

Adoption of online legal services by law firms in South Africa

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Abstract

The legal profession is in the midst of a disruption that has been ignited by technology and fanned by legal entrepreneurs. The fate of today's law firms, lies in their ability to escape from the confines of the "practical art" that has existed for centuries. Conflicted by the trade-off between efficiency and revenue generation, the jury is still out on the adoption of online legal services by law firms.

Academics have not paid much attention into low innovation industries. The legal industry is one such industry that is relatively understudied from a technology adoption perspective. This research study used the technology-organisation-environment (TOE) framework to identify six factors which were posited to influence the adoption of online legal services within the legal industry in South Africa.

Data collected from an online survey targeted at lawyers currently employed or associated with law firms operating in South Africa yielded a total of 120 usable responses. The study found perceived compatibility to be the only adoption factor which significantly influences the adoption of online legal services in South Africa.

The versatility of the TOE framework was demonstrated by its ability to understand technology adoption in a new context. The study concluded that the TOE framework can be improved upon if it took into account the maturity level of the technology being studied. The findings are positioned to help practitioners gain a better understanding of the state of online legal services adoption in South Africa and the offers practical suggestions on how law firms can survive in a virtual world in demand of commoditised legal services.

Keywords

Online legal services; Legal industry; Technology-organisation-environment (TOE) framework; Technology adoption; Developing country

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.



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6 Novmeber 2017

Date

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Chapter One: Introduction to Research Problem

Chapter introduction

“The legal profession is in the midst of a disruption: a monumental, transformative shift in shape and focus that will change the practice of law forever” (Brescia, McCarthy, McDonald, & Potts, 2014, p. 553). Legal professionals find themselves in a *kairos*¹ position, yet much like opposing sides in the courtroom; some lawyers are embracing the transformation whilst others are defending the sanctity and pureness of the profession. To the legal profession technology innovation represents a double-edged sword. On one hand, technology provides unimaginable opportunities to radically shift the profession towards efficiently serving the needs of its clients (Muscio, Nardone, & Dottore, 2010). On the other hand, technology presents a threat to the industry by automating transactional legal work (e.g. contract drafting) that is traditionally billable by lawyers into a task that clients can easily do for themselves (Triantis, 2013).

“The death of Big Law” is currently a hot topic amongst legal scholars and practitioners, predicting the untimely demise of large law firms based on its inability to adapt to changing market conditions (Henderson, 2014). Commentators such as Richard Susskind have predicted that unless the legal profession re-invents itself, it’s death is likely to occur within the next five years (Christie, 2016). There is currently a fear that legal technology will result in the death of big law causing devastation to the legal industry leading to unemployed lawyers and the closure of law schools (Henderson, 2014). To some commentators, online legal services presents a threat to consumers, who are lured by discounted prices but are served low quality legal services (Brescia et al., 2015). The legal industry is perceived to be slow to innovate due to its inability to let go of the traditional confines of the “practical art” that has existed for centuries (Simpson, 2016). Despite living in an internet age, very few law firms have embraced the internet as alternate channel to transact or offer new services to clients at lower cost to both parties (Douglas, Muir, & Meehan, 2003). The legal profession’s conflicting dynamic between efficiency and revenue generation has served to stagnate the adoption of technology innovation by law firms. Yet, unlike other industries, academics have not paid much attention to this phenomenon.

To address this gap, this research study attempts to start the journey into understanding this phenomenon by employing the technology-organisation-environment (TOE) framework as a lens to identify the factors which influence the

¹ “the opportune and decisive moment” (Merriam-Webster, 2017)

adoption of online legal services. The results of this study not only contributes to the advancement of technology adoption theory but also provides insights into the state online legal services adoption and offers practical recommendations to law firms considering offering online legal services.

The cusp of disruption

There is no doubt that the internet has revolutionised the way law firms operate today. One of the most significant changes has been seen in legal research, which is regarded as one of the most time consuming tasks in the practice, replacing the need to trawl through libraries of case law books (Brescia et al., 2015). In recent times, cloud computing has allowed lawyers to access case related documents from virtually any location, including the court room, eliminating the need to travel with copious amounts of paper (“The 21st Century Practice of Law: A White Paper,” 2015). Gordon, Shackel and Mark (2012) view this increased use and reliance on technology for the delivery of legal services as reflective of the broader commercial and societal shift towards the use of internet based modes of communication and business transacting.

Electronic commerce (e-commerce) revenue in South Africa alone amounted US\$2,689m in 2017 and is expected to grow at 15% per annum (“e-Commerce - South Africa | Statista Market Forecast,” 2017). It is therefore, no wonder that e-commerce has emerged as an important sales channel, enabling products and services to be easily accessible to a large number of people in a relatively cost effective and scalable manner (Basarir-Ozel & Mardikya, 2017). Historically consumers lacked knowledge and acumen in law, resulting in them trusting law firms based on their brands and reputation, however, with the rise of the internet, consumers have become more savvy and want advice at the click of a button (Brescia et al., 2015). Law firms operating within this context have thus far failed to adapt their business model and incorporate digital channels to their traditional model of providing legal services. The only positive move has been seen in law firms increasingly leveraging social media and websites for marketing purposes (Gordon et al., 2012). In order to survive in the new economy, law firms will have no option but to either adopt online legal services or risk being crowded out by new players in the form of virtual law firms (Barton, 2014).

Law firms are traditionally geared towards high-end wealthy clients and corporates and have largely left the needs of the lower-end unmet and inaccessible. Using the Christensen’s “innovators dilemma” theory of disruption Brescia et al. (2014) argues

that technology innovation will be a key driver in the disruption of the legal profession. Disruptive innovation in this context is described as “a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up, eventually displacing established competitors” (Brescia et al., 2014, p. 557). The legal profession’s propensity to focus on the high-end of the market has left a gap for low cost legal services at the lower-end, making the industry ripe for disruptive innovation. In the aftermath of the 2008 financial crisis, large law firms have been unable to respond to clients calls for low-cost legal services which resulted in them losing market share to legal insourcing, outsourcing and virtual law firms (Barton, 2014; Henderson, 2014). Virtual law firms, also referred to as new-law, have grown exponentially over the last five years. Taking an e-commerce approach to legal services, these firms feed off the unmet needs of the lower and middle class income consumers who could not normally afford lawyers (Barton, 2014). Initially unrecognised as a threat to traditional law firms, legal tech start-ups have started to “disintermediate” traditional law firms out of the commoditised legal segment such as estate planning and company and patent registrations (Barton, 2014; Susskind, 2010). The result of the commoditisation suggests that “legal work is increasingly becoming a job description within another business rather than a distinct business or line of business” (Triantis, 2013, p. 179).

Online legal services

The term online services and e-commerce is generally used interchangeably in the literature, depending on the context of the phenomenon being studied. In a basic sense, e-commerce refers to business activities conducted over the internet (Saffu, Walker, & Mazurek, 2012). More specifically, online services utilises internet-enabled technologies to deliver their services in order to change or decrease the requirement for face-to-face interaction in the provision of their services (Chiou & Shen, 2012).

Types of online legal services

In the legal industry, online services take the form of legal websites or smartphone applications for consumers. Brescia et al. (2014) describes the services that are offered on these websites to typically include one or more of the following:

- Lawyer directories provide a listing of lawyers, allowing consumers to connect with lawyers. These sites categorise lawyers by their speciality and even allow consumers to assess the reputation of the lawyer based on reviews from other

customers. Some sites allow for the matchmaking of lawyers to consumers, instead of making them browse through lists. These services allow clients to find reputable lawyers based on their specific to their needs and legal requirements.

- Legal encyclopaedias (also known as legal information services) essentially provide brief summaries of legal concepts and terms. Legal encyclopaedias are targeted directly at the consumers and written in a format that is easily understandable to people whom are not well versed in law, sometimes in the form of news articles and blogs (also referred to as blawgs). This allows consumers to educate themselves regarding the law and legal services rather than seeking legal advice before employing a law firm. These sites serve to erode the knowledge gap between lawyer and client which changes the traditional client-lawyer relationship, a phenomenon that is also supported by Gordon et al. (2012).
- Automated documentation is delivered by wizard or template style systems that asks the client few questions regarding the legal situation and then generates legal documents that seemingly address the client's legal issue using standardised paragraphs of text. The technology has since evolved from producing simple legal documents to generating legal arguments using artificial intelligence and machine learning. This technology is described by Brescia et al. (2014) as the most disruptive innovation in legal services. However, law firms are discouraged from adopting this type of technology due to the exorbitant costs and the potential for the system to make legal errors and exposing the firm to malpractice issues. Despite this, the technology holds the potential to serve a large number of clients at a much faster rate than lawyers and at a significantly lower price.
- Legal advice websites allow consumers to type in a legal question and are immediately provided with a response addressing the legal aspects of the question. This serves the same function as traditional legal consultations where a client physically meets with a lawyer to explain the legal situation and in turn the lawyer advises on the legal aspects of the situation. Some legal professionals have argued that this model creates an attorney-client relationship which may expose the firm to damages claims in the event that the matter goes into a litigation process.
- Legal reputation websites are similar to some legal directories, in that they allow consumers to shop around and compare lawyers by evaluating the lawyer's

reputation through comments posted by previous clients. This allows consumers to be better informed when making a decision to hire a lawyer. Some websites allow a consumer to list a legal question and allow lawyers to compete with each for the opportunity to assist the client.

Whilst online legal services presents numerous benefits to consumers from a cost and accessibility perspective, its gain in popularity has raised some ethical and legal considerations for law firms and legal start-ups (Brescia et al., 2015; Gordon et al., 2012). These legal risks are anchored by antiquated legalisation that has created an artificial barrier to innovation within the legal industry (Henderson, 2014).

The impact of online legal services

As an e-commerce application, online legal services impacts law firms and the consumers in variety of ways (Mirmiran & Shams, 2014). These impacts are illustrated in figure 1 below. From a law firm perspective enabling online legal services has the immediate benefit of reducing a firms operating costs. Through the use of standardised forms, law firms can reuse contracts and documents without recreating them for every case thereby saving time and resources. Through automation, law firms would not need to employ as many lawyers as they do today in order to keep up with client demands.

The internet also provides an equal platform for large and small firms to compete on the same basis. This allows law firms to access a larger market at a relatively low cost. This cost saving allows law firms to lower the cost of the services to consumers that where previously unable to afford legal service, thus creating an even larger market (Henderson, 2014). However, in order for online legal service to work, law firms need to change their business models. The traditional billable hours model is rooted in the philosophy that every case is unique whereas the online legal services model brings a new philosophy where services are packaged and sold for a fixed fee to consumers to use as they please (Susskind, 2008). Online legal services are largely driven by technology that is widely available. This together with lower operating costs and new business models has lowered the barriers to entry into the market and attracted new competitors in the form of virtual law firms (Brescia et al., 2015). The entry of these new competitors, combined with the aforementioned impacts results in more intense competition between firms. The consumer benefits from this competition in the form of lower prices.

With online legal services, consumers also have access to more information relating to the online legal services allows consumers to make an informed decision on which legal service is required based on their specific requirements (Brescia et al., 2015). Consumers are also able to conveniently shop around for different services and legal service providers. Online legal service changes the traditional way in which consumers used to access legal services. In the traditional model, consumers would call a law firm, book an appointment and travel to the lawyer’s offices for a consultation. With online legal services, consumers have access to online legal services at the click of button from anywhere in the world. This makes online legal services a convenient and cost effective way for consumers to access a broad range of legal services amongst a wide selection of service providers.

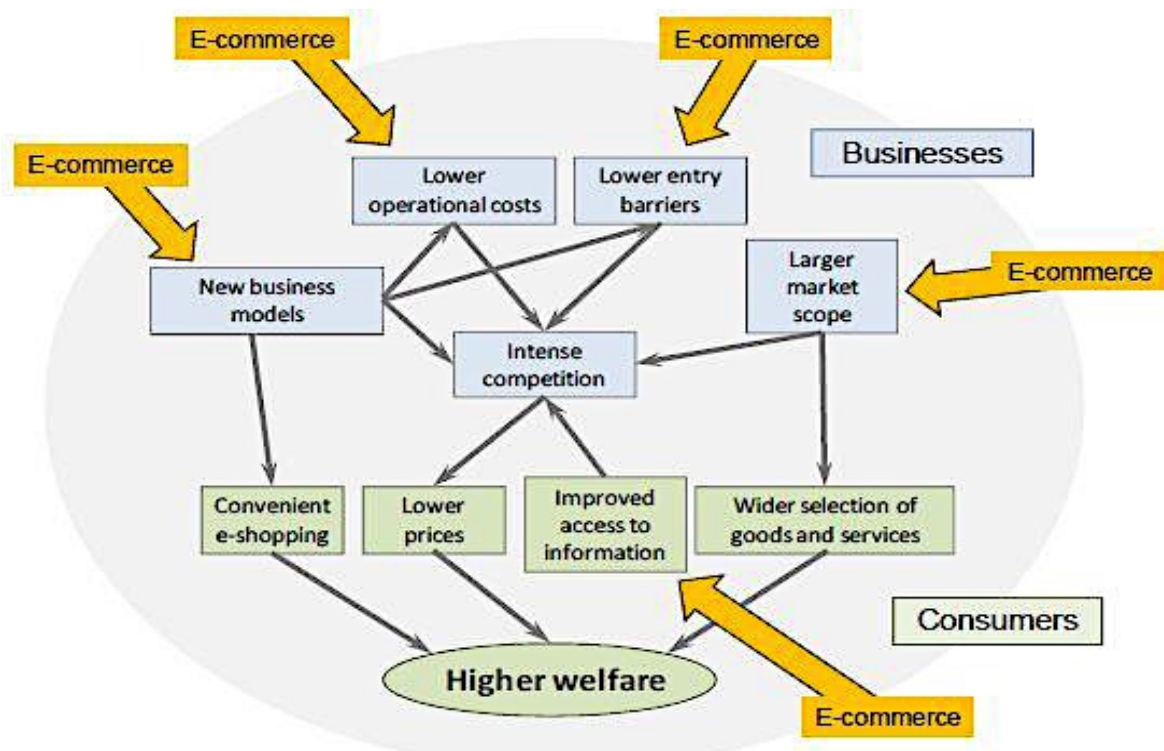


FIGURE 1: IMPACT OF E-COMMERCE ON BUSINESS AND CONSUMER (MIRMIRAN & SHAMS, 2014)

Research problem

Business Rationale

The narrative created thus far is that law firms have failed to adapt to the developments made in the legal technology arena and run the risk of becoming obsolete in the information society (Susskind, 2010). To mitigate this risk, law firms need to leave their comfort zone and start becoming part of the disruption. The purpose of this research study is to contribute to the narrative by uncovering the factors that influence the adoption of online legal services by law firms in South Africa through the lens of an established technology adoption theory.

Highlighting the factors that influence the adoption of online legal services will contribute to the advancement and transformation of the legal profession. This study is expected to assist the leadership of law firms and legal technology service providers gain insights into the barriers that may exist in the adoption of a online legal service platform. These insights have the potential to help law firms embrace the disruption they face and perhaps save big law firms from an untimely death.

Academic Rationale

The rise of internet has piqued the interest of both academics and practitioners to understand and theorise around the factors that influence the adoption of e-commerce. Numerous theories, models and frameworks have been developed within the information systems field focusing on either the individual users, the technology being adopted or organisations (Gangwar, Date, & Raoot, 2014). It has also been argued that none of the abovementioned theories perfectly explain the determinants of technology adoption. This has led numerous researchers to combine two or more of the theories in order to provide expanded insights into the factors that influence the adoption of e-commerce by organisations (Awa, Emecheta, & Ojibo Ukoha, 2012; Kurnia, Karnali, & Rahim, 2015).

It has been argued within some quarters of academia that technology adoption research is dead due to constant replication and no theoretical advancement, however, there is vast opportunity for theoretical advances using existing knowledge, especially in industries where technology advancement is perceived to be slow (Venkatesh, Davis, & Morris, 2007). The literature study by Sila (2015) supports this argument by finding that the role of contextual aspects such as the industry and country of origin has not been analysed sufficiently in adoption research and theory.

E-commerce has been argued to be a key ingredient to a countries socio- economic growth, especially in developing countries (Datta, 2011; Kumar, 2014; Oliveira & Martins, 2011). This makes research into e-commerce adoption in developing countries more relevant from a practical perspective (Rahayu & Day, 2015). The literature has shown a preference for developed countries where limited focus has been placed from a research perspective on developing countries adoption of e-commerce highlighting a gap in the body of knowledge (Ahmad, Abu Bakar, Faziharudean, & Mohamad Zaki, 2015; Kurnia et al., 2015; Rahayu & Day, 2015). Technology adoption studies in developing countries will contribute to closing this gap and advance adoption theory development by identifying potentially unique facilitating conditions that influence the adoption of technologies such as e-commerce (Ahmad et al., 2015). Zhu and Kraemer (2005) postulates that theories conceived in developed markets need to be re-visited in the context of developing countries due to the varying economic, socio-economic and regulatory factors that may influence the adoption of e-commerce (Datta, 2011). This argument is supported by Ahmad et al. (2015) who state that the factors found to have an impact on e-commerce adoption in developed countries are vastly different to those in developing countries because of the different challenges that firms face in these environments.

Kumar (2014) analysis of literature on the cultural differences in innovation, argues that innovation is reflective of an entire industry, where some industries naturally lend themselves to innovation, others do not and are often overlooked from an academic perspective. From an adoption perspective, Oliveira and Martins (2010) study, confirms that industry characteristics are the most relevant factor that describes adoption of e-business. This presents an interesting opportunity to contribute to the body of knowledge and uncover specific or generalizable characteristics that influences the adoption of e-commerce in the legal industry through the use of the Technology-Organisation-Environment (TOE) framework. The legal profession certainly appears to fall within the category of a neglected industry which is rife with specific nuances that have mostly led to the industry not adopting online legal services as an alternate medium to service its client base (Quttainah & Paczkowski, 2016). The relevance of this study is further emphasised by MacVaugh and Schiavone's (2010) postulation that non-adoption of new technology is one of the least understood aspects of innovation diffusion.

Based on its inclusion of the organisation and environment dimensions, the TOE framework represents a complete theoretical base to address the contextual nuances

that may exist in the online legal services domain. This study differs from other similar studies by looking at e-commerce within the legal industry in developing countries (i.e. South Africa), which is expected to close this gap and contribute to further advancing adoption theory.

Research objectives

The problem statement described thus far, expounds the opportunity to contribute to the body of knowledge by exploring a topic that has been vastly understudied from a technology adoption perspective.

Business Objective

The aim of this research paper is directed at empirically identifying the technological, organisational and environmental factors that influence the adoption of online legal services in South Africa. The paper looks at this problem from purely from a law firm perspective that represents the ageing face of the legal industry. Understanding these factors assist legal practitioners in understanding a variety of idiosyncrasies of online legal services. Firstly, the study helps practitioners to establish whether or not online legal services is compatible with the processes, practices, culture and values of law firms. This will provide a starting point in the adoption decision making process. Secondly, the study elucidates some of the perceived factors that are inhibiting the adoption of online legal services. Understanding these factors will help law firms in South Africa closer towards embracing legal technology such as online legal services.

Academic objective

The research study is directed towards contributing to the theoretical development of adoption theory by empirically applying the TOE framework to a new industry and country context. This especially important given the relative lack of academic attention in these areas. Empirically applying the TOE framework to this new context serves to improve the generalizability of the theory especially with regards to the factors chosen to be studied.

Scope of the research

Based on the aforementioned objectives the scope of this research is limited to practising lawyers that are currently employed or associated with a law firm operating within South Africa. The technology context is limited to online legal services and the

factors that influence adoption have been selected based on the literature review and its applicability to the legal industry context.

Chapter conclusion

Online legal services hold the potential to transform the legal industry to be more accessible and affordable to the average consumer. Whilst the jury is still out on the nascent rise of virtual firms, law firms have been slow to let go of the traditional confines the age-old practice of law. This chapter has highlighted the developments within the legal industry that has given rise to the dilemma faced by law firms operating in the information age.

The apparent lack of academic attention into this industry gives effect to the need and importance of this study. This chapter also introduced some of key debates in technology adoption theory to which this study will attempt to contribute towards. The academic literature pertaining to the topics introduced thus will be presented in the next chapter.

Chapter Two: Literature review

Chapter introduction

Having introduced the topic of focus for this study, the attention turns to existing body of knowledge. A literature review was conducted in order to give substance to the research problem identified and gain an understanding of the key debates in the literature surrounding the legal industry and technology adoption. The section starts with a discussion on the context of study i.e. the legal industry. Thereafter, the literature review accounts on some of the key debates from past studies on adoption of online technologies. These debates are tied back to the legal industry context which allowed for the identification of the most relevant adoption factors which forms the foundation for this study.

