

The Effects that Cloud Services Offered by Small Accounting Firms have on Client  
Satisfaction among Older Adults: A Means-End Chain Approach

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by

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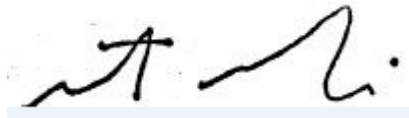


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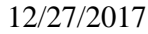


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## Abstract

Cloud services have had a tremendous impact on the accounting industry and many firms are adopting these innovative technologies in order to maximize efficiency. The effects of client satisfaction and loyalty regarding this adoption, however, are not clear and misconceptions about cloud accounting, such as security, cost, and lack of perceived benefit must be explored, especially among older adults, who naturally tend to be more averse to the adoption of new technologies. This allows firms to successfully adopt cloud technologies by implementing proper marketing campaigns that address client concerns. A means-end chain approach was used to explore the diffusion of innovations theory and social exchange theory in this qualitative study by interviewing clients of small U.S. accounting firms regarding cloud computing technologies. This study included 20 participants, which were clients of several southern Utah accounting firms, and data was collected from semi-structured interviews including open-ended questions. A hierarchical value map was created from the findings, resulting in several dominant values, such as simplicity, security, and accuracy. Results show that the diffusion of cloud services are positively affecting client satisfaction among older adults of small accounting firms as long as certain items are communicated well. Most participants were able to realize the perceived usefulness of cloud services by identifying the time-saving measures that they provide and the value of simplicity they offer. Implications and recommendations for accounting firms include three strategic decision-making and marketing areas, including educating older clients on scanning documents, uploading documents to a client portal, and using paperless processes. Future research should conduct studies of older adults from different regions with other demographic variables.

## Acknowledgements

Thank you to my wife and kids.

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## Chapter 1: Introduction

Client satisfaction regarding professional services is an important aspect of relationship continuity and must form the basis of all major considerations, making it a necessary element in delivering value to clients and customers, especially when facing a tough economic situation (Gupta, 2015; Lee, Chang, & Liu, 2010; Pérez & Rodríguez del Bosque, 2015). In today's complex and competitive business environment, firms need to adopt new approaches to nurture satisfaction and loyalty because clients are becoming more sophisticated and demanding regarding professional services and several factors influence technology adoption, such as the degree to which the innovation is compatible with one's values, experiences, and needs (Eisenstaedt, 2010; Olson, O'Brien, Rogers, & Charness, 2011).

Technology, such as the development of new applications and software, has played a major role in shaping the business environment over the last decade, and due to the growth in technology-based products and services that professional firms offer, a thorough assessment of consumer's technology readiness is called for (Tsourela & Roumeliotis, 2015). These new services have led to a new cloud business model paradigm, which has impacted the business strategy of companies by allowing firm owners and entrepreneurs to work *on* their business instead of just *in* their business through streamlined processes and systems (Brandas, Megan, & Didraga, 2015; Gerber & Root, 2011). Accounting, analytics, compliance, controls, monitoring, reporting, and data governance are key functions that involve cloud-based business solutions that can improve efficiency, reduce costs, and improve internal processes (Howell, 2015). Cloud computing and mobile applications also greatly benefit businesses by increasing

productivity, options, and flexibility as it relates to management function (Alexander, 2015).

Accounting firms have adopted cloud services in the form of data storage, infrastructure/platform, and application software, thus having a significant impact on the accounting profession (Du and Cong, 2010). The majority of these cloud models are known as Software as a Service (SaaS) which allows a company or its customers to access the cloud from various devices (e.g., mobile phone, laptop, tablet) through access points such as a web browser or an application interface (Howell, 2015). Cloud based software and services will play a crucial role in the future of accounting by providing a faster and safer way to store, communicate, and access accounting data and is forcing practitioners to rethink how they do business (Alexander, 2015).

## **Background**

In order for accounting firms to maintain client satisfaction while attracting new customers, they must understand the implications, such as benefits and risks and technology readiness, associated with new cloud services. As the nature of company-customer interactions undergo fundamental transformations (Parasuraman, 2000), cloud services such as data storage, infrastructure/platform, and application software are forcing firms to utilize the internet and leverage their capabilities through cloud computing (Alexander, 2015; Gerber & Root, 2011).

Technology has driven accounting firms to do business in ways that did not exist a decade ago and in order to foster productivity growth; firms must consider technological diffusion as a crucial factor (Andergassen, Nardini, & Ricottilli, 2017). Technology readiness of customers is crucial in the trial stage of implementation and can

help manage the link between customer and technology (Gupta & Garg, 2015). Age can also play a major role in technology readiness and can pose barriers to adoption, especially among older adults (Marchibroda, 2015). In order for older clients to remain satisfied respondents of the goods and services offered by their accounting firm, the firm must know the needs and wants of their clients by exploring the psychological position of the client (Rahi, 2015). Owners of small accounting firms must gain trust and loyalty from their clients throughout the implementation process and demonstrate why cloud services are beneficial to everyone involved. Few empirical studies have explored the influence technological innovations have had on older adults and this research attempts to fill this theoretical void; from the perspective of diffusion of innovation theory and social exchange theory.

### **Statement of the Problem**

As on-demand software delivery service models such as software-as-a-service (SaaS) continue to grow, it is difficult to inspire trust and loyalty in an online and on-demand service model because opposition to new technologies can exist, with issues such as unfulfilled technical requirements, information security and privacy concerns, and lack of flexibility causing clients to be dissatisfied (Cavusoglu, Hu, Li, & Ma, 2010; Chou & Chiang, 2013). Although the topic of cloud computing has become the new trend in the business environment due to increased use and efficiency (Gest, 2014), there may be several misconceptions and barriers to adoption that impede older clients to accept new technological innovations offered by accounting firms, such as security, usability, and lack of awareness (Christauskas, & Miseviciene, 2012; Marchibroda, 2015).

It is important to explore the affects that cloud adoption has on loyalty and satisfaction from existing older clients because little is known about the depth and breadth of technology use by older adults (Olson, O'Brien, Rogers, & Charness, 2011). Large percentages of firms use client portals to create, upload, and communicate and deliver organizers and tax returns digitally, all in an effort to go paperless and eliminate the need to meet face-to-face (Alexander, 2015; Drew, 2015). Though there are some advantages to cloud computing in this respect, cloud services can pose a problem with older clients, resulting in greater client collaboration with multiple touch points and stickier client relationships (Alexander, 2014). Insecurity surrounding new technologies may have a negative effect on the willingness for older clients to support cloud services and increase uncertainty and vulnerability, all of which impede a firms' ability to integrate new innovative technologies (Gupta, 2015; Tsourela & Roumeliotis, 2015). Firms must be aware of impacts that transitioning to the cloud has on client satisfaction in order to successfully integrate these new applications in a way that satisfies the needs and wants of clients. The readiness of older clients to embrace and effectively use new technologies, such as those offered by accounting firms, should be explored as well as primary determinants of such uses (Olson, O'Brien, Rogers, & Charness, 2011; Parasuraman, 2000).

### **Purpose of the Study**

The purpose of this qualitative study was to explore the impact that innovative technologies and cloud computing applications have on client satisfaction and loyalty among older clients of small accounting firms by using the means-end-chain approach to explore the motivations that drive client behavior. The results of this study sought to

understand the experiences of older individuals who have been introduced to cloud computing services by their accounting firm, such as paperless documents, client portals, and mobile applications, by conducting semi-structured interviews. By applying a means-end chain approach to explore the diffusion of innovations theory to novel technologies and the social exchange theory, small accounting firms can achieve better results for cloud adoption and have greater success in their marketing strategies by gaining a systematic understanding of the technology experience of older adults and the forces that are in play in determining the customer-firm relationship.

### **Theoretical Framework**

Fostering productivity growth involves the factoring of technological diffusion (Andergassen, Nardini, & Ricottilli, 2017). The diffusion of innovations theory is explored to explain why and how new ideas of cloud technology are implemented into a society or organization (Rogers, 1976), specifically within the accounting industry. Because individuals will adopt or accept innovation at different time points, earlier adopters tend to have different characteristics than those of later adopters (Rogers, 2003). By understanding the characteristics of older adult accounting clients who have been exposed to the spread of cloud technologies, firms can have greater control and influence on the integration of the innovation throughout their business (Andrews, Tonkin, Lancaster, & Kirk, 2014).

The method best suited to explore the diffusion of innovation among accounting clients to understand these characteristics was a means-end chain approach. An advantage to using the means-end chain theory in this setting was its ability to understand consumer behavior; describing the hierarchical relationship between product attributes,

the consequences, and the personal values these consequences reinforce (Gutman, 1982). This adds to the strength of qualitative research methods because it seeks to explore and understand the effects that cloud services have on client satisfaction. A weakness of this design and method is the role of the researcher, which can introduce subjective interpretations and lead to biased methodology (Ezzy, 2001). These weaknesses will be addressed and minimized as much as possible.

In addition to diffusion of innovation theory, the social exchange theory will be explored to determine whether older adults feel obligated to use new cloud technologies because they feel locked in, or if they choose to because the service offers value and has perceived benefits (Kim, & Son, 2009). Although a broad theory, social exchange theory can help explain the outcomes from interactions between individuals and organization that include trust and the principle of reciprocity (Lioukas, & Reuer, 2015). According to social exchange theory, individuals engage with accounting firms for one of two reasons: they genuinely want to or they believe they have no other option (Kim, & Son, 2009). This is useful in exploring if older adults accept new technologies offered by their accounting firm because they feel it is valuable and beneficial to them or because there is no alternative.

A qualitative method was preferential because it looked at characteristics or qualities, instead of looking at amounts, or quantities, as found in quantitative research. Understanding the thoughts, concerns, and feelings of participants to answer questions regarding cloud services offered by their accountant required the use of qualitative research methods to achieve the desired outcome.

This research about the effects that cloud computing has on client satisfaction will contribute to means-end chain by exploring client behavior. From an economic perspective, clients select means based on maximizing utility; however, behavior may not be rational due to emotional factors (Matook, 2013). Since individuals engage in activities because they expect a particular value from their behavior, the means-end-chain theory is applicable in exploring which personal motives drive behavior related to cloud services and products (Matook, 2013).

### **Research Questions**

New approaches in technology allow accountants to communicate with their clients in an online environment instead of meeting face-to-face. The impact of these cloud services raised the following questions regarding how clients perceive these new innovations and the implications they might impose.

**Q1.** What are the characteristics of older adult accounting clients who prefer the use of online client portals to upload and communicate tax information in regard to tax accounting?

**Q2.** How is the diffusion of cloud services affecting client satisfaction among older adult clients of small accounting firms?

**Q3.** How can cloud services be marketed in order to achieve high client satisfaction regarding accounting?

### **Nature of the Study**

To develop the framework of customer satisfaction of cloud services among older adults, the means-end chain (MEC) was adopted in this study as the method used to explore diffusion of innovations and social exchange theory within the accounting



industry in order to understand how cloud computing tools affect the overall satisfaction of clients who have been introduced to new cloud services and products. This study was exploratory in nature and data was acquired through face-to-face, in-depth, semi-structured interviews using the laddering technique associated with MEC research. Laddering is the standard interviewing method of data collection associated with the MEC theory because it builds value chains with consumers by using their responses to fill in rungs of a ladder, which ultimately forms the value chain (Reynolds and Gutman, 1988; Saaka, Sidon, & Blake, 2004).

The study population consisted of taxpaying individuals age 50 and older, legal U.S citizens, located in St. George, Utah, who have either 1.) Used cloud services offered by their accounting firm, or 2.) Have the option of using such services offered by their accounting firm. The sample consisted of 20 older clients of various CPA firms located in southern Utah, a thriving retirement community. By using a means-end chain approach and qualitative interviewing techniques, theoretical saturation was achieved by using a smaller sample size (minimum of 20), and according to methodological guidance and for purposes of this research design, 20 participants will be selected (Lagerkvist, Ngigi, Okello, & Karanja, 2012; Saaka, Sidon & Blake, 2004). Similar studies that have imposed the MEC approach have routinely used between 20-30 participants in order to reach theoretical saturation (Reynolds & Jamieson, 1985; Van Rekom & Wierenga, 2007). If data saturation had not been reached with 20 participants, more would have been selected until saturation was reached.

The study used convenience sampling, which is a type of purposive nonprobability sampling, to gather information about older client experiences and thoughts about cloud services and new technologies as it relates to accounting. Although convenience sampling can be prone to bias, it is the most practical type of sampling for this study and caution was used in determining a fair representation of the sample population by diversifying the number of accounting firms selected to provide client participants.

### **Significance of the Study**

Accounting firms have the opportunity to utilize cloud technologies to their advantage (Howell, 2015); however, they need to make sure their older clients are also on board. Client satisfaction plays a key role in cloud implementation because CPA's are considered Centers of Influence (COIs) and Trusted Business Advisors (TBA) due to the strategic position with respect to clients' personal and sensitive financial information and the influence they have assisting their clients with important financial decisions (Hartstein, 2013).

This trust and loyalty is crucial with respect to client satisfaction, and firms are recommended to review their client list annually to implement firm strategy and vision due to structural change, size, and expertise (Koziel, 2008). It is important that client satisfaction is understood regarding certain cloud services so that firms can better serve their older clients and enhance their current marketing strategy. Because communication skills are so important when dealing with a new idea regarding technology innovation (Caragher, 2014) and understanding customer preference is difficult to achieve in

marketing (Yang & Chang, 2012), cloud services need to be explored from a client perspective by employing the means-end chain theory.

### **Definition of Key Terms**

**Cloud accounting:** The use of the accounting service without the necessity to install any software or make investments in computer infrastructure (Dimitriu, & Matei, 2014).

**Small business:** As established by the U.S. Small Business Administration (SBA), a small business has less than 500 employees for manufacturing and mining industries and has less than \$7.5 million in average annual receipts for many nonmanufacturing industries (Summary of size standards by industry sector, 2014).

### **Summary**

By interviewing older clients in Utah about cloud accounting technologies and how it affects their satisfaction and loyalty, this researcher was able to help achieve the objective of mapping the future of marketing cloud accounting services to older individuals of small accounting firms. The results of a means-end chain approach can be used to help identify key characteristics associated with diffusion of innovation and the social exchange theory regarding the process of implementing new ideas and initiatives. This also can help firms better understand the needs and wants of their older clientele who may be hesitant to adopting new technologies.

## **Chapter 2: Literature Review**

A comprehensive review of the literature was gathered and analyzed regarding technology readiness of cloud computing services used in the business environment. The purpose of this qualitative means-end chain approach study was to explore how these fairly new services effect client satisfaction and how implementation and future marketing plans can be improved for firms that are transitioning or plan to transition to the cloud. The diffusion of innovation theory and the social exchange theory were first explored, followed by the means-end approach, which was researched to obtain a detailed understanding of its origin and how it can be used to gather relevant information. Several studies using mean-end chain theory were explored and discussed in this literature review.

