

MARKING SHEET

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TITLE INFORMATION

Title : The Interaction of Information Systems with the Value Configuration of Law Firms

Short Description : The analysis of law firms' value configuration, consisting of the value chain, value shop and value networks and whether information systems can facilitate more efficient handling of cases, legal practice and business management of the law firm throughout its value configuration.

The Interaction of Information Systems with the Value Configuration of Law Firms

by

Bronwen Alexandra de Fin

I hereby declare that the research dissertation entitled “The Interaction of Information Systems with the Value Configuration of Law Firms” submitted for the MBL degree to The School of Business Leadership UNISA is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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ABSTRACT

The study identified various value configurations, namely the value chain, value shop and value networks, that could be applicable in understanding the value adding activities within a law firm. The aim of the study was to determine whether information systems could be utilised throughout the identified activities comprising the various value configurations.

In the event that information systems were used throughout these activities it was sought to determine to what extent information systems were being used in the law firm and whether, from the user's perspective, the systems facilitated better efficiency in the workplace, increased productivity and had a positive effect on the profitability of the law firm.

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List of Terms

(CAQDAS) Computer Aided Qualitative Data Analysis Software

CIPC – Companies and Intellectual Property Commission

CRM – Customer Relationship Management

IS – Information System/s

IT – Information Technology

KIBS - Knowledge intensive business services

THE INTERACTION OF INFORMATION SYSTEMS WITH THE VALUE CONFIGURATION OF LAW FIRMS

1. Introduction

The paradigm of professional services being based on the intellectual knowledge of specially trained people raises the question of whether the use of information technology and systems are necessary for the rendering of these professional services, and if so, to what extent. Notably, a law firm is a business just like any other and the effective functioning of this business may not be too different from the norm, despite its elitist and regulated personality. Furthermore, a law firm does not exist in a vacuum and the interrelation of the firm with the external environment and the many other Information Systems (IS) and technologies available could impact the manner in which legal services are rendered.

It is a common witticism amongst the profession that they are always a step behind other industries in adopting technological advances in their field of work. The argument can be made that they do not need to adopt these advances in order to render the services required of them, as they are just as effective with or without the additional assistance. Over the past decade, however, the industry has begun to look at IS to facilitate their work, as have most industries, as it has been said that such systems can give an organisation a competitive advantage over others. The reasons and extent of the adoption of IS are sought to be identified herein, as is whether the implementation of such systems is perceived by the users to have facilitated better business legal practices.

1.1. Orientation and Contextualisation of the study

South African law firms provide a number of different legal services, each type operating in, and interacting with, specific external governmental bodies, in

addition to the usual clientele and suppliers that most businesses deal with. The efficiency and effectiveness of these external bodies impacts a great deal on the service delivery of law firms and they continuously find themselves having to compensate for, and adjust to, the external changing environment. These external changes are out of the control of the law firms, however they do take certain measures within the firm to facilitate the realisation of their work. Throughout the value configuration of a law firm, these measures are implemented not only to combat any external inefficiencies but also to perform the usual business activities, including management, finance, administration, transport, procurement and human resources.

The impact of IS throughout these activities in all industries is growing and the legal profession is no exception. The professional nature of the practice of law however is seen to lie with the individual attorney and although IS have infiltrated law firms, the question arises as to whether this does indeed assist the attorney in rendering professional services, and if so, to what extent. Alternatively are IS only instrumental in respect of the common business activities of the law firm?

If indeed IS do assist with the professional aspect of an attorney's work, does this mean that, as technology has replaced labour in the industrial arenas, technology will too ultimately replace the professional lawyer? There have been such indications of alternative sources of legal services outside the law firm and the impact of the Internet has been a notable instrument in facilitating this. Despite this concern that faces most 'product-less' service industries, the legal fraternity is adopting more IS to assist them with rendering their services. Several questions arise, however, as to whether these systems have changed the face of legal practice, if they have any negative effects on the practice, if they actually add value to the quality of work, if they contribute to the efficiency and profitability of legal services, if so, does the type of legal service matter, and is the adoption of IS reactive to external pressures to utilise such systems and to increase productivity? Many questions can be asked as to the viability and impact of IS on the legal practice in general.

The questions herein regarding the impact of IS on the law firm will be restricted to the dimensions in the value configuration, and will be from an internal perspective from the users of the IS, whether they are professional or support staff.

1.2. The Purpose of the Work

Due to the vast developments in information technology, the traditional method of engaging with clients and rendering professional services are coming under pressure to change, due to the new environment where IS are starting to form the primary interface through which to conduct business. The practice of law is thus developing to facilitate this interface and needs to change in order to build a sustainable business. The move of legal practices from the exclusivity and prestige they once enjoyed to competitive businesses is prevalent in the global change from small and specialised practitioners to large multinational and multi service firms.

The role information technology and the correlating systems play in everyday business practices are also applicable to the professions, despite the professional service orientated nature of their business in comparison to any manufacturing or product-based industry. IS have assisted many companies with improvements in their production lines, their products, their manufacturing processes, their sales processes, their after sales services, and generally every aspect of their business. The service industry is no exception and the adoption of information technology and adapted systems have been seen to increase productivity and profitability in various service industries.

The focus of this study will be on the role of IS throughout the law firm's value configuration and not on knowledge management *per se*, although knowledge management will be a predominant facet due to the nature of the legal industry. The value configuration of a law firm will be outlined and will include an analysis on the importance of the value chain, value shop and value

networks within legal practices in the South African context. Within this analysis, the various role players, being suppliers and clientele, will be identified and their current and potential interaction with IS will be identified.

In comparison to other industries, little research has been done to examine the entire value configuration of law firms. The little that there has been has focused on the intellectual capital of the law firm, as well as the recruiting and keeping of this intellectual capital, it being the sole source of revenue for the firm. The research neglects other aspects of the business practice of a law firm which mirrors the past attitude of practitioners who may have prioritised the practice of law and not the running of the business - this theme is quite prevalent in much of the literature (Zangrilli, 2002). To the extent that Gottschalk (2006) has focused his research on the value shop of a law firm, the remaining two aspects of the value configuration, being the value chain and the value network, was not dealt with extensively in respect of the IS. These two other aspects will be addressed in the study, in addition to the value shop, to determine the extent to which IS do impact these processes, if at all.

The specialised nature of legal practice does tend to focus primarily on case management, which is facilitated by the value shop concept. However the other aspects of the law firm are neglected and need to be identified and 'slotted' into the value configuration for a holistic understanding of the practice. Once this has been successfully accomplished, this framework can be used to identify the possible applications of IS.

The relevance of the study will assist in identifying the possible adoption of industrial practices and business practices as facilitated by IS by the management of a law firm and case management. Aspects of project management will be touched on insofar as the case is viewed as a project, as well as other practice orientated projects that can be implemented which can be facilitated by IS.

1.3. Research Objectives

The objectives of the study are to determine whether practitioners and managers are aware of their value configuration, and if so, whether they have adopted any IS in these processes. The research will attempt to determine to what extent law firms are utilising IS in their business practice throughout the value configuration, as well as in their professional practice on a daily basis. In addition thereto, it will be investigated whether the law firms are using these IS at their disposal effectively, and if not, what the possible reasons could be. The research will also evaluate the users' perceptions of such systems and whether they deem IS as vital to the sustainability of law firms in the future.