The legal industry

Quttainah and Paczkowski (2016) argue that context is an essential element in the analysis of technology innovation adoption. The factors that influence adoption in one organisation can have a completely opposite effect in another organisation. Therefore, it is important to understand the idiosyncrasies facing law firms operating in the legal industry as the context for this study.

The double edge sword facing law firms considering technology is manifested in the trade-off between efficiency and revenue (Simpson, 2016). Whilst one can assume that revenue and efficiency go hand-in-hand, this does not necessarily apply to law firms. Like most professional service organisations, the extant business model of most law firms is driven by the concept of billable hours. As the law firm bills more hours, more revenue is generated. Therefore introducing efficiencies enabled by technology is both costly to procure and costly to the bottom line (Henderson, 2014; Quttainah & Paczkowski, 2016). Quttainah and Paczkowski (2016) also postulate that a reduction in billable hours could lead clients, whom are used to the billable hours model, to doubt the quality of the legal work produced. Triantis (2013) counters this argument by highlighting the difficulty in assessing the quality of legal services in the first place were the actual value of legal services are only derived through legal enforcement. For example, the quality of legal contract drafted by a lawyer is seen to be of a high quality by a client until a contract dispute arises and the matter goes to court where a judge decides on the soundness of the contract. Most contracts are not written with intention

of it being legally challenged therefore the quality may be subordinated by its relative cost.

Henderson's (2014) paper titled "From Big Law to Lean Law", presents a further insight into the business model of law firms which is characterised by the number of fee earning lawyers that the firm possess. Law firms typically grow by either hiring more fee earning lawyers or through the acquisition of smaller law firms. This characteristic is attuned to the billable hour's model where more lawyers provide a greater capacity for billable hours to be sold by the law firm. Billable hours is also used as a key determinant of a lawyers compensation and incentive schemes (Henderson, 2014). This model is, however, anchored by the level of demand in the market. After the 2008 crisis, numerous large corporates started to cut down on legal spending and reduce costs through legal insourcing (i.e. building internal capacity) and outsourcing (Barton, 2014). Brescia et al. (2014) notes that the unbundling of legal services has also been used as way for corporates to save costs. In this model corporates employ specific law firms for specific parts of a project instead of employing one large firm for the entire project. These methods have served to plateau the demand for legal service from large firms.

The legal industry is also facing a disruption with the introduction of non-lawyer legal entrepreneurs. The traditional model where law is only for lawyers is changing, especially in the corporate law area (Henderson, 2014). To explain this phenomenon, Susskind (2008) presents a framework on the evolution of the legal marketplace as illustrated in Figure 2 below. Although this framework is relatively dated, Henderson (2014) refers to this framework as a relevant model to frame the legal industry's current evolutionary process.



FIGURE 2: RICHARD SUSSKIND'S EVOLUTION OF LEGAL SERVICE (SUSSKIND, 2008)

Susskind (2008) argues that the market is pulling the majority of legal services towards the right, where the commoditisation phenomenon is being proliferated by emerging technologies focussed on the legal industry. The framework describes the legal industry as being traditionally in the bespoke phase where legal services are tailored

for a single client. From there the service evolves to standardised tasks and processes where previous work and documents are reused to offer customised legal services but with a personal feel (e.g. form documents for a merger). The systemised phase relates to a time where systems are developed to perform legal work and for use internally by lawyers (e.g. document assembly system for estate planning) (Henderson, 2014). In the packaged phase, the systems developed in the previous phase are made available directly to the client over the internet (e.g. online tool to allow clients to generate their own employment contracts). Susskind (2008) refers to packaged services in the form of do-it-yourself legal services where the systems and knowledge of a law firm is packaged for clients to access directly. The last transition is referred to by Susskind (2008) as commoditisation where a specific legal service is widely available, offered by many sources and at competitive prices. In this context the undifferentiated legal package is available electronically or online for clients to use as required (online legal debt collection services). In the context of this study, online legal services would lie within the packaged and commoditised phases of the framework.

The commoditisation of legal services is feared by legal professionals as it reduces the value of legal work to basic electronic produce, much like a bag of sugar or maize, commonly available to everyone who has the means to consume it. Commoditisation also forces law firms to offer competitive prices and perform more efficiently. In essence the legal industry is being pulled towards commoditisation but at the same time this pull is being countered by top management's resistance to let go of the antiquated billable hour's system. Susskind (2008) and Henderson (2014) both agree that in order for the industry to move towards commoditisation, law firms need to adopt a fixed fee model. This highlights a potential barrier to the adoption of online legal services and supports the notion that in order for legal firms to readily adopt online legal services, top management needs to change existing operational and business practices to make it work.

The evolution also repositions the style of legal service delivery. From the left hand side the service relies on a trusted legal advisor, however, as we move to the right, the service relies more on a branded package that is wrapped for the client to consume as required (Susskind, 2008). This presents a psychological and emotional dilemma for lawyers whom are more comfortable to operating in the left hand side but will be required to shift towards the right. The market pull concept is also supported by Gordon et al. (2012) postulation that there is broader commercial and societal shift in consumer behaviour towards the use of internet based modes of communication and business

transacting. Furthermore, due to the increasing availability of information on the internet, consumers have gained more legal acumen and technical savvy to change the way in which they consume legal services (Gordon et al., 2012).

Technology adoption theories

Technology adoption is defined as “the first use or acceptance of a new technology or new product” (Gangwar et al., 2014, pp. 489). Academic literature presents various views on the adoption or diffusion of technology innovation from various perspectives. Numerous theories, models and frameworks have been developed within the information systems field (Gangwar et al., 2014). Over time three main focus areas of technology adoption theories have emerged (Arifin, Firmanzah, Fontana, & Wijanto, 2016; Barnes & Hinton, 2012). The table below summarises the identified focus areas.

Stream	Focus	Key Theories
Individual focussed theories	To understand how users accept, not accept, further use or reject technology	Technology acceptance model (TAM). Unified theory of acceptance and used of technology (UTAUT).
Technology focussed theories	Explain why and how new technological innovations are diffused in an organisation or community.	Diffusion of Innovation theory (DOI). Technology Adoption Life Cycle model (TALC).
Organisation focussed theories	Explain the effect of technology on the organisations goals, objectives and performance.	Technology Organisation Environment framework (TOE).

TABLE 1: SUMMARY OF DETERMINANTS OF TECHNOLOGY ADOPTION THEORY (ARIFIN ET AL., 2016; BARNES & HINTON, 2012)

The Technology Acceptance Model (TAM) is regarded as the most prominent adoption theories that have enjoyed substantial theoretical and empirical support by scholars in the information systems discipline as a simple model for explaining and predicting user’s behavioural intentions to adopt technology. TAM posits that the perceived ease of use and usefulness of a technology determines a user’s behavioural intent to adopt

the technology (Gangwar et al., 2014). Although the TAM has been reported to consistently explain 40 percent of users intention to adopt a new technology, it is not perfect and the model has been criticised for its restrictive constructs which are unable to address new services or solutions. It has also been argued that the generic constructs of TAM does very little to explain why and how specific categories of technology are adopted (Grover & Lyytinen, 2015). This limits the scope in which TAM can applied for studying the influence of other factors especially from an organisational and environmental perspective (Gangwar et al., 2014). Based on this limitation TAM is not suitable to the objectives of this study which seeks to understand the adoption at an organisational and environment level.

Oliveira and Martins (2011) and Zollet and Back (2015) argue that the two most prominent models in literature that explain technology adoption from a firm perspective are the Diffusion of Innovation (DOI) and the Technology-Organisation-Environment (TOE) frameworks. The DOI model is widely cited in studies that seek to explore the implementation of technology innovation (Wang & Wang, 2016). The model explains the diffusion of technological innovations from five perspectives namely, relative advantage, compatibility, complexity, observability and trialability (Oliveira, Thomas, & Espadanal, 2014). The DOI model is criticised for not fully explaining the underlying causes for implementing technology innovations particularity from a environmental perspective (Oliveira & Martins, 2011; Wang & Wang, 2016).

The TOE model is aligned with the DOI, with the additional provision for the environmental perspective to technology innovation adoption (Zollet & Back, 2015). This makes the TOE model especially relevant to this study as it seeks to explore the adoption of online legal services from a law firms perspective (Oliveira & Martins, 2011; Wang & Wang, 2016). For example, Schwarz and Schwarz's (2014) application of the TOE model demonstrated that institutional factors, external to the organisation influenced the technology adoption and non-adoption decisions in the medical profession and found that a strong driver for adoption is pressure from physicians on other physicians.

Technology-Organisation-Environment (TOE) framework

The TOE framework was introduced in 1990 by Tornatzky and Fleischer, exhibits a strong theoretical basis and consistent empirical support (Oliveira & Martins, 2011). The model groups the factors that may facilitate or impede an organisations decision to

adopt technology innovation into three contexts i.e. technological, organisational and environmental (Wang & Wang, 2016). Each of these contexts are briefly discussed below.

1. Technology: This context includes all technologies applicable to the particular organization that is already in use or is available for use by the organisation. The focus of this context revolves around the characteristics of existing and emerging technology innovations (Leung, Lo, Fong, & Law, 2015; Wang & Wang, 2016). Leung et al. (2015) refer to existent research that has shortlisted the top 5 characteristics that are associated to technology adoption. These include compatibility, complexity, observability, trail ability and relative advantage.
2. Organisation: This context relates to the characteristics associated to the organisation such as size, scope, resources available and organisation formalisation (Wang & Wang, 2016). This element also includes a dimension on financial and technology readiness, which refers to availability of financial and technical resources that drive adoption.
3. Environmental context refers to the external arena in which the organisation operates in (Wang & Wang, 2016). This includes the industry structure, existence or non-existence of technology service providers and the regulatory environment. Research in this context has revealed that organisations often face pressure from its competitors, suppliers and consumers to adopt technology innovation (Leung et al., 2015). Furthermore the industry life-cycle tends to motivate organisations to innovate more (Baker, 2012).

Research has shown that the TOE framework is widely generalizable and is versatile enough to provide an explanatory perspective on technology adoption across a number of technological, organizational and environmental contexts (Baker, 2012). The use of the TOE as theoretical basis is consistent with a number of researchers within the field of the e-commerce (Barnes & Hinton, 2012; Chatzoglou & Chatzoudes, 2016). This is due to the unique combination of technology and organisational focus areas that are not addressed adequately in other adoption theories (Oliveira & Martins, 2011). In particular, the TOE framework “provides a holistic picture for user adoption of technology, its implementation, foreseeing challenges, its impact on value chain activities, the post-adoption diffusion among firms, factors influencing business innovation-adoption decisions and to develop better organisational capabilities using the technology” (Gangwar, Date, & Ramaswamy, 2015, p. 6).

Although the TOE framework has been widely cited in the literature, there has been noticeable lack of development in the theory. A number of factors have been highlighted to explain this issue. Zhu and Kraemer (2005) describes the TOE framework as a “generic theory of technology diffusion” (p.63). Baker (2012) agrees with this statement citing the fact that scholars have found the framework to be extremely adaptable to almost any context where varying factors have been placed in the elements of the TOE to study the adoption of adoption (Z. Yang, Sun, Zhang, & Wang, 2015). As a result, scholars have not found many reason to refine or adjust the theory but rather to identify the relevant factors that are best suited to the context that is being studied.

There is also a perception that the TOE explanations of innovation adoption is closely aligned to other adoption theories such as the diffusion of innovation theory (DOI) rather than offering competing explanations of IT adoption (Baker, 2012). Therefore, scholars have not seen the need to alter the TOE as a response to other theories such as the DOI. Furthermore, there is a multitude of theoretical options available to researchers to explain technology adoption at a firm level (Baker, 2012). Depending on the context of their studies researchers merely have to select a theory most relevant to context of their study rather than adapting a theory to suit a particular context. It is also argued by scholars that it is unlikely for a single theory to explain the adoption of all types of innovations, due to the differing characteristics of each innovation and the varying of contexts (Baker, 2012).

Although the TOE model has been studied in a variety of contexts and technologies, the literature review failed to identify prior TOE research that studied the adoption of online legal services. Therefore, the literature review was directed at TOE research that focussed on firm level adoption of other online services such as e-commerce, e-business, e-procurement, cloud computing and virtual worlds. Annexure A summarises the TOE literature that was reviewed as part of this study.

Contexts of the TOE framework

Technology

The 4th industrial revolution has shown that the legal profession is not immune to technological development. The rise of legal tech has presented various technology options for legal firms to transform their business models (Simpson, 2016). The technological context has been of significant focus in research, with numerous

technological factors being studied (Marques, Soto-Acosta, & Merigao, 2015). Based on significant research and relevance to online legal services the factors of perceived relative advantage, perceived obstacles and compatibility has been identified to be included in the scope of this study.

1) Perceived Relative Advantage

Perceived relative advantage (also known as perceived benefits) relate to the benefits that are observed by potential adopters of technology (Ahmad et al., 2015). Gangwar et al. (2015) refer to this factor as “the degree to which a technological factor is perceived as providing greater benefit for firms” (p.7). Gutierrez, Boukrami, and Lumsden (2015) argue that relative advantage as a core indicator for technology innovation adoption where organisations typically weigh up the advantages and the disadvantages of the technology prior to adoption. This point is espoused by Kurnia et al. (2015) highlighting that the abovementioned process is critical due to the significant investment involved in the implementation of e-commerce. The benefits associated with e-commerce, varies between industries and contexts. There is no contestation that technology plays an integral part in all aspects of a law practice. It has revolutionised the way in which law firms communicate, store information, perform research, manage their time and their finances. Law firms facing increasing completion and plateauing demand may see the benefits of online legal services as a mechanism to serve a lot of clients in a quick and cost effective manner resulting in increased case flows for the law firm and improved satisfaction from clients.

This factor has been widely researched by a number authors especially in the e-commerce context and is generally found to be positively associated with e-commerce adoption (Ahmad et al., 2015; Duan, Deng, & Corbitt, 2012; Li, Pillutla, Zhou, & Yao, 2015; Oliveira & Martins, 2010; Oliveira et al., 2014; Rahayu & Day, 2015). Gutierrez et al. (2015), on the other hand, did not find a significant relationship between relative advantage and cloud computing adoption. This was attributed to a lack of awareness by top management on the benefits of the technology. In the same technological context, Oliveira et al. (2014) found that relative advantage is more important to firms in the manufacturing sector than in the services sector (pp. 505). Both studies attributed their findings to a lack of understanding and knowledge by top management whom are responsible for making the adoption decision. While the two aforementioned studies focussed on the same technology, Gutierrez et al. (2015) studied this factor in organisations representing different organisations in the United Kingdom and Oliveira et al. (2014) studied this factor in the manufacturing and services industries in Portugal.

The difference in findings demonstrates the notion that the difference in contexts, impacts the degree of influence that a particular factor may have on adoption (Chatzoglou & Chatzoudes, 2016). Within the legal industry context, the double edge sword perspective may diminish the potential advantage of online legal services. As discussed earlier, the dilemma of efficiency verses revenue generation is deeply rooted in the billable hours model (Henderson, 2014). Law firms that are fixated on the current business model will be less inclined to recognise the advantages brought by online legal services.

The literature presents varying results on the relative advantage construct, however it is noted that the majority of studies referenced above have found a positive relationship between perceived relative advantage and adoption, therefore the hypothesis has been formulated as follows,

H1: The perceived relative advantage is positively related to adoption of online legal services by South African law firms

2) Perceived Obstacles

Oliveira and Martins (2010) argue that whilst it is important to recognise influence of perceived advantages on adoption, it is equally important to examine the perceived barriers to adoption. The thrust of this argument relates to the fact that high costs and complexity related to the adoption of e-commerce. Furthermore, strong technical and organisational competence is required to ensure the successful implementation and acceptance of e-business by the users. Oliveira and Martins (2010) support their argument by citing various empirical studies which identified specific obstacles which impede the adoption of technology. Although the perceived obstacles construct is not included as factor in the original TOE framework, it represents a composite factor that combines existing TOE adoption factors such as complexity, technology readiness and financial readiness. Within the legal profession, academics have cited a few obstacles to the adoption of online legal services by law firms. Gordon et al. (2012) identifies these barriers as ethical and professional issues with the concept of online legal services and include the aspects of confidentiality, security and regulation in the legal industry.

Although the legal profession is characterised by its high fees, serving mostly the wealthy, many countries prohibit non-lawyers from investing in legal firms thus limiting the ability for law firms to raise funds from outside (Henderson, 2014; Simpson, 2016).

Even if the law firm is willing to implement an online legal service, the technology may be perceived to be too expensive to implement. Based on the trends in the legal industry it is likely that smaller firms, with limited financial resources, are more likely to produce innovative legal service packages than large firms (Susskind, 2008). Prior studies have shown a significant link between adoption and a firm's willingness to spend on technology (Kurnia et al., 2015). Big law firms in particular, have been hit by flat fee structures, lower demand caused by corporate legal insourcing and increased competition through legal outsourcing (Henderson, 2014). This points to a need for law firms to divert their attention to curbing operating costs and increasing efficiency within their practices by leveraging off technology.

Sila (2013) studied the influence of network reliability and data security as technology factors which influence a firm's propensity to adopt e-commerce. Network reliability relates to the firm's ability to interact successfully with its stakeholders over the internet where outdated network infrastructure may pose challenges to enable online services. Internet access, reliability and speed typically forms part of the broader responsibility of government (Kurnia et al., 2015). Although the South African government has developed a national broadband policy, its implementation has been rather stagnant, therefore internet access remains particularly costly and slow for most of South African consumers (Mavimbela and Dube, 2016).

Data security also forms part of the perceived obstacles construct which refers to security threats to a firm's transactions over the internet where a firm may find the threat to be too significant to risk adopting online services (Sila, 2013). Senyo, Effah and Addae (2016) argues that security concerns surrounding technology is an often neglected aspect in technology adoption studies and found it to be a significant factor that influences the adoption of cloud computing (pp. 510-511). Law firms typically have a fiduciary relationship with their clients, which includes the responsibility of a lawyer to strictly protect its clients confidentiality and avoid conflicts of interest (Gordon et al., 2012). Online legal services poses a threat to confidentiality, where information stored on the systems exposed to internet and stored on the "cloud" could be vulnerable to third party access by host service providers employees and hackers (Gordon et al., 2012). Whilst various solutions are available to protect against these breaches (e.g. encryption and secure certificates), law firms need to understand the risks and technical limitations to offering online legal services (Gordon et al., 2012).

The perceived obstacles construct by its nature is expected to negatively influence adoption, hence the following hypothesis that will be tested in this study,

H2: The perceived obstacles is negatively related to the adoption of online legal services by South African law firms

3) Compatibility

Compatibility refers to the degree that existing technology is compatible with the existing needs of the business, information technology (IT) infrastructure, practices, culture and values (Ahmad et al., 2015). The literature shows a strong correlation between the adoption of e-commerce and compatibility (Ahmad et al., 2015; Chatzoglou & Chatzoudes, 2016; Kurnia et al., 2015; Wang & Wang, 2016; Z. Yang et al., 2015). However there has been less significance of this construct in studies involving other technologies such as enterprise resource planning (ERP) and electronic data interchange (Gangwar et al., 2014).

From a consumer perspective Cho (2006) found that online legal services is compatible with the lifestyles of consumers. Ahmad et al., (2015) found that perceived compatibility was a strong factor in the adoption of e-commerce highlighting that compatibility with existing IT infrastructure is a key determinant for the successful implementation of e-commerce. This finding was consistent with Chatzoglou and Chatzoudes (2016) finding that organisations with greater IT infrastructure are more likely adopt e-business as it establishes the ground work upon which the technology can be built. To the contrary, Rahayu and Day (2015) did not find any statistical significance between perceived compatibility and e-commerce adoption. This again highlights the importance of context in a technology adoption study. The finding by Rahayu and Day (2015) was attributed to small to medium enterprises (SME) in Indonesia not having many IT applications in their business and therefore did not have the need to worry about compatibility with its existing IT environment. Based on this point, it is likely that a law firms existing investment in technology is likely to influence their transition to online legal services.