The literature review revealed the current use of technology and technology readiness among individuals, specifically cloud applications, used by accounting firms worldwide along with the advantages and disadvantages of such services. Next, client satisfaction was explored with accounting firms and the business sector as a whole to determine the role satisfaction plays in small businesses and how it can be measured. Lastly, literature involving marketing and marketing strategies was discussed as it pertains to business and accounting.

### **Documentation**

EBSCOhost, PowerSearch and ProQuest were the two primary library and search engine sources implemented in gathering information from peer reviewed articles and scholarly journals for the literature search strategy of this project, which online databases were provided by Northcentral University. In addition, books and relevant websites that

pertain to cloud accounting and means-end chain theory were utilized in fulfilling the literature review of this exploratory study. The majority of cited sources are considered recent, being published or written within the last five years. Key words and phrases were used to retrieve articles, such as technology readiness, cloud accounting, accounting technology, client satisfaction, client loyalty, accounting marketing, means-end chain theory, and means-end chain approach.

### **Diffusion of Innovation**

Diffusion of Innovations theory was proposed by Rogers (1976) to describe how new ideas are implemented in to a society or organization, with five variables determining the rate of DOI, which are: perceived attributes of innovation, innovation decision process, communication channel, social system and promotion efforts (Hsu, 2016). Simply put, it describes the process in which an innovation is communicated through certain channels among members of a social system over time (Blank, & Valdmanis, 2015). Innovation is considered to be communicated through different stages by various channels as individuals adopt or accept an innovation at different time points (Rogers, 2003). Diffusion of innovation can be passive or active, either altering behavior without always knowing why or where best practice is modelled and communicated (Andrews, Tonkin, Lancaster, & Kirk, 2014).

The value of innovations can be uncertain, and as disappointing innovations with negative values do spread widely, some studies have found that it is temporarily (Greve, 2011). Firms face risk when changing practices patterns and implementing certain innovations because they may or may not enhance productivity or efficiency (Blank & Valdmanis, 2015). For those who are concerned about the risks associated with

innovation might be considered opponents and continue with the status quo because they do not perceive the innovation in the same way as the adopters (Cavusoglu, Hu, Li, & Ma, 2010).

Diffusion studies can be classified into two groups, macro diffusion studies and adopter studies. Macro studies involve mathematical characterization of the rate and pattern of adoption while adopter studies deal with the identification of factors that hinder or facilitate technology adoption (Cavusoglu, Hu, Li, & Ma, 2010). This study seeks to explore the latter of the two, focusing on perceived attributes of innovation, as outlined by Rogers (2003) to be an idea, practice, or object that is perceived as new by an individual.

Several studies have used the diffusion of innovation to explore this phenomenon, such as the advancements medicine has had in the healthcare industry (Andrews, Tonkin, Lancaster, & Kirk, 2014; Harris, Bhatti, & Darzi, 2016), workflow management systems and organization structure (Davis, Hurtado, Nguyen, Huynh, Lindon, Hudnall, & Bork, 2017; Sáenz-Royo, Gracia-Lázaro, & Moreno, 2015), tourism (Agag, & El-Masry, 2016; Dibra, 2015), technology diffusion in developing countries (Tigabu, Berkhout, & van Beukering, 2017), and social networking relationships (Liu & Chang, 2016).

There is a lack of research regarding diffusion of innovation among business firms, especially accounting. Olson et al., (2011) used diffusion of technology to analyze the frequency of use for younger and older adults and found that older adults were more likely to use technologies that have been around longer, however, concluded that there was little evidence that older adults were averse to using technology in a particular domain. Regarding specific attributes with computers, older adults were familiar with

common devices (keyboards, mice), functions (file operations), and windows operation (clicking, scrolling, opening/closing windows), but had limited experience other types of computer attributes, such as with various input devices, computer systems, and software. Although older adults did report frequent use of technologies related to health care, areas that they do not currently use the internet frequently include banking, education, and shopping (Olson et al., 2011).

Another theory that helps explain customer-firm relationships and the motivations that shape social behaviors is the social exchange theory. Popularized by Blau (1964), this theory attempts to explain how social relationships are formed, maintained, and terminated by applying economic principles to social relationships (Miller, 2013; Cropanzano, Anthony, Daniels, & Hall 2017). This theory implies that there are two contrasting forces at play which drive relationship decision making, which are: consumers may choose to continue to use a certain product or service because they feel that it provides value and has perceived benefits, or consumers feel constrained and locked in (Kim, & Son, 2009). As it relates to business relationships, that of client and accounting firm, people seek to maximize rewards and minimize costs, both of which can be tangible or intangible (Cropanzano et al., 2017).

### **Means-End Chain Theory**

The means-end chain theory was first introduced by Gutman (1982) to describe a hierarchical relationship between product attributes and (the means), the consequences (benefits) and the personal values (the ends) these consequences reinforce. This theory is useful because it analyses consumers' perceptions at different levels, usually at the lowest attribute level, later being systematically linked with the consequences and values level

(Kang, Kang, Yoon, & Kim, 2013). Yang and Chang (2012), note that MEC theory can be thought of as a predominant approach to understanding consumers' product knowledge within the marketing field.

Although the use of the MEC theory is widely used in the business sector (Lin & Yeh, 2013; Pai, & Arnott, 2013), the theory has also been used to study motivational factors in a variety of other fields, such as travel and tourism (Jiang, Scott, & Ding, 2015; Nunkoo, & Ramkissoon, 2009), food and agriculture (Lagerkvist, Ngigi, Okello, & Karanja, 2012; Kitsawad, & Guinard, 2014), and education (Lin, Lin, & Hung, 2015; Lin, & Tu, 2012). MEC theory is suitable for a diverse range of marketing applications, including: benefit-based market segmentation, promotion of products, development of advertising strategies, analysis of consumer goals and customer expectations, industrial marketing, financial engineering, and analysis of consumer perceptions of various products (Kaciak and Cullen, 2009). Some feel that means-end chain theory has been relatively neglected and not widely used in business to business research (Henneberg, Gruber, Reppel, Ashnai & Naudé, 2009).

Gutman (1982) stated in his landmark paper that there are two fundamental assumptions about consumer behavior, which are: "(1) that values, defined here as desirable end-states of existence, play a dominant role in guiding choice patterns, and (2) that people cope with the tremendous diversity of products that are potential satisfiers of their values by grouping them into sets, or classes, so as to reduce the complexity of choice." (p. 60). The author also assumes that consumer actions have consequences and that consumers learn to link such consequences with actions.



Shortly after Gutman released his means-end chain model article (1982), he teamed up with Thomas Reynolds to write *Advertising Is Image Management* (Reynolds & Gutman, 1984). The authors strived to address the following research issues in a methodological perspective: (1) How to tap into an individual's network of meanings? (2) How to explore this structure in terms of content or levels of abstraction and determine the linkages between these levels? (3) How to identify the common framework across respondents that can be used to summarize the data reflecting perceptual orientations across brands? (4) How to translate these perceptual orientations into advertising strategy? (p. 30). The article also reiterates that the means-end chain model is crucial because focusing on the attributes only is not the way to understand behavior. Consequences and values must be identified in order to understand personal-value systems of consumers (Reynolds & Gutman, 1984).

Businesses and firms often want to entice action. One study sought to find out how internet web pages can evoke positive buying behaviors (Lai, Chong, Ismail, & Tong, 2014). A means-end chain approach found that shoppers mention quality of photographs as the number one attribute that evokes familiarity, which enhances the consumer experience. Other attributes such as navigation menu, website arrangement, and security features were found to elicit values such as confidence and pleasure.

Laddering, which is the most extensively applied method of collecting data for MEC studies, is an in-depth interviewing technique used to help understand how and why consumers link certain attributes to personal values (Lin & Yeh, 2013; Reynolds, & Gutman, 1988). The three stage process begins with selecting the relevant attributes about cloud technologies such as web sites, scanners, and email, followed by an in-depth

interview and, finally, the analysis of the ladders produced to determine the personal values that have been uncovered (Barrena & Sánchez, 2009). The objective of laddering interviews, first introduced by Hinkle (1966), is to develop a hierarchical network of meanings using a bottom-up process of questioning, starting with lower-level questions and ending with questions regarding higher-level values, essentially filling in each “rung” of the ladder (Joan & Thomas, 2009). This allows the construction of the “attribute-consequence-value” chain by learning how consumers connect product attributes to personal consequences and terminal values through the building of a value chain (Reynolds, & Gutman, 1988).

Wansink (2003) compares laddering to a psychologist interviewing a patient on a couch because the objective is to get to the root of the problem through questioning, perhaps revealing insights into their lives that are not apparent. The value chain map is a matrix constructed from the series of linkage ladders across respondents, making distinctions from attributes, consequences, and values (Reynolds & Gutman, 1984). One of the more difficult functions of constructing a HVM is determining where each cut-off point level should be as to include only the most important and frequently mentioned associations (Barrena & Sánchez, 2009).

Laddering interviews, usually lasting at least 30 minutes, can require considerable physical and mental effort from respondents in order to produce one ladder after another until all concepts are exhausted and the researcher is unable to provide any new ones because the procedure continually asks why (Kaciak, Cullen, & Sagan, 2015). In order to discover chains of attributes, consequences and values, questions such as “Why is that important to you?”, “Why is that?” and “Why do you think so?” are asked repeatedly

until respondents could no longer answer. This allows the researcher to get a deep understanding of the underlying emotions that drive choice (Lin and Yeh (2013).

Theoretical saturation is reached when respondents are unable to provide any new categories, as is the case in most qualitative research techniques (Guenzi, 2015).

In a study exploring user adoption of social networking sites, Pai and Arnett (2012) used laddering interviews to explore both explicit and implicit choice criteria by probing “why” questions. This method took the respondents up the ladder from concrete attributes to abstract values. The authors were able to deepen the understanding of social networking sites (SNS) users’ behavior by providing a detailed interpretation from the laddering interview data.

In a similar study, researchers used laddering interviews with a means-end chain approach to identify six key attributes as to the travel motivation of Chinese outbound tourists, which are: natural scenery, relaxation, self-realization, personal interests in history/culture/art, observe different cultures, and shopping (Jiang, Scott, & Ding, 2015). The results of such a study can be used by the travel industry to better market their services and provide a better experience for their customers.

In addition, Lin and Yeh (2013) were able to perform a study that provides a better understanding of the consumers’ perpetual orientation toward store image by utilizing laddering interviews to link merchandise display attributes to perceived store image, thus finding the links between the attributes to personal values. Attributes such as clean and neat, spacious layout, stylish clothing, and colorful display were linked to values such as self-esteem, happiness, and satisfaction. The authors noted that their study could be used to improve consumer satisfaction by identifying attributes that are

perceived to affect image values from the point of view of the consumer. During the laddering interview process, Most published means-end studies use what's called "soft" laddering interviews, which is based on an unstructured interview where respondents are minimally restricted (Henneberg et al., 2009; Kang, Kang, Yoon, & Kim, 2013). This type of laddering is also more often employed when the sample size is low (<50) (Lagerkvist, Ngigi, Okello, & Karanja, 2012). The second type of laddering is referred to as "hard" laddering, where respondents are restricted to one answer and subsequent answers tend to be more abstract (Henneberg et al., 2009; Lee, Chang & Liu, 2010). Henneberg et al. (2009) opted to use hard laddering in their study because it can reduce interviewer bias and minimize social pressure on the respondents. In addition, it is also cost and time efficient and its data can be analyzed quicker. Kang et al., (2013) note that hard laddering overcomes certain limitations of soft laddering, namely validity and reliability problems. Nevertheless, some criticize hard laddering arguing that respondents might not reach high levels of abstraction because the interviewer does not probe enough (Phillips & Reynolds, 2009).

Some studies use questionnaires to gather data prior to the laddering interviews to establish primary talking points and relevant issues. Matook (2013) performed a mixed methods study to provide insights into the process of achieving goals within networks. The study conceptualized means-end chains that identified user motivation toward technology by creating an implication matrix. Studies, such as this one, can aid designers, marketers, and providers of information systems to design and promote better systems for their users.

Most studies that utilize hard laddering utilize online questionnaires to gather data

from respondents instead of pen-and-paper due to the flexibility, interaction, and appealing design that online versions can offer (Henneberg et al., 2009; Jägel, Keeling, Reppel, & Gruber, 2012). Some forms of hard laddering can even be abbreviated to shorten the interview time while still producing 80% of the ladders that a full approach would generate (Kaciak, Cullen, & Sagan, 2015). Kaciak and Cullen (2009) earlier noted that the benefits of abbreviating a laddering survey can minimize respondent fatigue, boredom, irritation, non-response and failure to complete, all while increasing the quality of data collected.

### **Technology Readiness**

As the world economy transitions from a goods-based economy to one of value creation, services are increasingly essential and requires companies to understand how services should be designed, delivered, and supported (Bardhan, Demirkan, Kannan, Kauffman, & Sougstad, 2010). Technology readiness (TR) is a common term that refers to peoples' proneness to embrace and use new technologies for accomplishing goals (Parasuraman, 2000; Tsourela & Roumeliotis, 2015). Technology readiness of customers is crucial in the trial stage of implementation and can help manage the link between customer and technology (Gupta & Garg, 2015).

Because advanced technologies have enabled accounting firms to streamline processes firm wide, Gerber and Root (2011) insist that accountants should take the time to explain the steps of a platform or procedure change to the client along with the benefits. This could be a cross-the-board change, however it is safer to identify a select group of clients willing to try new services and systems to identify the pros and cons during the testing phase (Ask the Expert, 2015). Concerns about privacy and security,

lack of interoperability and information-sharing across systems are the primary barriers to adoption (Marchibroda, 2015). As for firms themselves, it is also recommended that in order to implement new technology, accounting firms need a staff member to use nonbillable time to the dedication and implementation of cloud services and document processes and procedures to ensure success (Ask the Expert, 2015).

A technology readiness index (TRI) is a tool that has been constructed to group people into distinct segments on the basis of technology readiness and translates the overall mental state of a person regarding technology in general (Ferreira, da Rocha, & da Silva, 2014; Parasuraman, 2000). Gupta and Garg, (2015) studied technology readiness among the Indian internet banking industry to assist businesses in developing its technology strategy as to aid in the success of its adoption. Starting in 2003, the U.S. Department of Defense endorsed TRA's and knowledge-based practices to assess program acquisition risk and identify key components (Bailey, Mazzuchi, Sarkani, & Rico, 2014).

There are four variables related to technology readiness, which are: optimism, innovativeness, discomfort, and security (Astuti and Nasution, 2014). Optimism and innovativeness are considered drivers of technological readiness, while discomfort and insecurity deter technological readiness (Gupta & Garg, 2015). Focus groups that express positive themes include flexibility, convenience, efficiency, and enjoyment, while negative themes include security concerns, risk of obsolescence, lack of personalization, and lack of control (Parasuraman, 2000).

As new technologies surface in the marketplace, consumers struggle to comprehend the usefulness of them and identify with them emotionally (Ferreira, da

Rocha, & da Silva, 2014). Young consumers in Brazil were studied and found to be more driven by emotions in their adoption decisions and results suggested that companies promote their high-tech products to consumers that have a high TI (technology index) score (Ferreira, da Rocha, & da Silva, 2014). Targeted marketing campaigns to these types of consumers would most likely increase the chances of successful adoption.

