figure 2 Theoretical Framework (Venkatesh & Bala, 2008)



The above figure shows four different types of determinants of perceived usefulness and perceived ease of use; individual differences, system characteristics, social influence and facilitating conditions. Individual difference variables include personality and/or demographics (e.g. traits or states of individuals, gender and age) that can influence individuals' perceptions of perceived usefulness and perceived ease of use. System characteristics are those salient features of a system that can help individuals develop favorable (or unfavorable) perceptions regarding the two main determinants of TAM. Social influence captures various social processes and mechanisms that guide individuals to formulate perceptions of various aspects of an IT. Finally, facilitating conditions represents organizational support that facilitates the use of IT (Venkatesh & Bala, 2008).

Venkatesh and Davis (2000) proposed an extension to TAM model by identifying and hypothesizing about the determinants of perceived usefulness, that is, subjective norm, image, job relevance, output quality, result demonstrability and two moderators which are experience and voluntariness. Both subjective norm and image fall into the category of social influence and the remaining determinants are coming under system characteristics as per the theoretical framework presented in above Figure 2. It encompasses both social influence

processes and cognitive instrumental processes to explain the effects of the various determinants on perceived usefulness and behavioral intention.

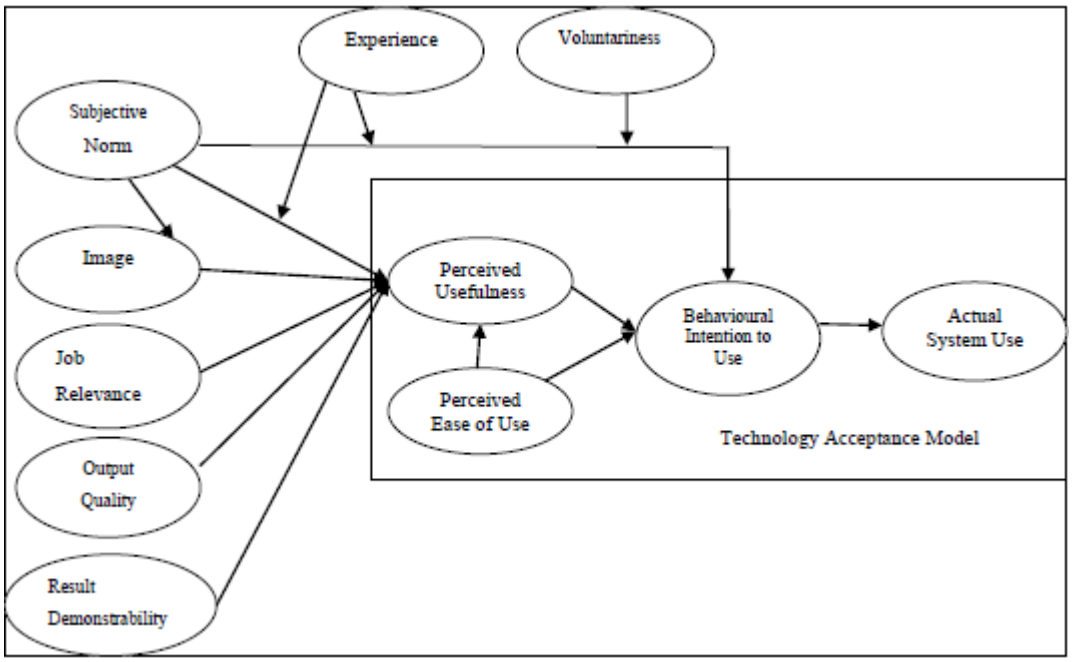


Figure 3 TAM2 Venkatesh & Davis, 2000

TAM2 theorizes that, in a computer usage context, the direct compliance-based effect of subjective norm on intention over and above perceived usefulness and perceived ease of use will occur in mandatory, but not voluntary, system usage settings. To distinguish between mandatory and voluntary usage settings, this model posits voluntariness as a moderating variable (Venkatesh and Davis, 2000). Venkatesh and Davis (2000 p. 188) defines voluntariness as 'the extent to which potential adopters perceive the adoption decision to be non-mandatory'. Image is defined as 'the degree to which use of an innovation is perceived to enhance one's status in one's social system' (Moore & Benbasat, 1991, p. 195 cited in Alshamaila, 2013). Job relevance is an individual's perception regarding the degree to which the target system is applicable to his or her job. In other words, job relevance is a function of the importance of one's job to the set of tasks the system is capable of supporting (Venkatesh & Davis, 2000). Output Quality is defined as the degree to which person believes that the system performs job tasks, and how well the system performs those tasks (Venkatesh & Davis, 2000 p. 6). Subjective norm is defined as a "person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302). Result demonstrability is defined by Moore and Benbasat

(1991) as the “the degree to which an individual believes that the results of using a system are tangible, observable, and communicable (cited in Venkatesh & Bala, 2008).

TAM2 theorizes that subjective norm and image has a positive influence on perceived usefulness through processes of internalization and identification, respectively. It further posits when the users gain more experience with the system over time, the effect of subjective norm on both perceived usefulness and behavioral intention will lessen. Job relevance, output quality, result demonstrability and perceived ease of use apprehend the influence of cognitive instrumental processes on perceived usefulness (Venkatesh & Bala, 2008). According to Venkatesh and Davis (2000), what serves as a basis to form a perception about using a system is the judgment one arrive at by comparing what a system is capable of doing and what is needed to get their job done. Furthermore, TAM2 postulate that perceived usefulness is directly and positively influenced by the constructs, perceived ease of use and result demonstrability. Job relevance and output quality is having a moderating effect on perceived usefulness such that higher the output quality, the stronger the effect job relevance will have on perceived usefulness (Venkatesh & Davis, 2000).

2.3.5 Technology Acceptance Model 3

Venkatesh (2000), first introduced anchoring and adjustment framing determinants of the decision making process and these form the determinants of perceived ease of use. His argument was that individuals form an early perception about perceived ease of use of a system based on numerous anchors relating to individuals’ general beliefs regarding computers and computer use. Venkatesh (2000) suggested that computer self-efficacy, computer anxiety, computer playfulness and perceptions of external control or facilitating conditions can be taken as anchoring factors. First three anchoring factors embodies individual differences. Computer self-efficacy refers to the individuals’ control belief regarding his or her personal ability to use a system (Venkatesh & Bala, 2008, p. 278). Computer anxiety is the degree of apprehension or even fear, when he or she is faced with the possibility of using computers (Venkatesh 2000, p. 349). Computer playfulness represents the degree of cognitive spontaneity in microcomputer interactions (Webster & Martocchio, 1992, p.204 cited in Venkatesh & Bala, 2008). Perception of external control is the degree to which an individual believes that organizational and technical resources exist to support the use of the system (Venkatesh et al. 2003 cited in Venkatesh & Bala, 2008).

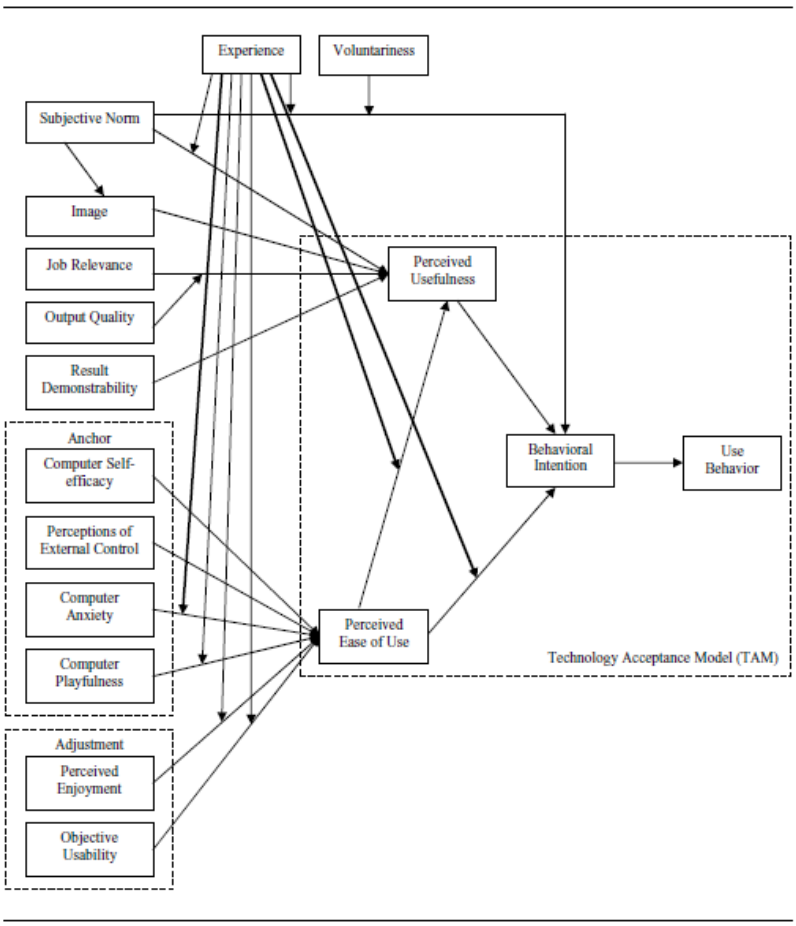


Figure 4 TAM3 Model (Venkatesh & Bala, 2008)

While anchors steer initial judgments of perceived ease of use, individuals will adjust their judgments after they gain hands-on experience with the new system. Venkatesh (2000) suggested that two system related characteristics such as, perceived enjoyment and objective usability will play a role in determining perceived ease of use after receiving hands-on experience. Perceived enjoyment represents the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use (Venkatesh, 2000, p.351). Objective usability is explained by Venkatesh (2000, p.350-351) as a comparison of systems based on the actual level (rather than perceptions) of efforts required to completing specific tasks. It is suggested that even with the increasing experience of the system, the two anchors namely, computer self-efficacy and perception of external control will continue to grow stronger. Nonetheless, the effects of other two anchors, computer playfulness and computer anxiety are expected to diminish over time. Further to the above, Venkatesh (2000) has theorized that the effects of the adjustment factors on perceived ease of use were becoming stronger when receiving more hands-on experience with a system. Venkatesh and Bala (2008) introduced an integrated model of

technology acceptance by combining TAM2 model by Venkatesh & Davis (2000) and the model of the determinants of perceived ease of use by Venkatesh (2000). TAM3 presents a complete network of the determinants of individuals' IT adoption and use.

Venkatesh and Bala (2008) found that perceived ease of use, subjective norm, image and result demonstrability were significant predictors of perceived usefulness which is consistent with the findings of Venkatesh and Davis (2000). Also, found that job relevance and output quality had a collaborative effect on perceived usefulness and hence with increasing output quality, the influence of job relevance on perceived usefulness will be stronger. The factor, experience moderates the effects of subjective norm on perceived usefulness.

TAM3 theorizes that the influence of perceived ease of use on perceived usefulness is moderated by experience and the determinants of perceived ease of use such as computer self-efficacy, perceptions of external control, computer anxiety, computer playfulness, perceived enjoyment and objective usability will not have any significant effects on perceived usefulness in addition to the determinants of perceived usefulness. Also, it is also proved that none of the determinants of perceived ease of use have significant influence on perceived usefulness. Consistent with the finding in Venkatesh (2000), Venkatesh & Bala (2008) found that anchors such as computer self-efficacy, perception of external control, computer anxiety and computer playfulness are major predictors of perceived ease of use.

Venkatesh and Bala (2008) detected that perceived usefulness was the powerful interpreter of behavioral intention at all times throughout the study. They found out that experience plays a moderating effect in the relationship between perceived ease of use and behavioral intention. Furthermore, they found a three-way relation among subjective norm, experience and voluntariness on behavioral intention. The interaction between subjective norm and voluntariness indicated that the influence the subjective norm had on behavioral intention was more powerful in a mandatory setting.

All the above theories describe the factors that are impacting the technology adoption decision of an individual. In this particular research, TAM2 has been adopted to illustrate the determinants that would affect either the intention to use or current usage of cloud based accounting system.

2.4 Empirical Studies

The below section provides insight into the objectives of the study which are the level of awareness about cloud accounting, perceived benefits and threats of cloud based accounting possible reasons for not adopting cloud based accounting and possible factors impacting the current usage or the intention to use cloud based accounting based on the TAM2 model.

2.4.1 The Level of Awareness

The extant literature has investigated the level of awareness with regard to overall awareness about the cloud computing era and also the level of awareness in relation to cloud accounting which is only one fragment of cloud computing application.

The target group of the study conducted by Shkurti and Muza (2014) consisted professionals in the field of accounting in Albania. The data collected in above study indicates that 74.2% of the respondents are well informed about this new technology, of which 57.6% have obtained this information from the university studies or courses, only 7.5% of respondents had obtained information through professional trainings in organizations where they are employed and the rest, 34.9%, have received information from other sources. Only 25.8% of respondents have answered that they have no information about this technology. They have identified through analysis of data that more than three fourth of the interviewed participants have knowledge and information about the cloud computing technology even if it is relatively new phenomenon.

The research carried out by Ebenezer, Omane-Antwi and Kyei (2014), seeks to identify whether cloud computing could be applied for accounting purposes suing a sample consisting Ghanaian accountants. It says that, 64% of the accountants are aware of the phenomenon cloud computing and know what it does and from that 100% of accountants held an opinion that cloud computing can be used for accounting purposes. But they also have expressed that it must be done being cautious since financial data are confidential. Fifty-two percent (52%) of Accountants in Ghana who know about cloud computing think cloud accounting would be different from the manual and computerized accounting. Forty-eight percent (48%) who think it would not be different looking at it from the perspective of the principles of Accounting as principles will not be changed but the practice would. However, the 36% of accountant who are not aware of the cloud phenomena might be due to inability of distinguishing between the natures of cloud accounting and computerized accounting.

The research done by Tarmidi et al. (2014) in Malaysia, indicates that only one third of 329 respondents claimed that they are familiar with cloud computing. Also, this study has explored that familiarity towards cloud computing is higher among the PhD and Masters holders. The respondents who are not familiar with the phenomenon of cloud computing have claimed unawareness of its benefits, consideration of using or not using cloud computing and being skeptic about the development as reasons for non-adoption. Less than 20% of the respondents who are familiar with cloud computing has identified its capabilities. More than half of the respondents have agreed on the fact that cloud computing may cause a radical shift in information technology innovation. And they also perceive that this new concept will be evolved quickly in the future.

The national research study commissioned by Commerce Clearing House (CCH) (2013) in Australia, has identified that the adoption of cloud based solution is low but rising rapidly. It depicts that more than 23% of accountants use Cloud-based software for their client work and from that accountants aged 18 to 34 are more likely to use a cloud based solution. 60% of the accountants who are not currently using cloud consider it likely that they will adopt it in the next two to three years. Additionally, half (51%) of accountants who are currently using a Cloud-based system believe that they are likely to increase their use of Cloud-based accounting software in the next 2-3 years.

The survey conducted by Strauss, Kristandl & Quinn in United Kingdom (2015), shows that 25% of the respondents use cloud technology for business systems and thus proving the fact that cloud technology has penetrated finance and management accounting systems to some extent. They have also noticed that the move to the cloud is slower for accounting and finance type systems. Their survey results have shown a pattern with non-finance systems being the most common use of cloud technology where a use of 31% from CRM, 19% of financial accounting and 59% of other business processes. However, one third of the respondents are making use of cloud for management accounting and reporting.

The research done by the Financial Executives Research Foundation in 2015, has asked financial executives whether their companies are using the cloud in their accounting and finance departments or planning to do so, as many businesses demonstrating a growing acceptance of cloud technology. More than half of U.S. respondents said they are either using cloud technology (24 percent) or planning to do so (27 percent). Just under half or 49 percent of respondents said they have no plans to adopt the technology.