Ahmad et al., (2015) also note that perceived compatibility is also linked to the organisations culture values and preferred work practices. It is therefore necessary for these factors to be aligned in order for the adoption of e-commerce to take place. Susskind (2014) argues that almost all tasks executed by lawyers today can be supported or even replaced by technology. The unbundling of legal work has created new ways in which technology can be used to perform legal tasks. This indicates that compatibility is possible in the legal industry, albeit, with some structural and procedural changes. However, the move to online legal services may experience cultural challenges where lawyers have a particular disposition to delivering legal

services in the traditional bespoke format (Susskind, 2008). The perception of compatibility is likely to vary from firm to firm based on their cultural influence on online legal services, therefore the hypothesis to be tested in this study has been structured as follows,

H3: South African law firms with a greater perceived compatibility is positively related to adoption of online legal services

Organisation

Organisational context relates to the attributes associated to the organisation such as size, scope, resources available and organisation formalisation (Wang & Wang, 2016). Within this context, prior research has highlighted top management support as a key predictor for the adoption of technology innovation (Leung et al., 2015).

4) Top Management Support

Top management support is a frequently used factor employed in technology adoption studies and is consistently found to be a significant influencer of technology adoption. In this respect top management commitment towards innovation is seen as an essential ingredient in a firm's decision to adopt technology (Ahmad et al., 2015; Chatzoglou & Chatzoudes, 2016; Duan et al., 2012; Kurnia et al., 2015; Leung et al., 2015; Li et al., 2015; Liu & Li, 2014; Oliveira et al., 2014; Senyo et al., 2016; Sila, 2013; Wang & Wang, 2016; Z. Yang et al., 2015; Yoon & George, 2013). The existence of top management support is necessary for adoption and this role player is instrumental in assigning adequate organisational resources (human, financial, technical) towards adopting and implementing the online service (Oliveira et al., 2014; Yoon & George, 2013). Due to the magnitude of, amongst others, the structural and procedural change required, strong top management support is required especially during the implementation stage to ensure that there is co-ordination amongst the different stakeholders and for conflict resolution (Sila, 2013).

Contrary to the aforementioned studies, Gutierrez et al. (2015) found top management to not be a significant factor that influences technology adoption. This study highlighted the close relationship of relative advantage to top management awareness. In order to attain buy-in, top management must understand the benefits of offering online legal services. Legal firms are typically headed up by legal professionals whom may not understand or appreciate the opportunities that exist with technology. Quttainah and Paczkowski's (2016) argues that law firms with dedicated IT staff tend to understand

the benefits and opportunities that technology presents to the firm. In this context IT staff serve to promote the adoption of technology in laws by breaking down the knowledge barrier for top management to make informed decisions on technology adoption. Given the importance of top management support and positive relationship, this factor will be tested using the hypothesis below,

H4: Top Management support is positively related to adoption of online legal services by South African law firms

Environment

Environmental context refers to the external setting in which the organisation operates in (Wang & Wang, 2016). This includes the industry structure, the existence or non-existence of technology service providers and the regulatory environment. Research in this context has revealed that organisations often face pressure from its competitors, suppliers and consumers to adopt technology innovation (Leung et al., 2015). Furthermore the industry life-cycle tend to motivate organisations to innovate more (Baker, 2012). The main factors that have been identified as suitable to this study, includes: competitive pressure and regulatory support.

5) Competitive Pressure

Sila (2015) argues that industry structure, characterised by competitive pressure is a contextual variable that is widely understudied in e-commerce adoption research. This is an important factor that influences technology adoption decisions as it relates to power distribution amongst players in the industry (Kurnia et al., 2015). Kurnia et al. (2015) study found that large players in an industry influence smaller players in the industry to adopt B2B e-commerce technologies as qualifying criteria to participate in the supply chain. Quttainah and Paczkowski's (2016) "bandwagon effect" postulates that firms which adopt technology based on the adoption patterns in the industry may be acquiring technology that is sub-optimal to their requirements, whereas it may be more advantageous for the firm to not adopt the technology at all. Despite this, as more firms jump onto the bandwagon based on the patterns of other firms, even more firms are induced into adopting the technology. In this perspective firms adopt the technology not for the benefits it presents to the individual organisation, but rather to appear more legitimate in the industry (Marques et al., 2015). This is an especially relevant factor in the legal industry, where a firms competitive position in the industry is based on its reputation (Henderson, 2014).

Competition in the legal profession is traditionally characterised by the reputation of individual lawyers in terms of their knowledge and expertise in law, however, the entry of legal start-ups and virtual firms are poised to change the ballgame (Henderson, 2014). This development may force law firms to quickly adopt online legal services in order to stay relevant in the future. The LexisNexis (2016) survey has also highlighted that the legal industry in South Africa is made up of a large number of small firms, with a small number of large law firms. The adoption of online legal services could erode on the market that small law firms are currently operating in, which may force the adoption by smaller firms in order to remain competitive.

H5: The adoption of online legal services among law firms in South Africa is positively related to pressure from competitors.

6) Regulatory Support

Oliveira et al. (2014) posits that existing laws and regulations are a decisive factor in the assimilation of technology innovation by firms in an industry. The laws and regulations set by government institutions is pivotal in the decision to adopt or not adopt a technology. In this role, government through regulation, can create a fertile environment for firms to adopt online services by providing legal protection for the privacy and security of internet users (Kurnia et al., 2015). Examples of these forms of legislation can be seen in the recent passing of the Protection Of Personal Information (POPI) act and the cyber security bill. South Africa has also passed laws such as the Information Technology Agency Act 88 of 1998 and the Electronic Communications and Transactions (ECT) Act of 2002 which have contributed to e-commerce growth in the country (Datta, 2011). At the same time government regulations could impede firms from adopting online legal services through regulations pertaining to unauthorised practise of law, client-attorney privilege and non-lawyer ownership all which are prevalent in the legal systems of most countries, including South Africa (Gordon et al., 2012).

The legal industry has existed for centuries and has grown as the complexity of industries and laws have increased. As an old profession, practices, laws and regulations have been developed over time to protect both the legal profession and its clients (Gordon et al., 2012). Of particular relevance is the unauthorised practice of law provision that exists in most countries and can be regarded as one of the biggest inhibiting factors in the decision to invest and develop online legal services (Rotenberg, 2012). The provision has its roots since the early development of the legal provision and exists to purportedly protect consumers from receiving inaccurate legal advice,

leading to compromised cases and increased litigation costs. Furthermore obtaining advice from a non-lawyer excludes a client from enjoying the protection of attorney client-privilege, confidentiality and conflicts of interest (Rotenberg, 2012). Law firms represent big business, where a limitation on the practice of law can be seen as a significant barrier to entry into the legal market. The enforcement of the unauthorised practice of law has been upheld with great vigour in the recent decade (Brescia et al., 2015).

The model of online legal service provides large scale offerings to many clients at the same time (Susskind, 2014). However, the fiduciary duty of lawyers requires them to provide undivided loyalty to their clients and to avoid any potential conflicts of interests (Gordon et al., 2012). In simple terms a lawyer cannot represent both sides in a legal matter. It is therefore imperative for law firms offering online legal services to ensure that appropriate policies and systems are in place to detect and avoid potential conflicts of interests. These laws and regulations are referred to by Rotenberg (2012) as stifling to the proliferation of internet based legal services, especially to legal start-ups. This environmental factor has served to curtail the pace of innovation in the legal profession working in favour of lawyers and against the needs of the clients (Henderson, 2014). Based on this context the hypothesis was formulated as follows,

H6: Regulatory Support will negatively influence online legal services adoption by law firms in South Africa

Technology adoption in context

The dominance of TAM is indicative of a bias by scholars towards the individual and consumer driven factors that explain and predict technology adoption. Little focus has been placed on adoption from an organisational and environmental perspective (Oliveira & Martins, 2011). Whilst adoption at an individual level is important, the interplay between the technology and organisational and individual factors is critical. Some studies argue that the impact of an innovation at a product or service level is often transferred to the industry itself (Kumar, 2014). From an adoption perspective, Oliveira and Martins (2010) study, confirms that industry characteristics are the most relevant factor that describes adoption of e-commerce.

Kumar (2014) analysis of literature on the cultural differences in innovation, argues that innovation is reflective of an entire industry, where some industries naturally lend itself to innovation, others do not and are often overlooked from an academic perspective.

This is attributed to the fact that in high-innovation industries there are old and new technologies that researchers can choose from. Furthermore, the time period between when the innovative product or service was first introduced and the point of its full adoption can be studied to fully understand the influence of various factors during the adoption process (Kumar, 2014). This argument links to the disruptive information technology innovation model, which previously found that the slow adoption rate of a new service innovation can be explained by the perception by early adopters that the innovation is radical in nature. As the adoption rate increases over time, the innovation becomes codified into the practice of the industry, where less risk averse firms finally adopt the innovation (Carlo, Gaskin, Lyytinen, & Rose, 2014). These findings present an interesting dynamic to the current study which looks at a technology that is still in its infancy in the legal industry where the few law firms that have adopted legal technology could be regarded as early adopters. To the knowledge of the author, the TOE framework has not been applied in this context before, thus presenting an opportunity for the applicability and advancement of the TOE framework.

E-commerce has been argued to be a key ingredient to a country's socio-economic growth, especially in developing countries (Datta, 2011; Kumar, 2014; Oliveira & Martins, 2011). However, it has been found that adoption rates of technology such as e-commerce in developing countries are much lower than developed countries (Datta, 2011; Kumar, 2014). Zhu and Kraemer (2005) postulates that theories conceived in developed markets need to be re-visited in the context of developing countries due to the varying economic, socio-economic and regulatory environment that may influence the adoption factors (Datta, 2011). This argument supported by Ahmad et al. (2015) who state that the factors found to have an impact on e-commerce adoption in developed countries are vastly different to those in developing countries because of the different challenges that firms face in these environments.

Unlike developed countries, developing countries lack necessary facilitating ingredients for e-commerce to succeed. These ingredients include, amongst others, consumers with disposable income, established banking institutions, access to computers and the internet and a variety of online vendors. As a result the e-commerce in developing countries is characterised as being focussed on the provision and consumption of content rather than the facilitation of online procurement (Datta, 2011). From an online legal services perspective, the South African context may play a role in the adoption rate of the technology innovation as the industry has experienced rapid growth which has seen most major global law firms establish a presence in the country (Klaaren, 2015).

Chapter Conclusion

The literature review has revealed that there is a need for technology adoption theories such as the TOE framework to be applied in new and different contexts in order to develop the theory and improve its generalizability (Venkatesh et al., 2007). The idiosyncrasies relating to the legal industry from a technology and business point of view was discussed with the intention of framing the context of the study. The literature review was not able to locate other studies into online legal services adoption which indicates that the legal industry is a new context for the application of adoption theories. The TOE framework was determined to be best suited to the objectives of this study as it incorporates the organisation and environmental elements related to adoption. Using this lens, the factors relating to the technology, organisation and environment were evaluated based on the findings of prior studies and its relevance to the adoption of online legal services in South Africa. Out of this process, six adoption factors were identified and the findings of previous studies were used to develop the hypotheses to be tested. The conceptual research model and hypotheses are stated in the next chapter.

Chapter Three: Research Model and Questions

Chapter Introduction

From on the literature review, it was observed that limited research has been performed on online services adoption in the legal industry, especially using the TOE framework. Therefore, the research study aimed to use the TOE framework to identify the factors that lead to the adoption of online legal services in South Africa. The constructs to be tested will be based on the TOE framework and the literature review discussed in the previous section which resulted in the conceptual research model illustrated **Error! Reference source not found.** below:

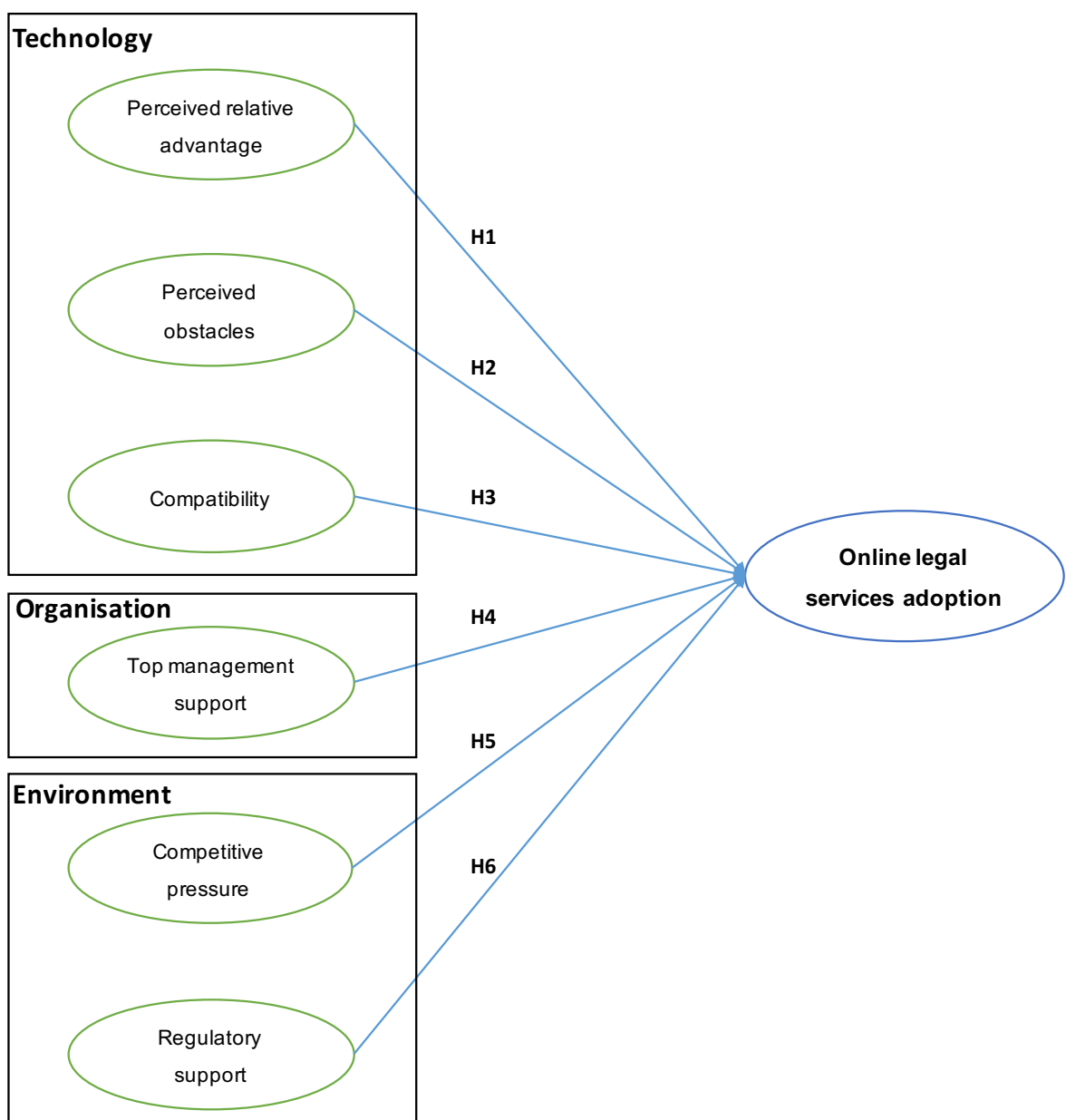


FIGURE 3: CONCEPTUAL RESEARCH MODEL

Restatement of Hypotheses

The Hypothesis that will be tested are restated below for easy reference:

H1: The perceived relative advantage is positively related to adoption of online legal services by South African law firms

H2: The perceived obstacles is negatively related to the adoption of online legal services by South African law firms

H3: South African law firms with a greater perceived compatibility are positively related to adoption of online legal services.

H4: Top Management support is positively related to adoption of online legal services by South African law firms

H5: The adoption of online legal services among law firms in South Africa is positively related to pressure from competitors.

H6: Regulatory Support will negatively influence online legal services adoption by law firms in South Africa

Chapter conclusion

This chapter illustrated and restated the hypotheses that were developed in the literature review. These hypotheses will be tested by following the research methodology and design discussed in the next chapter.

Chapter Four: Research Methodology and Design

Chapter introduction

The previous chapter stated the hypotheses that have been framed based on the objectives of this study. The following chapter takes the research process forward by describing the research methodology and design of the study in detail. The chapter also provides a full account of the data collection process undertaken. Lastly the data analysis process is described and justified.

Research design

The efficacy of a theoretical model is typically evaluated through “its generalizability across time, populations and contexts” (Venkatesh et al., 2007, p. 268). This is achieved through empirical testing and replication in a variety of contexts. This study aims to contribute to the body of knowledge by empirically testing the TOE framework in the legal industry context and from a developing country perspective. This objective lends itself to positivist paradigm, which uses structured data collection methods that are repeatable and result in law-like generalisations (Saunders & Lewis, 2012). The factors proposed by the TOE framework presents variables that can be empirically tested on whether or not it positively or negatively influences adoption. This deductive approach will either prove or modify the TOE framework and thereby contribute to building the theoretical base. It is inherent to this theoretical choice that this research takes the form of a explanatory study by establishing causal links between the technology, organisational and environmental factors identified by the TOE framework and the adoption of e-commerce in the legal industry (Saunders & Lewis, 2012). In line with the deductive and explanatory study, the research strategy will be executed using a survey method that aims to structure the data collection process.

The choice between quantitative and qualitative is largely driven by the research questions (Marshall, 1996). Sarker, Xiao and Beaulieu (2013) supports this argument by stating, “How the problem is formulated directly impacts a study’s design, data collection, and analysis” (p. vi). The research question and the hypotheses discussed earlier in this document has been crafted with the specific intention to establish causal links between the factors relating to technology, organisation and environment on the decision to adopt online legal services. The factors selected using the TOE framework serve to narrow the focus of the study from a scope perspective in light of the restrictive timeline for the project. Therefore, a quantitative approach has been

employed, using statistical methods to test for any significant causal links between the selected TOE factors on online legal services adoption. In support of the aforementioned choice, the literature review has revealed that the vast majority of research into adoption of e-commerce has been conducted using quantitative methods (Sila, 2015). This form of research has been successful in identifying significant factors that influence e-commerce adoption which is appropriate to research at a masters level (Ahmad et al., 2015).

The study has been executed as a cross sectional study, as it is geared towards understanding the adoption factors based on current views of the survey participants where the survey was completed once. Due to the limited time period that was available to conduct this study, a cross-sectional study was more appropriate than a longitudinal study (Saunders & Lewis, 2012).

Universe

The literature has revealed that the factors that influence e-commerce adoption varies depending on the contextual factors in the setting and therefore more research studies conducted in different settings and industries contribute to testing and building adoption theories such as the TOE framework (Ahmad et al., 2015). This research study has been conducted within South Africa, specifically focussing on the legal industry. This decision was informed by the literature review, which revealed limited e-commerce adoption research in developing countries and the legal industry. Thus, the population of this research has included all practicing lawyers in South Africa.

Sampling

The Attorneys Act of 1979 requires all admitted attorneys to be registered with one of four provincial law societies in South Africa based on where they practice. The Law society of South Africa (LSSA) was setup in 1998 to bring together the provincial bodies and related stakeholders into a single national, non-statutory body that represents the attorneys profession in South Africa (Law Society of South Africa, 2017a). The LSSA maintains a database of all practicing attorneys in South Africa, which ideally can be regarded as the sampling frame of this study. As at April 2016, LSSA reported that the legal profession in South Africa consisted of 24 330 practising attorneys and 4 909 candidate attorneys with 12 373 Attorney's firms (Law Society of South Africa, 2017b). Permission to access the LSSA database was not received in

time, therefore the author resorted to the law society of Northern Provinces (LSNP) list of attorneys as the working population of this study (Zikmund, 2003). The law society of the Northern Provinces is a member of LSSA, representing the legal profession in four provinces i.e. Gauteng, Mpumalanga, North West and Limpopo provinces. According to the LSSA statistics, the law society of the Northern Provinces represents approximately 55% of the total number of practising attorneys in South Africa (Law Society of South Africa, 2017b). The contact details of the attorneys on this website are in the public domain and open to anyone, therefore no permission was required from the organisation in question.

Due to availability of a complete and accurate list of practising lawyers located in the law society of the Northern Provinces website, a probability sampling technique was employed in this study (White, 2002). Due to the relative size of the population, a simple random sampling method, with replacement was used to obtain the desired number of unique email addresses. A total of 15831 lawyers details were listed on the law society of the Northern provinces websites. Of this this number only 15 734 lawyers provided their email addresses. The email addresses of the lawyer's published on the law society of the Northern Provinces website was extracted into Microsoft Excel (Microsoft Excel for Mac, Version 15.20.150315), using a data scraping tool called Data Miner (Data Miner, Version 3.280.2). Due to the fact that the website listed the lawyers alphabetically, by surname no further sorting was applied. Based on the recommended sample calculator an ideal sample of 375 should be obtained at a 95% confidence level and 0.05 margin of error (degree of accuracy) .