As schools increasingly implement computers into the educational system, young people are getting greater exposure to technology (Harris, Straker, & Pollock, 2013), thus having a positive effect on technology readiness. Because young people are more and more accustomed to technology driven learning and information retrieval, they inherently seek after and demand more interactive and constructive approaches to learning (Antoun, Nasr, & Zgheib, 2015). For teaching institutions, usage of e-learning, experience in and attitude towards the choice of learning mode are critical factors in assessing computer literacy, especially among adults (Vilkonis, Bakanoviene, & Turskiene, 2013).

One reason for this is mainly due to mobile technology and a decrease in its cost and that it is essential to develop an understanding of students' attitude towards online learning in order to develop an appropriate online learning environment (Iqbal and Bhatti, 2015). The experience and expertise of technology tools of online instructors also influence the quality of information presented (Gay, 2016). Ismail, Bokhare, Azizan and Azman (2013) studied the use of mobile phone technology implementation in schools to see whether teachers' acceptance of technology could influence its readiness, finding a positive correlation.

The healthcare sector has also provided research regarding technology readiness, specifically with physicians and medical staff (Melas, Zampetakis, Dimopoulou, &

Moustakis, n.d) as well as elderly patients and clients (Depatie and Bigbee, 2015; LeRouge, Van Slyke, Seale, & Wright, 2014; Marchibroda, 2015) Depatie and Bigbee (2015) researched mobile health technologies among rural older adults in California, finding that ease of use, convenience, and affordability were important facilitators that would promote adoption. Marchibroda (2015) confirmed these attributes in his study adding that social and functional needs need to also be addressed aside from health needs.

Baby boomers were studied in the research of LeRouge et al. (2014) to examine technology readiness for health purposes and investigate barriers of use. They found that baby boomers are ready to use technologies such as health information websites, email, automated call centers, medical video conferencing, and texting, however; found that they are less ready, compared to the younger age group, to adopt technologies such as podcasts, kiosks, smartphones, blogs, and wikis for health care purposes (LeRouge et al., 2014).

### **Cloud Computing**

A review of the literature on the benefits of accounting firms moving to online cloud-based applications showed that researchers are unanimous that cloud computing is an innovative approach that increases productivity and efficiency (Alexander, 2015; Gest, 2014). Although Daylami (2015) states that cloud computing is not so much a definition as it is a trend in service delivery, the National Institute of Standards and Technology (NIST) define cloud computing as “a model for enabling convenient, on-demand network access to a shared pool of configured computing resources (for example, networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service-provider interaction” (Mell & Grance, 2010,



p. 50). Although outsourcing infrastructure has been around since the 1980's, cloud computing has recently been dubbed as the “next-best-thing” in information and communication technologies and is still in its early stage (Nadjaran Toosi, Calheiros, & Buyya, 2014; Vaquero, Rodero-Merino, & Morán, 2011).

The existing studies have sought to identify the factors involved with the adoption of cloud services, such as its advantages and benefits (Alexander, 2014; Christauskas & Miseviciene, 2012; Hui & Yu, 2010; Lee Elm & Broderick, 2015; Maha, Mona, & Ahmed, 2016), the recent growth it has sustained (Drew, 2015), the inherent risks involved (Alali & Chia-Lun, 2012; Ren and Gu, 2014), its use in education and teaching (González-Martínez, Bote-Lorenzo, Gómez-Sánchez, & Cano-Parra, 2015; Oddone, 2016), and the awareness of cloud computing capabilities among accounting practitioners (Tarmidi, Rasid, Alrazi, & Roni, 2014; Yigitbasioglu, 2015). Cloud-based services and apps can save time and money and are available for nearly every accounting business task, therefore, becoming an essential tool for many businesses (Hossack, 2015).

With its ability to solve problems using lower cost IT resources without long-term commitment (Maha, Mona, & Ahmed, 2016), Tankersley (2012) acknowledges the important role that cloud-based services has on payroll and other accounting services typically offered by firms, stating that these services allow the client, the firm, and the payroll service company to work together in fulfilling the business requirements of the client. While these procedures have been proven effective, the author recommends that firms start by trying cloud-based tools on a small number of clients first.

This is evident in a recent biennial survey conducted by AICPA Private Companies Practice Section (PCPS) and the Texas Society of CPA's (Drew, 2015). The

data was organized into the Management of an Accounting Practice (MAP) and concluded that the majority of firms (90%) feel that cloud computing is the future and will be a key differentiator among accounting firms in the next five years. The article points out the upward trend in technology use over the last few years to automate certain business functions and create a more efficient workflow.

A key advantage to utilizing the cloud is disaster and recovery backup (Carson, Botter & Krujelskis, 2013; Hart, 2016). This allows a quick recovery in the event of a major crash or damage to the facility. For this purpose, most cloud services replicate the data to different geographical locations in an effort to guarantee that all is protected from any unforeseen event (Carson, Botter & Krujelskis, 2013). Ren and Gu (2014) add by stating the key advantages of cloud computing as it relates to accounting modernization systems, such as: reduced cost of implementing accounting modernization, improved efficiency of the application of accounting modernization, meet the flexible business needs of accounting modernization, help improve the status of the management of accounting modernization, and promote the accounting modernization to realize the full integration applications. Reinforcing global agile development, software testing support, virtualization, continuous feedback, transparency, traceability, and predictability are also features of cloud computing (Younas, Ghani, Jawawi, & Khan, 2016). Hart (2016), however, controversially cautions that using the cloud isn't necessarily cheaper and can actually cost more.

The National Institute of Standards and Technology, an agency designated to hasten the federal government's secure implementation of cloud computing (Cloud Computing Can Assist Workers with Disabilities, NIST Reports, 2016), has identified

five essential characteristics in a cloud model that promotes availability, which are: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service (Mell & Grance, 2010). In addition, they outline four deployment models: private cloud, community cloud, public cloud, and hybrid cloud.

Besides using software as a service (SaaS), other offerings include infrastructure as a service (IaaS) and platform as a service (PaaS), however, this study will be primarily dealing with software as a service as it is the most common and helpful for small businesses (Dimitriu, & Matei, 2014; Mell & Grance, 2010). SaaS is a software distribution model where applications are hosted by a vendor or software/service provider via the internet using a pay-per-use model, usually in the form of a subscription (Christauskas & Miseviciene, 2012; Vaquero et al., 2011; Yigitbasioglu, 2015). Carson, Botter and Krujelskis (2013) emphasize that because SaaS services are mass-marketed, they often have no guarantee of dependability. Unlike private clouds, where a single organization provisioned for cloud infrastructure use, public clouds allow for the use of the cloud infrastructure to be made available to the general public (González-Martínez et al., 2015). A mix of these two cloud infrastructures is referred to as a hybrid cloud.

Three different SaaS cases among different industries were recently analyzed and concluded that the two main attributes that determine whether a firm changes to cloud-based SaaS from its on premise software is the customers' requirements involving software security and customization (Goutas, Sutanto, and Aldarbesti, 2016). Furthermore, they found that the three firms studied utilized the cloud using different strategies to compete in their respective industries (Goutas, Sutanto, and Aldarbesti, 2016). A major advantage to cloud-based services such as SaaS is its ability to provide

remote access, allowing for anywhere, anytime, any device access when implemented correctly and may also be divided into five layers: client, application, platform, infrastructure, and server (Johnston, 2016; Shun-Jhe and Chung-Tai (2016).

Although some argue that less attention has been paid to the unique features of SaaS (Chou & Chiang, 2013), SaaS products include: expense reporting, bill payment, office 365, google docs, portals, credit card and ACH, and accounting and payroll software, which are all widely used by accounting firms because they save time and have rates that should have a positive ROI (Johnston, 2016). In order for vendors to motivate users to use SaaS, it's important to show its ability, goodwill, and contractual promise keeping given the importance of security and privacy (Chou & Chiang, 2013). Ultimately, the underlying factors that determine how firms embark on SaaS cloud-based products and services are the characteristics of the firm's industry environment, internal digital capabilities, and target clients' requirements (Goutas, Sutanto, and Aldarbesti, 2016).

One study found that there are five factors that influence the usage of cloud computing by small businesses, which are: ease of use, security, cost reduction, reliability and sharing and collaboration (Gupta, Seetharaman, & Raj, 2013). Research was done by the Cloud Accounting Institute (as cited by Brandas, Megan, & Didraga, 2015) that found that the use of cloud computing was most prominent among accounting/financial management with 74% planning to acquire SaaS solutions to simplify software management, reduce capital and/or operating costs, and promote speedy implementation. In the same study, top concerns for cloud implementation were security concerns, integration challenges with other applications, total cost concerns, and application

performance. Johnston (2016) notes that cloud applications can have long-term cost saving benefits even though initial costs can actually increase. It is advised that firms look at the benefits for the costs and run their own numbers before implementation and that they don't follow the fad without understanding the implications of the technology (Johnston, 2016; Yigitbasioglu, 2015).

Flexible app-based solutions, such as Reckon One, allow users to access on any device and its interface radically simplifies workflow and ease of use (Kevany, 2015). Examples such as Office 365 for email and conferencing are run in the cloud because there is no need to install and maintain them on local hardware. Other popular companies that offer cloud accounting tools are: Bill.com, QuickBooks Online, Xero, FreshBooks Cloud Accounting, Sage One and Wave Accounting (Tankersley, 2012). These solutions are viewed much more than just cost-cutting tools for information technology, but as part of utility computing (Keskin, & Taskin, 2015). The use of mobile applications (APPS), which is a type of software, has become a mainstream part of smartphones and also allowed cloud-based services to be accessed conveniently from virtually anywhere (Shun-Jhe & Chung-Tai, 2016). Smartphones and tablets can now capture, store and organize digital images of receipts and invoices, which make tracking and payment of receivables and payables easy and convenient (Tankersley, 2012).

It has also been found that firm size plays a role in usage rates for certain types of software. Drew (2015) points out that the majority of large firms, at least \$1.5 million in revenue, have a formal technology strategy that's tied to the firm's overall strategic plan and smaller firms tend to outsource certain IT solutions such as scheduling software and work flow/document management. The author adds that virtually all firms regardless of

size use tax preparation and bookkeeping software. However, one study shows that developing countries are lagging in familiarity with cloud computing due to a lack of need for this new technology (Tarmidi et al., 2014).

The development of electronic banking and its progression to mainstream has also been researched (Rahi, 2015). Like that of cloud computing for accounting purposes, the banking industry has also gone through its difficult advancements towards a safe environment where sensitive information is safeguarded at all levels possible. In Rahi's (2015) research, the author also writes about customer loyalty, stating that it has a direct impact on company sales and is necessary for successful competition in all types of businesses. Screen-scraping is a risky practice to generate bank feeds in some cloud accounting systems that allows a third party access to company bank accounts in order to make copies of their transactions and later supplying them to their accounting services provider (Gardiner, 2013). Online banking and mobile payment acceptance has changed the way companies pay for everything, and with the help of accounting software vendors such as Inuit Payments, Sage Payments, PayPal, and Square, innovative tools can save time and provide more rapid access to funds (Tankersley, 2012).

Earlier studies reveal the risks involved with early adoption of cloud computing (Alali & Yeh, 2012; Hui & Yu, 2010), however, more recent research brings to light the progression of technology, specifically with its advancements in security. For example, sensitive data is stored in world-class data centers with fortified concrete walls, steel doors, and retina scans needed for entry, which is quite safer than the traditional on-site storage that many businesses still use (Collins, 2015). In addition to physical constraints,

world-class firewalls, state-of-the-art anti-virus technology, and continues backups offer protection from potential online hacking (Collins, 2015).

For small and medium-sized businesses, these solid built protections built in million dollar infrastructures offer a service that is simply cost prohibitive for most businesses (Howell, 2015). Large data breaches often make headline news; however, data thefts at single firms usually go ignored (Hart, 2016). The author adds that most data vendors are 100 times more secure than keeping files in one's office with only a door lock guarding it. In an attempt to play offense on the matter of cyberattacks, Askew (2012) recommends that professionals assume their network will be hacked and attempt to identify the most at risk information in order to ensure that it is highly protected.

Data backup and storage is one of the main components of cloud usage among accounting firms (Alexander, 2015), with surveys showing that security issues, such as managing and retaining data, are a top technology priority by accounting professionals due to the mass movement of confidential information to the cloud (Drew, 2013). According to the Internet Data Center (as cited by Ren and Gu, 2014), 87.5% of users believe that security is the biggest obstacle for the use of cloud-related services. With security being a major concern, some cloud customers will base their decision on whether or not to use the service on the confidentiality and integrity of the cloud provider (Maha, Mona, & Ahmed, 2016). In many cases, cloud computing decisions will result in the need for additional (or modified) governance and audit activities, involving the attention of board and executive members (Schmidt, Wood, & Grabski, 2016). A useful technique to check the reliability and integrity of outsourced data is Remote Data Auditing (RDA),

where public auditability for the stored data in the cloud is enabled (Sookhak, Gani, Talebian, Akhunzada, Khan, Buyya, & Zomaya, 2015).

A visible concern for the cloud computing industry in the U.S. is the passing of the Patriot Act shortly after the terrorist attacks in 2001, which can force companies to turn over data to the U.S. government without notice to the customer (Ryan, 2014). This now squarely puts the obligation for data security and protection of personal and sensitive information stored in the cloud in the hands of the cloud service provider, which, depending on where they are located, can subject them to the laws of many jurisdictions (Bennett, Daley, & Gerlach, 2012). Under The Patriot Act, authorities can also request user information for reasons other than terrorism or espionage (Carson, Botter, & Krujelskis, 2013).

Some have argued that security is the most relevant item that is impeding widespread adoption of the cloud (Vaquero et al., 2011). In addition, heterogeneity is also a crucial problem according to Nadjaran Toosi et al. (2014). It is recommended that storage providers should meet at least two requirements according to Alali and Yeh (2012): (1) well-defined controls should be implemented to prevent unauthorized access such as applying encryption schema, and (2) providers should maintain safe storage of the backup media and schedule regular data backup. It is recommended that files be encrypted prior to storing in the cloud, with companies such as Boxcryptor and MEO File Encryption Software (Lee Elm & Broderick, 2015).

According to Gartner, Inc. (as cited by *Cloud email gaining traction worldwide*, 2016), in the global business environment, 13% of publicly listed companies use cloud email vendors, the two most popular being Microsoft Office 365 and Google Apps for



Work. Although cloud email is still relatively new and few companies utilize it (Gohring, 2016), this growing trend has upward mobility (Willett & Von Solms, 2014). Preimesberger (2016) writes about deploying hybrid clouds, which utilizes a mix of on premise, private cloud, and third-party cloud services, creating a cloud environment where all services orchestrate together between the platforms.

The Secure Mail using Cloud Software as a Service (SMCSaaS) was proposed by Maha, Mona, & Ahmed (2016) that imposes extra security features not found in the traditional e-mail system. Primarily, the SMCSaaS has a two-factor authentication instead of a single factor authentication and uses a Private Key Generator (PKG), making the decryption unable to be performed without user identity involvement (Maha, Mona, & Ahmed (2016). Some promote the use of traditional cloud email even with its security and privacy flaws. Geer (2011) cites the many benefits it can offer to Universities, such as no cost and the ability to avoid or shrink email server backups, support time, and off-load maintenance.