The survey conducted by Strauss, Kristandl and Quinn in 2015, has found that cloud technology is used by managers at all levels, although operational managers (71%) were more likely to use it than senior managers (50%). In the study done by Shkurti and Muza (2014), has found that 57.6 percent of participants of the survey have obtained information about cloud technology from university study courses and 7.5 percent from professional training and the rest from many other sources. The study done by Tarmidi et al. 2014, has evaluated any differences in the awareness level across demographic factors. The below table shows the results of their study.

Table 1. Level of respondents' familiarization with cloud computing.

		Yes (1)		No (0)	
Respondent profile		Freq	%	Freq	%
Gender	Male (35.8%)	28	32.9%	57	67.1%
	Female (74.2%)	71	29.1%	171	70.1%
Ethnicity	Malay	63	29.7%	148	69.8%
	Chinese	25	33.3%	49	65.3%
	Indian	11	28.9%	27	71.1%
Level of education	Certificate	3	21.4%	11	78.6%
	Diploma	4	13.8%	25	86.2%
	Degree	82	30.4%	187	69.3%
	Master	8	66.7%	4	33.3%
	PhD	2	66.7%	1	33.3%
Member of professional bodies	Yes	41	32.0%	86	67.2%
	No	55	27.8%	142	71.7%
Years of experience in accounting and auditing field	Less than 5 years	58	33.1%	117	66.9%
	5 years to 10 years	17	23.9%	52	73.2%
	More than 10 years	14	32.6%	29	67.4%

Figure 5 Cited in Tarmidi et al. 2014

Ebenezer et al. (2014), suggest that 64 percent of accountants who have heard and know about cloud computing are greatly influenced by the number of accountants who practice in organizations that are using cloud technology in their day to day business operations. The survey conducted by CCH (2013), it says that accountants aged 18 to 34 are more likely to use a cloud based software.

By looking at the above studies, the researcher can come into a conclusion that there is relatively a high awareness of cloud accounting phenomena in countries like USA, European countries and some South East Countries like Malaysia. Most of the Asian countries are far behind in this adoption process.

2.4.2 Perceived benefits and threats of cloud accounting

2.4.2.1 Perceived Benefits

Many authors have identified the benefits that a business could derive out of cloud computing. Broad network access, resource integration, flexibility, speed, agility, scalability,

high reliability and service-orientation are some of the benefits provided by cloud technology (Mohammadi & Mohammadi, 2014). Some other benefits of cloud development are reduced run time and response time, minimized risk of physical deployment, lowered initial cost on infrastructure and increased pace of innovation (Ebenezer, Omane-Antwi & Kyei 2014). Cloud computing can maximize the resource utilization by freeing up employee resource, allowing them to focus on core skills and competences rather than focusing on non-core activities. It facilitates improved device independence, portability and interconnection and collaboration opportunities of a firm. Employees will be able to be more flexible irrespective of their location (Doherty, Carcary & Conway, 2015).

The accounting sector should always adapt to the changing economic context and the increased need to present a real time overview of a business, has found a new ally in cloud technologies which is called as the cloud accounting paradigm (Dimitriu & Matei, 2014). Doing accounting in the cloud has ensured various advantages for accountants and the business as well.

Accounting software has become a very useful tool for professional accountants as they can process a large volume of information in a very short time. Cloud accounting changes the accountants of communicating & collaborating with those who work for and with. It shapes the way of their working patterns. It provides the opportunity to automate and reduce time consuming and repetitive work and focus on more value addition such as soliciting as advisors to the business (Chua, 2013). Using cloud technologies in the Accounting Information System has a positive impact by significantly reducing acquisition cost, maintenance and management of hardware and software infrastructure of the company. This will positively affect the cash flows of the company. A financial characteristic of investing in implementing cloud and mobile technologies in the accounting system is the high rate of Return on Investment (ROI) (Brandas et al. 2015).

Redesigned accounting software market, faster and efficient accounting workflow, extended and improved collaboration and communication with business partners, access to real time updated information on financial position, profit and cash flows, shift to real time financial dashboards & insight into profitability are some of the benefits derived from cloud accounting (Dimitriu & Matei, 2014). Also a cloud based accounting solution assures the possibility of addressing numerous activities such as; automatic generation of accounting notes of transactions &operations, automatic review in order to ensure the correlation

between financial & management accounting, preparation of any periodic of synthetic financial reports as required, the possibility to use alternative or different financial reporting standard such as IFRS or US GAAP, the possibility to calculate various financial rates and generate financial reports whenever it is necessary (Dimitriu & Matei, 2014).

Cloud accounting provides a mobility opportunity providing the accountants to do their work without necessarily being in an office. This would benefit the accountants as they could share timely information which would enhance the speed of decision making, communication would be increased through sharing and receiving information on the cloud, confidence and trust will be built and also it will increase its chances against global competition (Ebenezer, Omane-Antwi & Kyei, 2014). The cloud based accounting could enhance the quality of financial reporting thus improving the decision making process (Cleary & Quinn, 2016 and Dimitriu & Matei, 2014). As cloud is user friendly, it makes the accounting language easy to understand. It enables the companies to share their financial information with their clients in real time basis. It also allows automatic reviewing in order to ensure the correlation between financial and management accounting for the accounts involved (Dimitriu & Matei, 2014).

Shkurti & Muza (2014) research has identified as the most important benefit the cost savings in hardware equipment with a 3.93-point average estimate, roughly in the same level as the benefit of cost savings in software with 3.74-point. Other important benefits that resulted from this research questionnaire were the savings in the estimated operational costs for IT staff (3.6-point in average) and the company's ability to develop new products or services (3:43-points in average).

Also, companies who are using the same Enterprise Resource Processing and who are in the same cloud will be able to interact easily and faster with the help of Electronic Data Interchange (EDI) (Brandas et al. 2015). Hence it will improve the communication and collaboration between companies and users of financial information (Bosoteanu, 2016). Instant scalability is another advantage that could be derived from using cloud based accounting and also increases the organizational performance through business agility and flexibility (CCH, 2013, Ozdemir & Elitas, 2015 and Bosoteanu, 2016). Since cloud provides backup systems, the possibility of data loss or breakdown in the system operations is minimized and thus the continuity of the business is ensured and the security of data is certified as they are closely protected using complex security protocols such as access control and authentication (Ozdemir & Elitas, 2015 and Dimitriu & Matei, 2014).

2.4.2.2 Perceived Threats

Despite its popularity, several concerns have been identified. Reliance on the quality and availability of the internet connectivity, threat to the continuity due to internet downtown, non-availability of the cloud due to the provider going out of business or being targeted due to regulatory actions are some of the concerns aroused (Armbrust et al, 2010). One key threat that has been identified by many businesses is that of data security in a public cloud. As data will no longer be in-house, businesses might feel that they have less control over data and their systems (Strauss, Kristandl & Quinn, 2015).

Storing data and information in an infrastructure outside of the company (SaaS or IaaS) has the effect of increasing the risk of loss of that data. The company owns only the data not the infrastructure offered by the cloud service and cannot control or verify the storage and data processing systems. Also, Privacy is the most common concern when it comes to cloud technology implementation in the Accounting Information System of a company (Brandas et al. 2015). The research done by the Financial Executives Research Foundation in 2015 noting concerns about recent high-profile data breaches, an executive in the financial services industry has said, "If anything were to hold us back from moving more toward cloud technology, privacy and security would probably be at the top of the list — particularly concerns about customer information and reputational risk."

Information security was identified as the most important factor (4.27-points) in the study done by Shkurti & Muza (2014). This shows that despite the benefits that this technology can bring to the organization, the risks and challenges such as privacy and security of data would be created (Shkurti & Muza, 2014). The potential flaw that could occur as identified by Dimitru & Matei (2014) is in relation to security and protection of the client's financial data from unauthorized access, information theft and computer hacking. The vulnerability of the sensitive financial data will be increased as they are entrusted to a third party. Hence, there is also the risk that the CSP would access or monitor financial information of clients. Another important threat is the loss of control over data as the companies become dependent on the Cloud Service Provider (CSP) especially when the quality of the service and availability of the service is not fully guaranteed by the contract with the CSP. This situation is also acknowledged as Vendor Lock-in by Strauss, Kristandl & Quinn (2015). The interruption of the Internet connection can also affect the customer that is forced to suspend his activity

(Dimitru & Matei, 2014). Due to loss of internet connection, the business activities might get interrupted with regards to clod based accounting (Dimitru & Matei, 2014).

Ozdemir and Elitas (2015), has identified three types of risks associated with cloud computing namely, risks arising from service providers such as physical infrastructure, software infrastructure, Human resource, cannot control your own data, slow running applications and service issues in low speed, cloud environment become a target for attacks, contractual risks such as risks arising from uncovered costs, deceptive pricing, excessive transition costs, bankruptcy, service provider dependency, data security and risks arising from legal structure such as indirect legal enforcement, confidential investigations and researches, direct judicial enforcement.

In the study done by Aleem and Sprott (2012), the biggest concern that has been mentioned by the respondents is security (93.4 per cent), followed by governance concerns (62.3 per cent) and a lack of control over service availability (55.7 per cent). Respondents have also stated that legal constraints (52.8 per cent) were also a major contributing factor, followed by higher costs (21.7 per cent) and the reputation of the CSP to be used (14.2 per cent). Cong and Du (2010) also suggested that governance and regulatory compliances and concerns would also be a threat as cloud accounting may not be covered in legal infrastructure in terms of maintaining information security and protecting personal data.

By looking at the above studies, the researcher can come into a conclusion that saving capital expenditure, geographically unlimited access, scalability, preparation of accounting reports using different financial reporting standards, access to latest upgrades in software and improved communication and collaboration are main benefits that could derive from possible engagement in cloud based accounting. On the other hand, information security and privacy was considered as the possible threats faced by the accounting professional when using cloud based accounting.

2.4.3 Possible reasons for not adopting Cloud Accounting

Information and communication technology experts in Nigeria believed that prospective users of POS (Point of Sale) are not aware of the system. If there is awareness, the penetration of the system will be high (Ilesanmi, 2012 cited in Abubakar & Ahmad, 2013). The researchers have deducted that the higher the awareness, the higher the diffusion of the POS and vice-versa. Similarly, Bamberg and Moser (2007) posited that awareness is an important

requirement for the development of moral norm, unfortunately there is lack of awareness in developing countries, especially in respect of e-government services (Rehman, et al., 2012). Yaqub, et al. (2013) believes that the reason for slow adoption of e-payment in Nigeria is lack of awareness of advantages of the system; hence there is need for awareness to aid the diffusion of POS in Nigeria (Ilesanmi, 2012) (cited in Abubakar & Ahmad, 2013). User awareness has been defined by Rogers (1995, p. 372) as 'user's knowledge about the capabilities of a technology, its features, potential use, and cost and benefits, i.e., it relates to awareness-knowledge'.

Likewise, due to unawareness of the benefits and uses of cloud accounting there is a lack of adoption of the technology. In order to diffuse the use of cloud accounting proper education must be given to the prospectors of the technology. When firms perceive a particular innovation offering a relative advantage, then it is more likely that they adopt that innovation (Lee, 2004 cited in Alshamaila et al. 2013). In the SMEs sector, the low levels of knowledge in cloud computing could be considered as one of the main obstacles of adoption of cloud computing within SMEs (Adam and Musah, 2015, Tarmidi et al., 2014, Tehrani and Shirazi, 2014, Trigueros-Preciado et al., 2013 cited in Asiaei & Rahim, 2016). This issue is creating a gap between the cloud computing technological development and its employment by the enterprises, which miss opportunities due to not taking the advantage of novel advances (Asiaei & Rahim, 2016). In the research done by Asiaei & Rahim (2016), they have found out that Malaysia is the second largest cloud computing market in the ASEAN region and cloud computing is becoming an integral part of the organizational IT strategy in the Malaysian market.

In the research done by Shkurti & Muza (2014), information security was identified as the most important factor hindering the implementation of cloud accounting. This shows that despite the benefits that this technology can bring to the organization, one of the risks and challenges is privacy and security of data generated. Roughly in the same level another factor is placed, the information reliability (3.75-points). Other factors considered to be important barriers hindering cloud computing implementation are: integration with existing systems (3.49-points), high costs (3.52-points) and company policies (3.44-points).

In the research done by Tarmidi et al. (2014), the most reported barrier for cloud adoption is the issue of security. Other commonly reported factors, as highlighted in Shimba (2010), include the dilemma in recognizing the benefits and the cost of shifting to cloud, the legal

compliance issue, and the organizational impact as a result of the adoption (cited in Tarmidi et al. 2014). According to their study the most important reason for not adopting cloud based accounting is the belief that they do not need that type of technology as they do not perceive that using such technology would bring any substantial benefits to them. It is also shown that the least important reasons for not adopting are issues of trust and internet availability. Therefore, unawareness of its benefits, uncertainty of its success and general feeling of skepticism will also lessen the adoption of cloud based accounting (Tarmidi et al. 2014).

In the research done by CCH (2013), the main reason some accountants are not using a cloud based system is simply because their existing system works. The other key reasons are the security concerns, not enough time to investigate the uses of cloud systems and the unfamiliarity about the system's available features. Accountants who work for comparatively larger organizations have security concerns and the accountants who aged 50 or more are reluctant to move into cloud as they believe their clients are nervous about cloud systems. As identified by Chua (2013), a company cannot expect that IT systems will be available online twenty-four seven and thus a company will need an IT team to continuously monitor, control and analyze the infrastructure. This might hinder the possible engagement in cloud based accounting as it cannot be done without proper infrastructure.

In the study done by Alshamaila et al. (2013), the study group consisted of service providers, early adopters, prospectors and laggards. The relevant category for the discussion of this section would be the perception of laggards. Participants of this research have justified their decision of non-adoption of cloud by saying that the benefits of having cloud systems are unclear to them and their existing system is satisfactory to meet their day to day business needs. They have clearly shown their concern about information security by stating that 'we sign confidentiality agreements with our clients, so security of data and trusting the whole concept of work would be a key issue for us' and 'the confidentiality of our users' data is paramount; there's no chance we can put them at risk, or send them to another country'. Top management commitment and support was also an important determinant as without top management support, it is less likely to embrace new technologies. It is also stated that suppliers have taken little effort to inform the prospectors of the new technologies. The participants have specified that the chances given to be informed about the technologies was insufficient and if they had more information, they would have make more informed choice.

Particularly, SMEs do not tend to adopt complex new technologies because they are unfeasible and they do not suit the nature of their business. They develop their own technologies as these new complex technologies need constant updating and maintenance. This will cause their downfall if they lack technologically skilled staff (Parida et al. 2010 cited in Alshamaila, 2013). The majority of early adopters and prospectors actually stated that they trusted service providers, which is of critical importance to adoption as it was found out that SME adoption of cloud computing services is highly dependent on the level of uncertainty created by privacy and relinquishing total ownership concerns.

The objective of the study done by Oliveira et al. (2014) was to assess the determinants of cloud computing adoption by using an integrative lens that combines the innovation characteristics of cloud computing and the technology, organizational and environment perspectives of the organization. The results of this study shows that complexity plays as an inhibiting factor in the decision of cloud technology adoption. The notion of complexity associated with cloud computing is no different than other disruptive technologies and appears to be a significant determinant for cloud adoption. When complexity is accompanied with the perception of change, it will create frustration and discomfort.

Low et al. (2011) has studied the factors of cloud adoption by high-tech firms using relative advantage, complexity, top management support, technology readiness, and size of the firm (cited in Ekufu, 2012). Various reasons have been offered for the reluctant attitude in adopting cloud computing in business operations. Some of those reasons have been attributed to concerns with security and privacy of information, reliability and integrity of data and information transmitted over the cloud, and other unique concerns relating to new technology (Hossain & Prybutok, 2008 as cited in Ekufu 2012).