Unit of analysis

A unit of analysis refers to the unit, case or social setting that is being deliberated (Kurnia et al., 2015). The unit of analysis of the proposed study are identified as the lawyers that will be selected to participate in the survey. These lawyers are deemed to be currently practising attorneys in South Africa whom are either employed or associated to law firm. The selected participants should be able to provide a current view of the state of online legal services adoption from a technology, organisation and environment perspective.

Measurement instrument and data collection

The measurement instrument selected for this study was directly driven by the constructs defined in the TOE. The survey strategy employed by this research paper was operationalised through the use of a questionnaire. A questionnaire is generally accepted technique of the survey strategy which aims to obtain structured and standardised data that can be statistically analysed to explain the causal relationships posited in this study (Saunders, Lewis, & Thornhill, 2009).

Questionnaire design

The questionnaire designed for this study consisted of four sections i.e. Section A: Demographic profile; Section B: Firm profile; Section C: Online legal service adoption; and Section D: Online legal service adoption factors as illustrated in Annexure B of this document. Sections A and B was aimed at obtaining a profile of the respondents and the law firms where the respondent was employed or associated with. In order to ensure that the questionnaire uses terminology that is widely understood in the legal industry, options for certain demographic questions were taken from the LexisNexis (2016), Attorney's profession in South Africa survey. The demographic data was used purely from a descriptive perspective to provide context of the people and firms that participated in the survey. A control question was included to filter out any respondents that were not practising lawyers that were associated or employed by a law firm.

Section C ascertains whether or not the firm has adopted online legal services and represents the dependent variable of the study. In order to get the additional insights and cater for law firms that do not offer online legal services as yet, a second question was added to ascertain the likelihood of the firm adopting online legal services in future.

Section D is structured around the factors for adopting online legal services based on the TOE framework. For each dimension of the TOE, multiple items are used and are measured using a five point Likert scale. In order to ensure reliability, the items have been adopted from previous studies that matched the adoption factors selected for this study. In order to ensure relevance to the respondents, these items were modified slightly to fit into the legal industry context. The perceived relative advantage items was adopted from Yoon and George (2013). Five items for the perceived obstacles construct was adapted from Oliveira and Martins (2010) with a further two items added by the author based on the literature review. Four items for the Perceived Compatibility construct was adapted from Lee and Kim (2007) with an additional item added by the author based on the literature review. The top management support and competitive

pressure factors where adopted Sila (2013). The regulatory support factor items was obtained from Oliveira et al. (2014). The remaining factor items pertaining to industry structure where developed by the Author, informed by the literature review to ensure content and construct validity (Saunders & Lewis, 2012). Table 2 below, lists the items included in the study.

Construct	Label	Item	Source
Perceived Relative Advantage	TPRA1	Offering online legal services will allow better communication with our organisation	Yoon and George (2013)
	TPRA2	Offering online legal services will increase the profitability of our organisation	
	TPRA3	Offering online legal services will create an electronic presence for our brand	
	TPRA4	Offering online legal services will reduce costs (e.g. communication, advertising, marketing, travel and Research)	
	TPRA5	Offering online legal services will allow us to enter new markets and/or gain new clients	
	TPRA6	Offering online legal services will improve our web presence	
Perceived Obstacles	TPO1	My firm is too small to benefit from any online legal service activities	Oliveira and Martins (2010)
	TPO2	Online legal services activities are too expensive to implement	
	TPO3	The technology is too complicated	
	TPO4	We are concerned about potential security risks and privacy	
	TPO5	We think that there are important unresolved legal issues with offering online legal services	
	TPO6	Legal services provided online are of a lower standard/ quality	N/A
	TPO7	Online legal services will expose my firm malpractice issues due to system errors	
Perceived Compatibility	TPC1	Implementing the changes caused by the adoption of online legal services is compatible with existing operating practices	Lee and Kim (2007)

	TPC2	Implementing the changes to work procedures initiated by the adoption of online legal services are compatible with the beliefs and values existing in our law firm	
	TPC3	The adoption of online legal services is compatible with our firms Information technology (IT) infrastructure	
	TPC4	There exists favourable attitudes towards online legal services adoption in our firm	
	TPC5	Face to Face contact is non-negotiable in the practice of law	N/A
Management Support	OMS1	Our top management is likely to invest funds in information technology	Sila (2013)
	OMS2	Our top management is willing to take risks involved in the adoption of online legal service	
	OMS3	Our top management is likely to be interested in adopting online legal services in order to gain competitive advantage	
	OMS4	Our top management is likely to consider the adoption of online legal services as strategically important	
Competitive Pressure	ECP1	An industry move to utilize the internet for legal service delivery would put pressure on my firm to do the same	Sila (2013)
	ECP2	There is trend in my industry to more utilize the internet for more legal service delivery	
Regulatory Support	ERS1	There is legal protection in the use of online legal services	Oliveira et al. (2014)
	ERS2	The laws and regulations that exist nowadays are sufficient to protect the use of online legal services	

TABLE 2: MEASUREMENT ITEMS USED IN THE STUDY

The questionnaire was offered in English only. This is an appropriate language as it is one of the eleven official languages in South Africa. Furthermore, since English is the official language in South African Courts it is expected that lawyers are fully conversant in English.

Survey pilot

Due to the short timeframe of this project, a comprehensive pilot of the questionnaire was not possible. However, in order to test for validity, the survey was tested with a fellow MBA student, who is a practicing lawyer. The pilot subject focussed on the structure and wording of the survey in order to ensure that the questions and statements could be understood by a lawyer. The survey originally made reference to legal e-commerce as the technology context. During the pilot it was understood that lawyers relate better to the term online legal services which is a more descriptive term of legal e-commerce. As result term legal e-commerce was replaced with online legal services both in the survey and this document. The control question asking respondents to confirm if they where a currently practising lawyer employed or associated with a law firm was most to start of the survey to ensure that the respondent could identify upfront if they qualified to respond to the survey or not. This strategy did have some effect as the author received emails from a few recipients who indicated their willingness to participate but did not fit profile of the targeted respondents. The question on the number of people employed by the firm was split into two questions, one targeting the number of lawyers employed by the firm and one targeting the number of support staff employed by the firm. The pilot highlighted that the size of a law firm is determined by number of lawyers practising at the firm and not total head count. This dynamic was also identified in the literature review which noted that firms grow in size by hiring more lawyers and thereby creating more billable hours (Henderson, 2014). Therefore this distinction was important as it would have been difficult to determine the true size of firm. Due to the fact that Section D was formulated based on prior studies, minor grammatical amendments where identified and corrected.

Survey distribution

The questionnaire was administered by the respondents themselves using a web based survey tool, Google forms (<https://docs.google.com/forms/>). A web based survey has number of benefits over other methods of data collection, including the ability to reach a large number of respondents in short time frame and at a relatively low cost (Fan & Yan, 2010). The questionnaire was targeted at lawyers who are assumed to be computer literate as the nature of their job requires the use of a computer. This technique in the legal context was exercised in a prior study conducted by LexisNexis, which utilised the LSSA database to send an electronic survey and managed to obtain

746 responses within a four week period (LexisNexis, 2016). A link to the questionnaire and a covering letter was distributed via email directly to the selected respondents to ensure that the right person has responded (Saunders et al., 2009).

Due to expected low response rate, a larger sample was selected to ensure that a meaningful number of responses are received over a six-week period. Email addresses were extracted at random, using the random function in excel until a total number of 1200 email addresses were obtained. The initial email elicited approximately 30 responses. After a week, the survey link was emailed to a further 800 lawyers that were randomly extracted from the law society of the Northern Provinces website which elicited a further 20 responses. After another week the survey was emailed to a further 450 lawyers selected at random, this resulted in further 30 responses being received. In all rounds, where out of office emails were received the survey was sent to the email addresses indicated as alternate contacts in the out of office email. This equated to an additional 30 lawyers.

Out of the total of 2480 emails sent only 80 responses were received with 258 emails returned as either undeliverable or indicating that the recipients were out of office or no longer employed by the law firm. Reminder emails were sent to all respondents, which brought the response rate to approximately 126 responses, representing a 5,75% response rate. This rate was in line with the LexisNexis survey which achieved a response rate of 4% after emailing its survey to all lawyers on the law society South Africa database (LexisNexis, 2016). Some of the lawyers emailed, expressed a hesitation to click on the link that was required to access the survey. In order to mitigate this, a pdf version was emailed with the survey link to allow for people to complete the form manually, however this did not yield any additional responses. Another reason for the low response rate was due to a number of email addresses that were not valid or outdated, where the lawyers have since left the organisation. Furthermore, it is also acknowledged that the low response rate is inherent to the web survey method (Sauermann & Roach, 2013).

Data preparation

The responses of the survey were downloaded from Google forms (<https://docs.google.com/forms/>) onto a Microsoft Excel (Microsoft Excel for Mac, Version 15.20.150315) spreadsheet. The initial scan of the 126 responses revealed two responses that did not complete at least 50% of the survey and were therefore removed from the sample. Two respondents answered no to the control question indicating that they are not currently employed or associated with a law firm and were

thus removed. As a result, the study was left with a total of 122 valid responses for the analysis. The resulting data was then coded and the description of the code was recorded in a code book. Each variable was given a short name in order to make the dataset more manageable. Item non-response refers to a unanswered question in a response that would otherwise be regarded as a fully completed response (Zikmund, 2003). In this instance the author chose to leave unanswered questions as is with the record indicating a blank value.

A consistency check was performed to ensure that inconsistent and contradictory responses were adjusted based on the authors judgement (Zikmund, 2003). This check was performed on the age and number of years of experience to ascertain if any respondent indicated their number of years of experience that is greater than their age. Based on this check no corrections were made and all responses were found to be consistent.

The check was also performed on the questions “Does your law firm currently offer online legal services?”, “If yes, which services does your firm offer online?” and “If no, is your law firm considering offering online legal services in future?”. If respondent indicated a type of online legal service provided, but answered no to the question “Does your law firm currently offer online legal services?” the answer was changed to “yes”. Three records were updated based on this check.

If the respondent indicated that their law firm currently offered online legal services they should have indicated “not applicable” to the question “If no, is your law firm considering offering online legal services in future?”. Seven responses were updated to “not applicable” in the considering adoption of online legal services in future variable.

If the respondent indicated that their law firms does not currently offer online legal services they should have either selected “yes” or “no” to the question “If no, is your law firm considering offering online legal services in future?” question. Where a respondent indicated “not applicable” for this question, the response was changed to a blank value. This adjustment was performed on 9 responses.

The data was then imported as a dataset onto IBM SPSS statistics (IBM SPSS, Version 24) for further preparation and analysis. The Likert scale questions, with exception of the perceived obstacles questions, did not have to be coded as these items were already in a numeric format where 1= strongly disagree, 2= disagree, 3= neither disagree nor agree, 4= agree and 5= strongly agree. The perceived obstacles questions were regarded as negatively worded statements and were therefore

reverse coded, using the transform as new variables function on IBM SPSS (IBM SPSS, Version 24). The codes were reversed as follows: 1 = 5, 2 = 4, 3 = 3, 4 = 2 and 5 = 1.

In order to test for validity, values for items relating to the six constructs in the study were added to arrive at an item total value. This was done using the compute function on IBM SPSS (IBM SPSS, Version 24) where records with missing values in one or more questions in the construct were excluded and given a null item total value. The reason for this was to avoid skewing the data based on the missing values where it is unclear to determine why the respondent did not answer the question. Based on the factor analysis, the questions relating to each component were combined into a smaller set of items by calculating the mean value using the compute function in SPSS (IBM SPSS, Version 24).

Analysis approach

The online questionnaire was conducted using Google Forms (<https://docs.google.com/forms/>). This platform stores the responses and allows for the response data to be downloaded into a data matrix format that is already named minimising the amount of preparation required on the data. Once the data matrix was coded and finalised, the data was loaded onto IBM SPSS (IBM SPSS, Version 24) for analysis.

Test for outliers

Outliers refer to observations that exhibit characteristics that are conspicuously abnormal from the other observations in the sample (Hair, Black, Babin, & Anderson, 2010). These observations could either be beneficial or detrimental. Beneficial outliers represent unique characteristics of the population and therefore should be retained. Detrimental outliers, on the other hand, are observations that are not representative of the populations and work against the objectives of the study, distorting the findings of the statistical analysis (Hair et al., 2010). Care should be taken when deciding to retain or eliminate outliers as removing outliers practically serves to reduce the sample size.

Validity and reliability

In order to determine if the measuring instrument used in this study is able to measure what it was intended to measure, the instrument must be tested for validity. Validity is established when a measure is highly correlated with the other similar measures (Zikmund, 2003). In order to test for validity, the total scores were calculated for each question related to a construct. Thereafter a Pearson's correlation analysis was run to determine if the question showed a significant correlation to the total score. If there was a significant correlation, then the question was deemed as valid. Based on the analysis, all questions relating to all constructs showed a significant correlation to its total scores with the exception of question TPC5 within the perceived compatibility construct which did not show a significant correlation to the other related questions in the perceived compatibility construct and was thus deemed to not valid. Question TPC5 was added by the author to determine if face to face contact was non-negotiable in the practice of law. Based on the test for validity this question was removed from the analysis of the perceived compatibility construct, however the question was maintained in the descriptive analysis.

Reliability refers to "the degree to which measures are free from error and therefore yield consistent results" (Zikmund, 2003, p.300). The Cronbach's alpha coefficient is an effective and widely used test for scale reliability (Bonett & Wright, 2015; Peterson, 1994). Developed in 1951, the Cronbach's alpha is a "generalised measure of the internal consistency of a multi-item scale" (Peterson, 1994, p. 382). The alpha coefficient ranges from 0,00 to 1,00 where a higher coefficient (i.e. closer to 1) indicates higher reliability (Kimberlin & Winetrstein, 2008). It is generally accepted that the Cronbach's should not be less than 0,70 (Hair et al., 2010). The results of the Cronbach's alpha test are discussed in chapter five.

Principle component factor analysis

The purpose of factor analysis is to "define the underlying structure amongst variables in the analysis" (Hair et al, 2010, p. 93). In the context of this study, this technique is used for data summation to combine several independent variables into a single composite variable in order to simplify the statistical analysis. Employing this technique improves the robustness of the analysis by reducing measurement error and provides an ability to represent a complex construct in a single measure (Hair et al., 2010). To achieve this, factor analysis using a principle component technique with varimax rotation was performed which is common technique used in innovation studies (Oliveira & Martins, 2011). In line with prior studies, separate factor analyses was performed on

items belonging to each construct included in the scope of this study (Lee & Kim, 2007). A confirmatory factor analysis was also performed using IBM SPSS AMOS (SPSS AMOS, Version 22.0). The resultant chi-square and REMSA values indicated a poor model fit to most of the independent variables. This could be attributed to the small sample size and the number of items per construct (Marsh, Balla, & McDonald, 1988). The results of the tests are discussed in chapter five.

The Kaiser-Meyer-Olkin (KMO) measure provides an index of factorial simplicity as an indicator of how good the solution is based on the model simplicity and how interpretable the factor solution is (Kaiser, 1974, pp.31). This measure ranges from 1 to 0 where a value greater than 0,50 indicates that factor analysis was appropriate (Williams, Onsman, & Brown, 1996). All constructs produced a KMO value that was greater than 0,50 which allowed for the interpretation of the factor analysis results. The factors were identified using the common rules of factor analysis namely, “minimum eigen value of 1, simplicity of structure and minimum factor loading of 0.5” (Lee & Kim, 2007, p. 1869). Based on the sample size of 120, the minimum factor loadings for each item should be above 0,50 in order to be considered to be part of the composite variable (Hair et al., 2010).

Test for normal distribution

Normal distribution of data is a common assumption contained in parametric statistical procedures. Violating this assumption could produce results that are not reliable or valid for inference. Common methods for assessing normality include graphical methods through histograms, normal quantile-quantile plots (Q-Q plots) box-plot and stem-and-leaf plots. However, whilst these methods are useful, they don't provide conclusive methods evidence that prove that the normal distribution assumptions is adhered to. To address this, more formal tests, such as the Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and the Anderson-Darling tests should be used (Razali & Wah, 2011). Razali and Wah (2011) found that the Shapiro-Wilk test is the most powerful and the Kolmogorov-Smirnov is least powerful out of all of aforementioned tests. Shapiro-Wilk typically compares the scores in the sample to scores that are considered normally distributed. The null hypothesis is “sample distribution is normal” therefore if the test is significant ($p < 0.05$) then the distribution is non-normal (Ghasemi & Zahediasl, 2012).

Hypothesis testing approach

The statistical test employed for this study was determined based on the “type of question being answered, the number of variables and the scale of measurement”

(Zikmund, 2003, p. 504). The research design of this study was directed towards identifying the factors that influence the adoption of online legal services. In other words, the questions were designed to determine if the decision to adopt online legal services by law firms is dependent on any of the factors that were identified during the literature review and informed by the TOE framework. This points to a multivariate dependence technique whereby the dependent variable(s) (i.e. currently offer online legal services) is predicted or explained by set of one or more independent variables (TOE factors) (Hair et al., 2010). In this study a single dependent variable has been used and predicted by multiple independent variables. The dependent variable can be regarded as a nonmetric, categorical, dichotomous variable as it groups respondents into two categories of either currently offers online legal services (i.e. yes) or does not currently offer online legal services (i.e. no). The independent variables can be classified as metric, interval variables as they are measured using a 5 point Likert scale. The abovementioned number and measurement scales of the variables indicates that either a multiple discriminant analysis or a linear probability analysis could be an appropriate dependence technique for this study (Hair et al., 2010).

The studies reviewed as part of the literature review provided an indication of the various techniques used to address the research objectives. The studies either employed a multiple regression, logistic regression, structural equation modelling or partial least square modelling. Multiple regression was considered to be not appropriate for this study based on the measurement scale of the dependent variable being non-numeric where a numeric measurement scale is required for multiple regression. Structural equation modelling typically requires larger sample sizes (i.e. greater than 300) to order to produce reliable results and is therefore not appropriate to the achieved sample size of this study. Partial least squares modelling can be considered to be an alternative to Structural equation modelling as it is argued to accommodate wider range of sample sizes and fewer assumptions (Rönkkö, McIntosh, Antonakis, & Edwards, 2016). Partial least squares modelling is similar to multiple regression and can be used for prediction but with less emphasis on the measurement model (Hair et al., 2010).

Logistic regression is widely used technique for the prediction of a dichotomous categorical dependent variable (Hair et al., 2010; Peng, Lee, & Ingersoll, 2002). Similar to a multiple regression, the technique produces a “single multivariate relationship, with regression-like coefficients indicating the relative impact of each predictor variable” (Hair et al., 2010, p. 314). In comparison to multivariate discriminant analysis, logistic

regression possesses comparable predictive and classification power but is less impacted when the basic assumptions, in particular normality, are not met. Logistic regression is limited to the extent that it can only handle a single binary (two-group) dependent variable (Hair et al., 2010). Both of the abovementioned factors indicate that logistic regression is an appropriate technique to be used for this study. Firstly, the Shapiro-Wilk test discussed next chapter concluded that the sample is not normally distributed. Secondly, this study makes use of a binary dependent variable which has a value of 1 if the law firm currently offers online legal services (classified as adopter) and 0 if the law firm does not currently offer legal services (classified as non-adopter). This reason was also cited by Oliveira and Martins (2010) and Wang and Wang (2016) as the justification for selecting the logistic regression technique.

Ethical considerations

Cooper and Schindler (2014) state that “the goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities” (p.28). In order to achieve this, ethical consideration were taken throughout the research process. The participants rights was safeguarded by following the guidelines recommended by Cooper and Schindler (2014):

- The benefits of the study was explained in the covering letter of the survey.
- The participants rights and protections where explained in the covering letter, with specific reference that participation in the survey was entirely voluntary and that the participant can withdraw at any stage.
- Informed consent was obtained through the participant electing to continue with the survey after reading the covering letter.

Limitations of the research design

This study was aimed at explaining the technological, organisational and environmental factors that influence online services adoption in the legal industry and contribute to the body of knowledge through the application of the TOE framework, especially in developing countries. However, the following limitations are acknowledged:

- An extensive pilot could not be undertaken due to the limited timeframe of research project. Had this been done, the questionnaire may have been better understood by the responded and may have elicited better responses (Saunders & Lewis, 2012).