1.4. The Problem Statement

The researcher proposes to determine whether IS can be adopted throughout the value configuration of law firms in South Africa and if they can be, to what extent and for what purpose.

The research will focus on the users' perceptions of the effect IS have on certain performance measures, namely the efficiency, productivity and profitability of a law firm. If such systems are advantageous to the user, the aim is to determine to what extent and what the key success factors would be of such IS throughout the value configuration of a law firm.

The very nature of legal services is not founded in technology but in legal principles and practice. So the question remains, 'How can IS influence the legal practice?' The key here is 'practice', which for the purposes of this study will not be limited to only legal services, but will also include the business management of a law firm.

1.5. The Sub-problems

The first sub-problem is to establish whether the various components of the value configuration of a law firm lend themselves to being supported by IS.

The second sub-problem is to discover how IS facilitate the various aspects of legal practice.

The third sub-problem is to analyse to what extent the use of IS has on the productivity, profitability and efficiency of a law firm.

1.6. The Propositions

The principle proposition states that the various components of the value configuration of a law firm can be supported by IS and as a result improve firm performance.

The interacting proposition challenges the principle proposition in that it states that the components of the value configuration of law firms do not all lend themselves to being supported by IS.

The independent variable of the propositions would be the value configuration of a law firm and the dependant variable would be the IS.

1.7. The Delimitations

The different categories of IS will not be distinguished from one another but will be referred to collectively.

This study will not attempt to identify any requirement of application of IS within law firms and will not attempt to quantify the financial impact that the use of IS may have on the practice. The study does not attempt to determine whether the investment in IT is directly related to the profitability/earning volatility of a law firm. The focus will be on the users' perceptions of the impact of IS from an internal perspective.

The study will further be limited to South African based small to medium sized profit-orientated law firms and the available IS used by them. No non-profit firm was approached to participate in the study.

A small selection of law firms was approached to participate in the research and thus caution must be exercised in applying the data collected to law firms in general. The purpose was to identify possible themes and the scope of application of IS within the law firms that participated.

The different services rendered by the law firms were not differentiated as the study attempts to address the entire value configuration and not focus on the specific services provided by the firm.

1.8. Assumptions

Due to the nature of the legal services industry, a constructivist approach was adopted in evaluating the law firms. This approach states that the law firms are not independent of their practitioners and other employees, but that they gain their existence from their employees, as well as external bodies such as government, clients and suppliers (Greener, 2008).

The first assumption is that the law firms use IS to a degree.

The second assumption is that the users are somewhat familiar with computers and are computer literate.

The third assumption is that the firms are profit driven.

The fourth assumption is that law firms have similar value configurations.

2. Conceptual Framework

2.1. Introduction

A law firm is a professional social community specialising in speed and efficiency in the creation, application and transfer of legal knowledge (Nahapiet & Ghoshal, 1998). Law firms within the context of this study will be firms registered with the Law Society of South Africa which conduct a general practice encompassing different fields of practice of law and not any other specialised single area of legal practice, nor any commercial entity that requires membership in some form to provide any legal services. Legal practice within this dissertation will not only refer to the act of an attorney servicing his client's legal needs, but also to the administration and operation of a law firm.

In looking at the various role players within a law firm, they fulfil different roles and utilise IS for different purposes. Support staff (including accounting staff), clients, attorneys, paralegals, outside organisations such as the Companies and Intellectual Property Commission (CIPC), the courts and government bodies all form part of the supply chain within a law firm. The industry is embracing technology, although at a somewhat slower pace than other industries. Users will not only refer to the professionals who interact with the IS, but also the internal support staff.

2.2. Information Systems

Information systems include the technology as well as the method of application of such systems to a practice (Bocij, Chaffey, Greasley & Hickie, 2006). In the current context, the practice of a law firm will be analysed.

IS are said to provide a strategic competitive advantage to businesses, with the strategies employed to sustain this advantage being cost leadership, differentiation and innovation. In determining which strategy to employ one

can analyse the value chain, which analysis includes the supply chain and the value network (Bocij *et al.*, 2006).

2.3. Value Chain Analysis

The flow of information throughout the value chain activities can be used and accommodated efficiently to create value as it facilitates communication with an extended network, customisation of information to be used in various procedures and facilitation of two-way communication. The effect that technology has had on the flow of information has impacted the traditional value chains of various industries such as banking online and news feed applications instead of the traditional newspaper (Evans & Wurster, 1997). As law firms are seen to trade in information in the form of knowledge, it stands to reason that the value configuration of law firms has also changed with the technological use of information.

The value configuration as defined by Gottschalk (2006) explains how value is generated throughout the business processes in rendering a service to the client and denotes the way business is conducted in that firm. Different configurations are available dependant on the nature of the business and these configurations are the value chain, value shop and value network. However it is submitted in this study that the legal industry, and possibly other professional services firms, fall within the configurations of all three, as the business practice is quite multifarious. Various aspects of legal practice can be adapted to fit the different value configurations and the interconnected nature of these value configurations will be investigated to determine whether the value creating activities of a law firm can be supported and improved by the use of these systems.

2.4. Relevance of the study

The relevance of the study is to identify whether the use of IS throughout a law firm can or has improved efficiency, communication, work administration and

business practice from the users' perspectives - not only the professional users, but also the support staff and possibly the suppliers and clientele.

In obtaining data from the experienced internal members of law firms, the extent of their knowledge of their law firm's value configuration will be established and will hopefully contribute to the theory of the value configuration of a law firm.

A qualitative view of the interaction between legal practice and IS in the firms will be obtained. Further, in analysing the value configuration of law firms, possible avenues of application of IS will be identified, together with common hindrances, criticisms and problems with the use of the IS.

The variables of the study are the components of the value configuration of a law firm, the IS that they use, the aspects of legal practice together with the aspects of usual business practice, and the users' perceptions of the productivity, profitability and efficiency of their law firms.

3. Literature Review

“With rare exceptions, the productivity of a modern corporation or nation lies more in its intellectual and systems capabilities than in its hard assets - raw materials, land, plants, and equipment. Intellectual and information processes create most of the value-add for firms in the large service industries - like software, medical care, communications, and education - which provide 79 percent of all jobs and 76 percent of all U.S. GNP” (Quinn, Anderson & Finkelstein, 2005).

3.1. Introduction

The construction of the different value configurations of a law firm in accordance with the accepted theory assists in identifying the important activities in legal practice, which in turn allow for the identification of possible IS that correlate with the identified activities. The theories underlying the construction of the value configurations and the impact information systems have on the legal industry and service industries are addressed by various authors.

The influence of information systems and the use of information on the strategy of law firms is addressed, together with the changes that have been seen over the past decade due to the introduction of various information systems.

3.2. Strategic Advantage of Information

The flow of information in the value chain activities of a business is seen as a method to gain strategic advantage, and the impact of technology on the use of this information can change the very nature of the value chain (Evans & Wurster, 1997).