In the research done by Ionescu et al. (2013), it is stated that cloud computing raises questions about security and data confidentiality for accountants and connection to those data is highly relied upon the internet connection. When in cloud the company loses their control over the system where they have rely on vendor who is responsible for the maintenance, updates and the management of the system. The company become dependent on the vendor.

Based on the studies evaluated it could be concluded that the awareness about the cloud technology plays a major role in the adoption process. Other major factors that would hinder the adoption process are working existing system, company policies, lack of access to high speed internet, lack of trust in internet based services etc.

2.4.4 Factors impacting the intention to use or usage behavior of Cloud Accounting

Numerous researchers have incorporated both TAM and TAM2 model in many disciplines. The study conducted by Agrawal and Prasad (1999) attempted to investigate the impact of individual differences on the acceptance of new information technologies. The finding of this study suggested that through perceived ease of use, several individual difference variables, such as individuals' roles with respect to technology (provider versus consumer), their level of education, and their prior experiences with similar technologies, have important effects on TAM's beliefs (Agarwal and Prasad, 1999).

Despite there exists a growing interest in organizational utilization of the new and emerging cloud accounting technology, the adoption is limited. Numerous researches show that professionals are hesitant in adopting even though there are many benefits reported such as, cost savings, time sharing and resource savings (Ekufu, 2012). The researcher, Ekufu (2012) has tried to analyze a correlation between the five independent variable factors (attitude, subjective norm, behavioral control, perceived usefulness, and perceived ease of use) and one dependent factor (behavioral intent). The results have revealed a significant correlation of 70% variation between the factors and behavioral intent. Cloud adopters from the financial industry were found to exhibit a higher adoption rate than other industries being analyzed in the said research. This research has provided managers and developers of cloud technology with a useful adoption model showcasing the importance of perceived usefulness of the Internet cloud and its influence on organizational adoption decisions using both theory of planned behavior and technology acceptance model.

According to the Technology Acceptance Model, intention to use Information Technology or otherwise in this scenario, cloud accounting may be based on anticipated job performance consequences of using the system regardless of overall attitude of an accounting professional. In other words, an accountant may be having a negative attitude towards the cloud system, but still uses the system because it is perceived to be advantageous in terms of job performance. Also, the easier a technology is to use, and the more useful it is perceived to be, the more positive one's attitude and intention towards using the technology. Thus, it increases the usage of that particular technology (Davis et al. 1989 cited in Taylor & Todd 1995).

In the study done by Venkatesh and Davis (2000), TAM2 was strongly supported across the test organizations and three points of measurement which are reimplementation, one-month post implementation and three-month post implementation. They found that TAM2 provides

a comprehensive account of the key determinants underlying the judgments of perceived usefulness, explaining up to 60% of the variance in this important driver of intention to use. It also shows that subjective norm wields a significant direct effect on usage intentions over and above perceived usefulness and perceived ease of use for mandatory (but not voluntary) systems. Subjective norm significantly influences perceived usefulness where people are using a system in order to status and influence within the work group and hence increase their job performance. They also found that when individuals gain more experience on the system over time, they rely less on social information in forming perceived usefulness and intention but they continued to judge a system's usefulness on the basis of potential status one would derive from use of the system. A remarkable finding that emerged was the collaborative effect between job relevance and output quality in determining perceived usefulness. This suggests that judgments about a system's usefulness are affected by an individual's cognitive matching of their job goals with the consequences of system use (job relevance), and that output quality takes on greater importance in proportion to a system's job relevance. As anticipated, user perceptions of result demonstrability and ease of use were significant.

Using the Technology Acceptance Model, Venkatesh and Morris (2000), investigated gender differences in the context of individual adoption and continued usage of technology in the workplace. This research revealed that men consider perceived usefulness to a greater extent than women in making decisions about technology. Furthermore, perceived ease of use was a prominent determinant to women compared with men both after initial stage and over time with increasing experience with the system. Men found the system to be easy to use with time and experience and thus resulting in perception of ease of use receding into the background and being insignificant with time. On the other hand, subjective norm did not influence decisions of men at any point of time. Contrastingly, women considered normative influences at the initial stage of technology adoption process. Remarkably, even though women, in contrast to men, took normative influences into account in their decision making process, the perceptions of normative pressure among women were actually lower than the perceived pressure among men. Inferences were made as to men are more focused when they make decisions about new technologies whereas women are more balanced in the decision making process. In other words, men only considered productivity factors while women considered inputs from different sources including productivity measurements. The second implication was that men are driven by instrumental factors such as perceived usefulness while women were motivated by process (perceived ease of use) and social (subjective norm) factors.

Kripanont (2007) has incorporated technology acceptance model in order to describe Thai academics' internet usage behavior and behavior intention. It was found that perceived usefulness was an important factor in determining the usage behavior of internet when some of the academics perceived that their level of literacy was an obstacle in using the Internet. Perceived ease of use was found as an important determinant in relation to using the Internet in teaching. Both, social influence and facilitating conditions were only considered as an important factor by older academics and thus it was not considered important. Self-efficacy was regarded as a significant determining factor of usage behavior and it became stronger for older academics and whose literacy was lower. Overall the relationship between usage behavior and behavior intention was significant. In a gist, the core determinants were perceived usefulness, ease of use and self-efficacy which significantly influenced the usage behavior of internet in teaching. Additionally, three moderators were identified such as age, research university plan and level of reading and writing which impacted the key determinants of usage behavior.

Snicker (2013) have used a framework based on Technology Acceptance Model 2 and Theory of Planned Behavior to examine the factors that influence user acceptance of an employee self-service project during the pre-implementation stage. The employees' attitude towards the new portal, how much the employees plan to use the new system and which are the variables that affect the attitude and intention to use were explored in the study. TAM2 has explained 38% of the variance in usage intention of ESS project. Perceived ease of use was considered as the strongest factor, followed by perceived usefulness. Subjective norm and job relevance were the important determinants of perceived usefulness. The results of the study also show that in addition to the technological factors, organizational factors also play an important role in the acceptance of new technology by the employees. Perceived resources and perceived organizational support from the supplementary variables that were added to the TAM2 model, proved to be strong determinants of the intention to use of employee self-service system.

Ducey (2013), has incorporated an extended TAM model to understand the factors that influence the tablet computer adoption among pediatricians. Perceived usefulness was found to be relatively more important in shaping one's attitude towards using tablet computers. Compatibility was more vital than subjective norm or reliability in influencing pediatricians' perception of perceived usefulness and perceived ease of use.

Gao et al. (2011) developed a measurement instrument which is an extended version of TAM, to assess customer perception of mobile services. The researchers have added trust and context as additional constructs to the TAM model. The purpose of the study is to provide insights for mobile service providers and help them in assessing customer reaction to new technological developments. Most of the respondents had indicated that the new constructs of the model would significantly affect their intention to adopt innovative mobile services. The results from the trust construct exhibits that mobile services developers and providers should cultivate user trust in mobile services by committing themselves to ensure that their services are conducted in line with user needs and expectations as an example; the services should be reliable and risk free. The descriptive results also show that trust and personal initiative and characteristics influence consumers' decision to adopt mobile services. Most respondents also indicated that their perception of context would affect their perception on perceived ease of use and perceived usefulness.

Several empirical studies were carried out by many researchers and the accumulated data were in favor of the technology acceptance model. These empirical studies have shown that TAM consistently explains a substantial percentage of the variance in the usage intention and behavior and TAM is accepted by many researchers over and above other alternative theories such as theory of reasoned action and theory of planned behavior (Venkatesh, 2000).

2.5 Theoretical Gap

All the above factors show the importance of embracing cloud based solution to exploit the new opportunities and benefits that exist in achieving their tasks more accurately and quickly. As professional accountants of Sri Lanka, all should be aware of the rapid changes in the technology; this paper would be a guiding hand in the endeavor. As far as the researcher has observed in performing the literature survey, prior research has not examined the viability of TAM to predict the intention to use cloud based accounting systems and hence there is a dearth of local literature in this regard. Therefore, it will also add value to the extant local literature as this has been an unchartered area by the Sri Lankan researchers and also this study will contribute to the literature by signifying that the Technology Acceptance Model can be generally applied to any new technology.

2.6 Summary

The decade has been significantly marked by the cloud computing paradigm and almost every domain has found a mean to benefit from its use. Inevitably, cloud computing has also reached the accounting field. That is why the accounting world is gradually shifting towards cloud based solutions. The emergence of cloud accounting has proven to be a new way of doing business. This revolutionary approach to bookkeeping is promising as there are multiple advantages that accountants have already experienced due to cloud technology (Dimitriu & Matei, 2014). Therefore, it is duty of the accountants to charter the area of cloud accounting to develop insights into this technology and acquire the maximum benefit out of it. To do so, an accountant should be aware of the depths of the cloud accounting paradigm.

3 Research Methodology

3.1 Introduction

This section elaborates the methodology used in the study. This chapter comprises of ten sub sections including the introduction and the chapter summary. First, it explains the research approach and then the population and the sample of the study. Next the conceptual diagram which depicts a clear picture of the interrelationships between variables intended to be tested. The "Operationalization" sub section of the study will briefly define each variable in the conceptual diagram accompanied by a justification of how it has been measured. Thereafter, under the sub section "Instrumentation" the construction of the questionnaire will be explained in detail. Furthermore, this chapter describes how the data is collected and managed. Finally, the chapter is concluded by giving a brief idea on the Research Analysis, which will be explained in detail under the Chapter 4.

Cloud accounting is a new phenomenon in the context of Sri Lanka. As the objectives of this study are researched way forward, many hypotheses would be developed to examine the level of awareness and acceptance of cloud accounting among accounting professionals. The hypotheses would be tested to come up with the significance impact it has on the dependent variables.

3.2 Research Approach

According to Bryman (2012), "Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond". It is entailed by following principles; the principle of phenomenalism, the principle of deductivism, the principle of inductivism, objectivity and finally there exists a clear distinction between scientific statements and a belief that the former are the true domain of scientists.

This research will be based on positivistic paradigm where new knowledge could be discovered through objective measures. In order to achieve the research objectives, quantitative research methodology was primarily used. The principal focus of this study was to examine the current state of cloud accounting in practice and the professional accountants' perception about this advancement in technology. The approach used is justifiable as it tries to determine a causal relationship between the variables tested, to generalize to a larger group of individuals than those who are participating in the investigation and to understand behavioral patterns and the reasons behind that behavior. Also, since the majority of literature

found on similar research areas have used the quantitative approach (Shkurti & Muza 2014, Tarmidia et al. 2014, Ebenezer et al. 2014, CCH 2013, Strauss et al. 2015, Alshamaila, 2013, Kripanont, 2007, Snicker, 2013), this research has also effectively used descriptive statistics such as frequency, measures of central tendency, one sample t-test and regression analysis.

An alternative research approach that could have been applied instead positivistic paradigm is interpretivism which incorporates the views of writers who have been critical of the application of the scientific model to explore the social world and who have been influenced by different intellectual traditions. They view that the subject matter of the social sciences; people and their institutions, is fundamentally different from that of the natural sciences. The study of the social world therefore requires a different logic of research procedure, one that reflects the uniqueness of humans compared to the natural order (Bryman, 2012).

3.3 Population & Study Sample

The sampling frame that was considered to test hypotheses are accounting professionals who is possessing either a professional or/and academic qualification and also who is based in Sri Lanka. Professional accountants in business are diverse, working in commerce, industry, financial services, education, and the public and not-for-profit sectors as employees or advisers. Many are in a position of strategic or functional leadership or otherwise well-placed to collaborate with colleagues in other disciplines and help drive their organizations' sustainable success. Professional accountants support their organizations in a wide range of job functions, including leadership and management; operational; management accounting and control; and accounting and stakeholder communications. They are very well exposed to the technological developments that have taken place in the profession. Therefore, Professional Accountants will be chosen as the population since they are well experienced about the profession and they are using and exposed to technology in their work environment.

A representative sample will be selected after examining the member directories of the professional institutions and academic records of University of Sri Jayewardenepura and based on the availability of the contact information of the individuals from the population limiting to a number of 100 to 150 respondents. The sample will be selected on a random basis.

3.4 Conceptual Diagram

Based on the literature review conducted under sections; 2.3.3, 2.3.4 and 2.3.5 in Chapter 2, following conceptual diagram was derived which shows the variables identifies according to

Technology Acceptance Model 2 in order to examine the fourth objective of the study namely, factors impacting the intention to use or usage behavior of cloud based accounting. Following is the proposed model of the study (Figure 6).

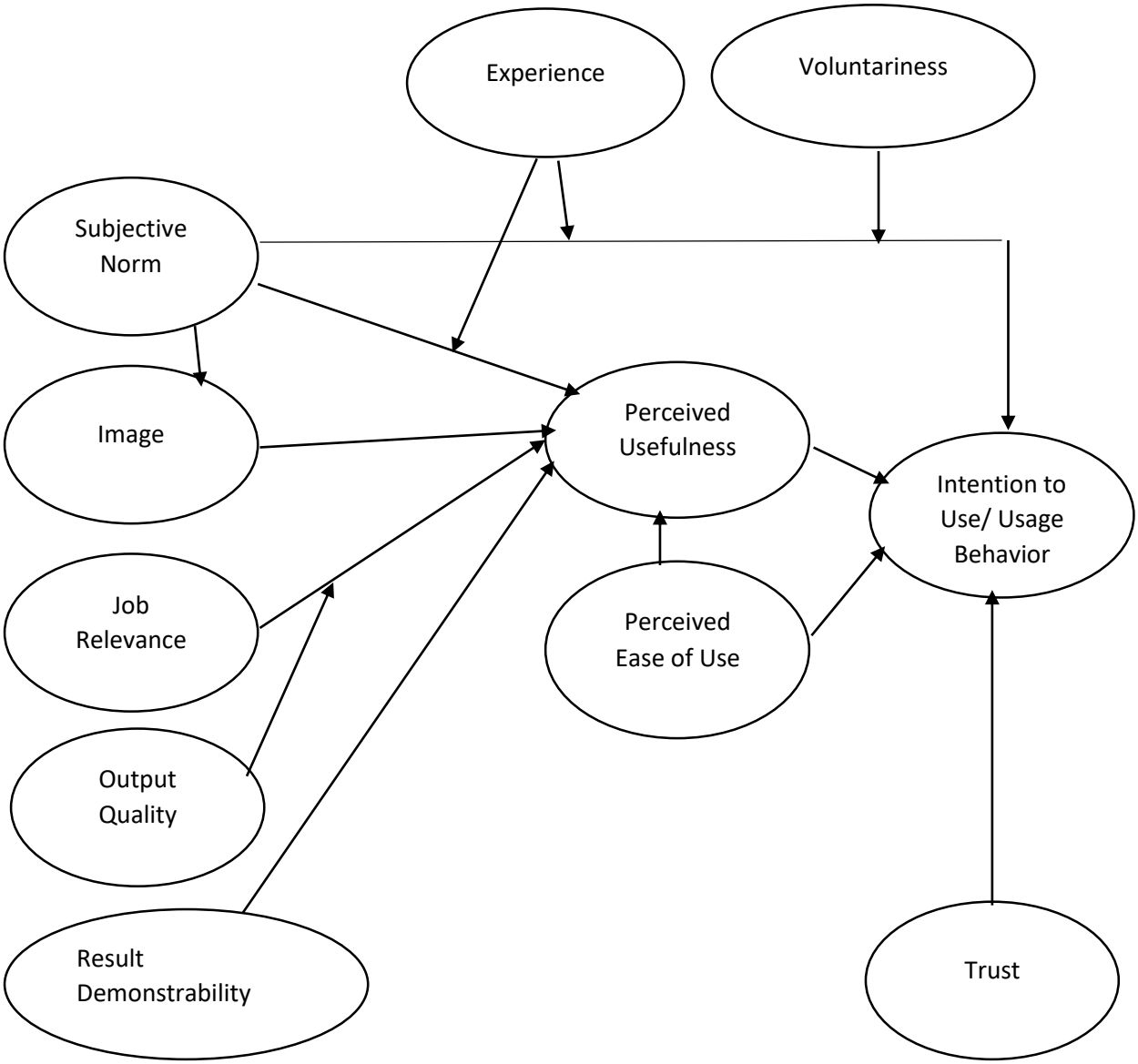


Figure 6 Conceptual Diagram

As depicted in the above conceptual diagram, there are two main dependent variables of the study which are behavioral intention to use and actual system use. Moreover, eight control variables; perceived usefulness, perceived ease of use, subjective norm, image, job relevance, output quality, result demonstrability and trust and two moderating variables which are experience and voluntariness have been identified in the above diagram.