- Due to permission not being obtained, the sample could not be drawn from the full list of attorneys practicing in South Africa. The use of the Northern Provinces Law Society database limited the sample to include attorneys practising in the northern provinces of South Africa (i.e. Gauteng, Limpopo, Northwest and Mpumalanga). This presents a limitation of sampling frame error where entire population is not accurately represented in the sample (Zikmund, 2003).
- The low number of items used in the competitive pressure and regulatory support constructs impacts the reliability of the data and is an inherent limitation of studies into these constructs (Hair et al., 2010).
- The poor response rate to the survey may also indicate a non-response bias which limits the generalizability of the study (Guo, Kopec, Cibere, Li, & Goldsmith, 2016).
- The sample size of this study has been observed to be low for the statistical techniques chosen and thus may have an affect on its statistical power (Hair et al., 2010).
- The issue of outliers was carefully tested and only removed if necessary. This could impact the generalizability of findings to the greater population (Hair et al., 2010).
- Due to the research design and strategy, the data was collected using self-administered web-based questionnaires. This technique limits the researchers' ability to explain the underlying reasons of the results (Zikmund, 2003).
- Based on the research design, the study yielded findings within a specific context, therefore it may be difficult to generalise the findings to the entire population (Sila, 2015). Furthermore, the study was targeted at the legal industry which may make it less generalizable to other industries.

Chapter conclusion

This chapter provided an account of the research methodology and design that was followed in the execution of this research study. Key aspects of the research process was discussed which will help evaluate the quality of the research process and also help future researchers replicate this study (Zikmund, 2003). A survey questionnaire was designed drawing from previous TOE questionnaires. Using Google forms, the questionnaire was distributed to a total of 2480 lawyers of which 126 responded. The resultant data was coded and prepared for analysis. The analysis techniques were discussed. The next chapter discusses the results of the analysis process in detail.

Chapter Five: Results

Chapter introduction

The research design and methodology provided the blueprint for empirical study. Following the approach discussed in the previous chapter, the data was analysed using IBM SPSS (IBM SPSS statistics, 64 bit edition, Version 24). The analysis started by looking at the broad descriptive statistics. The analysis was then narrowed down to focus on the current and future adoption of online legal services. The last analysis involved using statistical methods to test the hypothesis set for this study in order to meet the research objective. This chapter reports the results of analysis process, with a limited commentary for ease of interpretation.

Descriptive Statistics

The purpose of the descriptive statistics is to provide an overview of the characteristics of the context that the data represents. The insights gained could assist in explaining the outcome of the more complex statistical test discussed later in this chapter.

Demographics

		Age					Total
		21 - 30	31 - 40	41 - 50	51 - 60	Older than 60	
Gender	Female	24	24	10	6	1	65
	Male	9	13	15	9	9	55
	Total	33	37	25	15	10	120

TABLE 3: NUMBER OF RESPONDENTS ACCORDING TO GENDER AND AGE

The majority of respondents were within the 21 to 30 and 31 to 40 years old age bracket. 15 respondents were over the age of 50 indicating a relatively young group. Overall the survey data shows a fairly even split between male and female respondents indicated no conclusive bias on gender between the respondents.

Highest qualification

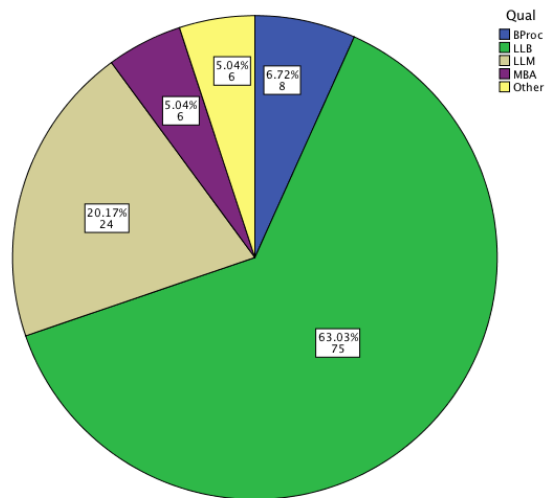


FIGURE 4: RESPONDENTS QUALIFICATIONS

Most respondents possessed a Bachelor of law (LLB) degree which is a commonly associated qualification to the legal profession. 6% of the respondents had a Masters in Business Administration (MBA), indicating that some lawyers had a business related degree. Over all the sample consisted of respondents with a high level of education.

Job titles and number of years practicing law

		Number of years practicing law						Total
		0-10 years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	51-60 Years	
Job Title	Assistant State Attorney	1	0	0	0	0	0	1
	Associate/Lawyer	18	1	1	0	0	0	20
	Candidate Attorney	2	0	0	0	0	0	2
	Equity Partner/Director	12	20	15	4	3	1	55
	Ex-Director (acting as a consultant)	0	0	0	1	1	0	2
	Legal Project	1	0	0	0	0	0	1

	Manager							
	Professional Assistant	7	0	0	0	0	0	7
	Salaried Partner	7	1	0	0	1	0	9
	Senior Associate	8	3	0	0	0	0	11
	Sole practitioner	1	0	0	3	0	0	4
	Total	57	25	16	8	5	1	112

TABLE 4: JOB TITLE VS NO. YEARS PRACTICING LAW

The majority of the respondents identified their job titles as Equity partner/ Director or associate lawyer. Most respondents had between 1 to 10 and 11 to 20 years of experience practicing law. This indicates the high level of seniority and decision making power of the respondents within the sample.

Law Firm Size

		Number of Lawyers					Total
		1-10	11-20	21-50	51-100	more than 100	
Number of Support Staff	1-10	56	3	0	0	0	59
	11-20	5	1	0	0	0	6
	21-50	3	4	4	0	0	11
	51-100	1	1	0	0	1	3
	101-500	0	0	0	3	29	32
	more than 500	0	0	0	1	6	7
	Total	65	9	4	4	36	118

TABLE 5: NUMBER OF LAWYERS VS SUPPORT STAFF

The majority of law firms represented in the sample can be regarded as a small to medium size law firms. This is reflective of the South African legal sector which was found to consist of large number of small firms and small number of large firms (LexisNexis, 2016).

Adoption of Online Legal Services

			Currently Offer Online Legal Services		
			Yes	No	Total
Currently have a website	Yes	Count	22	75	97
		Table N %	18.5%	63.0%	81.5%
	No	Count	0	22	22
		Table N %	0.0%	18.5%	18.5%
	Total	Count	22	97	119
		Table N %	18.5%	81.5%	100.0%

TABLE 6: WEBSITE VS CURENT ONLINE LEGAL SERVICES ADOPTION

The table above show that 81,5% of the law firms that the respondents represented had a web presence. However, of this number only 18,5% of the respondents law firms currently offered online legal services. This indicates a high level of website adoption but a low rate of online legal services adoption.

			Considering Adoption			
			Yes	No	Already adopted	Total
Currently have a website	Yes	Count	43	32	22	97
		Table N %	36.1%	26.9%	18.5%	81.5%
	No	Count	7	15	0	22
		Table N %	5.9%	12.6%	0.0%	18.5%
	Total	Count	50	47	22	119
		Table N %	42.0%	39.5%	18.5%	100.0%

TABLE 7: WEBSITE VS FUTURE ONLINE LEGAL SERVICES ADOPTION

When asked if their law firms where considering offering online legal services in the future, 42,0% of the respondents answered, Yes, and 39,5% answered, No, with the remainder having already adopted online legal technology. This is consistent with a prior survey conducted within the industry (LexisNexis, 2016). The results indicates a non-significant bias towards adoption of online legal services by law firms in the future.

			Currently Offer Online Legal Services		
			Yes	No	Total
Practice Type	Boutique or Niche Law firm	Count	6	39	45
		Table N %	5.0%	32.5%	37.5%
	Generalist Law Firm	Count	12	53	65
		Table N %	10.0%	44.2%	54.2%
	Other	Count	4	6	10
		Table N %	3.3%	5.0%	8.3%
	Total	Count	22	98	120
		Table N %	18.3%	81.7%	100.0%

TABLE 8: PRACTICE TYPE VS CURRENT ONLINE LEGAL SERVICE ADOPTION

The majority of the law firms represented by the respondents were from generalist law firms. Generalist law firms have twice as many firms that are currently offering online legal services than boutique or niche law firms. This indicates that the type of practice may have a bearing on the adoption of online legal services.

			Considering Adoption			
			Yes	No	Already adopted	Total
Practice Type	Boutique or Niche Law firm	Count	23	16	6	45
		Table N %	19.2%	13.3%	5.0%	37.5%
	Generalist Law Firm	Count	24	29	12	65
		Table N %	20.0%	24.2%	10.0%	54.2%
	Other	Count	3	3	4	10
		Table N %	2.5%	2.5%	3.3%	8.3%
	Total	Count	50	48	22	120
		Table N %	41.7%	40.0%	18.3%	100.0%

TABLE 9: PRACTICE TYPE VS CONSIDERING ADOPTION IN FUTURE

In terms of the law firms considering adoption in the future, there is a negligible difference between boutique or niche law firms and generalist law firms. This indicates that whilst the current adoption rates of boutique or niche law firms are currently low, a large proportion of these firms are considering adoption in future.

Adoption question responses

Table 10 lists the questions contained in the survey that tested the adoption of online legal services and well as the descriptive statistics for a item. The survey used a 5 point Likert scale where 1 = strongly disagree, 2 = strongly agree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree. Questions TPO1 to TPO7 where reversed coded due to the negative wording of the questions thus the opposite scoring applies i.e. 1= strongly agree and 5= strongly disagree. The results show that all questions were not answered by all respondents. These results will be used extensively in the next chapter that discusses the findings of the study.

Context	Question	Label	N		Mean	Median	Mode	Std. Deviation	Variance
			Valid	Missing					
Technology	Offering online legal services will allow better communication with our organisation	TPRA1	120	0	3,44	3,00	3	1,121	1,257
	Offering online legal services will increase the profitability of our organisation	TPRA2	119	1	3,19	3,00	3	1,166	1,361
	Offering online legal services will create an electronic presence for our brand	TPRA3	119	1	3,88	4,00	4	1,067	1,139
	Offering online legal services will reduce costs (e.g. communication, advertising, marketing, travel and Research)	TPRA4	119	1	3,32	3,00	3	1,178	1,389
	Offering online legal services will allow us to enter new markets and/or gain new clients	TPRA5	119	1	3,69	4,00	4	1,095	1,199
	Offering online legal services will improve our web presence	TPRA6	120	0	3,89	4,00	4	1,002	1,005
	My firm is too small to benefit from any online legal service activities	TPO1	119	1	3,52	4,00	5	1,437	2,065
	Online legal services activities are too expensive to implement	TPO2	120	0	2,92	3,00	3	1,171	1,371
	The technology is too complicated	TPO3	119	1	3,50	4,00	3	1,156	1,337
	We are concerned about potential security risks and privacy	TPO4	120	0	2,45	2,00	2	1,208	1,460
	We think that there are important unresolved legal issues with offering online legal services	TPO5	120	0	2,61	3,00	3	0,998	0,997
	Legal services provided online are of	TPO6	120	0	2,73	3,00	3	1,207	1,458

	a lower standard/ quality								
	Online legal services will expose my firm malpractice issues due to system errors	TPO7	120	0	2,98	3,00	3	1,088	1,184
	Implementing the changes caused by the adoption of online legal services is compatible with existing operating practices	TPC1	120	0	2,99	3,00	3	0,957	0,916
	Implementing the changes to work procedures initiated by the adoption of online legal services are compatible with the beliefs and values existing in our law firm	TPC2	119	1	3,17	3,00	3	1,084	1,175
	The adoption of online legal services is compatible with our firms Information technology (IT) infrastructure	TPC3	120	0	3,06	3,00	3	1,147	1,316
	There exists favourable attitudes towards online legal services adoption in our firm	TPC4	120	0	3,11	3,00	3	1,114	1,240
	Face to Face contact is non-negotiable in the practice of law	TPC5	119	1	3,44	3,00	5	1,267	1,604
Organisation	Our top management is likely to invest funds in information technology	OMS1	120	0	3,35	3,00	3	1,179	1,389
	Our top management is willing to take risks involved in the adoption of online legal service	OMS2	120	0	2,93	3,00	3	1,175	1,381
	Our top management is likely to be interested in adopting online legal services in order to gain competitive advantage	OMS3	120	0	3,33	3,00	4	1,203	1,448
	Our top management is likely to consider the adoption of online legal	OMS4	119	1	3,40	3,00	3	1,145	1,310

	services as strategically important								
Environment	An industry move to utilize the internet for legal service delivery would put pressure on my firm to do the same	ECP1	120	0	3,68	4,00	4	1,153	1,330
	There is trend in my industry to more utilize the internet for more legal service delivery	ECP2	120	0	3,32	3,00	3 ^a	1,061	1,126
	There is legal protection in the use of online legal services	ERS1	120	0	2,95	3,00	3	0,849	0,720
	The laws and regulations that exist nowadays are sufficient to protect the use of online legal services	ERS2	120	0	2,73	3,00	3	0,943	0,890
a. Multiple modes exist. The smallest value is shown									

TABLE 10: ADOPTION QUESTION RESPONSES

For the detailed statistics per question please refer to Annexure C.

Reliability and validity results

The table below summarises the results of the reliability, validity and factor analysis.

Variable	Items	Valid	KMO	Factor Loading	Eigenvalue (% of variance explained)	Cronbach's alpha
Perceived Relative Advantage	TPRA1	Yes	0,84	0,74	3,80 (63,27%)	0,882
	TPRA2	Yes		0,78		
	TPRA3	Yes		0,87		
	TPRA4	Yes		0,70		
	TPRA5	Yes		0,84		
	TPRA6	Yes		0,83		
Organizational Obstacles	TPO1	Yes	0,69	0,80	2,70 (38,13%)	0,717
	TPO2	Yes		0,83		
	TPO3	Yes		0,72		
Online Legal Services Concerns	TPO4	Yes	0,69	0,60	1,29 (18,38%)	0,667
	TPO5	Yes		0,78		
	TPO6	Yes		0,73		
	TPO7	Yes		0,66		
Perceived Compatibility	TPC1	Yes	0,77	0,78	2,44 (61,05%)	0,786
	TPC2	Yes		0,79		
	TPC3	Yes		0,72		
	TPC4	Yes		0,83		
	TPC5	No	Item removed			
Management Support	OMS1	Yes	0,80	0,83	3,16 (78,94%)	0,910
	OMS2	Yes		0,88		
	OMS3	Yes		0,94		
	OMS4	Yes		0,91		
Competitive Pressure	ECP1	Yes	0,50	0,87	1,50 (74,18%)	0,670
	ECP2	Yes		0,87		
Regulatory Support	ERS1	Yes	0,50	0,90	1,61 (80,62%)	0,760
	ERS2	Yes		0,90		

TABLE 11: RELIABILITY AND VALIDITY TEST RESULTS

The Cronbach's alpha for all constructs except for competitive pressure exceeded the 0,70 acceptance criteria, suggesting a good internal reliability and consistency (Pallant,

2010). The online legal services concerns and competitive pressure scores of 0,67 could be explained by the fact that construct only contained two items each, indicating that future research needs to find additional items to explain these constructs (Hair et al., 2010; Pallant, 2010). With regards to the factor analysis, perceived relative advantage and management support where in the 0,80's range which is regarded by Kaiser (1974) as meritorious. Perceived compatibility can be regarded as middling whereas perceived obstacles be regarded as mediocre. Competitive pressure and regulatory support achieved a KMO score of 0,50 which is regarded as miserable but still acceptable (Kaiser, 1974). The low scores could also be attributed to the small number of items included in these constructs (Hair et al., 2010).

All items exceeded the 0,50 minimum factor loading threshold comfortably, indicating a well-explained factor structure (Oliveira & Martins, 2010). The eigen value greater than one rule was met in all constructs and all constructs, except perceived obstacles produced a single factor based on the principles component analysis, explaining between 61 to 80 percent of the variance. Perceived obstacles produced two components in the rotated components matrix with each item exceeding the 0,50 threshold. No cross loadings where identified between the components, therefore all items where retained (Hair et al., 2010).

The items with the highest loadings where combined into composite variables named organisational obstacles and online legal services concerns. In line with the recommendation by Hair et al (2010) the average values of the items where computed to create the composite variable. A total of seven composite variables was created to be used in for statistical analysis namely: perceived relative advantage, organisational obstacles, online legal services concerns, perceived compatibility, management support, competitive pressure and regulatory support.

Test for normality results

Based on the table below all of the independent variables, except for organisational obstacles and perceived compatibility resulted in a p-value that was less than 0.05, indicating that most variables are not normally distributed. However, Ghasemi and Zahediasl (2012) note that a larger sample sizes (i.e. >30 or 40) are prone to produce significant results even if there are small deviations from normality and therefore will not affect the results of a parametric test. Based on the output produced, the W statistic

is quite close 1 (where 1 = normal distribution) and represents a small deviation from normality (Razali & Wah, 2011).

Tests of Normality						
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Perceived relative advantage	.090	116	.023	.962	116	.002
Organisational Obstacles	.086	116	.035	.970	116	.011
Online Legal Services Concerns	.113	116	.001	.967	116	.005
Perceived Compatibility	.117	116	.001	.974	116	.024
Management Support	.116	116	.001	.964	116	.003
Competitive Pressure	.169	116	.000	.920	116	.000
Regulatory Support	.225	116	.000	.937	116	.000
a. Lilliefors Significance Correction						

TABLE 12: TEST FOR NORMALITY RESULTS

Logistic Regression

The logistic regression was performed to provide an explanation of group membership with respect to the seven independent variables and the dependent variable (Hair et al., 2010). To this end the dependent variable was categorised into adopters (1) and non-adopters (0).

Test Assumptions

The dataset meets the requirements for a logistic regression based on the following recommendations by Laerd Statistics (2015):

- The independent variable is single and dichotomous
- There are six independent variables measured on a continuous scale.
- The observations are independent and there are no relationship between the categories of the independent variable.

A multivariate test for outliers was performed by calculating the Mahalanobis distances and chi-square values percentile points, using the number independent variables (Stevens, 1984). Observations that was below a significance level of 0.001 where flagged as outliers. After an evaluation, two observations were identified as detrimental outliers due to the pattern in which the items where scored. The observations were subsequently removed bringing the total observations used for statistical testing to 120.

The independent variables where tested for linearity in relation to the logit transformation of the dependent variable using a Box-Tidwell procedure (Box & Tidwell, 1962). Based on this outcome all of the independent variables showed a linear relationship with the logit of the of dependent variable (Laerd Statistics, 2015).

Base Model

The base model produces a classification accuracy of 81%. The table below shows the logistic regression results for the variables not included in the equation. Based on the Sig. values we can see that organisational obstacles, perceived compatibility and top management support exhibit significant differences with perceived compatibility being the most significant.

Variables not in the Equation			Score	df	Sig.
Step 0	Variables	Perceived relative advantage	0,136	1	0,713
		Organisational Obstacles	5,337	1	0,021
		Online Legal Services Concerns	1,459	1	0,227
		Perceived Compatibility	15,866	1	0,000
		Management Support	8,934	1	0,003
		Competitive Pressure	0,337	1	0,561
		Regulatory Support	2,678	1	0,102
	Overall Statistics	21,193	7	0,003	

TABLE 13: LOGISTIC REGRESSION BASE MODEL

Model Estimation and Goodness of fit

Overall, the model improved the predictive power of the base model by 2,6% and correctly predicted 83,6% of the cases into either the adopted or not adopted categories.

Overall Model Fit: Goodness of fit measures			
Test	Value		
-2 Log likelihood	87.980 ^a		
Cox & Snell R ²	0,192		
Nagelkerke R ²	0,309		
	Chi-square	df	Significance
Omnibus Tests of Model Coefficients	24,708	7	0,001
Hosmer and Lemeshow Test	4,717	8	0,787
a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001			

TABLE 14: GOODNESS OF FIT MEASURES

The Cox & Snell R² and the Nagelkerke R² (pseudo R²) value indicated that the variance of the dependent variable can be explained by the model, ranged between 19,2% and 30,9%. This value can be regarded as low to some degree as the target range should be at least 50% for practical significance purposes (Hair et al., 2010). However, the usefulness of this measure as an indicator of predictive efficiency has been questioned by scholars, where it is suggested that the Cox & Snell R² and the Nagelkerke R² should rather be used as supplementary measure to other measures of goodness of fit (Peng et al., 2002). Furthermore, these values were comparable with other similar adoption studies employing logistic regression (Duan et al., 2012). The omnibus tests of model coefficients indicated a significant difference between the null model on the entered model. The Hosmer and Lemeshow test produced a significance value that is greater than 0,05 indicating that the model fit is acceptable (Hair et al., 2010).