Evans and Wurster (1997) provided examples of the change in value chains of banks due to the introduction of online banking, noting that the necessity of infrastructure has decreased. A similar example was given of the possibility of electronic medical records delimiting the restriction or inconvenience on patients to change medical practitioners at a whim. The article was written over 13 years ago and the predictions of the authors have rung true. Many industries' value chains have changed in response to the IS available, another example being that of the entertainment industry with movies and music being available online.

The authors distinguished between the reach of information and the richness of information. Reach refers to the number of people exchanging information. Richness refers to the amount of information that can be exchanged at a time, customisation of information for the recipients and the interactivity with the information; whether it facilitates two-way communication as opposed to one-way. They stated that there is always a trade off between the reach and the richness of the information. The impact, however, of IS on this trade off, is restricting the extent of the trade off (Evans & Wurster, 1997).

The traditional physical concept of the value chain is seen as restrictive and the use of technology to 'carry' this information and customise and interact with it is vast. IS have now facilitated all the characteristics of the richness of information while expanding its reach at the same time, as can be seen by many online tools, e-mails and client specific IS, for example those developed by the banks to facilitate conveyancing transactions and the communication with the attorneys attending thereto.

Kessler and Stephen (2010) looked at the different business growth strategies such as the market penetration strategy, product expansion, service diversification and internationalisation, and stated that, regardless of industry, service diversification does provide a competitive advantage and facilitates growth. The authors looked at product-related industries and attempted to

adapt the theories relating to growth - specifically product diversification and economies of scope - to the service industries.

In the market based view, competitive advantages are few in the service related activities of a value chain, as these activities are personal and cannot reap any benefits from standardisation. Customers are unable to compare the services of different competitors. However, competitive tools such as switching costs, loyalty and barriers to change are influenced by information irregularities (Kessler & Stephen, 2010).

The resource based view is more adaptable to knowledge intensive business service industries (KIBS) and relates to the distinctive use of resources and the competencies needed to service a specific customer. In order to facilitate these personalised services, the use of information technology is of importance, together with specialised labour and organisational proficiencies. The combination of these three aspects gives the organisation a competitive advantage which is difficult to replicate and contributes to the organisation's growth and further development of its competencies to render the specialised and personalised services required of knowledge intensive based services firms (Kessler & Stephen, 2010).

Compared to product-based industries where inputs are uniform, the inputs in service industries are different and the difficulty is thus to determine how to economise on such inputs. In the service industry, Kessler and Stephen (2010) differentiate between firm specific resources, which comprise of staff, equipment and intellectual property, and firm addressable resources, which are not owned but are available when needed. They then look at assets, capabilities, skills and competencies as inputs. Capabilities and skills are deemed action based resources as well as knowledge based resources, while competencies are seen as the source of competitive advantage. Such inputs can only form the basis of competitive advantage within a firm if those inputs are not easily available to others (Kessler & Stephen, 2010).

Information and its use as facilitated by the IS available is an important resource of a law firm and if used prolifically, the information can give a firm a strategic and competitive advantage over others.

3.3. Managing Legal Knowledge

Von Krogh (2009) stated that both the individualist perspective, where the knowledge of a firm lies with the individual, and the collectivist perspective, where the locus of knowledge is collective, should be adopted in IS research. In order to gain a competitive advantage, law firms will have to be accessible and be able to have a large capacity to render services to a variety of different clientele in order to survive. Accordingly, the role IS can play in making the firm accessible is of importance in contributing to the firm's sustainability.

Du Plessis and du Toit (2006), in their article "Knowledge management and legal practice", attempted to illustrate the role of IS in knowledge management within the context of law firms, primarily with regards to legal research tools. However they did infer that the role of knowledge management includes the support of daily activities regarding the application of the law and dealing with the clientele. A variety of systems, similar to those above, are mentioned as the support systems of knowledge management. They further proceeded to identify the expected skill of the professional to be akin to that of a "digital attorney" who utilises information technology throughout every aspect of his practice. This is a fair assessment of the required skill of the professional to ensure that they are competent to apply the available IS effectively.

They further identified the sources of knowledge within the firm which include legal research from primary sources, client information, case information, and tacit information (du Plessis & du Toit, 2006).

The role technology plays in managing legal information and knowledge is considered to contribute to the speed and efficiency of creating and transferring legal knowledge, which in turn is advantageous to clients in that it

reduces the time and costs of legal services, and facilitates the precision of service delivery and better communication (du Plessis & du Toit, 2006).

In their study, du Plessis and du Toit (2006) found that there was a high percentage of attorneys that did not consider the intranet as beneficial with regards to communication and they highlighted that the possible issue with this was a lack of training. This in turn does raise an important aspect of IS in law firms, being the training and technical skill level of the users.

Gottschalk (2002) identified four types of knowledge that a system can facilitate in his article entitled; 'Toward a model of growth stages for Knowledge Management Technology in Law Firms'. These are administrative, declarative, procedural and analytical. He concluded by stating that the growth stages he identified can form the basis of formulating a strategy to implement knowledge management schemes through the use of IS.

'Determinants of knowledge management technology projects in Australian law firms' by Gottschalk and Khandelwal (2003), addressed the role of IS in the knowledge management of law firms. They identified four categories of knowledge management technology projects.

Firstly, there is general IT support for knowledge workers, which includes productivity tools and the distribution and use of these tools within the firm. These tools assist the workers in their work and also include the tools to facilitate communication (Gottschalk & Khandelwal, 2003).

Secondly, there is dealing with information about knowledge sources - who knows what - which involves "mapping organisational knowledge", i.e. to create a guide of the knowledge of the organisation's specialists, that will be accessible by others and facilitate communication with these specialists. This would be enabled in a law firm by recording the specialists' experience, and even his clientele data, to identify what knowledge he may have. The enquirer would then access the system, identify the specialist and make contact with

him via one of the productivity tools or in person (Gottschalk & Khandelwal, 2003).

The third category would be the information representing knowledge and would involve a method of storage of this knowledge and information, as well as facilitating the access of this knowledge and information by others. The storage of this knowledge would involve keeping documents generated by these knowledge workers, capturing best practices, capturing knowledge about the clientele for marketing purposes, storing knowledge regarding the implementation of IS, and capturing knowledge for strategic purposes. This “codification strategy” is facilitated by the use of IS (Gottschalk & Khandelwal, 2003).

Lastly, information processing allows for the evaluation of situations and the use of IS to solve problems. Such systems include expert systems, decisions support systems, document management systems and relational database tools (Gottschalk & Khandelwal, 2003).

Insofar as these categories do cover the legal practice in general as well as knowledge management, these categories can be applied to the entire law firm and the authors identified various types of IS that could fall within the value configuration.

3.4. The Shift in the Legal Paradigm

In 1996, Susskind attempted to predict the various ways in which IS would change the face of legal practice within the coming decade. He further attempted to predict the changes in technology itself, and was rather successful with his predictions regarding global telecommunications, virtual private networks, increased computing power, interpersonal and inter-organisational computing and the use of the worldwide web.

Susskind (1996) further highlighted the role that information technology would have on the justice system. Currently this has been implemented in South Africa by the Department of Justice, although somewhat slowly and unsuccessfully to date. The legal fraternity initially embraced information technology through the use of word processing programmes, e-mail and marketing by way of web sites. The great attraction of information technology to the professionals, however, was the ease of research and possibly the reduced cost of a library - it now being available on CD or online.