Additionally, colleges could bypass the need for server-based anti-virus, anti-spam and email filtering products, all of which are necessary with onsite email installation (Geer, 2011). Willett and Von Solms (2014) researched the role cloud email plays in higher education in South Africa, concluding that cloud-based email is gaining traction internationally as a viable way to reduce costs, have larger inboxes, and take workload off of email administration. González-Martínez et al. (2015) bring to light other ways cloud computing is contributing to education such as enabling learning applications otherwise unfeasible or expensive.

Other additional security measures can be taken to ensure a high level of protection, such as secure use authentication, reasonable monitoring to detect unauthorized access, up to date security software, and adequate training and education of employees (Askew, 2012). Filtering is another type of defensive standard that can be employed in order to safeguard and scale for security gains, which involves patch management and hardening of virtual machine instances and hypervisors (Maha, Mona, & Ahmed (2016).

Cloud storage and backup is crucial and firms need to have a retention-policy in place to purge old files (Drew, 2015). In the accounting industry, seven years is the standard policy for data and file retention, however, studies have found that one third of small firms don't have such policies in place, which can lead to privacy law and compliance implications (Drew, 2015). Aside from file retention policies, other security issues related to cloud services include a lack of uniform safety standards, data sovereignty, migration, transport security, and disaster recovery (Ren and Gu, 2014).

Even with advanced controls in place, cloud-based services can alter the risk profile of any organization (Rittle, Czerwinski, and Sullivan, 2016). For example, with most data storage services, data is stored and housed on the same physical equipment as other organizations, which if figured inappropriately, could result in data leaks (Rittle, Czerwinski, and Sullivan, 2016). As a result, the authors advise that a cloud security strategy should be put in place by all IT departments and business units, including the type of data that should be stored in the cloud and how its security will be enforced. Some of the most common cybersecurity risks involve careless employees who use weak passwords or share passwords with others and the use of hardware that is poorly

protected against viruses (Bhansali, 2016). Cloud computing vendor's technical problems also pose a risk since providers rely on a large number of users to increase their economic efficiency (Ren and Gu, 2014). Although most security problems reflect traditional web application and data-hosting problems, access control mechanisms are essential in controlling potential attacks (Vaquero et al., 2011).

Storing sensitive data in the cloud also has ethical implications. Ethical standards have been established by The American Psychological Association (APA) regarding the physical and digital patient information and recommend that storing data in the cloud should be disclosed as a matter of informed consent (Devereaux, & Gottlieb, 2012). Professionals are also required to maintain competency by staying abreast of any changes, including the benefits and risk associated with relevant technology as well as ensuring that client confidentiality is not violated (Lee Elm, & Broderick, 2015). Mendez (2013) advises against using the popular cloud storage service known as Dropbox because Dropbox maintains the encryption keys, thus leaving unencrypted files vulnerable to theft or misuse.

Another potential risk to cloud adoption is its lack of personal interaction. Stone and Lightbody (2012) found that face-to-face meetings are the most effective media to achieve a shared understanding, which can pose a threat to client satisfaction because most cloud computing applications eliminate the need for face-to-face communications. Videoconferencing has been increasingly utilized to enable face-to-face communication in recent years due to modern advances in technology and exceeding needs for increased efficiency and cost savings (McDonald, Morgan & Metze, 2016). However, on the contrary, Younas et al. (2016) point out that cloud computing solves the

problems that arise of knowledge sharing and work sharing due to distance by providing different services such as software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS).

As businesses migrate to the cloud, continual oversight should be maintained to affirm everything is still up to par and the cloud vendor is delivering what is being paid for (Velte, Velte, & Elsenpeter, 2009). There is several performance monitoring tools for cloud computing that can frequently check certain variables, including: connection speed, datastore delete time, datastore read time, deployment latency, and lag time (Velte, Velte, & Elsenpeter, 2009).

### **Client Satisfaction**

Businesses depend on positive client satisfaction in order to survive and thrive in today's competitive business environment and extensive research has been done on client satisfaction and customer loyalty (Oliver, 1999; Olsen, 2002; Rahi, 2015). Furthermore, customers are becoming more demanding of service providers which are driving the need for client relationship to enhance the quality and acceptance of services and products offered by firms (Webber, 2011). Ding, Hu, and Sheng (2011) reference the importance of client loyalty to a firm's survival noting that loyalty requires improving the customer's experience. Research has found that increased cash flow, revenue growth, profitability, market share, and stock price have all been a result of higher satisfaction (Anderson, Fornell, & Mazvancheryl, 2004; Williams & Naumann, 2011). Loyalty is the result of highly satisfied customers, which logically leads to clients staying longer and spending more (Williams & Naumann, 2011).

An earlier study by Olsen (2002) proposed a "Satisfaction-Loyalty Model" that is

consistent with expectancy theory, where the author argues that quality can be the predictor of satisfaction. This was later validated by the research by Human and Naudé (2014) where results confirmed that the perceived quality of products and services increase relationship satisfaction. This also agrees with a study by Cater and Cater (2010), who clarifies that exchange relationships are built around a product, and in order to continue the relationship the product must meet their standards and add value in some way.

The complex phenomenon that is loyalty has been studied and explored, with numerous researchers focusing on the relationship between clients and their tax practitioner, particularly focusing on trust and loyalty (Chou & Chiang, 2013; Day, 2008; Gupta, 2015; Hartstein, 2013). The authors conclude that success depends on delivering a great service or product while educating the clients. An article by Haylock (2012) asks the question ‘why do clients leave?’ discussing that the four key reasons are unmet expectations -failing to deliver the top service that was promised, unexplained fee increases -fees stay the same and then there is an unreasonable and unexpected increase, lack of regular contact -small clients perceive the accountant is only interested in other larger clients, and uncertainty over deadlines/late completions of work -clients get frustrated when they don’t know what’s going on and when it will be done.

The goal of client satisfaction is to retain existing clients while enticing new ones. There are several articles that offer tips and advice as to how to keep existing clients as well as solicit new ones (Davids & Newcomb, 2006; Eisenstaedt, 2010; Gray, 2015), however, none touch on the topic of cloud computing. Berson (2009) wisely notes that it costs more to acquire a new client than it does to keep an existing one. Oliver (1999)

expands on loyalty phases and corresponding vulnerabilities by defining four stages: cognitive, affective, conative, and action. The vulnerabilities associated with each stage depend on the nature of the customers' commitment. These vulnerabilities not only affect products, but also services offered by firms.

Service quality assessment can be more complex than that of a product due to its inherent characteristics (Momparler, Carmona & Lassala, 2015). A client will typically become dissatisfied when the services available to them do not meet their needs and expectations, thus causing them to switch to a different firm (Bardhan et al., 2010). Gray (2015) touches on the subject of how to please the big clients, advising that firms should listen in order to understand because the risks are bigger with bigger clients if things don't go well.

Regarding accountants, specifically tax practitioners, one study interestingly found that clients dislike detailed explanations and information about tax issues, implications of tax laws and regulations, risks associated with particular issues and obligations under the law (Gupta, 2015). The author believes that clients prefer that their tax practitioner make the best judgement on their behalf because of their understanding of the clients' tax service needs. This, however, does not imply that tax practitioners should not keep detailed working papers and notes (Gupta, 2015). In addition, the degree of satisfaction that is generated highly depends on the person carrying out the work (Momparler, Carmona & Lassala, 2015). This suggests that tax practitioners need to be knowledgeable and have professional competence in order to garner satisfaction and loyalty from their clients.

Software as a service (SaaS) model is the most common type of platform to

deliver applications to end users over a network (Goutas, Sutanto, & Aldarbesti, 2016). With the issues involving security, business applications are extremely susceptible to malware and infections and thus affecting client satisfaction. Goode, Lin, Tsai, and Jiang (2015) were the first to observe the relationship between SaaS and client satisfaction. Their study reviewed prior studies related to security and found that while security is important to client satisfaction, there are no empirical studies that validated the relationship. Secondly, the authors found that security does have a significant effect on satisfaction but only when it is intervened by perceived value. Security, therefore, is seen by clients as a valuable addition to the service complement and introducing a variety of security features does not typically lead to a more satisfied client (Goode et al., 2015).

Studies measuring the effectiveness of SaaS models are limited. Lee, Park, and Lim (2013) used a balanced scorecard approach to evaluate SaaS provider satisfaction using four measures: learning and growth, internal business processes, customer performance, and financial performance. The study found that small and medium sized enterprises use SaaS to strategically fill a gap in information system resources and capabilities. Kim, Hong, Min, and Lee (2011) used system quality, information quality, and service quality to develop a satisfaction model to identify and understand the critical precursors of the application service continuance.

Although technology has changed how accountants interact with their clients, small business advisory research has found that verbal communication is the preferred method of communicating (Stone & Lightbody, 2012). Listening skills, including attentiveness, responsiveness, and reflective listening can all be utilized in face-to-face meetings due to the transmission of important non-verbal cues (Stone & Lightbody,

2012). As firms transition to the cloud, moving away towards face-to-face exchanges can cause problems for certain clients. Alexander (2015) suggests transitioning slowly, perhaps with just a select few or even one client as a test run, when it comes to moving clients to a new way of doing business or a new system.

Technology-based services have had a positive contribution to the health-care industry as researched by Wang, Cheng, and Huang (2013). They found that in order to have a favorable hospital image and a high level of patient satisfaction, it is important to facilitate favorable patient-perceived technology-based service encounters. The study also reveals that hospitals should provide patients with high-quality technology-based services to make them feel satisfied with the nonmedical services in order to develop a high level of loyalty.

Similarly, customer satisfaction was researched from the viewpoint of the customer in a study that advanced the theoretical understanding of a projects' success (Williams, Ashill, Naumann & Jackson, 2015). The authors acknowledge that an important component of corporate strategy is becoming more customer-centered. Their study found that relationship quality is an important driver of satisfaction and that interpersonal relationships are essential in business-to-business contexts to achieve customer satisfaction (Williams et al., 2015).

One of the main factors that hinder client satisfaction is firm workload compression, which is the demand and work pressures that can especially arise due to the *busy season* (Is Your Firm Getting Crushed by Workload Compression?, 2016; López, & Peters, 2011). According to a survey from members of the CPA Firm Management Association (as cited by the article *is Your Firm Getting Crushed by Workload*



*Compression?*, 2016), 91% responded that workload compression is major concern within their practices, which can affect firm morale, employee health and wellness, quality control, reduced client satisfaction, and employee retention. The article recommends streamlining the client roster by examining the client base to determine which clients are right or valuable for the accounting firm. López and Peters (2012) write that job burnout and the behavioral-based research on work pressures, specifically within the auditing field, can have a substantial impact on job performance and quality, often leading to dysfunctional behaviors.

The challenge of workload compression also correlates with cloud-based services as suggested by Tankersley (2012), where he states that the cloud can help avoid bottlenecks in the firm and allow for meeting deadlines and client expectations. This allows for clients to obtain more relevant and timely data such as real-time financial information, all of which add value to the customer (Tankersley, 2012).

The effects of client satisfaction and consulting were explored, finding that firms' should adopt systems to improve the quality of implementation processes (Lassala, Carmona and Momparler, 2016). This agrees with the notion of using cloud based services as a way of streamlining efficiency and increasing productivity (Alexander, 2015; Gest, 2014; Gerber & Root, 2011). Other factors that improve customer satisfaction are through the professionals' qualification, experience, knowledge, and initiative (Lassala, Carmona and Momparler, 2016).

Social identity theory involves the classification of individuals into various social categories and can develop the perception of "belonging" to an organization (Ashforth & Mael, 1989). Webber (2011) explored social identity theory among project managers

who maintain client relations in the service sector. In other words, can managers have a perception of belonging to not only the organization they work for, but also the service organization? The findings conclude that effective project managers can have dual identification and that it does lead to fostering a more satisfied and loyal client (Webber, 2011).

As research identifies the importance of meaning and emotion in organizational life, the way of accounting for the agency of human action can be provided and used for the purpose of achieving client satisfaction (Albert, Ashforth, & Dutton, 2000). This is especially relevant among marketers, who strive to develop long-term strategic relationships by relating to the identity of a target audience (Duane, Domegan, McHugh, & Devaney, 2016).

The difference between decision satisfaction and consumption satisfaction has been explored, the former leading to the latter, revealing that most research about the two areas have developed in relative isolation (Heitmann, Lehmann and Herrmann, 2007). These findings also show that there are five choice goals that lead to decision and consumption satisfaction, which are; justification, confidence, evaluation costs, anticipated regret, and final negative affect. The consequences and outcomes of personally made decisions are more favorable compared to externally made decisions, also known as the rational choice theory (Botti & McGill, 2011).

First introduced by Baumol and Ide (1956), the rational choice theory assumes that consumers will maximize their utility by choose the alternative that best matches their desired preferences. The rational choice theory defines the need for a cost-benefit analysis, which explains why criminals seek illegal rewards through careful deliberation

(Gilmour, 2016). For optimal favorability among clients, Botti and McGill (2011) recommend that companies offer their customers the opportunity to exercise their choice if the product is offered in a hedonic context as opposed to a utilitarian one.

Research involving the impact of brand variety has found that although it can be costlier, there are greater benefits with respect to consumers' brand perceptions, however, their study focused on the consumption of food as opposed to professional services and products (Berger, Draganska, and Simonson, 2007). Prior studies have confirmed that a high product variety strategy typically increases sales when aimed to satisfy heterogeneous consumers despite their tendency to raise operational costs (Smith & Agrawal, 2000; Wan, & Dresner, 2015). One negative effect that can impede satisfaction with high variety is the postponement of purchase decision from uncertain consumers (Heitmann, Lehmann and Herrmann, 2007). This uncertainty between choices can result in a negative effect. These variables should be looked at for accounting firms wishing to offer cloud-based services and products.

Pricing can have an effect on satisfaction and inadvertently affect perceived quality (Hinterhuber, 2015). Brucks, Zeithaml and Naylor (2000) note that consumers tend to use price as an indicator of quality when they are unfamiliar with the product and cannot easily evaluate product quality. This amounts to the reasoning that higher price must mean higher quality. The three main pricing approaches are cost-based pricing, competition-based pricing, and customer value-based pricing (Hinterhuber & Liozu, 2012). Although value-based pricing is recognized as a better approach to pricing (Hinterhuber & Liozu, 2012), many companies practice competition-based pricing (Hinterhuber, 2015). Conformity bias refers to following the actions of the majority and

displaying a lack of agency (Padalia, 2014), which often happens during price structuring.

Baysden (2015) answers some questions regarding value pricing among accounting professionals, stating that it is essential to understand what he calls are the five C's of value, which are: comprehend the real value drivers of the customer, create that value for the customer, communicate a firm's value to the customer, convince the customer that they must pay for that value, and lastly, capture a fair portion of the value that is being created by deploying the most optimal pricing strategy. The Trusted Business Advisor 2.0 Toolbox, offered by AICPA, has a pricing tool that creates different pricing options (Diminish your client's pricing objections!, 2014).