3.5 Operationalization

3.5.1 Control Variables

According to the conceptual diagram, the control variables identified by previous researches such as Venkatesh & Davis, 2000, Venkatesh & Bala, 2008, Gao et al. 2011, Alshamaila, 2013 and Kripanont, 2007 have being used to examine the behavioral intention and/or actual usage of cloud based accounting. The main determinants of the proposed model are perceived usefulness (PU), perceived ease of use (PEOU), subjective norm (SN), image (I), job relevance (JR), output quality (OQ), result demonstrability (RD) and Trust (T). These factors would be justified in the next section as of why these determinants were integrated into the conceptual diagram.

Variable / Denotation	Definition	Measurement	Related Study
Perceived Usefulness (PU)	The extent to which a person believes that using IT will enhance his or her job performance	Question 15 and 25	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Perceived Ease of Use (PEOU)	The degree to which a person believes that using an IT will be free of effort (Davis et al. 1989)	Question 16 and 26	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Subjective Norm (SN)	The degree to which an individual perceives that most people who are important to him think he should or should not use the system	Question 17 and 27	Fishbein & Ajzen, 1975 Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Image (I)	The degree to which an individual perceives that use of an innovation will enhance his or her status in his or her social system (Moore & Benbasat, 1991)	Question 19 and 29	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Job Relevance (JR)	The degree to which an individual believes that the target system is applicable to his or her job	Question 20 and 30	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Output Quality (OQ)	The degree to which an individual believes that the system performs his or her job tasks well	Question 21 and 31	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Result	The degree to which an individual	Question 22	Venkatesh & Davis,

Demonstrability	believes that the results of using a system are tangible, observable and communicable (Moore & Benbasat, 1991)	and 32	2000 Venkatesh & Bala, 2008
Trust (T)	The user's beliefs or faith in the degree to which a specific service can be regarded to have no security and privacy threats	Question 23 and 33	Gao et al. 2011

3.5.2 Moderating Variables

The moderating variable is a variable that has a strong contingent effect on the relationship between the independent variable and dependent variable. In other words, the presence of a third variable modifies the original relationship between the independent and dependent variable (Sekaran, 2003 cited in Kripanont, 2007). Two moderators were identified in the study; voluntariness and experience.

Variable / Denotation	Definition	Measurement	Related Study
Voluntariness (V)	The extent to which potential adopters perceive the adoption decision to be non-mandatory	Question 18 and 28	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Experience (E)		Question 13, 24	

3.5.3 Dependent Variables

The two dependent variables in this study are usage behavior and behavior intention to use cloud accounting. They will be measured and examined to explore how they are being affected by the independent variables.

Variable / Denotation	Measurement	Related Study
Usage Behavior (U)	Question 13 and 13.1	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008
Intention to Use (IOU)	Question 34	Venkatesh & Davis, 2000 Venkatesh & Bala, 2008

3.6 Hypothesis Development

The main research hypotheses of the study are based on the following research objectives which were introduced in section 1.3 in Chapter 1. These hypotheses are being adopted by the original TAM 2 study by Venkatesh and Davis, 2000 and Gao et al. 2011.

Hypotheses are used to explore on the research Objective 4 which is to examine the factors impacting the intention to use or usage behavior of cloud accounting as perceived by the accounting professionals of Sri Lanka.

Hypothesis 1a. Subjective norm will have a positive direct effect on intention to use or usage behavior.

Hypothesis 1b. Voluntariness has a moderating effect on the relationship between subjective norm and intention to use or usage behavior.

Hypothesis 2. Subjective norm will have a positive direct effect on perceived usefulness.

Hypothesis 3a. Subjective norm will have a positive effect on image.

Hypothesis 3b. Image will have a positive effect on perceived usefulness.

Hypothesis 4. Experience has a moderating effect on the relationship between subjective norm and intention to use or usage behavior.

Hypothesis 5. Output quality and Job Relevance will have a significant interactive relationship on perceived usefulness.

Hypothesis 6. Result demonstrability will have a positive effect on perceived usefulness.

Hypothesis 7. Trust will have a positive effect on intention to use or usage behavior.

Hypothesis 8. Perceived ease of use will have a positive effect on perceived usefulness.

Hypothesis 9. Perceived ease of use will have a positive effect on the intention to use or usage behavior.

Hypothesis 10. Perceived usefulness will have a positive effect on the intention to use or usage behavior.

3.7 Sources of Data

Sources of data were two fold; Survey questionnaire and Current literature analysis. The main source of data collection considered under this study was the questionnaire developed using the current literature written about the cloud accounting paradigm. Accordingly, the research has been carried out using primary source of data.

3.8 Instrumentation

In order to refine the survey tool; the questionnaire, expert opinion was obtained from both academic and industry experts and a pilot survey was initially done using the questionnaire to check the applicability of the questions. The questionnaire is consisted with six parts as below;

Part 1 consists of questions relating to demographics of the participants of the survey such as gender, age, academic and professional qualifications, sector employed, current level of employment, years of experience, the platform of the accounting system and the accounting system being used at the organization (Refer Appendix 1).

Part 2 comprises of questions which examine the level of awareness of the accounting professionals about cloud based accounting (Refer Appendix 1). The questions were mainly relating to the awareness and usage behavior of cloud based accounting.

Part 3 comprises of questions which examine factors that are affecting the usage behavior of cloud accounting (Refer Appendix 1). The questions were derived from the original study of TAM2 by Venkatesh and Davis (2000). These questions are directed to professionals who are currently using a cloud system as their accounting system.

Part 4 comprises of questions which examine factors that are affecting the intention to use cloud accounting (Refer Appendix 1). The questions were derived from the original study of TAM2 by Venkatesh and Davis (2000). These questions are directed to professionals who have an intention to use a cloud system as their accounting system in the future.

Part 5 and 6 comprises of questions which are taken from the current literature relating to perceived benefits, threats and possible reasons for not adopting cloud based accounting respectively (Refer Appendix 1 and 2).

In the case of quantification of the content in the parts of 4, 5 & 6 of the questionnaire, each sub variable is given a score within the range of 1 and 7, based on Likert scale which was used by Venkatesh & Davis, 2000 and Venkatesh & Bala, 2008. They are;

Scale	Criteria
1	Strongly Disagree
2	Quite Disagree
3	Slightly Disagree
4	Neutral
5	Slightly Agree
6	Quite Agree
7	Strongly Agree

3.9 Collection of Data

Data was collected with respect to the phenomenon; cloud accounting awareness and acceptance among accounting professionals in Sri Lanka whom were selected on random basis with the help of a survey questionnaire. Questionnaires was distributed among the sample selected using an online method. The current literature was gathered to support the information collected through the questionnaire.

3.10 Data Analysis Strategies

Data gathered from the survey questionnaire are to be fed to the Statistical Package for Social Sciences (SPSS) 16.0 and will be analyzed accordingly. A preliminary analysis would be done by using the demographic factors in order to describe the sample and to see whether the sample is representative of the population.

The level of awareness of cloud accounting was analyzed using descriptive statistics such as frequency analysis and measures of central tendency. Using one way Anova and independent sample t-test, causality relationships were derived between the demographics and the level of awareness about the cloud accounting paradigm. Perceived benefits, threats and reasons for not adopting cloud based accounting will be analyzed using descriptive statistics with Min/Max ranking. Also, the sub variables of above would be analyzed using one sample t-test

to study whether there is statistically significance difference comparative to the mean value in the Likert scale.

Part 3 and 4 which were based on the TAM2 model will be analyzed using both regression analysis and hence new variables such as averages of sub variable will be calculated to check the validity of the hypotheses. Before calculating the averages, the reliability or the internal consistency of the measurements of the questions will be analyzed using Cronbach Alpha. Using these analysis strategies the objectives of the study will be research way forward.

3.11 Chapter Summary

This Chapter gave an outlook of the methodology that will be used in the study. Firstly, it explained the research approach, population and the sample are to be used. The conceptual diagram gives a better understanding of the interrelationships between variables chosen in this study. Then, it described the sources of data used for data collection. The Chapter thereafter described the way in which the data were collected, managed and analyzed. Finally, the Chapter is concluded by briefing the summary.

4 Data Analysis and Findings

4.1 Introduction

Firstly, this chapter describes the sample being used to achieve the objectives of the study. Secondly, it shows the results that was derived from the analysis strategies like descriptive statistics, t-tests, correlation and regression analysis and how the objectives have being achieved. Finally, the chapter the will be concluded by summarizing the findings of the study according to the said objectives in chapter 1.

4.2 Sample Overview

As mentioned in the Research Methodology chapter, the population of the study is accounting professionals who is possessing either a professional or/and academic qualification and also who is based in Sri Lanka. The survey questionnaire was sent to 400 randomly selected accounting professionals throughout Sri Lanka via online. Out of 400 questionnaire, 137 were completed, achieving a response rate of 34.25%. These responses were used for further analysis.

The demographic profiles of the respondents are as follows. From the total of 137 respondents, 46% are male and 54% are female. In terms of age distributions, 62% of the respondents are within the age group of 26 to 30 and the second largest age group is 20 to 25 with a distribution of 34.3%. Others are within the age groups of 31 to 40 (2.9%) and over 51 (0.7%) respectively. Most of them are basic degree holders (84.7%) and MBA or M.Sc. holders (5.8%).

In order to analyze the professional qualifications of the respondents, the research prepared an index by calculating the summation of different levels of professional qualification the respondents have completed. The measurement scales of the index lies within the range of 0 to 14 suggesting zero professional qualification and multiple professional qualifications per person. Different combinations of professional qualifications could be derived from the below index, as an example, one could be a Fellow Member of a Professional Body and might be following the intermediate level of another Professional Course, deriving the scale of 8 in the index.

Professional Qualification Index

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	1.5	1.5	1.5
	1	2	1.5	1.5	2.9
	2	21	15.3	15.3	18.2
	3	24	17.5	17.5	35.8
	4	16	11.7	11.7	47.4
	5	38	27.7	27.7	75.2
	6	9	6.6	6.6	81.8
	7	5	3.6	3.6	85.4
	8	6	4.4	4.4	89.8
	9	6	4.4	4.4	94.2
	10	3	2.2	2.2	96.4
	11	1	.7	.7	97.1
	12	1	.7	.7	97.8
	13	2	1.5	1.5	99.3
	14	1	.7	.7	100.0
	Total	137	100.0	100.0	

Table 1Professional Qualification Index (Source: Author Constructed)

70.8% of the respondents are from the non-audit sector while others are from the audit sector. According to the data analyzed, 46% are holding an executive level employments while 28.5%, 16.1% and 9.5% are middle level, senior level and operational level employees of their organizations. More than 85% of the accounting professionals are having experience in the field of accounting, finance or auditing for 6 to 10 years (87.6%). Furthermore, 53.3% of the respondents are working for companies with an in house accounting solutions whereas 27.7% are cloud based solutions and a hybrid solution of 19%. It could be concluded that 56.9% of the companies where the respondents are undergoing their tenure are using tailor made accounting systems such as Tailor Made ERP, SAP, Oracle, Microsoft Dynamics, SUN system, Tally, Xero and IFS. Also 32.1% of the respondents are using QuickBooks as their accounting system at the work places. Below table shows the descriptive statistics of the demographic factors.

	N	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Gender	137	1.54	.500	-.163	.207
Age	137	1.71	.596	1.048	.207
Highest Academic Qualification	137	3.05	.645	.619	.207
Professional Qualification Index	137	4.77	2.607	1.162	.207
Sector Employed	137	1.71	.456	-.925	.207
Current Level of Employment	137	2.49	.875	-.266	.207
Years of Experience	137	2.07	.431	2.088	.207
Platform of the Acct. System	137	1.66	.781	.687	.207
Accounting System Used	137	3.52	1.844	-.551	.207
Valid N (listwise)	137				

Table 2 Descriptive Statistics of Demographic Factors (Source: Author Constructed)

The above analysis demonstrates that the sample which is derived from the population is representative of the sample and the findings of the study could be generalized to the population of accounting professionals in Sri Lanka.

4.3 Descriptive Statistics

Descriptive analysis is crucial to summarize the finding of the research in order to evaluate the results in a precise manner. Mean, median, variance, standard deviation and Skewness were calculated and also the researcher has used correlations, t-tests and one way ANOVA to draw inferences about the population.

4.3.1 Descriptive Statistics of Level of Awareness about Cloud Based Accounting

The data collected indicates that 40.1% of the respondents claims that they are slightly aware about the cloud based accounting phenomenon whereas 11.7% of the respondents are not aware of this technology in the least. The mean value of 3.29 of the level of awareness shows that 48.2% of the respondents falls within the scale of aware (3) and slightly aware (4). The respondents were also questioned about their knowledge about different cloud infrastructures and cloud deployment models. 54.5% and 59.9% of the respondents were knowledgeable about cloud infrastructures and deployment models.

Also, the respondents were asked to state the stage at which their organization is involved with regards to cloud based accounting and according to the results 40.1% of them are not involved in adoption of cloud based accounting in the near future. Nonetheless, it also shows that comparatively a higher percentage (33.6%) of the respondents are already using cloud based accounting systems at their workplaces.

	Level of Awareness	Cloud Infrastructure Awareness	Cloud Deployment Awareness	Involvement in Cloud
Mean	3.29	1.54	1.60	2.78
Median	4.00	2.00	2.00	2.00
Standard Deviation	1.126	0.500	0.492	1.777
Skewness	-0.379	-0.182	-0.407	0.265
Std. Error of Skewness	0.207	0.209	0.207	0.207

Table 3 Descriptive Statistics of Level of Awareness (Source: Author Constructed)

The next section of the study further evaluates any differences in the level of awareness across different demographic profiles.

4.3.1.1 The Relationship between Level of Awareness and Demographic Factors

In order to draw inferences between demographic factors and the level of awareness about cloud based accounting among accounting professionals the researcher has used both independent sample t-test and one way ANOVA in SPSS based on the demographic profiles.

Gender: Since there are two groups in the factor, gender namely male and female, independent sample t-test was used to analyze data. The results shows that male population are more knowledgeable about current changes in accounting paradigm such as the phenomenon; cloud accounting which is the subject of the study. This is proven by the mean value of male which is 2.90 whereas the female population has got 3.62 as the mean value. This suggests that the male population falls under the range of moderately aware (2) and aware (3) in the scale of the questionnaire while female population more biased to slightly aware (4). Finally, it could be concluded that there is a statistically significant difference between the gender groups on level of awareness as the p-value is less than 0.05 in which the p-value is 0.00.

Age: As there are 4 sub-groups of the age demographic factor such as 20 to 25, 26 to 30, 31 to 40, 41 to 50 and over 51, One way ANOVA test has being carried out. The test shows that 31 to 40 age range has the highest mean value of 3.75 following 3.53 mean value in 20 to 25, 3.15 mean value in 26 to 30. Since the F value and the significance are 1.837 and 0.143, it can be concluded that there is no statistically significant difference among age groups on the level of awareness of cloud based accounting.