The impact of globalisation on the law firm has also occurred as it facilitates communication with the client and other interested parties over vast distances although the impact has been limited in the small to medium sized law firms in comparisons to the other industries. No longer is the law firm restricted to utilising local service providers, and likewise, neither is a client obliged to utilise local law firms.

Susskind (1996) even proposed that legal systems would evolve more rapidly due to the use of information technologies, with the ease of communicating new laws, limiting legal risks and preventing disputes - rather than dispute resolution - being more easily facilitated. Access to legal information would create a more learned client and give those that could not afford legal representation, access to the law. The ease with which the law has become available might have detrimental effects on the law firm, especially the smaller firms, as IS will become interactive and fulfil the role of the attorney; "the law will no longer be the exclusive preserve of lawyers" (Susskind, 1996).

Susskind (1996) also foresaw that competition by other bodies such as accountancy firms, banks and legal publishers, would infringe on the market of the law firm by offering legal and quasi-legal services.

He submitted that in order to survive the changing face of law, a law firm would have to become innovative in its adoption of information technology and be more focused on its services to clients, as opposed to relying on the

obscurity of law to draw in clients. A successful law firm should now be managed as a business as opposed to the traditional elitist offices of an attorney, as clients are becoming less loyal and more sensitive to price and service quality. His summations inferred that the relationship between the attorney and client is fickle and despite the sensitive trust nature of the relationship an attorney usually enjoys with his client, price would be one of the determining factors in looking for a legal service provider (Susskind, 1996). There is no doubt that price is a factor, but the quality of service and the availability of an attorney to his client, thereby focusing on the personal relationship, seems to trump the price considerations. Susskind at this stage did neglect this very important aspect of the attorney-client relationship.

Susskind (1996) further identified three pressures on law firms to adapt to the changing technologies: their clients in embracing new technology; their competitors in the new legal market place; and law reform.

In his 2008 book, 'The End of Lawyers', Susskind again predicted a shift in the legal paradigm from the traditional sense of practice to one of an advisory role and direct interaction with one client, with a focus on legal principles and profitability grounded on time based feeing. The legal processes employed by the traditional view are formulated to solve problems, resolve disputes, publicise law, use print material, all of which are utilised by a legal professional. He then predicted the change in legal processes to be legal risk management, pre-emption of disputes and the use of IT-based legal systems by legal specialists and information engineers. The nature of the legal service too will change to become more business and service orientated, in that the focus will be on servicing the masses by utilising IS and resorting to standardising legal cases and mass production of same.

Susskind (2008) did identify the change of legal practice to become more viable as opposed to focused on legal principles. Considerations in employing legal services will be more business orientated than principle orientated. He submitted that the legal service must thus embrace many disciplines including

business management, financial advice, engineering, chemical engineering, design, medicine and even psychology.

Although he did note the need for direct contact between the attorney and the client, he still neglected the essence of the trust relationship the client has with the attorney. He predicted that legal services would be “mass-produced”, which in itself is possibly naïve on his part as the very nature of legal services is the application of general principles to a specific set of unique circumstances, the service industry being unique to the client’s needs. Should his prediction have foundation, our courts would be much simpler and the outcomes easier to predict. He neglected to address the human factor in legal services and the very need for a judicial system. In failing to address the trust relationship, he was not in a position to conclude that the law firm is already service-orientated, as this is the underlying cause of an attorney-client relationship.

Despite his deduction of servicing the masses by utilising information technology and standardising legal cases, his identification of the business and service orientation of legal practice does ring true, as the very nature of legal practice involves intricate knowledge of business practices, however the recent movement is to adopt these practices in the law firm environment and its own business practice.

Susskind (2008) stated that the change of legal services will be brought around by the ‘commoditisation’ of legal services, together with the increased use of information technology. Susskind explained that the evolution of legal services, as per Figure 3.1 below, is as a result of market forces and is being facilitated by information technology. Bespoke service is personalised, and can be best described as one-on-one. Next is the standardisation of processes regarding methodology, such as the use of templates. Systemised refers to internal processes that can be facilitated through information technology, such as document assembly tools that allow a faster and more reliable workflow. At this stage, the service delivery becomes less personal.

Packaged service provides for services to be delivered to clients primarily through the use of information technology, such as obtaining contracts online.



Figure 3.1. The Evolution of Legal Service (Susskind, 2008)

Susskind went on to state that in moving forward there are three approaches a firm can take. Being the forerunner in adopting new practices in accepting the benefits and the risks; to be prepared to respond to the forerunner; and to refuse to move according to the proposed evolution. Susskind stated that the last alternative is akin to suicide (Susskind, 2008).

In order to facilitate this move along the evolutionary path, certain resources need to be allocated. In order to do this effectively, 'decomposition' of the activities involved in legal work are broken down and analysed. The activities are then analysed to determine their necessity, the most effective way to execute them, legal and commercial risks are identified, and then these activities are allotted in the categories of the evolutionary path. One then chooses the most effective resource or resources to perform each activity and thus multi-sourcing may result (Susskind, 2008). Methods of sourcing proposed by Susskind are:

1. in-sourcing
2. de-lawyering
3. relocating
4. off-shoring
5. outsourcing
6. subcontracting
7. co-sourcing
8. leasing
9. home-sourcing

10.open-sourcing

11.computerising

12.no-sourcing

Seemingly, Susskind is taking a project management approach to legal practice, where the professional takes the role of a project manager who will be responsible for organising all the activities, sub-contractors and resources and will be ultimately accountable to the client for the finished 'product'. In practice, the attorney already plays the role as project manager, together with many other 'sub-contractor' roles, and utilises some of these resources in performing the work. These activities and resources will then be administered through IT systems.

Disruptive legal technologies are systems that change or challenge the business and that do not actually support its activities and methods of operating. Susskind explained a few of these technologies which he believed will change the nature of legal service. These systems include automated document assembly systems; relentless connectivity such as cell phones, e-mail and BBM; and the electronic legal market place (Susskind, 2008).

The need for 24-hour availability to address the client's concerns may be a method of gaining an advantage and ensuring sustainability of a law firm. This could be facilitated through the various systems, but at what cost?

In addressing the impact the electronic market place has on the legal industry, Susskind identified the Internet as a method to market the law firm and gave examples of websites where law firms can auction their services to potential clients. He stated that such sites could become commonplace and be akin to that of Amazon and eBay in sourcing legal services. To take it a step further, Susskind stated that these systems could be utilised to identify the client's preferred method of 'sourcing' in respect of the various activities (Susskind, 2008).

The use of such websites, however, presupposes the ability of the potential client to identify his problem and articulate it properly, and many usually cannot. Such a website may also expose the problem to other users and the response to other practitioners, greatly infringing the attorney-client confidentiality aspect of legal practice. Seemingly these sites could also facilitate the enticement to obtain free legal advice, right or wrong, even though it could expose the firm to positive feedback. This effect however will be limited as no personal contact was undertaken and unless the potential client does actually contact the attorney when the involvement of an attorney is a necessity, the risk could far outweigh the benefit.