## **Marketing**

Accountants today are realizing that technology is fundamentally changing how CPA services are marketed, especially the shift from predominately paper-driven marketing to internet, big data, and social media (Keserica, 2013). Firms must segment and analyze market needs and be aware as to whom they should offer the services (Bushong & Koku, 2012). While a means-end chain approach can identify various attributes, consequences, and values of a product, Ryals (2008) adds that relationship marketing is equally beneficial because it focuses on the customers and long-term relationship building. The National Code of Ethics for Professional Accountants state that advertising represents informing the public of information regarding the qualification of the professional accountant and the services offered (as cited by Busuiocanu, 2013). Mihaela (2016) adds that advertising is meant to influence consumer behavior regarding commercial choice by inducing a certain consumer attitude and decision on services and

products advertised. This goes beyond the mere spreading of information.

Because the accounting profession distinguishes itself from other professions due to the assuming responsibility regarding the public interest, marketing efforts must be governed by honesty and loyalty (Busuiocanu, 2013). The CPA Horizons 2025, a 112 page report with input from over 5,600 CPA's, mention key issues and trends in the accounting profession (Hartstein, 2013). The report expounds on the future role that accountants will have by being a trusted business advisor, enhancing the CPA's value to their clients by becoming multidisciplinary. Other trusted advisors, such as lawyers, also have recognized the importance of learning and adapting to client needs especially because people shop around more now than ever thanks to readily available resources (Law firms re-examining their service models, 2017).

The AICPA (American Institute of Certified Public Accountants) adopted a rule against advertising in 1922, which lasted until 1978 (Smith, Smith, & Prawito, 2015; Traynor, 1983). The Bates decision, being handed down by the United States Supreme Court, gave firms the right to once again use marketing and advertising techniques to promote their services (Traynor, 1983). Trombetta (as cited by Smith, Smith, & Prawito, 2015) explains that the Justice Department implied that advertising helps stimulate competition, leading to better goods and services, price competition, and increased productivity. Now, advertising is a big spending area for major firms and is no longer thought of as inappropriate or somewhat unethical (Moser, Freeman, & Loudon, 2015). One study found that on average there is one full-time marketing employee for every 54 employees, however with high-growth firms, that ratio increases to one marketer per 34 employees (Hood, 2015).

A study that was recently performed compared current attitudes and opinions of accounting advertising with attitudes expressed 10 years ago (Moser, Freeman, and Loudon, 2015). It found that gaining approval of the majority of consumers could be achieved through a well-conceived, professionally designed advertising program; however, word of mouth tends to still be a more reliable source of information than other advertising methods. In addition, the same study indicated that consumers are generally more concerned with the reputation, image, and qualifications of accountants than specific information about prices (Moser, Freeman, and Loudon, 2015).

As firms now divest profits towards marketing their services, perceived quality of the services, personal relationships, and provider-client relationship can have a greater influence than the price of the product or service that is being offered (Bushong & Koku, 2012; Cristia, 2011). The authors add that low cost can actually have a negative effect because clients might feel that their services are inferior or low quality. This can increasingly be the case for new and small firms who compete with larger, more established firms. Keserica (2013) reiterates that pricing is critical, but resources should be conserved by not chasing every available opportunity. In most cases, the quality of clients outweighs the quantity of clients regarding a firm's ability to make money (Gerber & Root, 2011).

Technology, and the new tools available, is changing the marketing paradigm and forcing firms to rethink their strategy, placing greater emphasis on digital technologies such as social media, content marketing, and online video (Hood, 2015; Vien, 2015). The richer array of communications possibilities have blessed marketers and have allowed them to reach a much larger number of consumers than in the past (Batra &

Keller, 2016). On the flipside, technology has also given customers unprecedented power when it comes to dictating the rules in purchasing goods and services (The CEO guide to: Customer experience, 2016). Firms need to understand their audience, such as the services they need and want, what motivates them and what they worry about, in order to be successful at marketing (Vien, 2015). Common online media marketing tools include search ads, display ads, websites, email, social media, and mobile (Batra & Keller, 2016).

By understanding the client needs and wants, accounting firms can use relevant information to focus marketing efforts and resources that provide a return on investment (ROI) (Keserica, 2013). For this reason, one of the most important decisions CPA firms make prior to any marketing decisions is choosing a set of services to offer (Bushong & Koku, 2012). “Customer intimacy” is a term that has become entrenched in mainstream management as a label that represents knowing the customer and their long-term strategies and intentions and how customers respond to product offerings (Cuganesan, 2008).

Because customer experience is a leading management objective, accounting firms such as KPMG now have chief customer experience officers and vice presidents who oversee the creation and management of the experience of their customers (Lemon & Verhoef, 2016). Consumers typically go through a sequence of steps or stages as they engage in a path to purchase with a new brand (Batra & Keller, 2016). This customer journey has several touchpoints that customers encounter throughout the service and a customer journey map can visually depict the sequence during an entire purchase process (Rosenbaum, Otalora, & Ramírez, 2017). While some authors offer a variety of different

touchpoints with finer distinctions (Batra & Keller, 2016), the basic decision process can be fragmented into five stages: pre-decision, decision, post-decision/pre-outcome, outcome experience, and post-outcome (Parker, Lehmann, & Yi, 2016).

As customer journey experiences drive customer perceptions and satisfaction levels, it is wise to design sequences to end on a positive note because consumers are always assessing the quality and appropriateness of their decisions, their expectations for, and their feelings about decisions they have formed ((Parker, Lehmann, & Yi, 2016; The CEO guide to: Customer experience, 2016). Batra and Keller (2016) offer some managerial implications for customer journey mapping; however, unfortunately, studies with real examples for managerial interpretation remain scarce (Rosenbaum, Otolara, & Ramírez, 2017).

A hierarchical store loyalty map using means-end chain analysis was constructed to identify which customers are the key decision makers and are most relevant to the marketing problem among department stores (Lee, Chang & Liu (2010). The study differed from other means-end chain approach studies that examine customer value in that it focused on platinum tier customers, offering a better understanding for developing highly targeted marketing strategies. Advertising should be focused on the appropriate audience by tailoring the promotion method to enhance the perception of the quality of the firm's services to both potential and current clients (Bushong & Koku, 2012). Firms should identify which customers to focus on and which ones to ignore regarding targeted marketing campaigns (Reinartz, & Kumar, 2002).

Customer journeys are more complex today because customers interact with firms through several touch points in multiple channels and media (Lemon & Verhoef, 2016).



Successful marketing for accounting firms can be categorized into these four factors according to Caragher (2014): (1) understanding the accounting profession and your firm, (2) strategic thinking, (3) communication skills, and (4) know your own skills. As firms consider their uniqueness, strengths, and weaknesses, focusing on their differentiating characteristics that their firms offer is what should be focused on and marketed (Copeland, 2010; Perry, 2016). One method suggested by Iyer and Bamber (2000) is the important role that alumni relations programs can have on a firm's marketing strategy, using alumni directories, newsletters, social functions, and continuing education programs to increase the effectiveness of their marketing efforts.

Because not every single marketing dollar enriches financial performance, metrics and marketing analytics should be used to measure the different marketing-mix activities such as advertising, price promotion, pricing, and product management (Edeling & Fischer, 2016; Hanssens & Pauwels, 2016; Mintz & Currim, 2013). Mintz and Currim (2013) studied marketing metrics and found that strategic theory of homophily, agency theory, the resource-based view of the firm, and contingency theory are more powerful than the decision maker's perspective, such as that of a manager, in explaining metric use. The same study analyzed both marketing and financial metrics and recommends that managers should link managerial compensation to metrics, should receive training on the development and use of metrics, and should include other functions in the organization (e.g., accounting, finance) in the marketing decisions, especially if they have a quantitative background.

There is an optimal investment level that maximizes firm value; therefore, this level needs to be realized and managed (Edeling and Fischer, 2016). Firms should

simultaneously look after their own needs while looking after those of their clients in order to avoid losing money and landing the company in a downward spiral, particularly when it comes to big clients who can often display actions of privilege (Gray, 2015).

Aside from several analytical and linear methods that are used during the decision-making process, intuition is also a key part of the process (Fishman, 2009). While “hard” performance metrics are important, such as sales and profits, equally important ones are customer attitudes, including their thoughts and feelings (Pauwels, 2015). Hanssens and Pauwels (2016) reveal that tactical marketing actions such as advertising and service improvements lead to customer impact, where the impact on attitudes and satisfaction affect how assets are marketed. By studying marketing value assessment from a metrics perspective, models perspective, and communication perspective, results conclude that marketing value assessment is essential in exerting influence at the highest levels of the organization and have served well in the industry and in academia (Hanssens and Pauwels, 2016).

Unfortunately, off-line attitude metrics are costly to collect, and should be combined with cheaper quantitative online marketing and measurements, such as online customer actions like click-through rates for banner ads and paid searches (Pauwels, 2015). In a survey of U.S. accountants, Ellingson, Hiltner, Loyland, & Elbert (2006) found that the most effective marketing activities among respondents involved personal contact by CPA’s, including personal contact with clients.

Diagnostic metrics (e.g., awareness, preference, customer satisfaction, loyalty) and marketing metrics (e.g., sales, market share, profits, return on investments, cash flow, firm value) should both be utilized by managers to determine the return on advertising

dollars (McAlister, Srinivasan, Jindal and Cannella, 2016). Leaders can also gain helpful insights to build customer loyalty through the use of advanced analytics (The CEO guide to: customer experience, 2016). The growing trends of marketing in a digital world, suggesting that content marketing, using original content such as blog posts, white papers, ebooks, and videos, is one of the biggest marketing trends in the accounting world (Vien, 2015). Blogs are a great way to reach a large audience continually at a low cost while having a positive effect on search engine optimization, however, a direct link to practice development opportunities have not been proved (Copeland, 2010).

The cost of managing the customer relationship has become the focus of many studies (Reinartz & Kumar, 2002; Ryals, 2008). The AICPA Private Companies Practice Section (PCPC) has available a standard excel template that is used to evaluate and grade clients based on pricing, timing, stress, risk level and overall satisfaction (Koziel, 2008). By doing so, accounting firms can address potentially letting go of the C's and D's and focus on transforming the B's to A's, providing all the work possible on the A clients. In addition, similar studies conclude that evaluating the indirect value of a customer is feasible and can also be useful in filling a gap in conventional tools that measure the financial value of customers (Ryals, 2008). Phillips and Halliday (2008), however, advise that it is generally cheaper to keep customers than to compete for new ones, and therefore should be the driving focus of relationship marketing.

Social media has recently played an important role in marketing accounting and other professional services. LinkedIn, a global professional online peer group, can be advantageous for researchers, practitioners, and people seeking employment (Copeland, 2010). Other traditional social media sites such as Facebook and Twitter can also be

used, however, Vien (2015) recommends that firms understand what motivates potential customers, what they worry about, and what words and images speak to them, in addition to the services they need and want. Coleman, Cote, Gu, & Chandler (2015) explored the effect of demographic characters on the activities on Facebook, finding that the social media giant is becoming a mainstream site for adults. Specifically, that organizational Facebook pages are frequently visited by potential customers and can provide a space for product reviews and opinions and two-way interactions (Coleman et al., 2015).

It is reported that nearly 18 billion is spent worldwide on social media advertising (Kumar, Bezawada, Rishika, Janakiraman, & Kannan (2016). The authors examined the effect of firm generated content on customer spending and customer cross-buying. Results conclude that social media marketing matters and should be embraced to communicate and nurture relationships with customers due to its ability to strengthen customer-firm relationships that can lead to a positive impact on the firms' profits (Kumar et al., 2016).

It is critical that marketers identify and understand the needs and motivations that drive social media usage in order to communicate with the target audience on a personal, meaningful level (Zhu and Chen (2015). The authors also note that it is crucial to understand the different platforms of social media that is available (Facebook, YouTube, LinkedIn, etc.), and choose those that better fit the nature of the product (Zhu and Chen, 2015). Even with the increased amounts spent on social media marketing, respondents from one study ranked the appropriateness of internet marketing for accountants third, behind yellow pages and newspapers (Moser, Freeman, and Loudon, 2015).

Marketing and advertising must be done ethically. Because unethical efforts can

be very damaging to a company, a marketing strategy should conform to certain conditions within the marketing environment, specifically: macro environment, micro environment, and the internal environment (Mihaela, 2016). Ndubisi, Malhotra, Capel, Agarwal, Satkunasingam, Ndubisi, and Patil (2016) studied how ethical conduct by agent-firms affect the quality of client relationships, finding that trustworthiness, competence, communication, and conflict handling skill levels of agent-firm's employees promote an increase in commitment toward the principal firm. Furthermore, it is evident that corporate policy can significantly affect the ethical behavior of employees (Ndubisi et al., 2016).

### **Summary**

While certain technologies still have barriers to adoption, specifically cost, privacy, and security (Alali & Chia-Lun, 2012; Marchibroda, 2015; Yigitbasioglu, 2015), cloud computing is increasingly playing a dominant role in how accounting firms operate their businesses and interact with clients (Chou & Chiang, 2013). Because these technologies have significantly changed the nature of business (Christauskas & Miseviciene, 2012), it is essential that firms research how these changes impact their clients by understanding the link between customer and technology, especially during the trial stage of implementation (Gupta & Garg, 2015). Means-end chain analysis offers an optimal theoretical and conceptual structure connecting consumer behavior with their values (Gutman, 1988). The results of a means-end chain hierarchal value map can aid in the way firms market and implement cloud-based services and products to their clients in a way that promotes client satisfaction. Customer attitude and other diagnostic

metrics should be analyzed along with hard metrics to gauge the success of the overall marketing strategy.

### **Chapter 3: Research Method**

As on-demand software delivery service models such as software-as-a-service (SaaS) continue to grow, it is difficult to inspire trust and loyalty in an online and on-demand service model because opposition to new technologies can exist, with issues such as unfulfilled technical requirements, information security and privacy concerns, and lack of flexibility causing clients to be dissatisfied (Cavusoglu, Hu, Li, & Ma, 2010; Chou & Chiang, 2013). Although the topic of cloud computing has become the new trend in the business environment due to increased use and efficiency (Gest, 2014), there may be several misconceptions and barriers to adoption that impede older clients to accept new technological innovations offered by accounting firms, such as security, usability, and lack of awareness (Christauskas, & Miseviciene, 2012; Marchibroda, 2015).

It is important to explore the affects that cloud adoption has on loyalty and satisfaction from existing older clients. Large percentages of firms use client portals to create, upload, and communicate and deliver organizers and tax returns digitally, all in an effort to go paperless and eliminate the need to meet face-to-face (Alexander, 2015; Drew, 2015). Though there are some advantages to cloud computing in this respect, cloud services can pose a problem with older clients, resulting in greater client collaboration with multiple touch points and stickier client relationships (Alexander, 2014). Insecurity surrounding new technologies may have a negative effect on the willingness for older clients to support cloud services and increase uncertainty and vulnerability, all of which impede a firms' ability to integrate new innovative technologies (Gupta, 2015; Tsourela & Roumeliotis, 2015). Firms must be aware of impacts that transitioning to the cloud has on client satisfaction in order to successfully

integrate these new applications in a way that satisfies the needs and wants of clients.