Highest Academic Qualification: This demographic factor is also analyzed using one way ANOVA. The results show that the respondents with academic qualification with either G.C.E. A/L or Certificate/Diploma have less knowledge about this paradigm as they derive mean values of 4.25 and 4.20 respectively. Respondents with a postgraduate diploma is having a mean value of 2.25 suggesting that they are moderately aware of cloud accounting phenomena. Results also shows that there is a statistically significant relationship between the age and level of awareness. This provides an overall conclusion. In order to derive differences among groups, an additional analysis; POST HOC was carried out. Multiple comparison table showed that there is no statistically significant difference among age groups with respect to level of awareness as all the significance values are more than the threshold of 0.05.

Sector currently employed: Since there are two groups in this factor namely audit and non-audit, independent sample t-test was used to analyze data. Respondents from audit and non-audit firms are having almost an equal awareness but non-audit sector shows slightly a higher mean value than the audit sector which is 3.37. It can also be concluded that there is no statistically significant difference between the two groups in respect of cloud accounting awareness.

Current Level of Employment: This was analyzed using one way ANOVA with POST HOC analysis. All the respondents at different hierarchical levels of the organizations are almost at the same level of awareness which is within the range of aware (scale - 3) and slightly aware (Scale – 4). According to the results operational level respondents are having the highest mean value of 3.77 which is marginally biased to slightly aware scale of 4. Overall result shows that there is no significant difference among groups with respect to level of awareness about cloud accounting. POST HOC analysis shows that there is no statistically significant difference within groups as the significance values are more than 0.05.

Years of Experience in the field of accounting, finance or auditing: One way ANOVA with POST HOC was used to analyze the results with respect to cloud accounting awareness. The conclusion that could be drawn from the results is that with increasing years of experience, the awareness about cloud accounting has increased as the 1 to 5 years' experience range has got 4.20 mean value whereas more than 16 years' experience range has got 2.00 mean value. ANOVA result also shows that there is a statistically significance difference between groups in respect of awareness as the significance level of 0.036 is less than threshold of 0.05. POST HOC shows that there are no difference within the groups as all the comparisons are getting a significance value of more than 0.05.

The platform of the accounting system being used at the current organization: The respondents from firms where they use cloud based or hybrid platforms are more aware of the cloud based accounting paradigm as they have obtained mean values of 2.82 and 2.58 respectively. The users of an in house solution are slightly aware of the phenomena (mean value of 3.79). The significance level is at 0.00 which is less than the threshold of 0.05 suggesting that there is a statistically significance difference between in respect of cloud accounting awareness. POST HOC comparison results are shown below,

	Mean Difference	Std. Error	Sig.
In house & Cloud Based	0.979*	0.199	0.000
In house & Hybrid	1.218*	0.277	0.000
Cloud based & Hybrid	0.239	0.253	0.612

Table 4 POST HOC Analysis of Platform of Accounting System (Source: Author Constructed)

The results above show that there is a statistically significance difference within the groups of in house & cloud based and in house & hybrid as the mean differences are significant at the 0.05 level but within the group; cloud based and hybrid, there is no statistically significant difference with respect to cloud accounting awareness.

The accounting system being used at the organizations: Almost all the respondents who are using any one of the accounting systems listed in the questionnaire (Appendix 1) are having an awareness level at the same mean value array which is between 3 and 4 suggesting that

they are either aware or slightly aware of the cloud accounting paradigm. The statistical relationship or the mean difference between and within the groups with respect to cloud accounting awareness are not significant at the 0.05 level.

In a nutshell, demographic factors' like gender, highest academic qualification, years of experience and platform of the accounting system, mean differences in respect of cloud accounting awareness are significant at the 0.05 level suggesting that the sample is not drawn from the same population. Whereas other demographic factors such as age, sector employed, current level of employment and accounting system being used are not statistically significant regarding cloud accounting awareness.

4.3.2 Descriptive Statistics with regard to Perceived Benefits and Threats of Cloud Accounting

Both perceived benefits and threats are analyzed using descriptive statistics such as mean, standard deviation, Skewness and ranking. Also, one sample t-test was used to examine mean differences with regard to the test value of 4 (Neutral) which is the mid value of the Likert scale used as the measurement scale.

4.3.2.1 Descriptive Statistics of Perceived Benefits

Below Table 5 represents the results obtained from the respondents regarding the benefits they perceive to receive from the use of cloud based accounting for which they stated their agreement level using a Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). For each specific benefit factor, the chart shows the Mean value, Standard Deviation and Skewness.

	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Std. Error
Geographically unlimited access	5.60	1.357	-1.089	.267
Remote network access	5.59	1.299	-1.138	.269
Agility and flexibility	5.39	1.196	-.843	.269
Reduces time required for data entry	5.36	1.235	-.730	.269
Simplifying accountant's work	5.35	1.284	-.983	.269
Increased communication & collaboration	5.34	1.312	-1.103	.269

Better security	5.31	1.272	-.915	.272
Eliminate duplication of work	5.29	1.255	-.882	.269
Scalability	5.25	1.355	-.783	.269
Unlimited Data storage & backup	5.23	1.390	-.806	.267
Access to latest upgrades	5.20	1.354	-.845	.269
Reduced IT staff cost	5.06	1.382	-1.076	.267
Usage of different reporting standards	5.05	1.330	-.755	.269
Interaction with other firms via EDI	4.95	1.404	-.556	.269
No upgrade fee	4.94	1.390	-1.045	.272
Reduces Capital expenditure	4.88	1.544	-.707	.267

Table 5 Descriptive Statistics of Perceived Benefits (Source: Author Constructed)

The perceived benefits have been ranked in the descending order according to the mean value of each benefit factor. The most agreed upon perceived benefits of cloud accounting with a scale which is close to 6 were; allows geographically unlimited access to accounting information through remote network access (mean value of 5.60), works by means of a remote network (mean value of 5.59), promotes increased performance through enhanced business agility and flexibility (mean value of 5.39), reduces time required to collect, record, process and report accounting information compared to a traditional accounting system (mean value of 5.36), simplifies the accounting work done by an accountant with compared to a traditional accounting system (mean value of 5.35), promotes improved communication and collaboration (mean value of 5.34), provides better security of data as advanced specialist features are available such as access control and authentication (mean value of 5.31), eliminates duplication of information and data entry comparative to a traditional system (mean value of 5.29), promotes the ability of instant scalability when required (mean value of 5.25), provides unlimited data storage, processing capacity and automatic backups (mean value of 5.23) and access to latest upgrades in software therefore the clients will always have access to the latest versions (mean value of 5.20).

Other benefits are falling between the scales of 4 (Neutral) and 5 (Slightly Agree). They are; saving the estimated operational cost of IT staff, provides a basis for the preparation of accounting reports suing different financial reporting standards such as IFRS or US GAAP, allowing interaction with other firms using Electronic Data Interchange who are using cloud

systems, avoids paying upgrade fee since the service is continuous and avoids capital expenditure on hardware and accounting software.

The perceived benefits were also analyzed using one sample t-test in order to ensure whether there is statistically significance mean difference comparative to the mid-point of the measurement scale.

	Test Value = 4					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Reduces Capital expenditure	5.109	80	.000*	.877	.54	1.22
Reduced IT staff cost	6.917	80	.000*	1.062	.76	1.37
Geographically unlimited access	10.643	80	.000*	1.605	1.30	1.91
Remote network access	10.927	79	.000*	1.588	1.30	1.88
Unlimited Data storage & backup	7.994	80	.000*	1.235	.93	1.54
Scalability	8.252	79	.000*	1.250	.95	1.55
Usage of different reporting standards	7.060	79	.000*	1.050	.75	1.35
Eliminate duplication of work	9.177	79	.000*	1.287	1.01	1.57
Simplifying accountant's work	9.406	79	.000*	1.350	1.06	1.64
Reduces time required for data entry	9.868	79	.000*	1.362	1.09	1.64
No upgrade fee	5.948	77	.000*	.936	.62	1.25
Access to latest upgrades	7.928	79	.000*	1.200	.90	1.50
Interaction with other firms via EDI	6.051	79	.000*	.950	.64	1.26
Agility and flexibility	10.377	79	.000*	1.388	1.12	1.65
Increased communication & collaboration	9.121	79	.000*	1.338	1.05	1.63
Better security	9.078	77	.000*	1.308	1.02	1.59

Table 6 One Sample t-test results (Source: Author Constructed)

The Table 6 shows that there is a statistically significance difference between the mean values of the perceived benefit factors and the test value of 4 as the calculated p-values are less than 0.05 level.

4.3.2.2 Descriptive Statistics of Perceived Threats

Below Table 7 lists down the threats of cloud accounting as perceived by the accounting professionals. Non coverage of cloud based accounting in the legal infrastructure of Sri Lanka in terms of maintaining information security and protecting personal data has being identified as the most critical factor by the respondents (mean value of 4.92). As far as the researcher acknowledges, this could have been identified as most important as all the other threats leads to legal procedures to penalize the wrong doer.

	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Std. Error
Legal concerns	4.92	1.080	-.165	.276
Information theft	4.87	1.181	-1.034	.276
Data misused by the vendor	4.76	1.284	-.627	.276
System unavailability	4.76	1.239	-.708	.277
Vendor lock in	4.73	1.189	-.601	.277
Privacy concerns	4.64	1.439	-.321	.279
Information security risk	4.62	1.296	-.419	.276
Risk of data loss	4.47	1.409	-.106	.276
Not enough disaster recovery	4.32	1.463	-.098	.276

Table 7 Descriptive Statistics of Perceived Threats (Source: Author Constructed)

Every threat has being given an approximately equal importance by the respondents. According to the descending ranking, increased threat of information theft, increased possibility that data could be misused by the vendor of the cloud services, disrupts in client communications due to cloud system unavailability, the loss of control over data or be more dependent on the Cloud Service Provider (vendor lock-in), increased privacy concerns, increased information security threat of clients' data from unauthorized access, increased risk of data loss and unavailability of disaster recovery and backup procedures follow the most important factor mentioned above.

This analysis shows that despite the benefits of cloud based accounting that can be brought to the organizations, the risks of implementing this technology prevents users from adopting it.

The one sample t-test analysis which was done to ensure whether there is statistically significance mean difference comparative to the mid-point of the measurement, scale showed that except the risk of lack of enough disaster recovery and back up procedures (p-value of 0.064), all other risks are having a statistically significant difference with regard to the mid-point of the measurement scale which is 4 (Neutral). Table 8 shows the results of the one sample t-test.

	Test Value = 4					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Information security risk	4.161	75	.000*	.618	.32	.91
Risk of data loss	2.930	75	.004*	.474	.15	.80
Privacy concerns	3.797	73	.000*	.635	.30	.97
System unavailability	5.310	74	.000*	.760	.47	1.05
Legal concerns	7.433	75	.000*	.921	.67	1.17
Information theft	6.408	75	.000*	.868	.60	1.14
Data misused by the vendor	5.180	75	.000*	.763	.47	1.06
Not enough disaster recovery	1.882	75	.064	.316	-.02	.65
Vendor lock in	5.340	74	.000*	.733	.46	1.01

Table 8 One Sample t-test Results of Perceived Threats (Source: Author Constructed)

These findings are consistent with the results of the previous studies such as Shkurti and Muza (2014), Brandas et al. (2015), Dimitru and Matei (2014/2015), Bosoteanu (2016), Strauss et al. (2015), Ebenezer et al. (2014), Aleem and Sprott (2012), Christauskas and Miseviciene (2012), Cong and Du (2010), Ozdemir and Elitas (2015) and CCH (2013).

4.3.3 Descriptive Statistics of Possible Reasons for not adopting Cloud Accounting

Possible reasons for not adopting cloud accounting was analyzed using both descriptive statistics and one sample t-test. According to the results, lack of awareness of cloud based accounting was considered as the most crucial factor in not adopting cloud accounting with a mean value of 5.16. Other factors are also given an equal importance other than lack of awareness and sees no benefit factors.

General feeling of skeptic, company policies that hinder the possible engagement in cloud accounting, the high reliability of the existing system, threats elaborated in previous section 4.3.2.2, inability to integrate with the existing system, lack of trust in internet based services,

lack of access to high speed internet, lack of visibility into future of cloud accounting were given a score between Neutral (4) and Slightly Agree (5). Sees no benefit factor was given a lower score of 3.73 between Slightly Disagree (3) and Neutral (4). This might be suggesting that the respondents are having perspective that this technology might be the future of the accounting profession.

	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Std. Error
Lack of awareness	5.16	1.345	-.582	.279
General feeling of skeptic	4.93	1.189	-.512	.277
Companies policies	4.88	1.127	-.107	.277
High reliability of the existing system	4.86	1.209	-.834	.279
Threats elaborated in 4.3.2.2.	4.83	1.212	-.593	.277
Inability to integrate with the existing system	4.72	1.476	-.562	.277
Lack of trust in internet based systems	4.70	1.421	-.580	.281
Lack of access to high speed internet	4.69	1.515	-.608	.277
Lack of visibility to the future	4.27	1.545	-.146	.277
Not worth the cost	4.08	1.383	-.241	.277
Sees no benefit	3.73	1.573	-.167	.279
Valid N (listwise)				

Table 9 Descriptive Statistics of Reasons for Non-Adoption (Source: Author Constructed)

The one sample t-test analysis which was done to ensure whether there is statistically significance mean difference comparative to the mid-point of the measurement, Table 10 shows that most of the reasons for non-adoption are having a statistically significant difference with regard to the mid-point of the measurement scale which is 4 (Neutral). The significant factors are threats elaborated in 4.3.2.2, high reliability of the existing system, company policies, lack of access to high speed internet, lack of awareness, general feeling of skeptic, lack of trust in internet based systems and inability to integrate with the existing system.

Not worth the cost, sees no benefit and lack of visibility to the future of cloud accounting, as seen in Table 10, have no statistically significance difference between the mean values of the

possible factors of not adopting cloud accounting and the test value of 4 as the calculated p-values are more than 0.05 level (0.618, 0.144 and 0.139 respectively).

	Test Value = 4					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Threats elaborated above	5.906	74	.000*	.827	.55	1.11
High reliability of the existing system	6.155	73	.000*	.865	.58	1.14
Companies policies	6.765	74	.000*	.880	.62	1.14
Lack of access to high speed internet	3.962	74	.000*	.693	.34	1.04
Lack of awareness	7.433	73	.000*	1.162	.85	1.47
General feeling of skeptic	6.796	74	.000*	.933	.66	1.21
Lack of trust in internet based systems	4.201	72	.000*	.699	.37	1.03
Inability to integrate with the existing system	4.226	74	.000*	.720	.38	1.06
Not worth the cost	.501	74	.618	.080	-.24	.40
Sees no benefit	-1.478	73	.144	-.270	-.63	.09
Lack of visibility to the future	1.495	74	.139	.267	-.09	.62

Table 10 One Sample t-test Results for Reasons for Non-Adoption (Source: Author Constructed)

These findings are consistent with the results of the previous studies such as Shkurti and Muza (2014), Cong and Du (2010), Aleem and Sprott (2012), Christauskas and Miseviciene (2012), Dimitru and Matei (2014), CCH (2013), Brandas et al. (2015), and Ozdemir and Elitas (2015).

4.3.4 Regression Analysis of Factors Impacting the Intention to Use or Usage Behavior

4.3.4.1 Reliability of Measures

All the measurement scales are representing high reliability with Cronbach alpha coefficients for all the scales exceeding 0.80. Table 11 shows the reliability coefficients of the measurement scales.

	Cronbach Alpha of Intention to Use Variables	Cronbach Alpha of Usage Behavior Variables
Perceived Usefulness	0.975	0.955
Perceived Ease of use	0.870	0.915
Subjective Norm	0.894	0.869
Voluntariness	0.958	0.897
Image	0.928	0.927
Job Relevance	0.973	0.976
Output Quality	0.936	0.921
Result Demonstrability	0.816	0.815
Trust	0.951	0.981
Intention to Use/Usage	0.856	0.799

Table 11 Cronbach Alpha Coefficients (Source: Author Constructed)

Construct Validity was strongly supported by the principal component analysis with varimax rotation, in which all the factors are significantly correlated with a p-value less than 0.05. Sample adequacy measures' of all the measurement scales was close to 1 (Appendix 4). This pattern of high reliability and construct validity is consistent with prior research such as Venkatesh and Davis (2000), Taylor and Todd (1995). Appendix 5 presents the correlation between the variables of the conceptual diagram in which the correlations are significant at both 0.01 and 0.05 level.