Next Susskind identified e-learning, which includes not only the university lecturing environment, but also the training of future professionals via simulation systems. The “just-in-time” principle of having legal knowledge available through technology as and when it is needed as opposed to attending presentations where the knowledge is lost if not utilised immediately, has a great impact on the legal field (Susskind, 2008). The systems currently available locally however are limited and are mostly legal research e-libraries. Such systems can also teach clients about legal principles, how to conduct their businesses and how to avoid legal disputes.

Susskind (2008) failed to understand the purpose of articles/pupillage (the apprenticeships for legal professionals required before admission as either an attorney or advocate respectively). The article clerk learns the legal principles at university and an important part of articles is to gain experience in interacting in the existing legal environment and applying problem solving principles within the system. A simulation system cannot facilitate creating relationships with the court staff or registrars needed to provide effective legal services. Underlying his theory is also a functioning and technologically integrative judicial system, of which many are not.

Another technology is the online legal guidance systems available that would facilitate obtaining legal advice, generating documents and inform the user on

legal developments, amongst others. The fear with such systems is that they could exclude the need for attorneys completely. One trend however is that the firms develop such systems to assist their current clients who are usually within a particular industry. Susskind stated that: "Yesterday's chargeable information services, formerly packaged as 'advice', are today's online marketing materials" (Susskind, 2008).

Susskind stated that online legal services will be the leading source of legal advice in the near future and the complimentary systems to their legal services provided by attorneys will be an essential way to ensure a firm's sustainability. He gave three principles to ensure the financial success of such an online system, namely that the system must add value to the client, it must not be easily imitated by competitors, and lastly, in order to charge for a system it must be seen to be providing a customised service (Susskind, 2008).

Legal open-sourcing further poses a threat in that the nature of this software is free and available to all, it may take the form of wikis and it could be built by consumers, not lawyers (Susskind, 2008).

Currently there is vast amount of legal sources available on the Internet at no cost, but the extent to which legal open-sourcing may threaten the traditional practice will be limited. The nature of legal work is complex and the incorrect use of one term can hold dire consequences that can ultimately result in a legal dispute. The resources available are already so vast that the time it takes for one to go through them and attempt to understand them is so burdensome and risky that an attorney is still a better alternative. However, one often finds that those who do make use of Internet resources are unable to afford the services of an attorney and are willing to take the risk of using free resources.

Closed legal communities is another format where legal services may be influenced, but these will be utilised more by corporate legal advisors than attorneys (Susskind, 2008).

The disclosure of a client's predicament in such a community can severely prejudice his case should the opposition be 'on-line' and the strenuous competition that attorneys are experiencing will only allow the closed legal community to be manipulated to the detriment of the innocent attorney and incur a professional liability for those giving advice.

Susskind (2008) illustrated the relationships between technology, information and knowledge on the client and the legal practice in the grid in Figure 3.2 and gave advice as to the strategic advantage these systems may hold for a law firm.

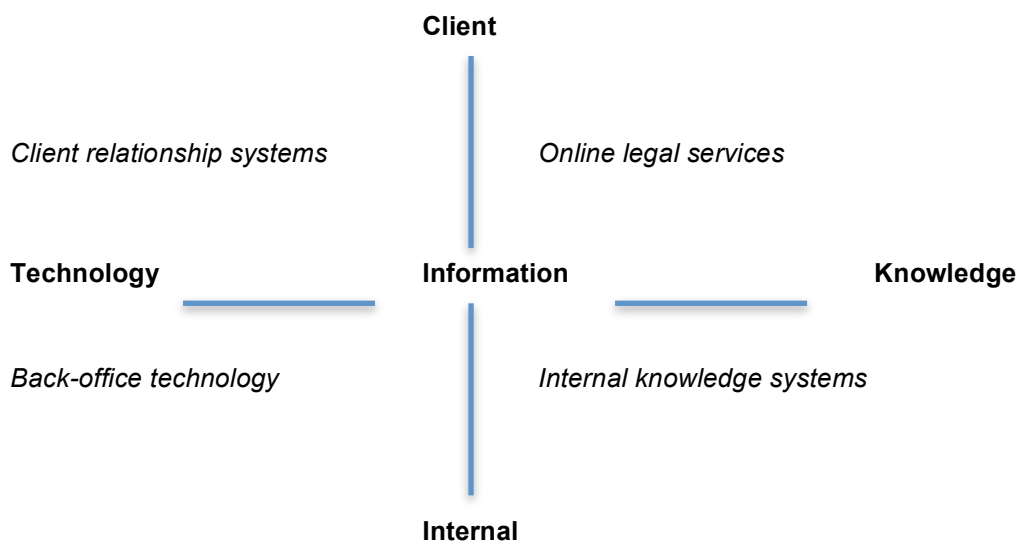


Figure 3.2: The Law Firm Grid (Susskind, 2008)

Back office technology comprises of word processing, e-mail, instant messaging, social networking, video conferencing, document management systems, project management systems, marketing databases, human resource systems, project management systems, workflow tools, client relationship management systems and diary applications, all of which include the infrastructural and operating system requirements for these systems to function.

The internal knowledge systems comprise of knowledge databases, forms and precedent databases, document databases, procedure manuals, practice notes, know-who systems and document assembly, e-learning, wikis, podcasts and blogs.

Client relationship systems include status reporting, financial reporting and work rooms, all of which allow the client to access his own specific information.

Online legal services refers to services that are made available through the Internet by electronic legal updates, online document assembly programmes, expert systems, and many more.

Susskind (2008) stated that strategically, competitive advantage lies in the available online legal services and internal knowledge systems as the business of a law firm lies with the knowledge it has, not necessarily the technology it uses. Then, if this knowledge can be used to create value for clients at a less expensive, more expedient, convenient, simple and high quality output, the law firm will be successful.

3.5. Digital Lawyers

Attorneys must not only be proficient in the law but also in the use of IS, specifically in regard to legal research programmes and other electronic resources, including the Internet. Information literacy is an important skill set to have as an attorney, as they are knowledge workers (du Plessis & du Toit, 2006).

The attitude of the professional in embracing technology is of importance, as new technology will not be utilised should there be no willing users. New technologies are being introduced continuously to the business environment and the professions are by no means an exception. Should the new technologies not be utilised properly it would be difficult to determine whether

the impact of IS are limited due to the nature of IS, or due to the lack of acceptance of such systems by the users. There are various factors that play a role in the acceptance and use of new technologies.

The factors influencing the decision by health professionals to adopt new technology were explored by Yi, Jackson, Park and Probst (2006). They acknowledged that the underlying benefits and investment in information technology can only be maximised should the users accept and implement the technology.

They looked at different theories in user acceptance of technology and attempted to correlate three of the theories they examined. The technology acceptance model states that the user's acceptance is dependent on the perceived usefulness and perceived ease of use of a system. The theory of planned behaviour states that the acceptance is dependent on the attitude of the user, their perception of the subjective norm and perceived control factors forcing the behaviour. Innovation diffusion theory states that the adoption is facilitated through communication channels about the features of the system such as its benefit to the users, difficulty, output and influence on one's status, as well as the user's attitude towards new technologies (Yi *et al.*, 2006).