Hypothesis Testing

The output of the final model used to test the hypotheses is depicted in the table below. Each hypothesis is supported if the p-value (Sig. column) is less than 0,05 (Duan et al., 2012) The direction of relationship is determined by whether or not the exponential coefficient (Exp[B]) is greater than one, where $\text{Exp}(B) > 1$ denotes a positive relationship and $\text{Exp}(B) < 1$ denotes a negative relationship (Hair et al., 2010).

Construct	B	S.E.	Wald	df	Sig.	Exp(B)
Perceived relative advantage	-0,908	0,469	3,739	1	0,053	0,403
Organisational Obstacles	0,460	0,306	2,253	1	0,133	1,584
Online Legal Services	0,041	0,386	0,011	1	0,916	1,042

Concerns						
Perceived Compatibility	1,463	0,550	7,079	1	0,008	4,319
Management Support	0,414	0,442	0,878	1	0,349	1,513
Competitive Pressure	-0,148	0,373	0,158	1	0,691	0,862
Regulatory Support	-0,096	0,404	0,056	1	0,813	0,909
Constant	-5,493	1,818	9,125	1	0,003	0,004

TABLE 15: LOGISTIC REGRESSION RESULTS

The logistic regression identified perceived compatibility as the only significant factor that identifies the relationships affecting the probabilities of a law firm's adoption online legal services.

Classification Table ^a							
Observed			Predicted				Percentage Correct
			Currently Offering Services	Online	Legal		
		Non Adopter	Adopter				
Step 1	Currently Offering	Non Adopter	90		4	95,7	
	Online Legal Services	Adopter	15		7	31,8	
	Overall Percentage					83,6	

a. The cut value is .500

TABLE 16: CLASSIFICATION TABLE

The classification table above indicated that the model achieved an 83,6% overall prediction accuracy. The classification accuracy by random guess would be $(94/116)^2 + (22/116)^2 = 69,3\%$ (Duan et al., 2012). Therefore the logistic model can be regarded as having a higher classification capability.

Hypothesis results

The results of the logistic regression discussed in the previous section was used to evaluate the outcome of the hypothesis set for the study.

H1: The perceived relative advantage is positively related to adoption of online legal services by South African law firms.

The exponential co-efficient ($\text{Exp}[B]$) is reported as 0,403 with a p-value marginally greater than 0,05. The fact that the $\text{Exp}(B)$ value is less than one, indicates a negative relationship to the adoption of online legal services. Based on this outcome hypothesis H1 is not supported.

H2: The perceived obstacles are negatively related to the adoption of online legal services by South African law firms.

Both variables used to for the construct did not produce a significant prediction relationship with the the adoption of online legal services. Based on the value of the exponential co-efficient being greater than one it can be concluded there was a positive relationship between the variables and online legal services adoption. Therefore hypothesis H2 is not supported.

H3: South African law firms with a greater perceived compatibility is positively related to adoption of online legal services.

The odds ratio was 4,319 with p-value of 0,008. This indicates that the factor is significantly related to the adoption of online legal services by a factor of 4,319. Based on the $\text{Exp}(B)$ value it can be concluded that the relationship is positive. Thus, hypothesis H3 is supported.

H4: Top Management support is positively related to adoption of online legal services by South African law firms.

The management support factor failed to show a significant prediction relationship with online legal services adoption. The relationship was, however, positive. Therefore, hypothesis H4 was not supported.

H5: The adoption of online legal services among law firms in South Africa is positively related to pressure from competitors.

The logistic regression showed a non-significant negative relationship between competitive pressure and the adoption of online legal services. Therefore, hypothesis H5 was not supported.

H6: Regulatory Support will negatively influence online legal services adoption by law firms in South Africa.

Regulatory support was not found to be significant and therefore the hypothesis H6 was not supported however the results showed a negative relationship between this factor and the adoption of online legal services.

Chapter conclusion

The results of the data analysis were presented in this chapter, highlighting the salient observations from the outputs produced. The descriptive statistics, survey response data and logistic regression outputs has given impetus to the theory and hypotheses presented in this study. The results confirmed that there is a low adoption rate of online legal services in South Africa, however, this rate is expected increase in the future. The outcome of the logistic regression provided support for the hypothesis relating to perceived compatibility but did not find support for the other hypotheses. These results will be unpacked in the next chapter where a detailed account will be provided into the adoption of online legal services in South Africa.

Chapter Six: Discussion of Results

Chapter Introduction

This chapter discusses the findings of the empirical testing process discussed in the previous chapters. After discussing some of the contextual findings of the study, the hypothesis testing results are discussed in relation to the findings of prior studies discussed in chapter two. Based on the explanatory research design, this chapter also attempts to find explanations of the results based on the contextual elements of the study.

Contextual Analysis

Prior studies have established that the context of a study is an integral factor that influences the findings of adoption research (Ahmad et al., 2015; Datta, 2011; Kumar, 2014; Kurnia et al., 2015; Oliveira & Martins, 2011; Zhu & Kraemer, 2005). These studies argue that the adoption factors that may have been proven to be significant in one contextual setting may be less significant in another contextual setting. It is therefore necessary to begin the discussion into the findings by analysing the contextual aspects of the study as these aspects may have a bearing on the outcome of the hypothesis testing results.

Sample size

Based on the results, only one out of the six factors were found to be significant. A possible explanation for this outcome could lie in the sample size not being big enough to reach statistical significance. It is generally recommended that a minimum of ten observations per independent variable for each group within the dependent variable be obtained for a logistic regression (Hair et al, 2010). Given the large gap between adopting and non-adopting law firms in South Africa the results could also point to the contextual aspects of the study i.e. online legal services technology maturity in the legal industry and the South Africa.

Online legal services adoption

The majority (81,5%) of the respondents indicated that their law firms have a web presence however the same majority did not currently offer online legal services. The fact that the majority of respondents indicated that their law firm had a website indicates that law firms have already invested in basic internet enabled technologies and that the transition towards an online based service offering is possible from a technology perspective. However, this transition could be impeded by the ethical and

legal risks that is inherent to online legal services delivery (Brescia et al., 2015). This finding is also indicative of the developing country context where law firms may believe that South Africa may lack the facilitating conditions for e-commerce and have opted to utilise the internet for content dissemination (i.e. static web pages) and marketing purposes rather than online transaction (Datta, 2011).

Based on the sample only 18,5% of the respondents law firms currently offer online legal services. The low adoption rates of online legal services by law firms is indicative of the business dilemma that law firms face. The trade-off between efficiency and profitability based on the billable hours model could be a possible reason that firms have not yet embraced online legal services (Henderson, 2014; Quttainah & Paczkowski, 2016).

Within the 81,5% of the respondents that indicated that their law firm did not currently offer online legal services, 42% indicated that they are considering adoption in the future whilst 39,5% indicated that they are not. The results show that many law firms are in fact open to online legal services and it is something that they are considering implementing in the future. This result is consistent with the industry survey conducted by LexisNexis in 2016 which showed that 57% of law firms considered the development of online services as a priority for the growth of their business (LexisNexis, 2016). This finding suggests that although many law firms have not yet adopted online legal services the market is pulling the majority of law firms towards the commoditisation of legal services (Henderson, 2014; Susskind, 2008). This propensity towards adoption in the future could also be based on changing consumer preferences for internet based modes of communication and business transacting (Gordon et al., 2012).

The results show that more generalist law firms have either already adopted or are considering adopting online legal services than other types of practices. This demonstrates certain types of practices or focus areas may be predisposed to online legal services than others. The legal tasks undertaken by generalist law firms may be easier to standardise, systemise, package and commoditise than the tasks performed by a niche law firm (Susskind, 2008).

The low number of respondents who have already adopted online legal services and the high percentage of respondents who indicated that their law firms are considering offering online legal services in the future is indicative of the maturity level of online legal services in the legal industry. The law firms that have already adopted this innovation can be regarded as early adopters in the market who perceive online legal

services as a radical innovation (Carlo et al., 2014). As a relatively new technology, online legal services has not fully diffused into the legal industry in South Africa. As this process unfolds, catalysed by virtual law firms, obtaining legal services over the internet will become a normal practice in the legal industry forcing other law firms to adopt the technology. This notion is also supported in Susskind's (2008) model on the evolution of the legal industry which describes a market pull towards commoditisation being driven by consumers demand for low cost legal services causing pressure on law firms to cut prices and operate more efficiently. This finding highlights an area that is somewhat lacking in the TOE framework were the maturity stage technology context has an influence on the factors of adoption.

Summary of the hypothesis testing results

The figure below presents a summary of the outcome for the research hypotheses.

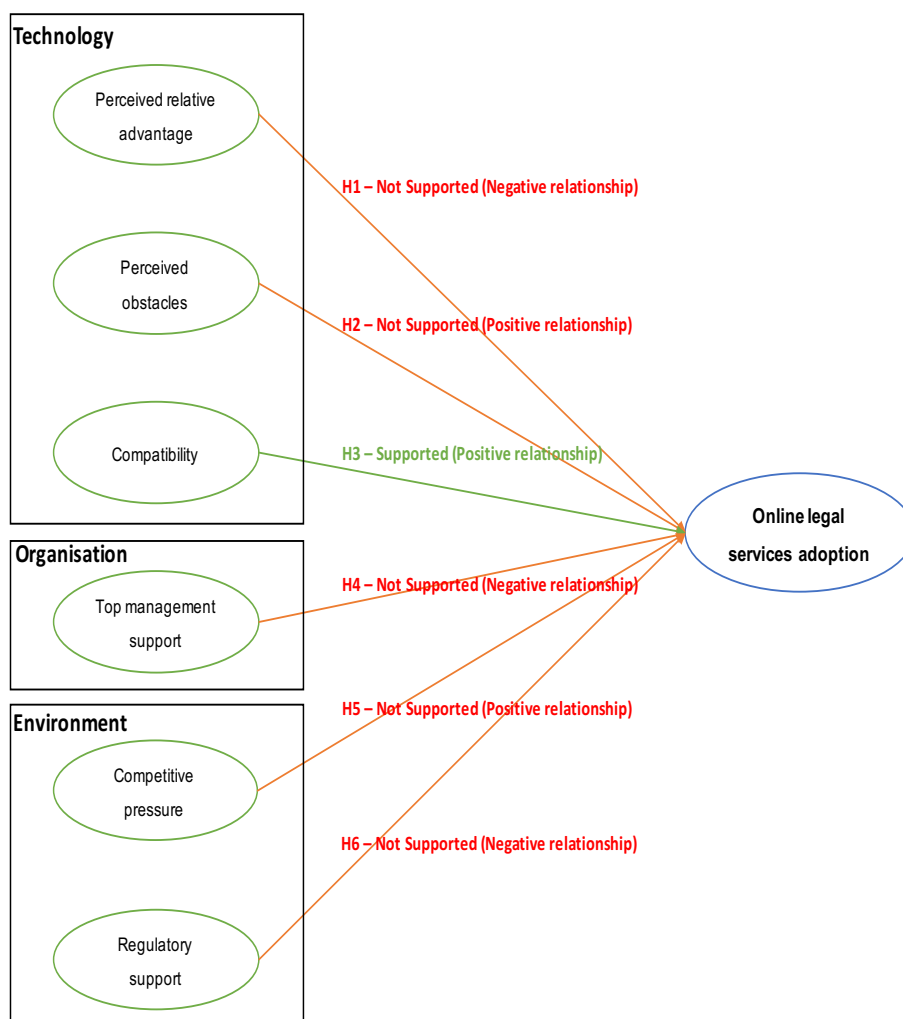


FIGURE 5: SUMMARY OF THE HYPOTHESIS OUTCOME

Technology context

The technology element of this study focussed on the perceived relative advantage, perceived obstacles and perceived compatibility of online legal services. Only hypothesis H3 relating to perceived compatibility was supported.

H1: The perceived relative advantage is positively related to adoption of online legal services by South African law firms.

Perceived relative advantage refers to the degree to which the technology is perceived to bring greater benefits to the organisation (Gutierrez et al., 2015).

Although the base model of the logistic regression demonstrated a significant difference between the perceived relative advantage variable and the adoption of online legal services, the final model did not show a significant, positive relationship between perceived relative advantage as a predictor of the adoption of online legal services. Thus the hypothesis, H1, could not be supported. This is inconsistent with a number of studies into e-commerce adoption (Ahmad et al., 2015; Oliveira et al., 2014; Senyo et al., 2016; Yang & Wang, 2013). On the other hand perceived relative advantage was not found to be significant in adoption studies involving other technologies such as cloud computing, software as a service and virtual worlds (Gutierrez et al., 2015; Z. Yang et al., 2015; Yoon & George, 2013). The explanation offered by these studies relate to a lack of understanding of the benefits of the decision makers involved in the organisation.

In terms of this study, most respondents neither agreed nor disagreed on some of the benefits of online legal services such as improved communication, increased profitability and cost reduction. Most respondents did, however, agree that online legal services improves the marketing related activities of the law firm such as attracting new clients and improving web/ electronic presence. These responses indicate that there is possibly a lack of understanding of the benefits and features of online legal services by lawyers, were benefits are likened to those of a basic website. Another explanation could lie in the developing country context of the study wherein the market conditions and consumer preferences which facilitates e-commerce proliferation may not be strong enough to motivate law firms to move from a website which provides content to a website that facilitates online legal service provision (Datta, 2011).

This finding could also be linked to the psychological and emotional dilemma introduced by Susskind (2008) where lawyers may not see past the existing billable hours model of the legal profession and may not recognise or believe that online legal services provides business benefits that exceed basic marketing activities. This notion

is supported by the results wherein perceived relative advantage exhibited a negative relationship to online legal services adoption, demonstrating that the dilemma of efficiency verses revenue generation is a reality in the legal industry where the perceived advantages of online legal services are out weighed by the perceived disadvantages.

H2: The perceived obstacles are negatively related to the adoption of online legal services by South African law firms.

The perceived barriers construct examines the obstacles such as complexity, unresolved legal issues, security risks, technology readiness and financial readiness that may pose a threat to the adoption of a technology information.

Other studies in adoption of technology have found that the certain obstacles present significant barriers to the adoption of technology (Oliveira & Martins, 2010). In contrast to prior studies, the logistic regression and correlation analysis did not find a significant relationship between perceived obstacles and the adoption of online legal services.

The business model of law firms are characterised by large operating costs driven by the number of lawyers that are billable. With the billable hours model, a larger number of lawyers means that the law firm has a greater capacity to bill more hours based on demand (Henderson, 2014). Therefore, introducing efficiencies enabled by technology is costly to procure and also directly impact the revenue potential of the firm if the business model is unchanged (Quttainah & Paczkowski, 2016). Linked to this issue is the legal limitation that prevents non-lawyers from investing in law firms (Henderson, 2014; Simpson, 2016). This means that a law firm typically has less financial resources available to invest in business model changing activities through the procurement of online legal service technologies. Prior studies have shown a significant correlation between adoption and a firms willingness to spend on technology (Kurnia et al., 2015).

Based on the survey responses, the respondents seemed to disagree with the statement “online legal service activities are too expensive to implement”. This may disprove the perception that law firms are not willing to invest in technology and that cost may not be a factor in the decision making process. The respondents did, however, feel that their firms where not too small to benefit from online legal services. This is especially relevant given that the majority of the respondents represented small to medium size law firms. This is consistent with the trend in legal industry where smaller firms are more likely to produce innovative legal service packages (Susskind, 2008).

The majority of the respondents seemed undecided on the risks and technical limitations of offering online legal services but were concerned with the potential security risks and privacy issues with online legal services. This could point to a lack of understanding of the technical limitations of the technology but also a perception that the technology is risky (Oliveira & Martins, 2010). This notion is confirmed where respondents leaned towards agreement on the statement that “online legal services will expose my firm to malpractice issues due to system errors”. With the use of online legal technology, the risk of malpractice claims are realised in instances where system errors result in incorrect advice being dispensed or breaches of client-attorney confidentiality due to cyber attacks (Brescia et al., 2014). The findings demonstrate that the risks of online legal service technology are present in the adoption decision process, however this is not significant at this stage.

Quttainah and Paczkowski (2016) postulate that the model of online services could result in a perception that the services provided through online legal services are of a lower standard or quality than traditional legal service delivery. The survey responses seemed to agree with this notion. This highlights the disruptive account argued by Brescia et al. (2014) and Henderson (2014) where virtual law firms have entered the market targeting the lower income segment and offering cheap legal services that are perceived to be of a lower quality through the use of online legal service technology. Figure 6 below, illustrates the model where traditional legal firms are operating on the high quality, high fees layer, do not see the new low-cost virtual law firms as a threat to their business. This perception, held by traditional law firms, is demonstrated by the aforementioned survey responses where traditional law firms could equate the quality delivered by virtual law firms to that of online legal services. Based on the model below, it is predicted that in time the virtual law firms will meet and surpass the quality level of traditional law firms and thereby capture the market due to their low fee structure (Henderson, 2014). Once this happens, traditional law firms will be forced to change their business model and adopt online legal services. This again points to the effect of the maturity stage on the adoption process, where the radicalness of the innovation becomes codified into the structure of the industry resulting in a normative pressure on firms to adopt the technology (Carlo et al., 2014)

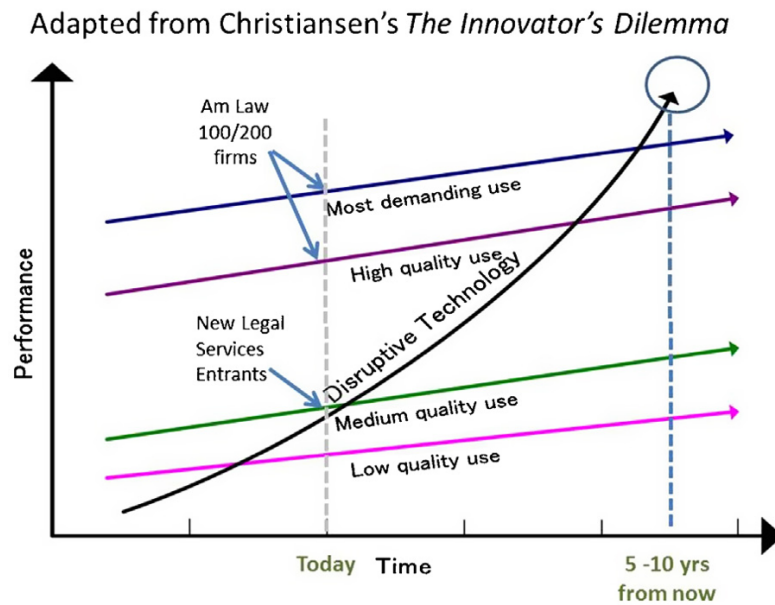


FIGURE 6: DISRUPTIVE INNOVATION IN THE LEGAL INDUSTRY (HENDERSON, 2014)

H3: South African law firms with a greater perceived compatibility is positively related to adoption of online legal services.

The literature presented varying results on the influence of perceived compatibility on adoption. Some e-commerce and cloud computing studies did not find a significant relationship with compatibility (Gutierrez et al., 2015; Oliveira et al., 2014; Rahayu & Day, 2015; Senyo et al., 2016). All of these studies, with the exception of Rahayu and Day (2015) were performed on cloud computing. The explanation provided by Gutierrez et al. (2015) was that cloud computing has matured to the level that technology factors such as compatibility are accepted by organisations as important to business growth and are therefore no longer a determining factor to adoption. This supports the argument postulated earlier that the maturity level of a technology impacts degree of influence of a particular factor relating to the adoption of technology innovation.

The logistic regression, however, revealed a significant, positive, relationship with the adoption of online legal services. This is consistent with other studies that found that perceived compatibility is a significant indicator of an organisations technological readiness (Ahmad et al., 2015; Chatzoglou & Chatzoudes, 2016; Kurnia et al., 2015; Wang & Wang, 2016; Z. Yang et al., 2015). Based on this finding, Z. Yang et al. (2015) surmised that perceived compatibility was more relevant than other commonly studied technology adoption factors such as perceived relative advantage and perceived ease of use.

Perceived compatibility in the context of online legal services refers the degree of fit to the existing business needs, IT infrastructure, practices, culture and values of the law firm (Ahmad et al., 2015). Previous studies attributed adoption of technology to the compatibility to a firms existing IT infrastructure where decision makers tend to favour technologies that do not require a significant investment or change to the existing technology landscape (Ahmad et al., 2015; Chatzoglou & Chatzoudes, 2016). The survey results showed that 81.5% of the law firms represented in the study already had a website, of this, 36,1% of the firms where considering the adoption of online legal services in future and 18,5% of the firms had already adopted online legal services. This could indicate that a vast amount of law firms whom already made an investment in establishing a web presence for their firms, see online legal services as the next transition of their web channel.