The dependent variables are two fold; intention to use and usage behavior. As shown in the demographics the respondents could be divided into two groups such as prospectors and early adopters. The prospectors of cloud accounting was asked questions relating to their intention to use cloud based accounting in future and the adopters are asked questions about their usage behavior.

4.3.4.2 Explaining Intention to Use of Prospectors of Cloud Accounting

Before running the regression analysis using the TAM2 measurement scales, averages of the variables were calculated for the purpose of better and coherent analysis. Table 12 demonstrates the effects of perceived usefulness, perceived ease of use and subjective norm on the dependent variable; intention to use.

Consistent with prior research done using TAM2 model, perceived usefulness was found to be a strong determinant of intention to use and perceived ease of use, subjective norm and trust were significant secondary determinants. This analyses supports the hypotheses mentioned below;

Hypothesis 1a; Subjective norm will have a positive direct effect on intention to use, hypothesis 7; Trust will have a positive effect on intention to use, hypothesis 9; Perceived ease of use will have a positive effect on the intention to use and hypothesis 10; Perceived usefulness will have a positive effect on the intention to use.

	Adjusted R Square	Beta	Pearson Correlation	Sig. (1-tailed)
Perceived Usefulness	0.641	0.425	0.752	0.000*
Perceived Ease of Use		0.122	0.668	0.000*
Subjective Norm		0.261	0.592	0.000*
Trust		0.212	0.569	0.000*

Table 12 TAM2 Regression Results Explaining Intention to Use (Source: Author Constructed)

According to the above table, it could be concluded that correlation between the direct determinants of intention to use and intention to use are having either a moderate or a strong correlation within the range of 0.57 to 0.75 with a significant relationship at the 0.01 sig-level. Thus, TAM2 explains up to 64% of the variance in usage intentions.

4.3.4.3 Explaining Usage behavior of Users or adopters of Cloud Accounting

The respondents were asked the frequency and the time spent on the cloud accounting system, consistent with the previous studies such as Davis (1989), Venkatesh and Davis (2000) and Venkatesh and Bala (2008). The results of the questions were analyzed using descriptive statistics. Almost half of the respondents claimed that they do not use a cloud system at present (48.9%). 24.8% claimed that they use cloud accounting several times a day and 10.9% claimed that they use it several times a week (mean value of 2.86).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Don't use at all	67	48.9	48.9	48.9
	2 Use less than once a week	10	7.3	7.3	56.2
	3 Use about once a week	7	5.1	5.1	61.3
	4 Use several times a week	15	10.9	10.9	72.3
	5 Use about once a day	4	2.9	2.9	75.2
	6 Use several times a day	34	24.8	24.8	100.0
	Total	137	100.0	100.0	

Table 13 Descriptive Statistics of Frequency of Usage (Source: Author Constructed)

The respondents were asked about the hours they spend on cloud accounting system. The responses showed a mean value of 1.82 which lies within the range of Not at all (Scale 1) and 2 to 4 hours (Scale 2). More than half of the respondents claimed that they spend zero hours on cloud accounting system proving that they do not use cloud based accounting system at present (54%). Only 46% of the respondents are spending 2 hours to 8 hours of their working hours in a cloud accounting system.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Not at all	74	54.0	54.0	54.0
	2 2 to 4 hrs.	33	24.1	24.1	78.1
	3 4 to 6 hrs.	15	10.9	10.9	89.1
	4 6 to 8 hrs.	11	8.0	8.0	97.1
	5 More than 8 hrs.	4	2.9	2.9	100.0
	Total	137	100.0	100.0	

Table 14 Descriptive Statistics of Hours Spent on Cloud System (Source: Author Constructed)

Regression analysis was done to derive results for the measurement scales of the TAM2 model. Unlike in the intention to use analysis in section 4.3.4.3, the findings drawn from the below analysis are contrasting. Below hypotheses were checked as in the previous section with regards to usage behavior of the adopter or users of cloud based accounting.

Hypothesis 1a. Subjective norm will have a positive direct effect on usage behavior.

Hypothesis 7. Trust will have a positive effect on usage behavior.

Hypothesis 9. Perceived ease of use will have a positive effect on usage behavior.

Hypothesis 10. Perceived usefulness will have a positive effect on usage behavior.

According to the results of the regression analysis (Table 13), the correlations between the control variables or direct determinants; perceived usefulness, perceived ease of use, subjective norm and trust and the usage behavior are considered to be positive and weak as all the correlations remain with the range of 0.00 to 0.25. Also, the mean differences of the four direct determinants are not statistically significant at the p-value 0.01 level proving that

the above hypotheses are not supported. But the hypothesis 1b is supported by both regression and correlation as it has a positive Beta value of 0.461 and a positive correlation of 0.227.

Nonetheless, the hypothesis 4 which is 'Experience has a moderating effect on the relationship between subjective norm and usage behavior' can be proven statistically significant at 0.05 level since the p-value is 0.039 as the users are having an experience with respect to cloud accounting unlike prospectors.

	Adjusted R Square	Beta	Pearson Correlation	Sig. (1-tailed)
Perceived Usefulness	0.065	-0.143	0.070	0.296
Perceived Ease of Use		-0.343	0.004	0.489
Subjective Norm		0.461	0.227	0.039*
Trust		0.169	0.198	0.063

Table 15 TAM2 Regression Results Explaining Usage Behavior (Source: Author Constructed)

Moreover, it could be concluded that TAM2 explains only 6.5% of the variance in usage behavior from the above results.

The original study of TAM2 has used stepwise regression analyses in order to address the possibility of having combinations of multiplicative nature in their effect on perceived usefulness. The only significant two-way interaction that has been recognized was between job relevance and output quality. The below analyses have been done taking the above mention interactive effect into consideration. As mentioned above, before performing the analyses a new variable was computed by multiplying the averages of job relevance and output quality with respect to both users and prospectors.

4.3.4.4 Explaining Perceived Usefulness through the eyes of Prospectors of Cloud Accounting

As Table 16 shows, TAM2 explains up to 61.5% of the variance in perceived usefulness. The effect of subjective norm on perceived usefulness is significant at 0.05 level and the correlation between the two variables is moderate, thus supporting the hypothesis 2; subjective norm will have a positive direct effect on perceived usefulness. The relationship

between image and perceived usefulness is having a weak correlation but the mean difference is statistically significant at the 0.05 level, hence proving the hypothesis 3b; image will have a positive effect on perceived usefulness.

	Adjusted R Square	Beta	Pearson Correlation	Sig. (1-tailed)
Subjective Norm	0.615	0.055	0.489	0.001*
Image		0.045	0.298	0.029*
Job Relevance*Output Quality		0.406	0.730	0.000*
Result Demonstrability		-0.114	0.648	0.000*
Perceived Ease of Use		0.527	0.760	0.000*

Table 16 TAM2 Regression Results Explaining Perceived Usefulness - Prospectors (Source: Author Constructed)

Since the results of the partial regression analysis is having moderate correlation at a significant value less than 0.01, the hypothesis 3a which suggests that subjective norm is having a positive effect on image is proved. Subjective norm explains 24.9% of the variances in image factor. As discussed, there is a significant interactive effect of job relevance and output quality on perceived usefulness since it has a strong correlation (0.730) at the significance level of 0.01. This supports the hypothesis 5 which is output quality and Job Relevance will have a significant interactive relationship on perceived usefulness. As theorized in the TAM2 study by Venkatesh and Davis (2000), result demonstrability and perceived ease of use were significant at 0.01 level with positive and strong correlations of 0.648 and 0.760 respectively. But result demonstrability is having a negative beta value suggesting the regression analysis does not support the hypothesis 6. Both regression and correlation analyses are having positive figures for perceived ease of use thus supporting the respective hypothesis of 6 and 8.

4.3.4.5 Explaining Perceived Usefulness through the eyes of Users of Cloud Accounting

	Adjusted R Square	Beta	Pearson Correlation	Sig. (1-tailed)
Subjective Norm	0.592	0.507	0.742	0.000
Image		0.014	0.289	0.012
Job Relevance*Output Quality		-0.068	0.555	0.000
Result Demonstrability		0.156	0.639	0.000
Perceived Ease of Use		0.227	0.662	0.000

Table 17 TAM2 Regression Results Explaining Perceived Usefulness - Users (Source: Author Constructed)

As depicted in Table 17, TAM2 explains up to 59.2% of the variance in perceived usefulness with respect to current users of cloud based accounting.

The effect of subjective norm on perceived usefulness is significant at 0.05 level and the correlation between the two variables is strong, thus reinforcing the hypothesis 2; subjective norm will have a positive direct effect on perceived usefulness. The effect image has on perceived usefulness is weakly correlated but the mean difference is statistically significant at the 0.05 level, hence proving the hypothesis 3b; image will have a positive effect on perceived usefulness in respect of current users of cloud accounting.

Subjective norm explains 10.5% of the variances in image factor. As hypothesis 3a suggests subjective norm is having a positive effect on image, as the results of the partial regression analysis is having a weak correlation of 0.346 at a significant value less than 0.05. As discussed earlier in this section, there is a significant interactive effect of job relevance and output quality on perceived usefulness since it has a moderate correlation (0.555) at the significance level of 0.01. According to the correlation analysis, this supports the hypothesis 5 which is output quality and Job Relevance will have a significant interactive relationship on perceived usefulness. But the regression analysis rejects the 5. Also as the original TAM2 model suggests, result demonstrability and perceived ease of use were significant at 0.01 level with positive and strong correlations of 0.639 and 0.662 respectively. Thus supporting the respective hypothesis of 6 and 8.

4.3.4.6 Moderating Effect of Voluntariness

In order to prove hypothesis 1b which suggest that voluntariness has a moderating effect on the relationship between subjective norm and intention to use or usage behavior, a partial regression analysis was carried out by computing an interaction term between subjective norm and voluntariness.

The interactive relationship between subjective norm and voluntariness on intention to use has a moderate correlation (0.578) at a significant value of 0.000. The interactive term explains up to 33.4% of the variance in intention to use. Hence, this reinforces the hypothesis 1b with regard to prospectors of the cloud accounting systems. Whereas, with respect to users perspective, the hypothesis 1b is not supported as it only explains 0.3% of the variance in usage. The correlation between the interactive term and the usage behavior is negative 0.051 with no statistically significant relationship between the variables (0.695). Mean value of the analysis (3.5738) also suggests that usage of cloud accounting systems at work places is mandatory rather than voluntary.

Based on the results of Regression and Correlation Analyses whether the Hypotheses developed are supported or not is summarized as follows;

No	Explanation	Regression Analysis		Correlation Analysis	
		Intention to Use	Usage Behavior	Intention to Use	Usage Behavior
Pertaining to the Accounting Professionals' view in Sri Lanka					
H1a	Subjective norm will have a positive direct effect on intention to use or usage behavior.	Supported	Supported	Supported	Supported
H1b	Voluntariness has a moderating effect on the relationship between subjective norm and intention to use or usage behavior.	Supported	Not Supported	Supported	Not Supported
H2	Subjective norm will have a positive direct effect on perceived usefulness	Supported	Supported	Supported	Supported
H3a	Subjective norm will have a positive effect on image	Supported	Supported	Supported	Supported
H3b	Image will have a positive effect on perceived	Supported	Supported	Supported	Supported

	usefulness				
H4	Experience has a moderating effect on the relationship between subjective norm and intention to use or usage behavior.	N/A	Supported	N/A	Supported
H5	Output quality and Job Relevance will have a significant interactive relationship on perceived usefulness.	Supported	Not Supported	Supported	Supported
H6	Result demonstrability will have a positive effect on perceived usefulness.	Not Supported	Supported	Supported	Supported
H7	Trust will have a positive effect on intention to use or usage behavior.	Supported	Not Supported	Supported	Not Supported
H8	Perceived ease of use will have a positive effect on perceived usefulness.	Supported	Supported	Supported	Supported
H9	Perceived ease of use will have a positive effect on the intention to use or usage behavior.	Supported	Not Supported	Supported	Not Supported
H10	Perceived usefulness will have a positive effect on the intention to use or usage behavior.	Supported	Not Supported	Supported	Not Supported

Table 18 Source: Author based on analyzed data

4.4 Chapter Summary

In this chapter, the results of all the analyses performed were assessed. Firstly, an overview of the sample was given based on the demographic factors such as gender, age, academic and professional qualification, sector employed, years of experience, platform of the accounting system and the accounting system being used at the organization.

Thereafter, a comprehensive statistical analyses were performed aligned to the objectives of the study. Initially, descriptive statistics were analyzed in order to draw conclusions about the level of awareness about cloud based accounting of the accounting professionals. Mainly the mean, standard deviation and Skewness were calculated in this regard. Both independent sample t-test and one way anova were calculated to draw inferences between the demographic factors and the level of awareness of cloud accounting.

Next, in order to identify the mostly agreed upon perceived benefits, threats and possible reasons for not adopting cloud accounting, descriptive statistics were performed with min ranking. One sample t-tests were performed for all the factors in order to check whether there was a statistically significant difference compared to the mid-point of the measurement scale of Neutral (4). Almost all the factors had a significant mean difference at the level of 0.05.

Thereafter, a regression analyses were performed using the constructs and the measurement scales of TAM2 model introduced by Venkatesh and Davis (2000). The results were shown in two separate parts as the researcher grouped the respondents into two groups; prospectors and users of cloud accounting systems. In this regard, consistency with the hypotheses developed in chapter 3 were tested and the majority of the Null hypotheses developed were accepted, providing evidence that TAM2 model explains the variances in the intention to use and usage behavior.

The overall results showcase that the awareness about cloud based accounting among the accounting professionals of Sri Lanka was comparatively poor. But it could be concluded that they are having a fair knowledge on the perceived benefits, perceived threats and possible factors impacting the non-adoption of cloud accounting. Geographically unlimited access through remote network access was considered as the most important benefit whereas the non-coverage of information security in legal terms is considered as the most endangering risk faced by the accountants if they move into cloud. The most important barrier that hinders the adoption process of cloud accounting was the lack of awareness about cloud accounting. Also, it could be concluded that the respondents had a fair understanding about the cloud accounting paradigm in order to rate their agreement to the TAM2 constructs and measurement scales.

5 Conclusion

5.1 Introduction

This chapter summarizes the overall study. Firstly it discusses the conclusion of this study where it explains what the objectives identified initially in the chapter 1 and how those objectives were achieved by performing various suitable statistical tests. Then, it moves on to discuss whether the expected outcome is achieved or not. Secondly, this chapter explains the main limitations faced during this study. Then at last it discusses future research direction for potential researchers on this area.

5.2 Conclusion

With the latest advancement in the technology, accounting paradigm is in the move of embracing cloud based accounting (Dimitru & Matei, 2014). Irrespective of how important the current developments in the field of accounting, as far as the researcher has noticed fewer researches have been done in this regard.

Primarily, the deductive approach was followed to perform the research. However, to some extent, interpretive approach also was adopted to evaluate and assess prior literature on cloud based accounting. The variables, measurement scales, TAM2 constructs are derived from the extant literature in order to achieve the objectives of the study. This study was carried out using Accounting Professionals who are handling the accounting function both in the audit and commercial fields with either an academic or/and professional qualification in accounting or finance and also who are based in Sri Lanka as the sample. A survey questionnaire was used to obtain information from the respondents.