The readiness of older clients to embrace and effectively use new technologies, such as those offered by accounting firms, should be explored as well as primary determinants of such uses (Olson, O'Brien, Rogers, & Charness, 2011; Parasuraman, 2000).

The purpose of this qualitative study was to explore the impact that innovative technologies and cloud computing applications have on client satisfaction and loyalty among older clients of small accounting firms by using the means-end-chain approach to explore the motivations that drive client behavior. The results of this study sought to understand the experiences of older individuals who have been introduced to cloud computing services by their accounting firm, such as paperless documents, client portals, and mobile applications, by conducting semi-structured interviews. By applying a means-end chain approach to explore the diffusion of innovations theory to novel technologies and the social exchange theory, small accounting firms can achieve better results for cloud adoption and have greater success in their marketing strategies by gaining a systematic understanding of the technology experience of older adults.

New approaches in technology allow accountants to communicate with their clients in an online environment instead of meeting face-to-face. The impact of these cloud services raised the following questions regarding how clients perceive these new innovations and the implications they might impose.

**Q1.** What are the characteristics of accounting clients who prefer the use of online client portals to upload and communicate tax information in regard to tax accounting?



**Q2.** How is the diffusion of cloud services affecting client satisfaction among clients of small accounting firms?

**Q3.** How can cloud services be marketed in order to achieve high client satisfaction regarding accounting?

### **Research Methods and Design**

To develop the framework of customer satisfaction of cloud services among older adults, the means-end chain (MEC) was adopted in this study as the method used to explore diffusion of innovations and the social exchange theory within the accounting industry in order to understand how cloud computing tools affect the overall satisfaction of clients who have been introduced to new cloud services and products. This study was exploratory in nature and data was acquired through face-to-face, in-depth, semi-structured interviews using the laddering technique associated with MEC research. Laddering is the standard interviewing method of data collection associated with the MEC theory because it builds value chains with consumers by using their responses to fill in rungs of a ladder, which ultimately forms the value chain (Reynolds and Gutman, 1988; Saaka, Sidon, & Blake, 2004).

These interviews sought to uncover consumer values from product attributes, which in this case are cloud services and other innovations that are ideas, practices, or objects that are perceived as new by an individual (Rogers, 2003). Interview questions were open-ended to elicit views and opinions of the participants that sought to uncover deep drivers (i.e. personal values) of consumer decision-making (Phillips & Reynolds, 2009). Participants included conveniently selected clients of various small accounting firms located in St. George, Utah, where the chosen firms have recently adopted certain

cloud computing services, such as paperless communication and the use of online client portals for communicating tax related documents. These clients have had recent exposure to the phenomenon in question, cloud applications, and therefore make appropriate participants for the study.

An advantage to using the means-end chain theory in this setting is its ability to understand consumer behavior; describing the hierarchical relationship between product attributes, the consequences, and the personal values these consequences reinforce (Gutman, 1982). This adds to the strength of qualitative research methods because it seeks to explore and understand the effects that cloud services have on client satisfaction. Although no propositions are being tested, qualitative studies offer research opportunities for quantitative studies in the field of cloud services used by accounting firms (Homburg, Wilczek & Hahn, 2014). Regarding means-end chain theory, the interview process plays a major role in collecting and creating a Hierarchical Value Map (HVM) because it requires the extraction of abstract, possibly subconscious, reasons for purchase behavior (Wansink, 2003). These weaknesses will be addressed and minimized as much as possible with the use of interview practices and written tutorials.

In addition to using triangulation, which is comparing multiple data sources in search of common themes, to support validity of the findings and trustworthiness of data, negative case analysis, thick description, feedback from others, and respondent validation are strategies that were employed (Leedy & Ormrod, 2010). Responses from different clients were compared to other participants in search of common themes.

This research about the effects that cloud computing has on client satisfaction will contribute to means-end chain by exploring client behavior. Practical implications for the

study can provide accounting firms with marketing and advertising insights that can lead to a more successful implementation of cloud computing services that may lead to an increase in efficiency and perhaps profitability.

### **Population**

The population consisted of taxpaying individuals age 50 and older, legal senior citizens, located in St. George, Utah, who have either 1.) Used cloud services offered by their accounting firm, or 2.) Have the option of using such services offered by their accounting firm.

### **Sample**

The sample consisted of 20 older clients of various CPA firms located in southern Utah, a thriving retirement community. By using a means-end chain approach and qualitative interviewing techniques, theoretical saturation was achieved by using a smaller sample size (minimum of 20), and according to methodological guidance and for purposes of this research design, 20 participants was selected to participate in this study (Lagerkvist, Ngigi, Okello, & Karanja, 2012; Saaka, Sidon & Blake, 2004). Similar studies that have imposed the MEC approach have routinely used between 20-30 participants in order to reach theoretical saturation (Reynolds & Jamieson, 1985; Van Rekom & Wierenga, 2007). If data saturation had not been reached with 20 participants, more would have been selected until saturation was reached.

The study used convenient sampling, which is a type of purposive nonprobability sampling, to gather information about older client experiences and thoughts about cloud services and new technologies as it relates to accounting. Although convenience sampling can be prone to bias, it is the most practical type of sampling for this study and

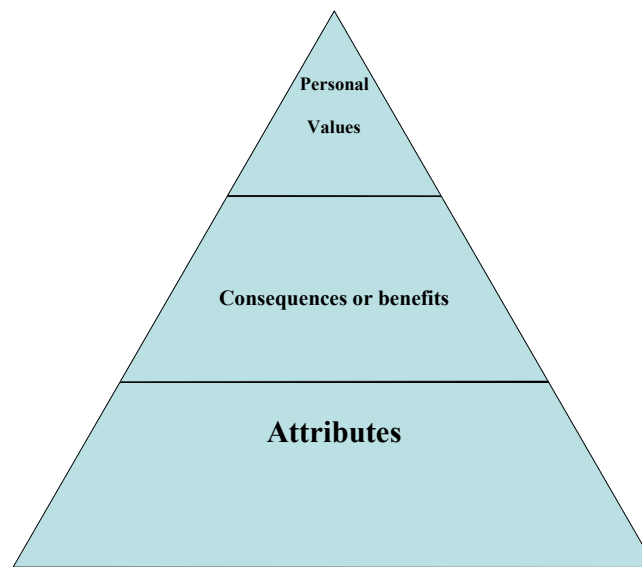
caution will be used in determining a fair representation of the sample population by diversifying the number of accounting firms selected to provide client participants.

The primary owners of the firm aided in selecting which clients would be good candidates for the study and assisted in assuring that the sample was diversified, such as by gender and background history. Three accounting firms in southern Utah, who provide numerous tax returns and other accounting needs to older adults, were asked to provide at least five clients. St. George was a convenient location to perform the study because it is where this researcher currently resides, facilitating face-to-face interviews, and St. George is considered a retirement community, thus having a wide population to sample from. From that list, this researcher arranged face-to-face interviews with them.

### **Materials/Instruments**

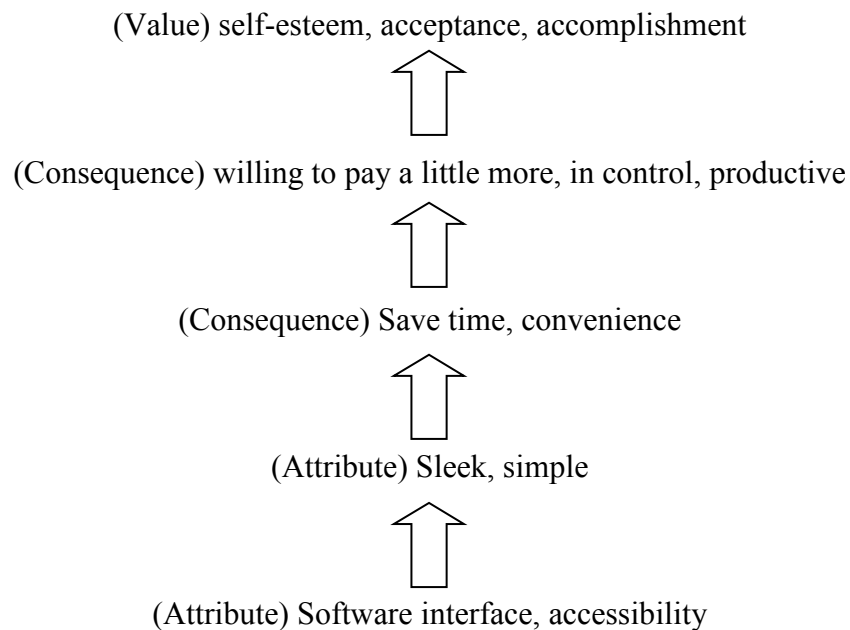
Traditional “soft” laddering is an interviewing technique where the natural flow of communication is restricted as little as possible, as opposed to “hard” laddering which forces the respondent to devise pre-determined and sequenced ladders (Kaciak, Cullen & Sagan, 2010). An advantage to soft laddering is that this approach lets participants define and express their values and attributes in their own words (Nunkoo & Ramkissoon, 2009). Furthermore, this approach is more applicable where the products have relatively less experience being used (Grunert & Grunert, 1995). For this reason, this study used soft laddering techniques to gather interview data. The first stage of the laddering methodology was to elicit distinction, such as for or against implementing innovative cloud services and products to establish a preference. Once attributes had been elicited for a given product or service (typically 10 to 15 attributes), the interviewer then selected which ones will serve as the basis for building ladders (Saaka, Sidon, & Blake, 2004).

Throughout the interviewing process, responses about client satisfaction and the use of online client portals and other innovative technologies were used to create “ladders”, aiming to discover the network of meanings that will ultimately link attributes, consequences, and values (Kaciak, Cullen & Sagan, 2010). Open-ended questions elicited both positive or negative thoughts and feelings towards recent cloud accounting applications that lead to real reasons why they like or dislike the services. This technique is a standard practice among means-end chain theory because it organizes the cognitive levels of abstraction; attributes, consequences, and values (Reynolds & Gutman, 1988).



The information from the interviews built on top of each other by asking respondents why an attribute, a consequence, or a value of cloud computing is important to them. Once meaningful and distinctive attributes were identified, the interviewer then sought to understand some version of “why is this important to you?” question (Phillips

& Reynolds, 2009). This “laddering” technique was utilized until saturation was reached and end-values were identified. Brian Wansink (2003) offers the following suggestions for conducting a laddering interview as follows: (1) ask those questions that can reveal personal reasons, (2) ask questions that are going to encourage the interviewee to think rather than just respond with a “yes” or “no”, (2) keep asking “why”, (4) question the individual’s reasons behind their responses, (5) allow the questions to flow, (6) ask questions the give the interviewee freedom to answer how they see fit, (7) watch the person’s face and listen to the tone of their voice as they answer the question. An example of a ladder involving cloud services might look similar to this:



### **Data Collection, Processing, and Analysis**

Cognitive concepts were then analyzed and summarized in a graphical representation of a set of means-end chains called a Hierarchical Value Map (HVM) (Reynolds & Gutman, 1988). MEC analysis involves four steps: 1) converting raw

interview data into ladders, 2) creating a summary content codes for the study, 3) generating the implication matrix, and 4) constructing the Hierarchical Value Map (Saaka, Sidon, & Blake, 2004).

Raw interview data had to be first converted into ladders with each item being classified as an attribute, consequence, or value, and then was given an identifying number to code. This summary of content codes was used to label each element in each ladder to produce a matrix. Once a summary of content codes had been organized, an implication matrix was generated which formed the blueprint for drawing the HVM, which is a square matrix that displays the number of times each element lead to every other element in the same row, both directly and indirectly (Saaka, Sidon, & Blake, 2004).

Lastly, step four was to construct a HVM to provide a meaningful way of representing the subjective data, acting as a tool to facilitate decision-making and problem solving (Saaka, Sidon, & Blake, 2004). Constructing a HVM included summarizing appropriate concept codes that had been developed and named to “generate an implication matrix by counting the number of times each concept code preceded (directly or indirectly) every other code” (Phillips & Reynolds, 2009, p. 86). Laddering results from a HVM summarized all interviews which could then be interpreted as rendering dominant perceptual orientations (Reynolds & Gutman, 1988). Wansink (2003) notes that an average of 2.2 values is linked to products, namely those associated with Maslow’s hierarchy of needs including accomplishment, belonging, self-fulfillment, self-esteem, family, and satisfaction. The map shows the attributes- consequences-values (A-C-V) ladders as well as bilateral connections (Kaciak, Cullen, & Sagan, 2010). Thus

the study created a map that shows why clients make certain decisions about cloud computing services and the meaning behind such decisions. The HVM also allows for further exploration about how online tax portals to upload and communicate tax information and other cloud services affect client satisfaction and how accounting firms can achieve better marketing results.

Reynolds and Gutman (1988) clarify that there are five types of relations that are used to construct the HVM, which are: (1) A-D; elements mapped as adjacent which have a high number of direct relations, (2) N-D; elements mapped as nonadjacent which have a high number of direct relations, (3) A-I; adjacent elements which have a high number of indirect relations but a low number of direct relations, (4) N-I; nonadjacent elements which have a low, non-zero number of direct relations but a high number of indirect relations, (5) N-O; nonadjacent elements which have a low (or zero) number of indirect relations (p. 21-22).

A HVM can also determine dominant perceptual pathways by looking at the number of direct and indirect relations each element has with each other (Saaka, Sidon, & Blake, 2004). A table can be created to present these sums which can also facilitate the analysis of the results.

### **Assumptions**

Several assumptions were considered in this qualitative means-end chain approach study. The main assumption was that accounting clients of a Southern Utah firm were willing to participate in the study and give honest feedback and descriptions of their experiences, or lack thereof, to cloud services. It was also assumed that based on the privacy and confidentiality assurances provided, that participants described truthfully



and openly their experiences at their will and discretion. Because this researcher had no personal stake in the accounting practice or the outcome of responses, participants should have been willing to describe their experiences more liberally. Lastly, it was assumed that the research obtained through peer-reviewed sources was accurate.

### **Limitations**

One major problem with using a means end chain approach and its associated laddering techniques (including gathering, analyzing, and summarizing the data) is that it is very time consuming and should be conducted by someone with interviewing experience (Saaka, Sidon, & Blake, 2004). This limitation could have an impact on the conclusions drawn based on the hierarchy value model. It also cannot be assumed that all motivational patterns are relevant for all consumers or that each consumer only has one pattern (Jägel et al., 2012). Furthermore, using a focus group or panel discussion can further corroborate the results in an effort to yield more rigorous results (Lee, Chang, & Liu, 2010).

Another limitation of this qualitative study is related to sensitivity of the topic under study. Although no specific tax or financial details were discussed, the topic itself can impede participants to open up about their experiences.