In their findings they managed to combine the three models and identified the main factors that influence user acceptance. These include perceived usefulness, reduced workload, influence of control and subjective understanding of custom. The ease of use and attributed status were not significant factors amongst the health professionals which could be due to their cognitive ability and already high status. They briefly stated how these various factors can be positively influenced through training and social networks so as to ensure the successful implementation and use of the technology (Yi *et al.*, 2006).

The initial concern is, however, that the user's perception needs to be positive towards the system in order to be utilised properly, this attitude having been

formed prior to the use of the system and the evaluation of its real output. One then questions whether the feedback one may receive is sufficiently objective to conclude that such systems do add value. They do however find that the result of the technology is a great influence on user acceptance (Yi *et al.*, 2006).

Dalton (1998) stated that there is the “bare minimum” technology that a law firm must have in order to comply with the Woolf Orders for law practice in the United Kingdom (these Orders are irrelevant for discussion purposes here, however some of the principles are applicable). As attorneys essentially sell their time, it stands to reason that technology that records time can facilitate profitability and firm management. “Fee recovery is an essential performance indicator” (Dalton, 1998).

Technologies that record the time of different fee earners, track the productivity of those fee earners and support management as well as assist the fee earner in making decisions with regards to their work, ensure productive and more profitable behaviour. Dalton (1998) mentioned a few bad habits of attorneys that in essence amount to quantity over quality and are reactive to complaints as opposed to being proactive. Technology that facilitates time management and recording not only bills the client properly, but allows proper decision making, time control and delegation.

The system can also act as a project manager that can plan the conduct of a case and ensure timeous performance.

A networked central diary system is also considered imperative for a successful firm to facilitate the coordinated activities of staff and practitioners.

The case management system facilitates reminders, central databases of clients, automated time recordings, matter histories and matter warnings. Dalton (1998) stated that his own experience in implementing such a system was not positive and was time consuming. He went on further to state that

such systems are useful but do not replace the need for secretarial staff. The need for a simple system is preferred over the more complicated system and such a system “is a luxury, not a necessity”. Further, in the long run, such systems do provide an advantage after an investment of time and finances. The advantages include the need for fewer support staff to fee earner ratio, less time managing staff, fewer errors occurring and access to the marketing database of clients (Dalton, 1998).

3.6. The value configuration of law firms

The theory of a supply chain in the professional services industry has been difficult to conceptualise. Meijboom, Schmidt-Bakx and Westert (2011), in their paper entitled ‘Supply chain management practices for improving patient-oriented care’, attempted to apply this supply chain concept to the rendering of medical services. In defining the supply chain they stated that the characteristics of a supply chain are inclusive of all those activities that result in the provision of the goods or services; the interconnectedness of the various organisations within a supply chain; the requirement that every activity should add value to the customer; and the information exchanged throughout the supply chain by the various role players.

A very important characteristic of services that they highlighted is the integral role of the client as a “value co-creator” in and throughout the service delivery, which is dubbed the customer-supplier duality characteristic of services. Interestingly, this concept implies that the client himself is an active participant in the supply chain from initiation to actual receipt of the service. This concept is very apt for the legal industry as the client is consulted through the provision of legal services, no matter what type of legal service is rendered. Another important characteristic is the bi-directional flow of the supply chain due to customer-supplier duality. The recognition of this integral aspect of service provision and the adoption of measures to facilitate the improvement of the client role can be undertaken to improve the service delivery and success rates (Meijboom *et al.*, 2011).

Communication between all the supply chain partners was an integral theme in Meijboom *et al's* (2011) study where they identified the frequency of contact through formal and informal channels as contributing to the successful rendering of services together with the quality of the information exchanged between the parties. They further identified the pertinent role of IS in facilitating this communication and assessed the need for client access to this information (Meijboom *et al.*, 2011).

Gottschalk (2006), in his paper 'Information systems in value configurations', described alternative theories to the usual supply chain value configuration theorem above, which is difficult to apply to non-manufacturing industries. The value configuration explains how value is generated throughout the business processes in rendering the service to the client and denotes the way business is conducted in that firm. Two alternative configurations to the value chain that he looked at are the value shop and the value network. He stated that the value shop configuration is best suited to the services industry as it addresses the client's identified need or problem which is usual in the legal industry, whereas the value chain is best suited for mass produced and standardised products. But what about the value network?

The value chain configuration is comprised of primary activities, being logistics, production, marketing, sales and service, together with the support activities of human resources, technology, procurement and infrastructure. The use of IS throughout these activities would include a corporate intranet, Computer Aided Design, electronic market places, Electronic Data Interchange, Computer Integrated Manufacturing, Web-based order tracking system, Customer Relationship Management and a system for local trouble shooting (Gottschalk, 2006).

Within the value shop the supporting activities remain the same with a similar application of IS.

Gottschalk and Khandelwal (2003) emphasised the role of the various value configurations, but more specifically that the value shop has on Knowledge Management and the facilitation thereof. Gottschalk (2002) stated that the concept of a value shop will be more applicable to knowledge intensive firms such as law firms where the identified five activities will facilitate the work processes within the law firm in dealing with the clients' problems. This is a narrow way of looking at the processes of the functioning law firm and it is submitted that the law firm encompasses all the aspects of the value configuration, inclusive of the value chain and value network. The value shop does not operate in a vacuum however, and is an important aspect of the law firm and the five activities are quite relevant in dealing with the services to clientele.

The five activities of a value shop together with the possible IS are (Gottschalk, 2006):

- i) problem acquisition and definition – client database, financial system, case database
- ii) problem solving – best practice database, simulation system, library search engine
- iii) choice – case-based reasoning, office systems
- iv) execution – document system
- v) control and evaluation – case database, accounting system

Do these activities apply and are IS fulfilling these roles? According to du Plessis and du Toit (2006), they do. Print sources versus electronic and online research tools will facilitate the five activities of the value shop, however the effectiveness and efficiency of either format remains to be seen. The observed difference by du Plessis and du Toit (2006) between the use of print and electronic sources is summarised by the way the information is sought. In print, the information sought is broad as it is gathered by looking at the facts and identifying general concepts, which are then applied to the specifics of the matter. When utilising electronic sources the search is narrow, as one looks

for something specific while reading the internal references and noting relevant cases. Does this facilitate the acquirement of knowledge, as the information one is exposed to is limited and specific? The argument can be made that the electronic version does not promote knowledge gathering and limits exposure.

Susskind (2008) identified the impact technology will have in specialised fields of practice, as well as in general, in that it will facilitate the development of “legal methodologies” which will form a precedent on the manner in which to deal with a certain case, thereby limiting the necessity of duplicating work and facilitating a more efficient and speedy manner of handling cases.

The value network provides a connection between clients or customers who wish to be inter-reliant, such as telephone companies and retail banks, and would also include social networks and knowledge communities. Again, the support activities are similar to those of the value chain (Gottschalk, 2006). The primary activities consist of:

- i) developing a customer network
- ii) development of new customer services and improvement in existing services
- iii) development of operational infrastructure to facilitate the efficient and effective service delivery

The IS used by these include Customer Relationship Management systems, Value Added Services systems and security systems. Contrary to the activities in the other two configurations, the activities in the value network are conducted simultaneously (Gottschalk, 2006). The role of a law firm within a value network is prevalent in many of its services. The attorneys facilitate business between clients and advocates, the Master of the High Court, the CIPC, various government departments as well as other potential clients when providing certain commercial services.