The literature also indicates that perceived compatibility encapsulates an organisations culture, values and preferred work practices that are attuned to the provision of legal services over the internet (Ahmad et al., 2015). Wang and Wang (2016) study found that “when there is a good fit between a technological innovation and the practices of the implementing firm, users have positive attitudes and agreement about the technological innovation” (p. 839). The findings of this study demonstrates that, despite the low rate of adoption, lawyers exhibit a favourable attitudes towards the adoption of online legal services making it easier for the implementation throughout the organisation (Wang & Wang, 2016). This is also relevant to the work practices of law firms, where the findings demonstrate that it is possible for legal tasks to be disintermediated and offered as packages over the internet (Susskind, 2008).

Organisation Context

The organisation context of the TOE focussed on the top management support for online legal services.

H4: Top Management support is positively related to adoption of online legal services by South African law firms.

Support from top management was regarded as one of the top determinants for successful technology adoption. This support enables the allocation of appropriate resources to the initiative and is necessary for driving the organisational change and the resolution of conflicts that may arise during the implementation. It is therefore no surprise that top management support was found to be significantly related to adoption in most studies that employed this factor (Ahmad et al., 2015; Duan et al., 2012;

Oliveira et al., 2014; Senyo et al., 2016; Sila, 2013; Wang & Wang, 2016; Z. Yang et al., 2015; Yoon & George, 2013).

Consistent with the findings of Gutierrez et al. (2015), the logistic regression did not find a significant relationship between top management support and online legal services adoption. This outcome could explain the low adoption rates of online legal services by the law firms represented in the study. Taking a closer look at the responses to the questions related to this construct, most respondents could neither agree nor disagree on the extent of top management support for online legal services, pointing towards a general lack of understanding by top management on the benefits and strategic importance of online legal services. This argument is supported by Gutierrez et al. (2015) in the study that linked the perceived relative advantage construct to top management awareness. The lack of understanding could be attributed to the background of law firm top management, whom, as the demographic results show, are predominately headed by individuals with a legal background. This is consistent with Quttainah and Paczkowski (2016) study that found that law firms with dedicated IT staff tend to adopt technology more, where the employees with IT expertise serve to break down the knowledge barrier for top management to be better informed on the benefits and opportunities of technology.

Oliveira et al. (2014) further attributed the non-significant influence of top management support on adoption to a perception by management that adoption of the technology will be costly and risky to the organisation. This is evident by the negative relationship observed in the relationship between online legal service adoption and top management support. The argument is also consistent with the findings discussed in the perceived obstacles construct which pointed towards the perception that online legal services is risky and may expose the firm to legal malpractice issues. The lack of awareness of the benefits of online legal services and the perception by top management that this technology is risky, is a lethal combination for the adoption of online legal services.

Environment context

The environment context of the TOE was operationalised through the competitive pressure and regulatory support factors.

H5: The adoption of online legal services among law firms in South Africa is positively related to pressure from competitors.

Historically, various studies have found that pressure from competitors prompts firms to adopt specific technology in order to appear more legitimate in the industry (Duan et al., 2012; Gutierrez et al., 2015; Marques et al., 2015; Senyo et al., 2016; Sila, 2013; Wang & Wang, 2016; Yoon & George, 2013). In contrast to this trend, the present study did not find support for the relationship between competitive pressure and the adoption of the online legal services which is consistent with other similar studies (Chatzoglou & Chatzoudes, 2016; Oliveira et al., 2014; Rahayu & Day, 2015). The study found that only 18,5% of the law firms represented in the study have adopted online legal services. This low adoption rate indicates that most law firms have not yet experienced pressure from other law firms to adopt online legal services.

A possible explanation for this could lie in the developing country context of this study. Prior studies have found competitive pressure to be a significant influence of e-commerce adoption for developed countries and not for developing countries (Zhu & Kraemer, 2005). This is attributed to the market conditions and consumer preferences in less developed economies that do not incentivise firms to adopt e-commerce (Rahayu & Day, 2015). This is evident in economies, such as Indonesia, where the consumers are regarded as “online shoppers with a conventional manner”, meaning that consumers are more likely to use the internet to shop around for a product or service and then use conventional methods to purchase the desired product or service (Rahayu & Day, 2015, pp. 148). Based on this, the firms serving this consumer base are not obligated to invest on e-commerce related technologies. This could explain why the disruptive wave of virtual law firms has not reached developing countries like South Africa (Brescia et al., 2015). Consumers of legal services are traditionally used to making an appointment with a law firm and meeting with a lawyer face-to-face in order to obtain legal advice. A change in this experience to a less personal and computer mediated interaction may lead consumers perceiving that the quality of the legal services provided online are of a lower quality than the traditional methods (Quttainah & Paczkowski, 2016). This was supported by the survey where most respondents agreed that face-to-face contact is non-negotiable in the practice of law.

Oliveira et al. (2014) found that competitive pressure may not play a significant role in technology adoption when specific factors in the technology and organisational contexts prevent the advantages of the technology to be transformed into a competitive advantage. Within the legal context, the double edge sword manifested in the trade off between efficiency and profits combined with an apparent lack of understanding by top

management, represents a major barrier to the adoption of online legal services (Henderson, 2014; Quttainah & Paczkowski, 2016). The responses to the survey support this notion where despite seeing a trend for law firms utilising the internet more of legal service delivery, firms have not yet adopted online legal services. Based on the responses, most respondents did, however, agree that an industry move to utilise online legal services more would put pressure on their firm to do the same. This indicates that if the adoption rate increases, more legal firms will be prompted to jump on to the bandwagon (Quttainah & Paczkowski, 2016).

H6: Regulatory Support will negatively influence online legal services adoption by law firms in South Africa.

Regulatory support has been positioned to play a decisive role in the decision to adopt or not adopt online technologies (Kurnia et al., 2015; Oliveira et al., 2014). In line with the hypothesis H6, the logistic regression exhibited a negative relationship with online legal services adoption, but failed to show a significant relationship. This outcome is consistent with other studies, especially in the developing country context (Oliveira et al., 2014; Senyo et al., 2016). Within the developing country context, government regulations has been unable to keep up with the pace technology innovation led by immature institutional structures (Senyo et al., 2016; Zhu & Kraemer, 2005). This means that firms that intend on adopting e-commerce may have to take a risk in an uncertain regulatory environment or wait for government regulations to be implemented to support e-commerce adoption. It can be argued, however, that South Africa does not fit within this generalisation of developing countries as the country has passed laws such as the Information Technology Agency Act 88 of 1998 and the ECT act of 2002 which have contributed to e-commerce growth in the country (Datta, 2011).

Although not significant, the negative relationship between regulatory support and the adoption of online legal services is indicative of specific legal challenges facing e-commerce in the legal industry. Current laws and regulations governing the practice of law, such as the unauthorised practice of law, perpetuates traditional legal practices and hampers innovation (Henderson, 2014). If a law firm intends on offering online legal services, there firm would have to navigate a series of legislative hurdles such as preventing conflicts of interests, ensuring confidentiality and maintaining client-attorney privilege (Gordon et al., 2012). In South Africa, another example of a legislative hurdle can be observed in the court legislation that still requires a physical hard copy of an affidavit signed by a client and filed in court. These legislations are likely to take away from the efficiency gains for certain online legal service and are likely to discourage law

firms from changing their business practices in order to offer online legal services in the first place (Kurnia et al., 2015; Rotenberg, 2012).

Chapter Conclusion

The results of the study was discussed in relation to the findings of previous adoption studies and literature relating to the legal industry. Some insights where offered to contextualise and offer an explanation for the results. The most salient insight related to the perception that online legal services is indeed compatible with law firms work processes, IT infrastructure, culture and values. The findings showed a number of factors that where found to be not significantly related to the adoption of online legal services in South Africa. This links to a possible low level of maturity of the technology. These insights present implications from a theoretical perspective and lessons for decision makers and practitioners operating within the legal industry. The next chapter will conclude the research study by discussing the principal findings of the study and its implications for the management of law firms as well as the suggestions for future research and the limitations of the study.

Chapter Seven: Conclusion

Chapter introduction

The legal industry is perceived to be slow to innovate due to its inability to let go of the traditional confines of the “practical art” that has existed for centuries (Simpson, 2016). Despite living in an internet age, very few law firms have embraced the internet as alternate channel to transact or offer new services to clients at a lower cost (Douglas et al., 2003). The legal profession’s conflicting dynamic between efficiency and revenue generation has served to stagnate the adoption of technology innovation by law firms (Quttainah & Paczkowski, 2016). In order to survive in the new economy, law firms will have no option but to either adopt online legal services or risk being crowded out by new players in the form of virtual law firms (Barton, 2014).

Unlike other industries, academics have not paid much attention to this phenomenon. Kumar (2014) argues that innovation is reflective of an entire industry, where some industries naturally lend themselves to innovation, others do not and are often overlooked from an academic perspective. The legal profession certainly appears to fall within the category of a neglected industry which is rife with specific nuances that have hindered law firms from adopting online legal services as an alternate medium to service its client base whilst at same time enjoying the operational efficiencies and cost optimisation benefits associated with the technology (Quttainah & Paczkowski, 2016). The rise of internet has piqued the interest of both academics and practitioners to further understand and theorise around the factors that influence the adoption of e-commerce, however, there is vast opportunity for theoretical advances using existing knowledge, especially in industries where technology advancement is perceived to be slow (Venkatesh et al., 2007).

The objective of the study was to identify the technology, organisation and environment factors that influence the adoption of online legal services by law firms in South Africa through the application of the TOE framework as a theoretical lens. Six adoption factors that were found to be widely utilised in prior adoption studies and relevant to the legal industry context were identified and empirically tested. The previous chapter discussed these findings in relation to the existing body of knowledge which gave rise to new insights in context of the legal industry and South Africa. This chapter brings this research report to a logical conclusion. After the principal findings are stated, the implications for management will be discussed. The chapter concludes with the acknowledgement of the research limitations and suggestions for future research.

Principal findings

This study has contributed to the body of knowledge by applying the TOE framework to a new context which has thus far received little or no academic attention. The successful application of the TOE framework to an industry, perceived to be relatively slow in the adoption of technology has brought a new perspective to technology adoption research and has therefore met the research objectives set for this study (Venkatesh et al., 2007). This study also answered the clarion call by academics for more research to be conducted in developing country contexts (Ahmad et al., 2015; Datta, 2011; Kurnia et al., 2015; Rahayu & Day, 2015; Zhu & Kraemer, 2005). The combination of an understudied industry in a less developed economic context advances the theoretical generalizability of the TOE framework (Sila, 2015).

The study found that perceived compatibility within the technological context of the TOE is the most significant adoption factor that positively influences the adoption of online legal services in South Africa. Other technology adoption factors previously employed in TOE studies such as perceived relative advantage, perceived obstacles, top management support, competitive pressure and regulatory support were found to be not significant.

The results demonstrated that 18,5% of the respondents law firms currently offer online legal services. The low adoption rates of online legal services by law firms could be indicative of the business dilemma that law firms face. The trade-off between efficiency and profitability based on the billable hours model could be a possible reason that firms have not yet embraced online legal services (Henderson, 2014; Quttainah & Paczkowski, 2016).

Despite the low adoption rate 42% of respondents indicated that their firms are considering adoption in the future. This figure combined with the respondents whose law firms have already adopted, make up 60,5% of the respondents, signalling that majority of the respondents were in favour of online legal services. This result has a theoretical implication for the TOE framework which needs to take into account the effect that the maturity level of a technology has on factors influencing its adoption (Carlo et al., 2014). This argument can be observed by the inconsistent findings in different studies on the same adoption factor of the TOE but using different technological contexts (Kurnia et al., 2015). In this regard, the fact that the same adoption factor is found to be significant in one study and not significant in another study could be attributed to the maturity and diffusion stage of the technology (Gutierrez et al., 2015).

With regards to the perceived relative advantage and top management factors, the findings are consistent with studies on lesser known technologies that have also produced a non-significant relationship with these factors (Gutierrez et al., 2015; Z. Yang et al., 2015; Yoon & George, 2013). This could mean that less matured technologies have not yet gained widespread awareness in the industry where decision makers in a firm may not fully understand the benefits of the technology. The findings also suggest that competitive pressure may not be significant if the technology and organisational contexts prevent the advantages of the technology to be transformed into a competitive advantage (Oliveira et al., 2014). From a perceived obstacles perspective, there seems to be a perception that the quality of online legal services is of a lower standard than traditional legal services. This shows a level of ignorance on the disruptive force that online legal services poses on the legal industry (Brescia et al., 2014; Henderson, 2014). It is assumed that the realisation will come as the maturity of online legal services is proliferated by low-cost virtual law firms.

The developing country context of study was observed most in the results of the environment context. This reinforces the strength of the TOE framework which is the only adoption theory which includes the environmental context (Zollet & Back, 2015). Within this context, the study found that market conditions play a part in incentivising or stagnating the adoption of e-commerce technologies. Consumers in developing countries are regarded as “online shoppers with a conventional manner”, meaning that consumers are more likely to use the internet to shop around for a product or service and then use conventional methods to purchase the desired product or service. Based on this phenomenon, the firms serving this consumer base are not obligated to invest on e-commerce related technologies (Rahayu & Day, 2015).

The overall findings are reflective of the specific contextual factors of the legal industry and developing countries such as South Africa. This demonstrates the importance of context in adoption theories where factors may be significant in one setting but less significant in other settings (Ahmad et al., 2015).

Implications for management

The legal industry is about to be disrupted through the entry of new competitors from outside the legal industry in the form of virtual law firms. These new entrants aim to take advantage of the large market of underserved consumers who traditionally could not afford to access costly legal services (Barton, 2014; Henderson, 2014). The implications to management of law firms means that they need to shift from the

traditional mediums of delivering legal services in order to survive the future of the legal industry.

The study highlighted a possible lack of understanding by decision makers in law firms on the benefits and opportunities of online legal services. This lack of understanding, combined with the contention between maintaining the status quo and growing the business, has resulted in the majority of law firms not making the move to implement online legal services. Top management of law firms, who traditionally have a legal background, need to appraise themselves with developments in online legal services in order to understand the benefits of the technology and identify the opportunities that exist for growing their businesses. This can be achieved by strengthening their IT support competencies that will serve to bridge the technology knowledge gap and enable the implementation of online legal services (Quttainah & Paczkowski, 2016). The knowledge gap could also be bridged in the longer term through education. The curriculum offered by law schools needs to be revised to include technology as a competency in all law graduates (Simpson, 2016).

The survey responses pointed towards a perception by lawyers that online legal service activities are of a lower standard or quality than traditional legal services. This perception is linked to the legal industries apparent underestimation of the threat of virtual law firms (Brescia et al., 2014; Henderson, 2014). However, research has shown that virtual law firms are a disruptive force in the market where it is only a matter of time until virtual law firms will catch up and surpass traditional law firms in terms of cost and quality (Henderson, 2014). In order to survive the imminent disruption, management of law firms need to recognise this threat early begin the process of changing their business practices to incorporate online legal services. This process should be relatively easy based on the finding of this study that online legal services are compatible to a law firms technology infrastructure, culture, values and work practices (Wang & Wang, 2016). This also provides an opportunity for legal technology vendors to develop products and platforms aimed at law firms wanting offer online legal services technology.

The findings of the study have also highlighted that the invisible hand-cuffs of the billable hours model has served to constrain the adoption of online legal services (Quttainah & Paczkowski, 2016). Management of law firms need to recognise that the market is moving towards commoditisation which means that legal services will be delivered as a fixed product at a fixed price (Susskind, 2008). With this model, the size of a law firm will no longer be determined by the number of lawyers employed by the

firm but rather on the volume of legal service products sold. In this model, the billable hours model will no longer be acceptable for mainstream and corporate clients. On the other hand, the study found that the rate of proliferation of e-commerce is related to the preference of the consumer. This factor, in a developing country context, indicates that consumers use internet channels for its content but prefer traditional methods for transaction (Rahayu & Day, 2015). This insight implies that whilst virtual law firms are changing the game, consumers in developing countries may not be ready for this format of legal services. Thus, law firms may not able to solely offer online legal services and may have to take a hybrid approach that gradually shifts to a predominantly online model as consumer uptake increases. With this approach the law firm will be able capture a broader spectrum of the market.

Research limitations

Based on the theoretical choice of this study, the limitations of the TOE framework are inherited in this study. For example, Rahayu and Day, (2015) argue that the framework omits the factors related to individuals such as employees and managers and their influence on adoption. The maturity stage of the technology being studied was also identified as a gap in the TOE framework. The study did not attempt to explain everything, including all of the factors that influence online legal services adoption (Ahmad et al., 2015; Oliveira & Martins, 2011).

The competitive pressure and regulatory support constructs was not tested with a large number of items, resulting in a low reliability and validity score which may have lessened the statistical power of the logistic regression model (Hair et al., 2010). The sample size of the study also impacted the statistical power of the logistical regression. Therefore the study may be prone to type I and type II errors (Hair et al., 2010).

Furthermore, the respondents for the study was selected from a database containing lawyers in the Gauteng, North West, Limpopo and Mpumalanga provinces. This factor combined with the low response rate limits the generalisation of findings to the entire legal industry in South Africa as well as other industries (Zikmund, 2003).

Suggestions for future research

Given the number of respondents who indicated their law firms are the considering adoption of online legal services in the future, a longitudinal study may be performed to understand the factors that influence the adoption of online legal studies at different maturity stages (Carlo et al., 2014; Kumar, 2014; Sila, 2015). The findings reflect that the timing of adoption research may also influence the outcome of the results. In the current study, online legal services adoption was very low and the technology is still in its infancy in South Africa. Future replication studies conducted when the technology has matured in the industry may result in different findings and more significant findings. Furthermore, the items used to test the competitive pressure and regulatory support constructs should be improved upon in order to produce stronger insights into these areas.

The results of the study revealed that there are several inconsistencies between different studies relating to the same TOE factors. Kurnia et al. (2015) attributes this to a lack of exploration of the study context, especially in relation to the developing country context. Rich exploration can be achieved by conducting an in-depth qualitative research study using a case study approach (pp. 520). It is therefore suggested that further research studies be directed on establishing the underlying factors impacting the adoption of online legal services through qualitative methods.

Whilst this study tested six adoption factors that were found to be widely used in TOE studies and relevant to the legal industry, further studies could include other adoption factors such as complexity and firm size. Furthermore, future studies could extend this study to include other contextual factors and combine other theories to yield a better set of factors that explain the phenomenon better.

Chapter conclusion

“If disruption is indeed coming to the legal services market, and few can doubt that it is, technological innovation, one of the main drivers of this disruption, can serve to widen access to justice in communities desperate for legal assistance low-to-moderate-income communities, the working poor, and the middle class” (Brescia et al., 2014, p. 554). The research study shed light on an understudied yet important industry. Justice is generally perceived to serve the rich only. People in the lower income segments trade every day without adequately protecting themselves legally. This is due to expense and complexity of the legal process. By enabling legal services that are

simple and affordable, online legal services not only closes a gap in the market but will also contribute towards providing access to justice to a greater amount of people thus reducing the inequality gap (Figueras, 2013).

By successfully applying the TOE framework to the legal industry in South Africa, this study has demonstrated that versatility and applicability of the framework. The study further elucidated that online legal services is compatible with law firms however the consumers and law firms in developing countries may not be ready for the radical change that this technology promises to yield. Despite this, top management of law firms are operating with a sense of ignorance, underestimating the looming threat of online legal services, dismissing them as low quality. As virtual firms continue to grow size and influence over the market, it is only a matter of time when law firms will be forced to either adapt or die (Henderson, 2014).

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Annexure A: Summary of literature review

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
Ahmad et al. (2015)	<ul style="list-style-type: none"> e-business adoption SME Developing Country 	Survey (n=307)	<ul style="list-style-type: none"> Multiple regression analysis 	<ul style="list-style-type: none"> Perceived relative advantage Perceived compatibility Perceived complexity External change agents 	<ul style="list-style-type: none"> E-commerce knowledge Management attitude toward e-commerce: 	<ul style="list-style-type: none"> Pressures from trading partners Pressures from competitors 	Perceived Relative advantage, perceived compatibility, owner's/managers' e-commerce knowledge, Management attitude toward e-commerce and external change agent are significant influencers of SME adoption of e-business in Malaysia.