Because the owners of the accounting firm assisted the researcher with the sample process, participants may have felt obligated to only discuss the positive effects of the services discussed even though anonymity was given with no attachment of participant to responses. To mitigate this issue, the face-to-face interviews took place at a public location other than the commercial office of the accounting firm in order to disassociate it with the study to reduce bias.

One last limitation included the particular cloud services used in this study. The cloud services available to the participants of this study might be limited compared to other cloud services offered by other firms.

### **Delimitations**

The primary delimitations of this study were the geographic location and the sample size. The scope of the study was limited to 20 clients of various firms located in Southern Utah that currently use or have the option to use cloud services. This study was also limited to open-ended questions to collect and gather relevant data as opposed to surveys and Likert scales.

### **Ethical Assurances**

All ethical standards related to conducting research with human participants were complied. The data collected was kept confidential throughout the entire research process and all recordings or notes from interviews were kept and stored and locked in a secure and safe place. Electronic data was stored on a password protected computer and notes were stored in a locked filing cabinet, both of which will be discarded at the appropriate time after the study has been concluded. In addition, no names were used in the study or any other identifying factor. All participants were provided an informed consent form, including content explaining (1) confidentiality, (2) assurance of voluntary participation and permission to withdraw, (3) the purpose of the study, (4) procedures that will be used including time involved, (5) risks and benefits, and (6) contact information for questions (Cozby and Bates, 2012). Lastly, due to the use of human participants in this study, the researcher obtained IRB approval prior to any data collected.

## Summary

Exploring the effects that cloud services have on client satisfaction is important for accounting firms because it can aid in whether such services will have a positive benefit. Large percentages of firms use client portals to create, upload, and communicate and deliver organizers and tax returns digitally, all in an effort to go paperless and eliminate the need to meet face-to-face (Alexander, 2015; Drew, 2015). This cloud service, along with others, was explored in this qualitative study by using a means-end chain approach. Convenience sampling was used to gather 20 participants in an attempt to uncover the underlying emotions, consequences, and personal values that drive consumer choice (Reynolds, & Gutman, 1988). Participants were chosen from various small accounting firms in Southern Utah that have recently started implementing certain cloud services. With the data collected from the interviewing technique called “laddering”, a Hierarchical Value Map (HVM) was constructed to understand why clients make certain decisions about cloud computing services and the meanings behind such decisions.

## **Chapter 4: Findings**

A means-end chain approach was used to explore the effects that cloud services have on client satisfaction among older adults. The purpose of this qualitative study was to explore the impact that innovative technologies and cloud computing applications have on client satisfaction and loyalty among older clients of small accounting firms by using the means-end-chain approach to explore the motivations that drive client behavior. The results of this study sought to understand the experiences of older individuals who have been introduced to cloud computing services by their accounting firm, such as paperless documents, client portals, and mobile applications, by conducting semi-structured interviews.

By applying a means-end chain approach to explore the diffusion of innovations theory to novel technologies and the social exchange theory, small accounting firms can achieve better results for cloud adoption and have greater success in their marketing strategies by gaining a systematic understanding of the technology experience of older adults and the forces that are in play in determining the customer-firm relationship.

MEC analysis involves four steps: 1) converting raw interview data into ladders, 2) creating a summary content codes for the study, 3) generating the implication matrix, and 4) constructing the Hierarchical Value Map (Saaka, Sidon, & Blake, 2004).

Several validity and credibility strategies were used to assess the accuracy of findings, reduce bias, and interpret the trustworthiness of data. Different data sources of information have been triangulated to build a coherent justification for certain themes, which were formed during the interview process and displayed in the HVM. Of the 20 participants with their varying perspectives, several themes (values) were established,

adding validity to the study and transferability. The raw data and HVM include rich, thick description of the consequences and values emerged, offering many perspectives about cloud services. The interviews all took place in a calm and relaxed setting as to ease anxiety or nervousness and allow respondents to answer questions honestly. Lastly, negative information that runs counter to the themes is present and discussed in order to add credibility and validity. Transferability, confirmability, and reliability were established by documenting the processes and procedures and continuously cross-checking codes and data.

The gender, culture, history, and socioeconomic origin of the researcher likely shaped the interpretation of data, thus presenting a weakness in the study and adding to interviewer bias. Expectations of the study were refrained during the interview process as to not influence the respondents' answers and preexisting ideas were not allowed to define the direction of the study.

## **Results**

Twenty randomly selected participants were chosen from a list of clients provided by small accounting firms located in Southern Utah. Table 1 shows the respondents' gender, age, occupation, and education level. Among the 20 respondents, 16 (80%) were male while other key demographics varying widely among adults 50 and older. Using the 20 interviews, 6 attributes, 11 consequences, and 7 values were identified and have been coded with numbers 1 through 24 (see table 2).

Table 1. Demographic characteristics of respondents

Variable	Classification	Frequency (n=20)	%
Gender	Male	16	80%
	Female	4	20%
Age	50-54	6	30%
	55-59	3	15%
	60-64	2	10%
	65-69	6	30%
	70-74	2	10%
	75+	1	5%
Occupation	Business	4	20%
	Banking/finance	2	10%
	Manufacturing	1	5%
	Service industry	5	25%
	Wholesale/retail	1	5%
	Government	1	5%
	Medical/ healthcare	3	15%
	Education	1	5%
	Other	2	10%
Education	High school or less	2	10%
	Some college	7	35%
	College/Bachelor	7	35%
	Graduate/Masters	4	20%

Table 2. Summary Content Codes for Cloud Services

<b>Values</b>	<b>Consequences</b>	<b>Attributes</b>
(18) Accomplishment	(7) Quality	(1) Client portal
(19) Accuracy	(8) Reward	(2) Email
(20) At ease	(9) Save time	(3) Scanning
(21) Freedom	(10) Sophisticated	(4) Uploading documents
(22) Security	(11) Easily accessible	(5) Paperless
(23) Conformity	(12) Risk	(6) Login features
(24) Simplicity	(13) Willing to pay more	
	(14) User friendly	
	(15) Save Money	
	(16) Convenient	
	(17) Confidence	

Among the 20 participants, a total of 36 ladders were produced by assigning numbers to codes, which were then used to label each element in the ladder (see table 3). With each row representing a ladder, some participants generated multiple rows with each column representing elements in the ladder. These ladders will be later summarized in the Hierarchical Value Map shown in figure 1.

Table 3. Raw Data

Respondents	Content Codes				
1	1	11	14	21	0
1	4	9	23	0	0
1	6	14	24	0	0
2	3	13	17	19	0
2	4	12	22	0	0
3	5	12	16	17	22
4	2	8	9	11	21
4	3	16	24	0	0
4	4	7	17	20	0
5	4	12	22	0	0
5	1	11	23	0	0
6	1	7	12	22	0
6	5	16	23	0	0
7	4	14	15	16	19
7	6	8	10	18	0
8	2	16	21	0	0
9	3	10	12	22	0
10	1	13	16	17	19
10	4	9	14	24	0
11	3	7	10	19	0
11	5	9	16	21	0
12	2	9	14	16	24
12	4	9	12	22	0
13	5	16	20	0	0
14	4	9	15	16	24
14	5	8	16	24	0
15	5	16	20	0	0
16	2	8	14	16	24
17	4	9	15	23	0
18	3	10	11	16	19
18	4	12	22	0	0
18	5	16	18	0	0
19	3	9	16	21	0
19	4	8	16	17	24
20	5	9	15	16	24
20	2	9	14	22	0



Tables 4, 5, and 6 display the number of times each element of attribute, consequence, and value were mentioned. 34 total attributes were mentioned, along with 68 consequences and 36 values.

Table 4. Table of Attributes

Name of attribute	Number of times mentioned	Percentage (%)
Client portal	4	12%
Email	5	15%
Scanning	6	18%
Uploading documents	10	29%
Paperless	7	21%
Login features	2	6%
<i>Total</i>	<i>34</i>	<i>100%</i>

Table 5. Table of Consequences

Name of consequence	Number of times mentioned	Percentage (%)
Quality	3	4%
Reward	5	7%
Save time	11	16%
Sophisticated	3	4%
Easily accessible	4	6%
Risk	7	10%
Willing to pay more	2	3%
User friendly	6	9%
Save Money	4	6%
Convenient	18	26%
Confidence	5	7%
<i>Total</i>	<i>68</i>	<i>100%</i>

Table 6. Table of Values

Name of values	Number of times mentioned	Percentage (%)
Accomplishment	2	6%
Accuracy	5	14%
At ease	3	8%
Freedom	5	14%
Security	8	22%
Conformity	4	11%
Simplicity	9	25%
<i>Total</i>	<i>36</i>	<i>100%</i>

An implication matrix was created using the raw data to display the number of times each element leads to every other element in the same row, thus showing the relationships among the categories (see table 4). Both direct and indirect relations are represented in fractional form, with direct relations being on the left side of the decimal and indirect relations on the right side of the decimal. When one element leads to another without any intervening element, it is considered a direct relation (Saaka, Sidon, & Blake, 2004).

From the implication matrix, the significant attributes (means) of cloud services include (1) Client portal, (2) Email, (3) scanning, (4) uploading documents, and (5) paperless processes. In addition, the strongest values (ends) emerging from the study are accuracy, at ease, freedom, security, and simplicity. Using 20 respondents, a cutoff level of two was used in this study as suggested by other studies and authors (Henneberg et al., 2009; Leitner, Wolkerstorfer, and Tscheligi, 2008; Pai & Arnott, 2013). A cutoff level is a minimum number of links that must be present before an item is considered for constructing a hierarchical value map in order to increase efficiency and provide the most

stable set of relations (Saaka, Sidon, & Blake, 2004). The cutoff decision is also a trade-off between detail and interpretability (Christensen & Olson, 2002).

Table 7. Implication Matrix

(1-6 = Attributes; 7-17 = Consequences; 18-24 = Values; Bold italics highlight  $\geq 2$  direct linkages)

		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Client portal	1.00				<b>2.00</b>	0.01	1.00	0.01		0.01	0.01		0.01		0.01	0.01	0.01	
2	Email		<b>2.00</b>	<b>2.01</b>		0.01			0.03		1.02					0.02	0.01		0.02
3	Scanning	1.00		1.00	<b>2.01</b>	0.01	0.01	1.00			1.02	0.01		0.03		0.01	0.01		0.01
4	Uploading documents	1.00	1.00	<b>5.00</b>			<b>3.01</b>		1.01	0.03	0.03	0.02		0.01			0.04	0.02	0.03
5	Paperless		1.00	<b>2.00</b>			1.00			0.01	<b>4.04</b>	0.01	0.01		0.02	0.01	0.01	0.01	0.02
6	Login features		1.00		0.01				1.00				0.01						0.01
7	Quality				1.00		1.00					1.00		0.01	0.01		0.01		
8	Reward			1.00	1.00	0.01			1.00		<b>2.01</b>	0.01	0.01			0.01			0.03
9	Save time					1.00	1.00		<b>3.00</b>	<b>3.00</b>	<b>2.03</b>					0.03	0.02	1.01	0.04
10	Sophisticated						1.00						1.00	1.00			0.01		
11	Easily accessible								1.00		1.00			1.00		1.01		1.00	
12	Risk										1.00	0.01					<b>6.01</b>		
13	Willing to pay more										1.00	1.01		0.02					
14	User friendly									1.00	<b>2.01</b>			0.01		1.00	1.00		<b>2.02</b>
15	Save money										<b>3.00</b>			0.01				1.00	0.02
16	Convenient											<b>3.00</b>	1.00	<b>2.01</b>	<b>2.00</b>	<b>3.00</b>	0.01	1.00	<b>6.01</b>
17	Confidence													<b>2.00</b>	1.00		1.00		1.00
18	Accomplishment																		
19	Accuracy																		
20	At ease																		
21	Freedom																		
22	Security																		
23	Conformity																		
24	Simplicity																		

The implications matrix was then used to identify means-end chains which were necessary in creating a Hierarchical Value Map (HVM) (see figure 1). The HVM is used to explore the relationships in the implication matrix to develop the means-end chains. Attributes of cloud services are located at the bottom of the map, followed by consequences in the middle, resulting in values located at the top. By selecting the linkages with cloud services above the chosen cutoff, the HVM was gradually constructed by connecting all the chains formed, with dominant chains displaying larger text boxes.

Figure 1. Hierarchical Value Map of Cloud Services

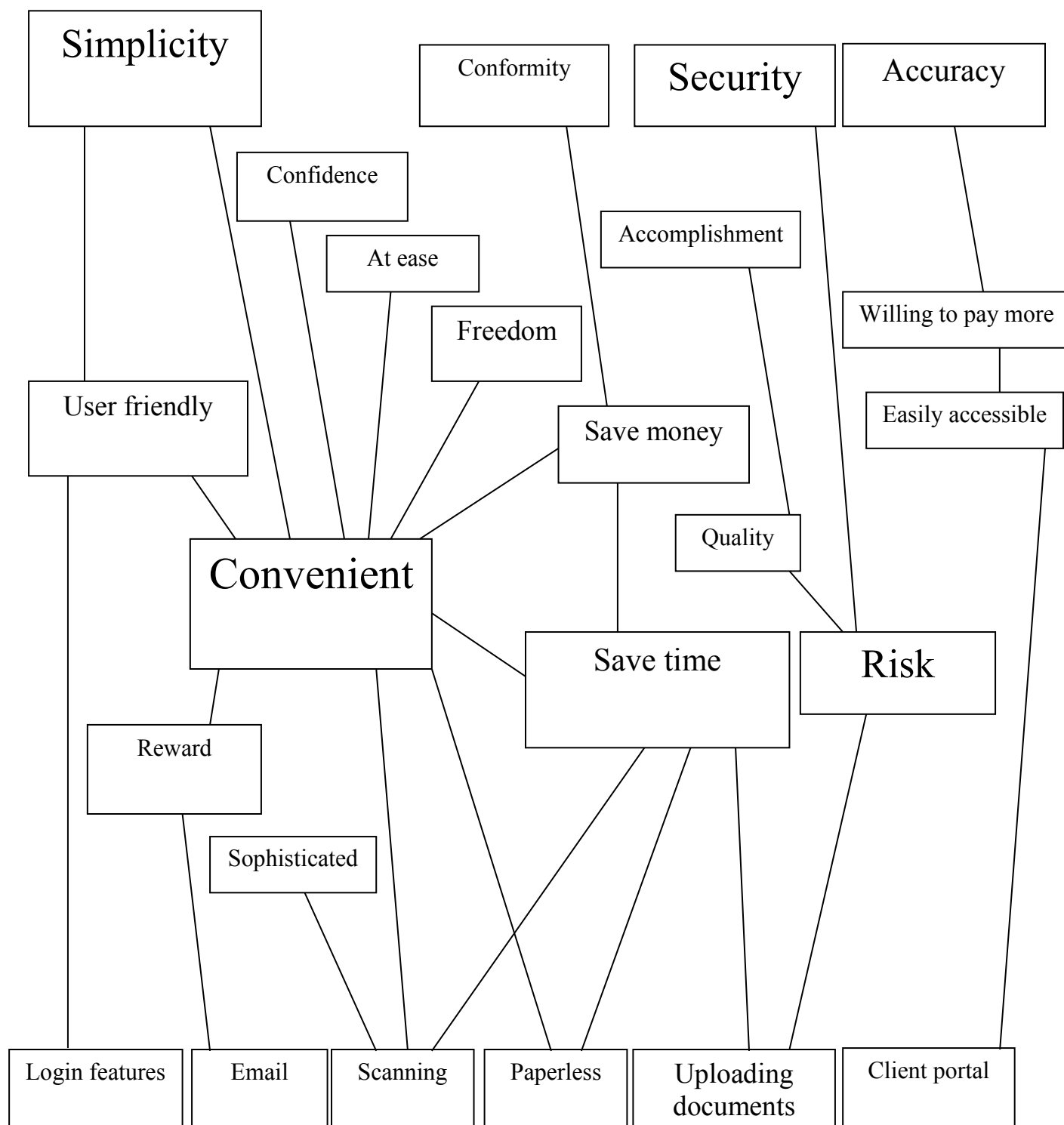


Table 8 sums up the elements in terms of the number of direct and indirect relations they have with other elements. “Simplicity” (24), at the value level, appears to have the most elements leading from it.