Gottschalk concluded by comparing the different value configurations and stated that they should be used as alternatives (Gottschalk, 2006). It is submitted again that this narrow view of legal practice could deter from identifying possible practices that do add value and is further a narrow interpretation of legal practice, which is inclusive of business practice.

Susskind (1996) identified the various ways that information technology will be utilised within the justice system, i.e. to facilitate communication, share knowledge, facilitate legal research, conduct virtual hearings and meetings, and exchange electronic agreements and pleadings, when compared to print. All these predicted developments have been adopted today and have been facilitated by information technology based networks.

Not only did Susskind (1996) address how information technology will impact on legal work, but also examined how it will affect the client, the prospective client and the non-client in their interaction with technology. Marketing of law firms will take place through the use of information technology, and the use of “legal guidance systems”, case management systems and case tracking through the courts as well as at the law firm will be facilitated by IS.

3.7. The impact of information systems on firm performance

Kobelsky, Hunter and Richardson (2008) created a model wherein the investment in IT, being comprised of the implementation risk and information processing capabilities, together with certain contextual influences, affect the earnings volatility of a firm. Past research is also addressed wherein it is concluded that there is a strong correlation between the extent of IT investment and the financial performance of the business.

Considering that the investment of law firms in IT is usually less than 10% of the budget and the nature of the business of a law firm is service driven, one can question whether these findings can be generalised to law firms. It is submitted that in evaluating the value configuration of a law, we will be able to

identify whether there is such a correlation. The correlation between the percentage of investment in IT and the return could form the subject of another research project.

Kobelsky *et al.* (2008) identified two possibilities of how IT can affect earnings volatility. The implementation risk view deals with the implementation of the IT/IS in the firm and it's possible success; and/or the function of IT in acting as a "coordination mechanism" regarding the business information that would be used to facilitate the aspects of knowledge management and value configuration activities. They identified implementation risk as a contribution to increasing the firms' volatility. Conversely, it also increases the ability to process and access information, which assists in limiting circumstantial ambiguity, thereby reducing the volatility of the firm.

The IT productivity paradox essentially states that despite the evidence of clear positive impact of increased investment in IT, there is still a substantial under investment in IT (Kobelsky *et al.*, 2008).

In the study conducted by Law and Gorla (1996) it was found that professional services firms experienced greater productivity due to the use of IS, but these systems were not used in management applications.

They distinguished between the use of office IS, which are used to support management and professionals, and the use of office automation systems, which is the use of information technology to automate administrative support tasks, such as word processing. The authors noted the prevalence of office automation as opposed to office IS in management activities and identified the need to reform this practice (Law & Gorla, 1996).

3.8. Conclusion

In accordance with accepted business theory, various activities within a business create value for a client and the way in which these activities are

conducted can improve on that value. IS do seem to enhance the value created throughout the various value configurations and the strategic use of IS can give a firm a competitive advantage.

4. Research Design and Methodology

4.1. Research Design

This is an exploratory study in order to determine the impact of IS throughout the value configuration of a law firm and whether the use of such IS can make a law firm more effective and efficient.

4.1.1. *Qualitative research design*

The study is qualitative in nature due to the primary focus being on the users' perceptions of IS in their work environment and relating the current theory with that of the data collected (Greener, 2008).

An inductive approach was utilised in formulating the research proposal in firstly identifying the theory of Gottschalk (2003) and producing the hypotheses with a view to determining a qualitative assessment of the impact of IS in law firms from a user's perspective (Greener, 2008).

A grounded theory study was done with a view to obtaining data and developing a theory from the data collected (Leedy & Ormrod, 2010).

4.1.2. *Population and sample*

There are over 18 600 attorneys registered with the Law Society of South Africa (2011). The size of a law firm differs from one practitioner to one hundred, but the majority of practices fall within the parameters of having between five to 15 practitioners.

Due to time and cost factors, a small sample was chosen for each data collection method.

Purposive sampling was utilised for the survey based on the researcher's knowledge of the industry and was restricted to law firms alone due to the nature of the study. The firms approached were identified as established law

firms by utilising the legal directory known as 'Hortors' and the researcher's own contacts accumulated over the years. In order to ensure that there was no bias, various firms around the country were approached to complete the survey questionnaire. There was an element of convenience sampling due to the fact that the survey was sent to the available and listed e-mail addresses, and not necessarily directly to people in every instance.

For the purposes of the interviews, a judgement sample framework was first formulated in that the prospective interviewees were identified specifically due to the focus of the study being in respect of law firms and the ability of the interviewee to be able to identify and to determine the extent of use of information systems in the law firms. A convenience sampling method was chosen due to the expected lengthy interview time and due to constraints regarding availability of the interviewees and of the researcher. The sample for the interviews was obtained by courteous requests to fellow colleagues and information system suppliers in order to determine their willingness to participate, and also by referral of prospective interviewees from these colleagues and suppliers. The prospective interviewees were identified as having been in the legal field for in excess of 10 years in order to obtain confirmation from them with regards to the methods utilised before the rush to the utilisation of IS and how the change to IS has affected their legal practice and administration.

Sampling bias is a reality and does impact the sample selection as it is presumed that all law firms have been listed in the Hortors directory, and the law firms chosen would have access to computers in order to facilitate the survey. This is the main disadvantage of non-probability sampling, which is the type of sampling method chosen (Leedy & Ormrod, 2010).

4.1.3. *Descriptive research*

The nature of a descriptive study is to establish the current situation (Leedy & Ormrod, 2010). The interview and survey questions attempted to establish the status quo regarding the current IS utilised in the law firm.

4.2. Data Collection Methods

A mixed method of data collection will be utilised in that interviews and surveys, being respectively qualitative and quantitative in nature, will be conducted with a view to facilitating objectivity and unaffected data. A further purpose is to facilitate triangulation of the data so as to corroborate the interview data with that of the survey data (Greener, 2008).

4.2.1. *Literature review*

Various types of literature sources were utilised in the literature review (Greener, 2008).

Secondary literature sources including numerous journal articles and books were utilised to formulate the framework of the research, specifically in identifying the value configurations of the law firms and the IS utilised throughout. The articles and books of the seminal researchers in this field, being Susskind and Gottschalk, were sourced as their research was vital in formulating the framework.

Tertiary literature sources were utilised primarily to assist with the definitions and explanations of technical and legal concepts.

4.2.2. *Individual interviews*

The purpose of the study and the participants' roles in the study, as well as their rights, will be explained to the participants in the introductory letter requesting/confirming the interview. These will again be explained at the initiation of the interview giving the participants an opportunity to ask questions should they wish.

The interview will be semi-structured so as to allow participants to answer the questions in their own words and explore the subject of the question to touch on the themes and interests of the interviewee. The questions asked will be

formulated with the clear objective to answer the research problem but will be specifically structured to facilitate open answers.