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
Chatzoglou and Chatzoudes (2016)	<ul style="list-style-type: none"> e-business adoption SME 	Survey (n=161)	<ul style="list-style-type: none"> Multiple regression analysis 	<ul style="list-style-type: none"> IT infrastructure Internet skills 	<ul style="list-style-type: none"> Firm size Firm scope CEO's knowledge Adoption cost Willingness and capabilities of supply chain partners 	<ul style="list-style-type: none"> Competitive pressure Government support Consumer readiness 	Firm size, firm scope, IT infrastructure and internet skills are the most important E-business adoption drivers of SME's, with firm size being the most significant.
Duan et al. (2012)	<ul style="list-style-type: none"> E-market SME 	Survey (n=212)	<ul style="list-style-type: none"> Logistic regression 	<ul style="list-style-type: none"> Perceived direct benefit Perceived indirect benefit 	<ul style="list-style-type: none"> Size Organisational readiness Top management support 	<ul style="list-style-type: none"> External pressure E-market trust Trading partner trust 	Perceived direct benefits, top management support, external pressure, e-market trust and trading partner trust was found to be positively related to e-market

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
							adoption. Perceived indirect benefits, size and organisational readiness where not significantly related.
Gutierrez et al. (2015)	<ul style="list-style-type: none"> • Cloud Computing adoption 	Survey (n=257)	<ul style="list-style-type: none"> • Logistic regression 	<ul style="list-style-type: none"> • Relative advantage • Complexity • Compatibility 	<ul style="list-style-type: none"> • Top management support • firm size • Technology readiness 	<ul style="list-style-type: none"> • Competitive pressure • Trading partner pressure 	Competitive pressure, complexity, technology readiness and trading partner pressure has significant influence. With trading partner pressure being the most significant.
Kurnia et al. (2015)	<ul style="list-style-type: none"> • e-business adoption 	Multiple Case	<ul style="list-style-type: none"> • Not applicable 	<ul style="list-style-type: none"> • Perceived benefits 	<ul style="list-style-type: none"> • Size • Financial 	<ul style="list-style-type: none"> • Industry structure 	E-commerce adoption is

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
	<ul style="list-style-type: none"> • SME • Developing Country 	Study		<ul style="list-style-type: none"> • Compatibility • Complexity • Security/ risks • Cost 	<ul style="list-style-type: none"> resources • IT expertise • IT infrastructure • Top management support • Organisational structure • Organisational culture 	<ul style="list-style-type: none"> • Competitive pressure • Government support • Government regulations • Supporting infrastructure • National structure 	negatively affected mostly by the external environment rather than technological or organisational factors.
Li et al. (2015)	<ul style="list-style-type: none"> • E-procurement 	Survey (n=211)	<ul style="list-style-type: none"> • Partial least square 	<ul style="list-style-type: none"> • Perceived efficiency benefit • Perceived ease of use 	<ul style="list-style-type: none"> • Top management support • B2B commerce expertise • Information Sharing culture 	<ul style="list-style-type: none"> • Business partner pressure 	Perceived efficiency benefits and perceived ease, business to business commerce expertise, information sharing culture,

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
							and top management support, business partner pressure, found to positively influence adoption.
Marques et al. (2015)	<ul style="list-style-type: none"> • Web Knowledge exchange • SME 	Survey (n=535)	<ul style="list-style-type: none"> • Structural equation modelling 	<ul style="list-style-type: none"> • Technology integration • IT expertise 	<ul style="list-style-type: none"> • Commitment based HR practices 	<ul style="list-style-type: none"> • Vertical competition (customers) • Vertical competition (suppliers) 	IT expertise and Commitment based HR practices where found to be positive influences. Negative relationship found with competition.
Oliveira and Martins, (2010)	<ul style="list-style-type: none"> • E-business adoption • Telco industry • Tourism 	Survey (n=3708)	<ul style="list-style-type: none"> • Logistic regression 	<ul style="list-style-type: none"> • Perceived benefits • Perceived obstacles of e- 	<ul style="list-style-type: none"> • Technology readiness • Technology integration 	<ul style="list-style-type: none"> • Competitive pressure • Trading partner 	All factors where significant except firm size in both industries.

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
	industry			business.	• Firm size	collaboration	
Oliveira et al. (2014)	<ul style="list-style-type: none"> • Cloud computing • Manufacturing • Services 	Survey (n=249)	• Structural equation modelling	<ul style="list-style-type: none"> • Relative advantage • Complexity • Compatibility • Technology readiness 	<ul style="list-style-type: none"> • Top management support • Firm size 	<ul style="list-style-type: none"> • Competitive pressure • Regulatory support 	Cost savings, relative advantage, complexity, technology readiness, top management support, firm size was confirmed. Security, compatibility, competitive pressure, regulatory support was not confirmed
Rahayu and Day, (2015)	<ul style="list-style-type: none"> • e-commerce adoption • SME • Developing country 	Survey (n=292)	• Multiple regression	<ul style="list-style-type: none"> • Perceived benefits • Compatibility • Cost 	<ul style="list-style-type: none"> • Tech Readiness • Firm size 	<ul style="list-style-type: none"> • Customer/supplier pressure • Competitor pressure 	Significant correlation in Perceived benefits, technology

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
						<ul style="list-style-type: none"> External support 	<p>readiness.</p> <p>Compatibility, Cost, Firm size, customer/ supplier pressure, competitor pressure and external support where not significant.</p>
Senyo et al. (2016)	<ul style="list-style-type: none"> Cloud computing Developing Country 	Survey (n=305)	<ul style="list-style-type: none"> Logistic Regression 	<ul style="list-style-type: none"> Relative advantage Security concern Compatibility 	<ul style="list-style-type: none"> Firm size Firm scope Top management support Technology readiness 	<ul style="list-style-type: none"> Competitive pressure Trading partner pressure Regulatory support 	<p>Relative advantage, security concern, Top management support, technology readiness, competitive pressure and trading partner pressure was</p>

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
							found to be significantly related to the adoption of cloud computing in developing countries.
Sila (2013)	• B2B e-commerce adoption	Survey (n=275)	<ul style="list-style-type: none"> • Multiple regression • Analysis of variance (ANOVA) 	<ul style="list-style-type: none"> • Cost • Complexity • Network Reliability • Data Security • Scalability 	<ul style="list-style-type: none"> • Top Management Support • Trust • Firm Size • Firm Type • Management level • Country of origin 	<ul style="list-style-type: none"> • Pressure from trading partners • Pressure from competitors 	All variables influence adoption of B2B e-commerce except country of origin.
Z. Yang et al., (2015)	• Software as a service adoption	Survey (n=173)	• Partial least square	<ul style="list-style-type: none"> • Relative advantage • Simplicity • Compatibility 	<ul style="list-style-type: none"> • IT Infrastructure • Top management 	<ul style="list-style-type: none"> • competitor pressure • Partner Pressure 	Organisational readiness was most salient followed by

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
				<ul style="list-style-type: none"> • Experienceability (SIC) 	<ul style="list-style-type: none"> • support • Org readiness 		environment readiness with technology readiness being the least salient.
Yoon and George, (2013)	<ul style="list-style-type: none"> • Virtual worlds adoption 	Survey (n=130)	<ul style="list-style-type: none"> • Partial least square 	<ul style="list-style-type: none"> • Relative advantage • Compatibility • Security concern 	<ul style="list-style-type: none"> • Top management support • Organization size • Organizational readiness • Firm scope 	<ul style="list-style-type: none"> • Mimetic pressure: competitor • Coercive pressure: customer • Normative pressure • Intensity of competition 	Organisational readiness, mimetic pressure, normative pressure where found to be significant.
Wang and Wang (2016)	<ul style="list-style-type: none"> • Knowledge Management Systems adoption 	Survey (n=291)	<ul style="list-style-type: none"> • Logistic regression 	<ul style="list-style-type: none"> • Perceived Benefits • Complexity • Compatibility 	<ul style="list-style-type: none"> • Sufficient Resources • Technology Competence • Top Management 	<ul style="list-style-type: none"> • Competitive Pressure 	Perceived benefits, complexity, compatibility, top management support,

Author	Context	Research Method	Test	Technology	Organisation	Environment	Findings
					Support • Organizational Culture		organizational culture and competitive pressure are significant influences on KMS adoption.

TABLE 17: SUMMARY OF TOE LITERATURE REVIEWED

Annexure B: Survey Questionnaire

Adoption of Online Legal Services by Law Firms in South Africa

Dear Participant

I am conducting research on the factors that influence the adoption of online legal services by law firms in South Africa. As a legal professional in South Africa, I require your assistance by completing a short survey that should take no more than 5 to 10 minutes of your time.

Your participation is voluntary and you can withdraw at any time without penalty. All data will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research.

If you have any concerns, please contact my supervisor or myself. Our details are provided below.

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Supervisor Name: Craig Penfold
Email: cpenfold@tsebo.com
Phone: 082 828 7091

Demographics

1. Age?	Below 20 Years 21 - 30 31 - 40 41 - 50 51 - 60 Older than 60
2. Gender?	Female Male Prefer not to say
3. Please select an option that best describes your current job title	Administrative/ Support Staff Legal Secretary Consultant Candidate Attorney Associate/ Lawyer Senior Associate Salaried Partner Professional Assistant Equity Partner/ Director Special Counsel

4. Number of Years practicing law	0-10 years 11-20 Years 21-30 Years 31-40 Years 41-50 Years 51-60 Years Not Applicable
5. Qualification	BProc LLB LLM LLD Specialized Diploma/ Certificate Other:
Firm Profile	
6. Are you currently employed or associated to a law firm?	Yes No
7. Which areas(s) of law does your firm mostly practice? (choose a maximum of 3)	Business and Corporate Commercial Family Law Civil Litigation Criminal Litigation Litigation Property Conveyancing Consumer credit Law Tax Law Personal Injury Estates Contract labor Debt Collection Divorce Intellectual Property Environmental Law Risk Advisory Other:
8. How many lawyers are there in your firm?	1-10 11-20 21-50 51-100 more than 100
9. How many support staff are there in your firm?	1-10 11-20 21-50 51-100 101-500 more than 500

10. Would you describe the practice that you work in now as a:	Boutique or Niche Law firm Generalist Law Firm Other:
11. Is your firm an international law firm?	Yes No
12. Does your firm currently have a website?	Yes No
Online Legal Services	
13. Does your law firm currently offer online legal services?	Yes No
14. If yes, which services does your firm offer online?	Automated/ Standardised Forms (i.e.wizard or template style that asks a few questions and generates simple legal documents such wills and trust deeds) Legal Advice (Consumers ask a question are provided with an answer online) Legal Encyclopedias (Allows consumers to educate themselves on various aspects of law) Client Portal (Allows existing clients to log-on to view the status of their case, upload and download documents and send attorney instructions) Other
15. If no, is your law firm considering offering online legal services in future?	Yes No Not Applicable
Technology Adoption Factors	
Online Legal Services refers to the provision of specific legal services over the internet directly to consumers	
Perceived Relative Advantage	For each statement below, please select a score out of 5: 1= Strongly Disagree 2= Disagree 3=Neither agree or disagree 4= Agree 5= Strongly Agree
Offering online legal services will allow better communication with our organisation	
Offering online legal services will increase the profitability of our organisation	
Offering online legal services will create an electronic presence for our brand	
Offering online legal services will reduce costs (e.g. communication, advertising, marketing, travel and Research)	
Offering online legal services will allow us to enter new markets and/or gain new clients	
Offering online legal services will improve our web presence	

Perceived Obstacles to online legal services	
My firm is too small to benefit from any online legal service activities	
Online legal services activities are too expensive to implement	
The technology is too complicated	
We are concerned about potential security risks and privacy	
We think that there are important unresolved legal issues with offering online legal services	
Legal services provided online are of a lower standard/ quality	
Online legal services will expose my firm malpractice issues due to system errors	
Perceived Compatibility	
Implementing the changes caused by the adoption of online legal services is compatible with existing operating practices	
Implementing the changes to work procedures initiated by the adoption of online legal services are compatible with the beliefs and values existing in our law firm	
The adoption of online legal services is compatible with our firms Information technology (IT) infrastructure	
There exists favourable attitudes towards online legal services adoption in our firm	
Face to Face contact is non-negotiable in the practice of law	
Organisation Adoption Factors	
Top Management Support	For each statement below, please select a score out of 5: 1= Strongly Disagree 2= Disagree 3=Neither agree or disagree 4= Agree 5= Strongly Agree
Our top management is likely to invest funds in information technology	
Our top management is willing to take risks involved in the adoption of online legal service	
Our top management is likely to be interested in adopting online legal services in order to gain competitive advantage	
Our top management is likely to consider the adoption of online legal services as strategically important	
Environment Adoption Factors	
Competitive Pressure	For each statement below, please select a score out of 5: 1= Strongly Disagree 2= Disagree 3=Neither agree or disagree 4= Agree 5= Strongly Agree
An industry move to utilize the internet for legal service delivery would put pressure on my firm to do the same	
There is trend in my industry to more utilize the internet for more legal service delivery	
Regulatory Support	4= Agree 5= Strongly Agree
There is legal protection in the use of online legal services	
The laws and regulations that exist nowadays are sufficient to protect the use of online legal services	

TABLE 18: SURVEY QUESTIONNAIRE

Annexure C: Descriptive statistics per adoption question

TPRA1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	5,8	5,8	5,8
	Disagree	14	11,7	11,7	17,5
	Neither agree or disagree	43	35,8	35,8	53,3
	Agree	31	25,8	25,8	79,2
	Strongly Agree	25	20,8	20,8	100,0
	Total	120	100,0	100,0	
TPRA2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	6,7	6,7	6,7
	Disagree	26	21,7	21,8	28,6
	Neither agree or disagree	41	34,2	34,5	63,0
	Agree	23	19,2	19,3	82,4
	Strongly Agree	21	17,5	17,6	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPRA3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	5,0	5,0	5,0
	Disagree	5	4,2	4,2	9,2

	Neither agree or disagree	24	20,0	20,2	29,4
	Agree	46	38,3	38,7	68,1
	Strongly Agree	38	31,7	31,9	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPRA4					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	8,3	8,4	8,4
	Disagree	17	14,2	14,3	22,7
	Neither agree or disagree	39	32,5	32,8	55,5
	Agree	31	25,8	26,1	81,5
	Strongly Agree	22	18,3	18,5	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPRA5					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	4,2	4,2	4,2
	Disagree	12	10,0	10,1	14,3
	Neither agree or disagree	29	24,2	24,4	38,7
	Agree	42	35,0	35,3	73,9
	Strongly Agree	31	25,8	26,1	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		

TPRA6					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	4,2	4,2	4,2
	Disagree	5	4,2	4,2	8,3
	Neither agree or disagree	22	18,3	18,3	26,7
	Agree	54	45,0	45,0	71,7
	Strongly Agree	34	28,3	28,3	100,0
	Total	120	100,0	100,0	
TPO1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	14,2	14,3	14,3
	Disagree	13	10,8	10,9	25,2
	Neither agree or disagree	23	19,2	19,3	44,5
	Agree	23	19,2	19,3	63,9
	Strongly Agree	43	35,8	36,1	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPO2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	14,2	14,2	14,2
	Disagree	24	20,0	20,0	34,2
	Neither agree or disagree	43	35,8	35,8	70,0
	Agree	24	20,0	20,0	90,0

	Strongly Agree	12	10,0	10,0	100,0
	Total	120	100,0	100,0	
TPO3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	7,5	7,6	7,6
	Disagree	10	8,3	8,4	16,0
	Neither agree or disagree	39	32,5	32,8	48,7
	Agree	34	28,3	28,6	77,3
	Strongly Agree	27	22,5	22,7	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPO4					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	28	23,3	23,3	23,3
	Disagree	44	36,7	36,7	60,0
	Neither agree or disagree	24	20,0	20,0	80,0
	Agree	14	11,7	11,7	91,7
	Strongly Agree	10	8,3	8,3	100,0
	Total	120	100,0	100,0	
TPO5					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	16,7	16,7	16,7
	Disagree	27	22,5	22,5	39,2

	Neither agree or disagree	58	48,3	48,3	87,5
	Agree	10	8,3	8,3	95,8
	Strongly Agree	5	4,2	4,2	100,0
	Total	120	100,0	100,0	
TPO6					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	18,3	18,3	18,3
	Disagree	30	25,0	25,0	43,3
	Neither agree or disagree	37	30,8	30,8	74,2
	Agree	20	16,7	16,7	90,8
	Strongly Agree	11	9,2	9,2	100,0
	Total	120	100,0	100,0	
TPO7					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	9,2	9,2	9,2
	Disagree	27	22,5	22,5	31,7
	Neither agree or disagree	48	40,0	40,0	71,7
	Agree	22	18,3	18,3	90,0
	Strongly Agree	12	10,0	10,0	100,0
	Total	120	100,0	100,0	
TPC1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	6,7	6,7	6,7
	Disagree	26	21,7	21,7	28,3

	Neither agree or disagree	50	41,7	41,7	70,0
	Agree	31	25,8	25,8	95,8
	Strongly Agree	5	4,2	4,2	100,0
	Total	120	100,0	100,0	
TPC2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	7,5	7,6	7,6
	Disagree	20	16,7	16,8	24,4
	Neither agree or disagree	46	38,3	38,7	63,0
	Agree	30	25,0	25,2	88,2
	Strongly Agree	14	11,7	11,8	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
TPC3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	8,3	8,3	8,3
	Disagree	31	25,8	25,8	34,2
	Neither agree or disagree	35	29,2	29,2	63,3
	Agree	30	25,0	25,0	88,3
	Strongly Agree	14	11,7	11,7	100,0
	Total	120	100,0	100,0	
TPC4					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly Disagree	9	7,5	7,5	7,5
	Disagree	27	22,5	22,5	30,0
	Neither agree or disagree	40	33,3	33,3	63,3
	Agree	30	25,0	25,0	88,3
	Strongly Agree	14	11,7	11,7	100,0
	Total	120	100,0	100,0	
TPC5					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	7,5	7,6	7,6
	Disagree	21	17,5	17,6	25,2
	Neither agree or disagree	30	25,0	25,2	50,4
	Agree	27	22,5	22,7	73,1
	Strongly Agree	32	26,7	26,9	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		
OMS1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	7,5	7,5	7,5
	Disagree	19	15,8	15,8	23,3
	Neither agree or disagree	36	30,0	30,0	53,3
	Agree	33	27,5	27,5	80,8
	Strongly Agree	23	19,2	19,2	100,0
	Total	120	100,0	100,0	
OMS2					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	13,3	13,3	13,3
	Disagree	26	21,7	21,7	35,0
	Neither agree or disagree	42	35,0	35,0	70,0
	Agree	23	19,2	19,2	89,2
	Strongly Agree	13	10,8	10,8	100,0
	Total	120	100,0	100,0	
OMS3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	10,0	10,0	10,0
	Disagree	16	13,3	13,3	23,3
	Neither agree or disagree	34	28,3	28,3	51,7
	Agree	37	30,8	30,8	82,5
	Strongly Agree	21	17,5	17,5	100,0
	Total	120	100,0	100,0	
OMS4					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	7,5	7,6	7,6
	Disagree	14	11,7	11,8	19,3
	Neither agree or disagree	38	31,7	31,9	51,3
	Agree	36	30,0	30,3	81,5
	Strongly Agree	22	18,3	18,5	100,0
	Total	119	99,2	100,0	
Missing	System	1	0,8		
Total		120	100,0		

ECP1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	9,2	9,2	9,2
	Disagree	5	4,2	4,2	13,3
	Neither agree or disagree	24	20,0	20,0	33,3
	Agree	52	43,3	43,3	76,7
	Strongly Agree	28	23,3	23,3	100,0
	Total	120	100,0	100,0	
ECP2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	8,3	8,3	8,3
	Disagree	11	9,2	9,2	17,5
	Neither agree or disagree	43	35,8	35,8	53,3
	Agree	43	35,8	35,8	89,2
	Strongly Agree	13	10,8	10,8	100,0
	Total	120	100,0	100,0	
ERS1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	5,8	5,8	5,8
	Disagree	23	19,2	19,2	25,0
	Neither agree or disagree	61	50,8	50,8	75,8
	Agree	27	22,5	22,5	98,3
	Strongly Agree	2	1,7	1,7	100,0
	Total	120	100,0	100,0	

ERS2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	10,0	10,0	10,0
	Disagree	35	29,2	29,2	39,2
	Neither agree or disagree	50	41,7	41,7	80,8
	Agree	20	16,7	16,7	97,5
	Strongly Agree	3	2,5	2,5	100,0
	Total	120	100,0	100,0	

TABLE 19: DETAILED DESCRIPTIVE RESULTS OF THE ADOPTION QUESTIONS