Table 8. Summary of Direct and Indirect Relations for Each Element

Code	Element	To	From
1	Client portal	4.08	0.00
2	Email	5.12	0.00
3	Scanning	6.12	0.00
4	Uploading documents	11.21	0.00
5	Paperless	8.14	0.00
6	Login features	2.03	0.00
7	Quality	3.03	3.00
8	Reward	5.08	5.00
9	Save time	11.13	11.01
10	Sophisticated	3.01	4.02
11	Easily accessible	5.01	3.03
12	Risk	7.02	7.03
13	Willing to pay more	2.03	2.00
14	User friendly	7.04	7.05
15	Save money	4.03	4.04
16	Convenient	18.03	18.17
17	Confidence	5	5.08
18	Accomplishment	0.00	2.03
19	Accuracy	0.00	6.11
20	At ease	0.00	3.04
21	Freedom	0.00	5.10
22	Security	0.00	8.14
23	Conformity	0.00	4.05
24	Simplicity	0.00	9.21

### Evaluation of Findings

Regarding the sentiments that older adults have towards new technologies, results show that insecurities are minimal and the use of a means-end approach analysis help answered questions regarding the diffusion of innovation theory and the social exchange

theory regarding the use of cloud services. These findings agree with the results of Marchibaroda (2015) in that technologies must be easy to use, intuitive, and affordable to gain popularity among older adults. Research questions concerning how and why certain cloud services effected satisfaction were explored through semi-structured interviews, concluding that there are several values associated with the attributes of cloud services offered by small accounting firms. As intended, the conceptual framework developed through the use of the means-end chain theory produced a hierarchical value map that successfully identified key personal values that drive consumer choice. A means-end chain research design allowed the client participants to convey their perceptions and thoughts about technology and cloud services, so that a variety of topics and themes emerged from their responses to the interview protocol.

Results were also in accordance with the diffusion of innovation theory and the findings of similar studies, suggesting that technology and certain cloud accounting services have largely diffused among older adults (Andergassen, Nardini & Ricottilli, 2017; Olson et al., 2011). The perception of cloud services appear to be innovative and advantageous and findings suggest that older adults understand the interpersonal relationships that exist between firm and client, both serving with self-interest that brings satisfaction when expectations are met. This means that accounting firms can use innovative technologies with their older clients and can expect to find positive results when the concerns or values derived from these results are addressed.

### **Summary**

The means-end chain approach found several feelings and personal values related to the use of new technologies, all of which were derived from six attributes, also

displaying how these attributes directly affected the clients' perceptions of cloud services. 20 participants were interviewed and the use of cloud technologies was discussed and explored in detail through soft laddering techniques. Research questions were explored to help understand the effects these services have on client satisfaction, thus furthering the discussion of technology readiness among older adults and determining if the social exchange theory played a role in how participants viewed the use of cloud services.

## **Chapter 5: Implications, Recommendations, and Conclusions**

As on-demand software delivery service models such as software-as-a-service (SaaS) continue to grow, it is difficult to inspire trust and loyalty in an online and on-demand service model because opposition to new technologies can exist, with issues such as unfulfilled technical requirements, information security and privacy concerns, and lack of flexibility causing clients to be dissatisfied (Cavusoglu, Hu, Li, & Ma, 2010; Chou & Chiang, 2013). Although the topic of cloud computing has become the new trend in the business environment due to increased use and efficiency (Gest, 2014), there may be several misconceptions and barriers to adoption that impede older clients to accept new technological innovations offered by accounting firms, such as security, usability, and lack of awareness (Christauskas, & Miseviciene, 2012; Marchibroda, 2015).

The purpose of this qualitative study is to explore the impact that innovative technologies and cloud computing applications have on client satisfaction and loyalty among older clients of small accounting firms by using the means-end-chain approach to explore the motivations that drive client behavior. The results of this study seek to understand the experiences of older individuals who have been introduced to cloud computing services by their accounting firm, such as paperless documents, client portals, and mobile applications, by conducting semi-structured interviews. By applying a means-end chain approach to explore the diffusion of innovations theory to novel technologies and the social exchange theory, small accounting firms can achieve better results for cloud adoption and have greater success in their marketing strategies by gaining a systematic understanding of the technology experience of older adults and the forces that are in play in determining the customer-firm relationship.



Because the owners of the accounting firm will assist the researcher with the sample process, participants may feel that they are obligated to only discuss the positive effects of the services discussed even though anonymity will be given with no attachment of participant to responses. To mitigate this issue, the face-to-face interviews will take place at a location other than the commercial office of the accounting firm in order to disassociate it with the study to reduce bias. One last limitation includes the particular cloud services used in this study. The cloud services available to the participants of this study might be limited compared to other cloud services offered by other firms.

All ethical standards related to conducting research with human participants will be complied. The data collected will be kept confidential throughout the entire research process and any recordings or notes from interviews will be kept and stored and locked in a secure and safe place. Electronic data will be stored on a password protected computer and notes will be stored in a locked filing cabinet, both of which will be discarded at the appropriate time after the study has been concluded. In addition, no names will be used in the study or any other identifying factor. All participants will be provided an informed consent form, including content explaining (1) confidentiality, (2) assurance of voluntary participation and permission to withdraw, (3) the purpose of the study, (4) procedures that will be used including time involved, (5) risks and benefits, and (6) contact information for questions (Cozby and Bates, 2012). Lastly, due to the use of human participants in this study, the researcher will obtain IRB approval prior to any data collected.

Implications, recommendations, and conclusions will be discussed in order to provide useful and meaningful information for accounting firms that currently use cloud

services or might start implementation in the future. These findings can assist in their marketing campaigns and help maintain high client satisfaction during the adoption phase, specifically as it relates to older adults.

### **Implications**

Regarding research question (1), the characteristics of older adult accounting clients who prefer to use online client portals to upload and communicate tax information in regards to tax accounting are individuals who have been able to utilize technology in their working profession. Given that the participants were all age 50 and older, the majority were still working in their profession and have seen the shift that technology has had over the last decade. These clients were more willing to adopt new technologies and innovations due to their prior exposure.

Results show that the diffusion of cloud services are positively affecting client satisfaction among older adults of small accounting firms as long as certain items are communicated well. This agrees with Olson et al. (2011), noting that the relative advantages of new technologies should be explained. Some issues that arose from this study include:

1. Security issues related to risk are identified and explained to the client regarding uploading sensitive data.
2. The ability and resources to scan documents are readily available.
3. If face-to-face meetings are eliminated, all questions or concerns must be easily communicated in a timely manner via phone, email, etc.

Security issues and the knowledge and ability to scan documents were more prevalent with participants who had less experience with technology, either in the workplace or at home.

The findings of this study are generally aligned with those of Davis (1989), whose technology acceptance model suggests that there are two main beliefs that affect individuals' attitude, perceived usefulness and perceived ease. Most participants were able to realize the perceived usefulness of cloud services by identifying the time-saving measures that they provide and the value of simplicity they offer. For those participants who were not familiar with scanning and uploading documents via the internet, they were willing to learn if needs be. Technology readiness and the means by which it is embraced also depend on the technical and personal abilities of individuals to actually use it (Caison, Bulman, Pai, and Neville, 2008). Older adults interviewed in this study clearly showed a willingness to learn about the technicalities of cloud services if their accountant were to implement them. This study confirms that in general, there is minimal aversion to technology and its use among older adults (Olson et. al., 2011). Accounting firms should take the role of teaching clients about scanning and uploading in order to utilize the cloud services offered.

This helps answer research question (2) of the study regarding how diffusion of cloud services is affecting client satisfaction among older adult clients of small accounting firms. Results demonstrate that several positive underlying values, such as simplicity, freedom, and accuracy, are derived from certain cloud services that increase technology readiness among older adults. The only hindrance or concern that was revealed was with regards to security issues of sensitive information. Most participants

expressed a concern due to recent hacking and security problems that periodically plague small and large companies. These results coincide with those of Maha, Mona, and Ahmend (2016), showing that security is a major concern among clients and can determine their decision as to whether or not use the service.

However, this concern can be eased by providing information about the necessary safeguards cloud providers are implementing, such as the ones outlined by Collins (2015), including physical constraints, world-class firewalls, state-of-the-art anti-virus technology, and continues backups offer protection from potential online hacking.

When technology readiness is assessed, marketing cloud services can be done successfully among older adult clients. In answer to research question (3) regarding how cloud services can be marketed to achieve high client satisfaction, results of this study show that older adults are ready and willing to adopt new technologies if they are presented with the opportunity by their accounting firm. Positive feelings and values that propel people toward new cloud technologies include simplicity, freedom, and accuracy, while negative feelings and values that may hold them back include security. These results can also provide guidance for the development of training programs or tutorials on the technical aspects of new technologies. Chou and Chaing (2013) found that technical requirements, information security and privacy concerns, and lack of flexibility can cause clients to be dissatisfied. Findings from this study can inspire trust and loyalty in an online and on-demand service model.

Results also add to the social exchange theory by exploring the customer-firm relationships and the motivations that shape social behaviors. Out of the 20 participants interviewed, all but two would be accepting of cloud services offered by their accounting

firm if it were obligated to do so (interview question #5 in appendix A). The two who would not be accepting is a result of security concerns. This shows that strong relationships of trust exist between client and firm and that any new technologies are often looked at as providing value with perceived benefits. Because there will remain many small accounting firms that continue to hold back on cloud adoptions, participants studied were aware that they could switch firms if desired. Thus, if accounting firms utilized new technologies, older adults would not feel locked in to accepting these changes but willing.

### **Recommendations**

Accounting firms must offer value-adding characteristics of cloud services in highlighting the benefits and advantages. With “simplicity” being the primary value of cloud services based on the means-end chain approach utilized in this study, communicating this value to clients can be a useful method with diffusion of innovation and cloud adoption. Other factors that can be useful when selling the idea of cloud services to older adults include focusing marketing efforts on other important values such as security, accuracy, and freedom, as well as providing training and support.

Implications and recommendations for accounting firms include three strategic decision-making and marketing areas, including educating older clients on scanning documents, uploading documents to a client portal, and using paperless processes.

1. In the area of scanning documents, many older adults in the study understood the convenience and time-saving capabilities it can have, however some did not have access to the necessary equipment or the technical know-how. These obstacles should be identified and resolved in order to communicate the values of simplicity

and accuracy that can be derived from scanning document files onto a computer.

Another time-saving convenience that exists from scanning documents that should be emphasized to clients is that it can eliminate the need of physically driving to a firms' office to deliver tax-related data or other accounting information.

2. In the area of uploading documents to a client portal, security features must be explained to clients in order to minimize any possible concerns, namely key features offered by the software manufacturer company that assure responsibility and safety. As the HVM shows, risk is a major consequence and security a primary value to the use of client portals to upload documents. Therefore, firms should keep this in mind by promoting the benefits of client portals in their marketing strategy that will more than likely increase client satisfaction and promote successful adoption. The importance of clever login passwords should also be emphasized.
3. In the area of using paperless processes, older clients approve and prefer this way of doing business due to the convenience and freedom it provides. Whenever possible, firms should offer digital files of tax returns and other documents and explain its benefits in order to promote simplicity.

This study is limited in that the participants were all older adults from the same geographical area and may not be completely representative of the general older population of the U.S. Future research should conduct studies of older adults from different regions with other demographic variables. Also, it must be noted that over time, as individuals gain experience with technology, their perceptions change over time,

despite the findings of this research. There is a bigger probability to demonstrate positive attitudes toward cloud services from when clients are generally exposed to available technologies to their use over a longer period. The rate of technology diffusion among the sample older adults may have influenced the results of this study. Another recommendation for future research includes using different cloud attributes as technology changes and advances. It is also recommended that more extensive set of laddering or more quantitative or structural equation modeling be used.

Lastly, a limitation of this study is the inexperience of the researcher with the interviewing process and technique of laddering, which is considered difficult because of the extensively applied method of collecting data for MEC studies (Lin & Yeh, 2013). In future researches, a collaboration of various experts on laddering techniques, marketers, and technical cloud experts is recommended which could produce more reliable results.

## **Conclusions**

This study has addressed the applicability of cloud services in the means-end chain theory. The proposed study and methodology developed could be considered a useful tool for accounting firms for increasing client satisfaction among older adults. Developing effective marketing strategies requires identifying underlying emotions, consequences, and personal values that drive consumer choice, specifically as it relates to cloud services. This study has successfully applied means-end chain analysis to explore the relationships and linkages among the use of cloud services offered by small accounting firms and how older adults are responding or would respond to the use of such products.

In the study, simplification, security, accuracy, and freedom are connotations that are strongly linked with cloud services, with simplicity and security being the elements to which older adults attach the most importance. With these results, marketing efforts and strategies can be better targeted to successfully increase adoption rate of cloud services among older adults and positively impact client satisfaction by promoting trust and loyalty. As firms listen to their clients regarding cloud services, they can have success in their adoption that can lead to greater efficiency and increased profits for the company or firm.



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## Appendixes

### Appendix A: Interview Questions

## Appendix A: Interview Questions

1. What experience do you have with using online client portals for uploading and sending tax documents to your accountant?
  - a. What do you like or dislike about it/why?
  - b. What are the characteristics you like or dislike about it/why?
  - c. Why is that important to you?
  - d. Would you consider using a portal if it were available to you? Why? Why not?
2. What do you like/dislike about technology?
  - a. Why is that important to you?
  - b. What are your thoughts about paperless processes/why?
  - c. How do you feel about pdf file tax returns/why?
  - d. What do you perceive as some of the advantages and disadvantages to cloud based technologies regarding accounting/why?
3. How do you feel about face-to-face meetings with your accountant?
  - a. Are they necessary/why?
  - b. Why is that important to you?
4. How do you feel about accounting firms using cloud based programs to communicate tax and accounting related information to clients and for business use?
  - a. What security issues might you have/why?
  - b. Why is that important to you?
5. If your current accountant switched to a cloud based program for uploading documents, how would you react?
  - a. What would you like or dislike about it?
  - b. Why?