The first objective of the study was to measure *the level of awareness of cloud accounting*. This objective was fulfilled by asking direct questions about their awareness level of cloud accounting and then measuring them with descriptive statistics. As anticipated more than 1/3rd of the respondents are slightly or not aware of this phenomena. Also, t-tests and one way anova, inferences were made between demographic factors and the level of awareness.

Both second and third objectives; *perceived benefits and threats of cloud based accounting, possible of reasons for not adopting cloud accounting* was achieved using both descriptive statistics and one sample t-tests. These test results showed that geographically unlimited

access through remote network access was considered as the most important benefit whereas the non-coverage of information security in legal terms is considered as the most important risk faced by the accountants if they move into cloud. The most important barrier that hinders the adoption process of cloud accounting was the lack of awareness about cloud accounting according to the perspective of accounting professionals. The t-test results showed that all the benefits listed out in the questionnaire were statistically significant comparatively to the mid-point which scale 4 of the measurement scale. Except inadequacy of disaster recovery and back up procedures, all the other threats were significant with respect to the p-value of 0.05 level. Other than, reasons like not worth the cost, sees no benefits and lack of visibility into the future of cloud accounting, others were given a statistically significant importance. These findings are consistent with the results of the previous studies such as Shkurti and Muza (2014), Cong and Du (2010), Aleem and Sprott (2012), Christauskas and Miseviciene (2012), Dimitru and Matei (2014), CCH (2013), Brandas et al. (2015), and Ozdemir and Elitas (2015).

The last objective; identifying the factors impacting the intention to use or usage behavior of cloud accounting was achieved using TAM2 constructs according to Venkatesh and Davis (2000) and adding another construct (trust) according to Gao et al. (2011). In order to ensure the reliability and the construct validity of the measurement scales cronbach alpha and factor loadings were measured in which the results were consistent with prior research. It was found that, TAM2 provides a detailed account of the key determinants underlying judgments of perceived usefulness. TAM2 explains up to 60% of the variance of usage intentions encompassing both social and cognitive instrumental processes. The outcomes of the study are consistent with previous studies; Venkatesh and Davis (2000), Venkatesh and Bala (2008), Gao et al. (2011).

The findings in this paper would enrich this stream of study by adding more value to the empirical evidence with respect to cloud accounting awareness, perceived benefits, threats of cloud accounting, perceived barriers of adopting cloud and the factors impacting the intention to use or usage behavior in accordance with TAM2.

5.3 Limitations

The main limitation the researcher faced was lack of literature about cloud based accounting and the association between the TAM model and the new paradigm; cloud accounting. The

researcher face difficulties in constructing the questionnaire which was the main instrument of data collection.

This research had three limitations with regard the analysis done using the TAM2 model. First, the sample size of prospectors of cloud accounting with respect to intention to use was less than 50, which could reduce the sample adequacy and the power of significance tests run from the constructs of TAM2.

Second, the TAM constructs could have been analyzed using structural equation modeling, in which two item scales in a measurement model can be introducing problems of under identification resulting in instability of parameter estimates (Venkatesh & Davis, 2000).

Third, as in the original study by Venkatesh and Davis (2000), the researcher employed self-reported usage behavior as opposed to objective measurements of usage behavior of current users of cloud accounting.

5.4 Future Research Directions

Future research should seek to overcome the limitations mentioned above when examining further extensions of Technology Acceptance Model which encompasses other theoretical constructs. The proposed model could be used to perform a more comprehensive study with a larger sample whom having a good knowledge about the cloud based accounting paradigm. Also, with the technological advancements happening in the field of accounting, the proposed model could be used to analyze the user acceptance of different accounting system developments.

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7 Appendices

Appendix 01 Questionnaire

CLOUD BASED ACCOUNTING: PERSPECTIVE OF ACCOUNTING PROFESSIONALS

Dear Professionals,

What are we doing?

We are conducting a research to identify the level of awareness about cloud based accounting, factors impacting the intention to use/use cloud accounting, perceived benefits and threats of cloud accounting, possible reasons for not adopting cloud based accounting through the perspective of accounting professionals.

Who are we?

I am Manasha Livera of Department of Accounting at the University of Sri Jayewardenepura, performing a research with Dr. Roshan Ajward, Senior Lecturer of the Department of Accounting, University of Sri Jayewardenepura.

Purpose of the survey

The purpose of this study is to examine the perception of the Professional Accountants of Sri Lanka on cloud based accounting, which would in turn help the development of the accounting practice.

Who should participate in this survey?

This questionnaire is to be attempted by Accounting Professionals who are handling the accounting function both in the audit and commercial fields with either an academic or/and professional qualification in accounting or finance and also who are based in Sri Lanka. With much respect, we invite you to participate in the research carried out for this purpose. Your participation in this survey is completely voluntary, and anonymity and confidentiality will be ensured. It is much appreciated if you could allocate few minutes of your precious time to complete the questionnaire attached herewith.

Yours truly,

Manasha Livera

Email Address : manashalivera@gmail.com

Principal Researcher : Dr. Roshan Ajward

Part 1: Demographics

Please indicate your answers for the below questions:

1. Gender (please tick): ☐ Male ☐ Female

2. Age (please tick): ☐ 20 – 25 ☐ 26 – 30 ☐ 31 – 40 ☐ 41 – 50
   ☐ Over 51

3. Academic and professional qualifications:

   3a. Highest academic qualification (Please tick)

   ☐GCE A/L ☐Certificate/Diploma ☐Basic Degree

   ☐Postgraduate diploma ☐MBA/M.Sc. ☐ Ph.D.

   3b. Professional qualification/s (please tick):

Qualification/s	Level of part-qualification				Member	
	Foundation	Intermediate	Final	Passed Finalist	Affiliated/ Associate Member	Fellow Member
ICASL						
ACCA						
CIMA						
If other, please specify;						
…….						
…….						

4. Sector currently employed:

   4a. Audit (please tick): ☐ Big three audit firms (KPMG, PWC, EY)
   ☐ Other audit firms

   4b. Non- Audit (please tick): ☐

   Please mention the sector …… (Example: Banking, Manufacturing, Finance, etc.)

5. Current Level of Employment: ☐ Senior level ☐ Middle level
   ☐ Executive level ☐Operational level

6. Years of experience in the field of accounting/auditing/finance (please tick)
   ☐ 1 – 5 years ☐ 6 – 10 years ☐ 11 – 15 years ☐ more than 16 years

7. The platform of the accounting system being used at your current organization
   ☐ In house (accounting system exists within an organization)
   ☐ Cloud based (accounting applications made available to users on demand via the internet from a cloud computing provider's servers)
   ☐ Hybrid (mix of both in-house and cloud applications)

8. The accounting system being used at your current organization
   ☐ QuickBooks ☐ sage 50c ☐ MYOB ☐ ACCPACK
   ☐ Other (Please specify) ……

Part 2 – Level of awareness about cloud based accounting

Cloud accounting is the computer processing of accounting data using a set of distributed computing services, applications, access to information and data storage without the user having to know the physical location and configuration of systems providing these services. This is also referred to as 'e accounting', 'web accounting' and 'real time accounting'. Examples; QuickBooks Online, Sage Live, Sage Intacct, SAP Anywhere, Microsoft Dynamics etc.

9. At what stage is your organization involved with regards to cloud accounting?
   ☐ Not Involved ☐ Discussion ☐ Trial ☐ Implementation ☐ Using

10. What are the cloud infrastructures you are aware of? (Multiple choices are allowed)
   ☐ Not Aware
   ☐ Infrastructure as a Service (IaaS)
   ☐ Platform as a Service (PaaS)
   ☐ Software as a Service (SaaS)
   ☐ Business Process as a Service (BPaaS)
   ☐ Other (Please Specify) …….

11. What are the cloud deployment models you are aware of? (Multiple choices are allowed)
   ☐ Not Aware
   ☐ Public Cloud
   ☐ Private Cloud
   ☐ Hybrid Cloud
   ☐ Other (Please specify) …….

12. In your opinion, what is your level of awareness of cloud based accounting?

   ☐ Highly aware ☐ Moderately Aware ☐ Aware ☐ Slightly aware

   ☐ Not aware (**If your answer is "Not Aware", please go to Question 37**)

13. On average, what is the frequency of you using cloud based accounting (pick the most suitable answer)

☐ Don't use at all (**If your answer is "Don't use at all", please go to Question 24**)

☐ Use less than once a week ☐ Use about once a week ☐ Use several times a week
☐ Use about once a day ☐ Use several times a day

13.1 On average, how many hours do you spend on the cloud accounting system each day?

☐ Not at all. ☐ 2 to 4 hrs. ☐ 4 to 6 hrs. ☐ 6 to 8 hrs.

☐ More than 8 hrs.

14. What are the functions in cloud accounting you are using? (Multiple choices are allowed)
☐ Not aware ☐ financial reporting ☐ Management accounting
☐ Customer Relationship Management ☐ Payroll
☐ Other (Please Specify) …….

Part 3 – Factors Affecting the Usage Behavior of Cloud Accounting

Please state your degree of agreement on below statements.

1= Strongly Disagree 2= Quite Disagree 3= Slightly Disagree 4=Neutral 5= Slightly Agree 6= Quite Agree 7= Strongly Agree	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. **Perceived Usefulness**							
a. Using cloud accounting improves my performance in my job							
b. Using cloud accounting increases productivity in my job							
c. Using cloud accounting enhances my effectiveness in my job							
d. I find cloud accounting to be useful in my job							
16. **Perceived Ease of Use**							
a. My interaction with cloud accounting system is clear and understandable							
b. Interacting with cloud accounting system does not require a lot of my mental effort							
c. I find cloud accounting system to be easy to use							
d. I find it easy to get cloud accounting system to do what I want it to do							
17. **Subjective Norm**							
a. People who influence my behavior think that I should use cloud accounting							
b. People who are important to me think that I should use cloud accounting							
c. The senior management of my organization has been helpful in the use of cloud accounting							
d. In general, my organization has supported the use of cloud accounting							
18. **Voluntariness**							
a. My use of cloud accounting is voluntary							
b. Although my supervisor does not require me to use cloud accounting, I am using it							
c. Although using cloud is certainly not compulsory in my job, I am using it							
19. **Image**							
a. People in my organization who use cloud accounting have more prestige than those who do not							
b. People in my organization who use cloud accounting							

have a high profile							
c. Having cloud accounting system is a status symbol in my organization							
20. **Job Relevance**							
a. In my job, usage of cloud accounting is important							
b. In my job, usage of cloud accounting is relevant							
c. The use of cloud accounting is pertinent to my various job related tasks							
21. **Output Quality**							
a. The quality of the output I get from cloud accounting system is high							
b. I have no problem with the quality of cloud accounting system's output							
c. I rate the results from cloud accounting to be excellent							
22. **Result Demonstrability**							
a. I have no difficulty telling others about the results of using cloud accounting							
b. I believe I could communicate to others the consequences of using cloud accounting systems							
c. The results of using cloud accounting are apparent to me							
d. I would have difficulty in explaining why using cloud accounting may or may not be beneficial							
23. **Trust**							
a. I use cloud accounting as the system protects the privacy of its users							
b. I use cloud accounting as I feel confident that I can keep the system under control							
c. I use cloud accounting as I feel confident that the data returned by the system is reliable							
d. I use cloud accounting as it is safe to use it							

24. Have you got any experience in using cloud based accounting systems?

☐ Yes ☐ No

Go to Question number 34

Part 4 – Factors Affecting the Intention to use of Cloud Accounting

Please state your degree of agreement on below statements.

1= Strongly Disagree 2= Quite Disagree 3= Slightly Disagree 4=Neutral 5= Slightly Agree 6= Quite Agree 7= Strongly Agree	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. **Perceived Usefulness**							

a. Using cloud accounting would improve my performance in my job							
b. Using cloud accounting would increase productivity in my job							
c. Using cloud accounting would enhance my effectiveness in my job							
d. I would find cloud accounting to be useful in my job							
26. **Perceived Ease of Use**							
a. My interaction with cloud accounting system would be clear and understandable							
b. Interacting with cloud accounting system would not require a lot of my mental effort							
c. I would find cloud accounting system to be easy to use							
d. I would find it easy to get cloud accounting system to do what I want it to do							
27. **Subjective Norm**							
a. People who influence my behavior would think that I should use cloud accounting							
b. People who are important to me would think that I should use cloud accounting							
c. The senior management of my organization would be helpful in the use of cloud accounting							
d. In general, my organization would support the use of cloud accounting							
28. **Voluntariness**							
a. My use of cloud accounting would be voluntary							
b. Although my supervisor would not require me to use cloud accounting, I will use it							
c. Although using cloud would certainly not be compulsory in my job, I will use it							
29. **Image**							
a. People in my organization who use cloud accounting would have more prestige than those who do not							
b. People in my organization who use cloud accounting would have a high profile							
c. Having cloud accounting system would be a status symbol in my organization							
30. **Job Relevance**							
a. In my job, usage of cloud accounting would be important							
b. In my job, usage of cloud accounting would be relevant							
c. The use of cloud accounting would be pertinent to my various job related tasks							
31. **Output Quality**							
a. The quality of the output I get from cloud accounting system would be high							
b. I wouldn’t have a problem with the quality of cloud							

accounting system's output							
c. I would rate the results from cloud accounting to be excellent							
32. **Result Demonstrability**							
a. I would have no difficulty telling others about the results of using cloud accounting							
b. I believe I could communicate to others the consequences of using cloud accounting systems							
c. The results of using cloud accounting would be apparent to me							
d. I would have difficulty in explaining why using cloud accounting may or may not be beneficial							
33. **Trust**							
a. I could use cloud accounting if the system protects the privacy of its users							
b. I could use cloud accounting if I feel confident that I can keep the system under control							
c. I could use cloud accounting if I feel confident that the data returned by the system is reliable							
d. I could use cloud accounting if it is safe to use it							
34. **Intention to Use**							
a. Assuming I have access to cloud accounting system, I intend to use it							
b. Given that I have access to cloud accounting system, I predict that I would use it							

Part 5 – Perceived benefits of cloud based accounting

35. Following list comprises of possible benefits of cloud based accounting. Please state your degree of agreement or disagreement on below statements.

1= Strongly Disagree 2= Quite Disagree 3= Slightly Disagree 4=Neutral 5= Slightly Agree 6= Quite Agree 7= Strongly Agree	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Cloud Accounting ……							
a. Avoids capital expenditure in hardware and accounting software							
b. Saves the estimated operational cost of IT staff							
c. Allows geographically unlimited access to information through remote network access							
d. Works through remote network access							
e. Provides unlimited data storage, processing capacity and automatic backup for the customer data							
f. Promotes ability of instant scalability when required							
g. Provides a basis for the preparation of accounting reports using different financial reporting standards (i.e. IFRS/US GAAP)							
h. Eliminate duplication of information and data entry compared to a traditional accounting system							

i. Simplify the accounting work done by an accountant with compared to traditional accounting system							
j. Reduces the time required to collect, record, process and report accounting information compared to a traditional accounting system							
k. Avoids paying upgrade fee because the service is continuous							
l. Access to latest upgrades in software therefore the client is always using the latest version of the software							
m. Allows interaction with other firms using Electronic Data Interchange who are using Cloud systems							
n. Promotes increased performance through enhanced business agility and flexibility							
o. Promotes improved communication and collaboration							
p. Provides better security of data as advanced specialist features are available e.g.;- access control and authentication							
q. Other (Please Specify if any)……							
r. ……..							

Part 6 - Perceived Threats of Cloud based accounting and Possible Reasons for not adopting Cloud Accounting

36. Following list comprises of possible threats of cloud based accounting. Please state your degree of agreement on below statements.

1= Strongly Disagree 2= Quite Disagree 3= Slightly Disagree 4=Neutral 5= Slightly Agree 6= Quite Agree 7= Strongly Agree	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Cloud accounting……							
a. Increases the threat to information security of client's data from unauthorized access							
b. Increases the risk of data loss							
c. Increases privacy concerns							
d. Disrupts the client communications due to cloud system unavailability							
e. May not be covered in legal infrastructure in terms of maintaining information security and protecting personal data							
f. Increases the threat of Information Theft (Data and records can be stolen by intruders)							
g. Increases the possibility that data can be misused by the vendor of the cloud services							
h. May not provide enough disaster recovery and back up procedures to recover the lost data							
i. May lead to Vendor lock-in (The loss of control over data/be more dependent on the Cloud Service Provider)							
j. Other (Please Specify if any)……							
k. ……..							

37. Following list comprises of possible reasons for not adopting cloud based accounting. Please state your degree of agreement on below statements.

1= Strongly Disagree 2= Quite Disagree 3= Slightly Disagree 4=Neutral 5= Slightly Agree 6= Quite Agree 7= Strongly Agree	1	2	3	4	5	6	7
a. Due to the threats elaborated above in Question 36.							
b. The high reliability of the existing system							
c. Company policies that hinder the possible engagement in cloud accounting							
d. Lack of access to high speed internet							
e. Lack of awareness of cloud based accounting							
f. General feeling of skeptic							
g. Lack of trust in internet based services							
h. Inability to integrate with the existing system							
i. Not worth the cost							
j. Sees no benefit							
k. Lack of visibility into future of cloud accounting							
l. Other (Please mention if any)…….							
m. ……							

38. Would you like to learn more about cloud based accounting?

☐ Yes ☐ No

Thank You

Appendix 2 Preliminary Interview Records

Preliminary Interview with; Mr. Saman Jayawardene, Director – Finance of Eureka Technology Partners (Pvt) Ltd.

1. I am aware of the existence of the cloud computing technology in the market.

   ☒ Yes □ No

2. I have noticed that the cloud technology is being used by other firms.

   ☒ Yes □ No

3. I believe that it's easy to use an application hosted in cloud the way I normally use it when hosted in a traditional on premise environment.

   □ Yes ☒ No

4. Please indicate to what extent you agree with the listed statements by using the following likert scale.

1= Strongly Agree 2= Agree 3= Neutral 4=Disagree 5= Strongly Disagree	1	2	3	4	5
n. I believe that cloud applications are effective tools in my organization		x			
o. People who are important to me think that I should use cloud accounting		x			
p. People who influence me think that I should use cloud accounting		x			
q. My firm has the financial resources to adopt cloud computing		x			
r. My firm has the financial resources to implement and maintain cloud computing		x			
s. My firm has technical staff to maintain this technology		x			

5. What are the main benefits and the challenges of running accounting operation the premise?
   Benefits

- Do not relay on bandwidth to access system
- Data security and protection

Challenges

- High cost on infrastructure
- Version upgrades support
- Need of support team for IT infrastructure

6. Main concerns when approaching cloud technology in the area of accounting and finance are?

- Adequate bandwidth and back up links
- Ability to change the service provider without hassle

7. The main reasons/factors behind engagement in the cloud accounting area are? (Benefits)

- Easy access to the system
- Less expensive (especially the capital cost)
- Easy access to version upgrades

8. Should accounting and finance teams adopt cloud based computing?
   Depend on the business requirement. It will be the future. When to adopt is careful decision to make.

9. Is moving financial reporting systems to cloud a good idea?
   Again depend from business to business.
   Eg: A business need to access information to make quick decisions will have an advantage of moving to cloud.

10. What cloud accounting services does your firm use or think of using? (i.e. payroll, credit control)
    Payment gateway, HRIS, Debtors Ledger

11. Do you think that cloud accounting would replace the human factor in accounting departments?

    Not at the moment. You need people to manage the cloud accounting system. It could grow to operate on its own overtime.

12. What are the possible threats faced by the accountants if they do not adopt this technology?

- The accountants speed of delivering information could delay decision making
- Knowing the cloud based accounting will help an accountant to move to a company which use cloud based accounting.

13. How fast are accountants moving into cloud based solution in Sri Lanka?

Digital transformation is still new to many business in the country. Sri Lankan Businesses and Accountants are not adopting technology as fast as developed countries. Many business could live with basic systems.

14. For accountants, what are the most important features of cloud based accounting software?

- Information security
- Cost effectiveness
- Ability to change the service provider
- Scalability
- User friendliness

Appendix 3 Related Articles

Variable	Related Article
Benefits of Cloud Accounting	
Cost savings on hardware and software	Shkurti, R & Muza, E 2014 Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Ebenezer, EES, Omane-Antwi, KB & Kyei, ME 2014 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015
Savings in the estimated operational costs for IT staff	Shkurti, R & Muza, E 2014 Strauss, E, Kristandl, G & Quinn, M 2015 Cong, Y & Du, H 2010
improvements in the decision-making process	Shkurti, R & Muza, E 2014 Christauskas, C & Miseviciene, R 2012 Strauss, E, Kristandl, G & Quinn, M 2015 Dimitru, O & Matei, M 2014 Cleary, P & Quinn, M 2016
increased data security	Shkurti, R & Muza, E 2014 Brandas, C, Megan, O & Didraga, O 2015 Bosoteanu, MC 2016 Christauskas, C & Miseviciene, R 2012 Strauss, E, Kristandl, G & Quinn, M 2015 Aleem, A & Sprott, CR 2012
The time required for collecting, recording, processing and reporting accounting information is visibly much shorter	Shkurti, R & Muza, E 2014 Dimitru, O & Matei, M 2014 Bosoteanu, MC 2016 Aleem, A & Sprott, CR 2012 Cleary, P & Quinn, M 2016
allowing direct access to users virtually any time anywhere	Shkurti, R & Muza, E 2014 Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Ebenezer, EES, Omane-Antwi, KB & Kyei, ME 2014 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015
effective backup systems	Shkurti, R & Muza, E 2014 Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Ebenezer, EES, Omane-Antwi, KB & Kyei, ME 2014 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012
Scalability	Brandas, C, Megan, O & Didraga, O 2015 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012 Aleem, A & Sprott, CR 2012

	Cong, Y & Du, H 2010
Systems of various companies that are in the same cloud and use the same ERP can interact easier and faster in EDI (Electronic Data Interchange).	Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Ozdemir, S & Elitas, C 2015
Increased performance through enhanced business agility and flexibility	Dimitru, O & Matei, M 2014 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012 Dimitru, O & Matei, M 2014
Unlimited data storage, processing capacity	Dimitru, O & Matei, M 2014 Bosoteanu, MC 2016 Dimitru, O & Matei, M 2014 Cleary, P & Quinn, M 2016
There are no upgrade fees because the service is continuous and the client is always using the latest version of the software and having access to the most up to date features.	Dimitru, O & Matei, M 2014 Bosoteanu, MC 2016
he possibility to use alternative accounting plans for the preparation of accounting reports using different financial reporting standards (International Financial RS, US-GAAP)	Dimitru, O & Matei, M 2014
elimination of duplicate information, preventing errors and increasing data accuracy	Bosoteanu, MC 2016
Threats of Cloud Accounting	
Information security	Shkurti, R & Muza, E 2014 Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012 Strauss, E, Kristandl, G & Quinn, M 2015
Data and records can be stolen by intruders or can be misused by the vendor of the cloud services	Shkurti, R & Muza, E 2014 Dimitru, O & Matei, M 2014 Ozdemir, S & Elitas, C 2015 Strauss, E, Kristandl, G & Quinn, M 2015 Cong, Y & Du, H 2010
Risk of loss of data	Brandas, C, Megan, O & Didraga, O 2015 Bosoteanu, MC 2016 Christauskas, C & Miseviciene, R 2012 Cong, Y & Du, H 2010
Privacy	Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014
Communication disruptions/system availability	Brandas, C, Megan, O & Didraga, O 2015 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015

	Christauskas, C & Miseviciene, R 2012 Aleem, A & Sprott, CR 2012 Dimitru, O & Matei, M 2014
Legal and regulatory concerns	Brandas, C, Megan, O & Didraga, O 2015 Bosoteanu, MC 2016 Ozdemir, S & Elitas, C 2015 Aleem, A & Sprott, CR 2012 Cong, Y & Du, H 2010
The loss of control over data/be more dependent on the CSP	Dimitru, O & Matei, M 2014 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012 Strauss, E, Kristandl, G & Quinn, M 2015 Aleem, A & Sprott, CR 2012
Disaster recovery and backup procedures	Bosoteanu, MC 2016
Possible reasons for not adopting cloud accounting	
Information reliability existing system	Shkurti, R & Muza, E 2014 Cong, Y & Du, H 2010
Company policies	Shkurti, R & Muza, E 2014 Aleem, A & Sprott, CR 2012
Unawareness of its benefits	Christauskas, C & Miseviciene, R 2012 Dimitru, O & Matei, M 2014
General feel of skeptic	Dimitru, O & Matei, M 2014
Lack of trust in internet based services	A national research study commissioned by CCH
Not sure about its future: whether it will success or fail	CCH 2013
Lack of access to high speed internet	Brandas, C, Megan, O & Didraga, O 2015 Dimitru, O & Matei, M 2014 Ozdemir, S & Elitas, C 2015 Christauskas, C & Miseviciene, R 2012
Integration with the existing system	Brandas, C, Megan, O & Didraga, O 2015

Appendix 4 Factor Loadings

Correlation Matrix – Perceived Usefulness

		PU_a	PU_b	PU_c	PU_d
Correlation	PU_a	1.000	.889	.944	.868
	PU_b	.889	1.000	.922	.921
	PU_c	.944	.922	1.000	.915
	PU_d	.868	.921	.915	1.000
Sig. (1-tailed)	PU_a		.000	.000	.000
	PU_b	.000		.000	.000
	PU_c	.000	.000		.000
	PU_d	.000	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.843
Bartlett's Test of Sphericity	Approx. Chi-Square	360.561
	Df	6
	Sig.	.000

Correlation Matrix – Perceived Ease of Use

		PEOU_a	PEOU_b	PEOU_c	PEOU_d
Correlation	PEOU_a	1.000	.454	.848	.697
	PEOU_b	.454	1.000	.592	.510
	PEOU_c	.848	.592	1.000	.800
	PEOU_d	.697	.510	.800	1.000
Sig. (1-tailed)	PEOU_a		.000	.000	.000
	PEOU_b	.000		.000	.000
	PEOU_c	.000	.000		.000
	PEOU_d	.000	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.762
Bartlett's Test of Sphericity	Approx. Chi-Square	159.025
	Df	6
	Sig.	.000

Correlation Matrix – Subjective Norm

		SN_a	SN_b	SN_c	SN_d
Correlation	SN_a	1.000	.879	.579	.547

	SN_b	.879	1.000	.620	.604
	SN_c	.579	.620	1.000	.852
	SN_d	.547	.604	.852	1.000
Sig. (1-tailed)	SN_a		.000	.000	.000
	SN_b	.000		.000	.000
	SN_c	.000	.000		.000
	SN_d	.000	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.694
Bartlett's Test of Sphericity	Approx. Chi-Square	190.942
	Df	6
	Sig.	.000

Correlation Matrix Voluntariness

		V_a	V_b	V_c
Correlation	V_a	1.000	.886	.826
	V_b	.886	1.000	.941
	V_c	.826	.941	1.000
Sig. (1-tailed)	V_a		.000	.000
	V_b	.000		.000
	V_c	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.709
Bartlett's Test of Sphericity	Approx. Chi-Square	215.503
	Df	3
	Sig.	.000

Correlation Matrix Image

		I_a	I_b	I_c
Correlation	I_a	1.000	.911	.727
	I_b	.911	1.000	.820
	I_c	.727	.820	1.000
Sig. (1-tailed)	I_a		.000	.000
	I_b	.000		.000
	I_c	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.678
Bartlett's Test of Sphericity	Approx. Chi-Square	168.575
	Df	3
	Sig.	.000

Correlation Matrix Job Relevance

		JR_a	JR_b	JR_c
Correlation	JR_a	1.000	.935	.914
	JR_b	.935	1.000	.925
	JR_c	.914	.925	1.000
Sig. (1-tailed)	JR_a		.000	.000
	JR_b	.000		.000
	JR_c	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.783
Bartlett's Test of Sphericity	Approx. Chi-Square	241.290
	Df	3
	Sig.	.000

Correlation Matrix Output Quality

		OQ_a	OQ_b	OQ_c
Correlation	OQ_a	1.000	.807	.822
	OQ_b	.807	1.000	.861
	OQ_c	.822	.861	1.000
Sig. (1-tailed)	OQ_a		.000	.000
	OQ_b	.000		.000
	OQ_c	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.763
Bartlett's Test of Sphericity	Approx. Chi-Square	151.302
	Df	3

	Sig.	.000

Correlation Matrix Result Demonstrability

		RD_a	RD_b	RD_c	RD_d
Correlation	RD_a	1.000	.852	.871	.223
	RD_b	.852	1.000	.884	.214
	RD_c	.871	.884	1.000	.184
	RD_d	.223	.214	.184	1.000
Sig. (1-tailed)	RD_a		.000	.000	.042
	RD_b	.000		.000	.049
	RD_c	.000	.000		.078
	RD_d	.042	.049	.078	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.779
Bartlett's Test of Sphericity	Approx. Chi-Square	181.279
	Df	6
	Sig.	.000

Correlation Matrix Trust

		T_a	T_b	T_c	T_d
Correlation	T_a	1.000	.855	.817	.837
	T_b	.855	1.000	.838	.759
	T_c	.817	.838	1.000	.880
	T_d	.837	.759	.880	1.000
Sig. (1-tailed)	T_a		.000	.000	.000
	T_b	.000		.000	.000
	T_c	.000	.000		.000
	T_d	.000	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	253.922
	Df	6
	Sig.	.000

Appendix 05 Correlation of TAM2 Constructs

Correlations

		PU Average	PEOU Average	SN Average	V Average	Image Average	JR Average	OQ Average
PU Average	Pearson Correlation	1	.662**	.742**	.301*	.289*	.647**	.549**
	Sig. (2-tailed)		.000	.000	.018	.024	.000	.000
	N	61	61	61	61	61	61	61
PEOU Average	Pearson Correlation	.662**	1	.724**	.414**	.225	.611**	.682**
	Sig. (2-tailed)	.000		.000	.001	.082	.000	.000
	N	61	61	61	61	61	61	61
SN Average	Pearson Correlation	.742**	.724**	1	.205	.346**	.732**	.719**
	Sig. (2-tailed)	.000	.000		.112	.006	.000	.000
	N	61	61	61	61	61	61	61
V Average	Pearson Correlation	.301*	.414**	.205	1	.461**	.169	.271*
	Sig. (2-tailed)	.018	.001	.112		.000	.192	.035
	N	61	61	61	61	61	61	61
Image Average	Pearson Correlation	.289*	.225	.346**	.461**	1	.422**	.382**
	Sig. (2-tailed)	.024	.082	.006	.000		.001	.002
	N	61	61	61	61	61	61	61
JR Average	Pearson Correlation	.647**	.611**	.732**	.169	.422**	1	.822**
	Sig. (2-tailed)	.000	.000	.000	.192	.001		.000
	N	61	61	61	61	61	61	61
OQ Average	Pearson Correlation	.549**	.682**	.719**	.271*	.382**	.822**	1
	Sig. (2-tailed)	.000	.000	.000	.035	.002	.000	
	N	61	61	61	61	61	61	61
RD Average	Pearson Correlation	.639**	.692**	.736**	.396**	.489**	.764**	.792**
	Sig. (2-tailed)	.000	.000	.000	.002	.000	.000	.000
	N	61	61	61	61	61	61	61
Trust Average	Pearson Correlation	.576**	.633**	.711**	.228	.365**	.757**	.715**
	Sig. (2-tailed)	.000	.000	.000	.077	.004	.000	.000
	N	61	61	61	61	61	61	61

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

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