Interviews with suppliers will be conducted in order to establish existing IS and the extent of their application in the law firms. These suppliers' customers will primarily be law firms and their intricate knowledge of the value creating activities and available IS is essential.

4.2.3. *Survey*

A survey method by the use of a questionnaire will be distributed to the sample group. The questionnaire contains 26 questions with a combination of fixed alternate answers, Likert scale, or individualised short answers.

A total of 120 questionnaires will be sent electronically by way of the website "SurveyMonkey" during August to October 2011. The participants will fill out the questionnaire in their own time and the completed questionnaire will be made available to the researcher via SurveyMonkey.

The questionnaire format is relatively easy to complete and is not too time consuming in order to ensure maximum participation as the participants will be approached by utilising their work e-mail addresses.

The format of the questionnaire is limited to closed questions and provides for forced responses to analyse the responses. For the personal factual attribute questions, a list will be provided to assist in categorising the information when analysing same. The Likert rating scale and ranking questions/semantic differential scales/frequency scales has been utilised for the majority of the questions.

The questions posed to the participants are specific to the research question and technical jargon is kept to a minimum where possible. As the participants approached, being senior partners, bookkeepers, senior secretaries, assistants, or those that fulfill similar roles, may not be familiar with certain

technical jargon, some questions may be rephrased in order to check that the participants are answering consistently and are knowledgeable to a certain extent about the subject matter.

The questionnaire will be piloted by asking two colleagues to complete it and provide feedback on whether they understood the questions. The pilot will also measure the amount of time it will take to complete the questionnaire. Their completed questionnaires may be used in the data analysis.

The chosen language of the survey is English, albeit that the legal fraternity practices in both English and Afrikaans. The primary reason for this is that it is the first language of the researcher and the results should not be skewed due to problems in translation. This will affect the law firms approached to participate to a certain degree, as although the professionals are usually well versed in both languages, the support staff such as the bookkeepers and secretaries may not be. Before approaching the law firms it will be necessary to ascertain whether there would be any objection to conducting the research in English.

Each questionnaire is comprised of (1) the introductory letter explaining the purpose of the study, the participants' rights, the researcher's undertakings and the details of the researcher; (2) the background questions; and (3) the survey questions divided into four sections. It is further indicated on the questionnaire as to how long it should take the participant to complete the questionnaire so as to ensure that they could allocate time to complete it. Instructions on how to complete the various sections of the questionnaire are given before each section.

Some of the questionnaire's questions were derived from du Toit (2006) and Gottschalk (1999, 2002, 2003).

The structure of the survey is divided into five sections, initially dealing with the demographic details of the participants and the extent of usage of IS in

their respective law firms. The next section deals with the support activities that are common to the three value configurations proposed by Gottschalk (2006). The following three sections address the configurations, being the value chain, value shop and value network. For each configuration and support activities, the various activities are listed and the extent of the use of an IS for each activity is provided for. Thereafter, the effect of the IS on the activity as per the user is attempted to be determined in respect of efficiency, productivity and profitability. The possible responses provide for positive, negative and not applicable. Provision was also made for the respondents to indicate that they did not understand the question or know the answer and their opinion that the information system was not applicable in respect of the value activity and/or the effect of information systems on the activity. Another possible answer attempted to ascertain whether, in the event that IS were not being utilised in that specific activity, the respondent thought that there was room for IS to be utilised and it was implied that if so, the effect of the IS would be positive.

4.2.4. *Secondary data*

Secondary data was obtained from various websites specifically to identify the industry trends, possible themes and for comparative reasons where indicated. This data however was only used to formulate the framework, and to a certain degree to interpret the data where indicated. Caution must be exercised with this data as some of the sources have not been challenged (Greener, 2008).

Secondary data was gathered by researching the available products online, the researcher's own knowledge of the available systems and by conducting two interviews with suppliers. The secondary data did not represent the population of the study.

4.3. Data Analysis and Techniques

An interpretivist approach will be utilised to interpret the data gathered as the focus of the study is on the users' perspectives of IS and their subjective views and ideas are key to the successful utilisation of said IS. In approaching various role players within a law firm, multiple perspectives are sought to answer the research problem holistically (Greener, 2008).

A mixed method of data analysis will be used in that there will be a quantitative analysis of the survey responses and a qualitative analysis regarding the interview responses and interpretation of the survey responses.

The data initially collected from the first of the interviews will be analysed and thereafter the questionnaires will be finalised and sent to the participants for completion, this taking on the characteristic of a constant comparative method of analysing the data for theoretical bulk (Leedy & Ormrod, 2008).

The quantitative aspects of the analysis will be comprised of many variables depending on the nature of the questions. Ordinal variables used will be primarily for the factual attribute questions about the participant and the law firm. A few dichotomous variables are utilised and nominal variables form a large part of the questionnaire. The data will be placed into a chart in order to give a visual presentation of the data collected to facilitate interpretation. This material, together with the interview transcriptions, will then be categorised according to characteristics or themes and thereafter these characteristics will be examined for certain elements. A theory will then be developed (Leedy & Ormrod, 2010).

This is an exploratory study in order to determine the impact of IS throughout the value configuration of a law firm and whether the use of such IS can make a law firm more effective and efficient.

4.4. Reliability and Validation

4.4.1. *Face validity*

The explanation of the purpose of the research given to the various participants is important in order to encourage their participation in the surveys and interviews (Greener, 2008). This is detailed in the introductory letter to the participants and an opportunity was given to the interviewees to ask questions.

4.4.2. *Construct validity*

The interview method employed does measure the subjective user perception. The survey however qualifies the data obtained in the interviews.

4.4.3. *External validity*

External validity evaluates whether the results of this study can be generalised to other industries, contexts or situations (Greener, 2008) and whether the sample chosen is a fair representation of the industry (Leedy & Ormrod, 2010).

Due to the small sample chosen and the clear different/similar perceptions of the participants this research can be used as a foundation for further study, but caution should be applied in generalising the results to this particular industry, and should certainly not be generalised to any other industry.

4.4.4. *Internal validity*

In evaluating whether the independent variable, being the value configuration, accounts for the change in the dependent variable, being the IS used, no other identified factors were predetermined to explain the connection between the two and should there be any other factors, the researcher hopes that the interviewees will identify them in the interviews. In order not to influence the interviewees' perceptions however, no alternatives will be given in the interview.

The strict focus on IS within the value configuration will strengthen the correlation between the two, this being the central theme of the study.

4.4.5. Peer Cooperation

Two of the interviewees were colleagues of the researcher, which assisted in their willingness to partake in the research. Open and honest answers were encouraged and there was no reason indicated in their responses to question their reliability and validity.

4.4.6. The position of the researcher

The researcher is an attorney herself and has been involved in the implementation and maintenance of IS in three law firms of different sizes.

4.4.7. Reliability

Triangulation of the mixed research methods was undertaken and hoped to assist in confirming the reliability of the data collected. The poor response rate of the surveys cannot, however, facilitate the reliability of the data gained in the interviews to the extent intended.

4.4.8. Participant error and bias

Attempts to identify participant bias were incorporated in both the interview questions and questionnaires.

4.4.9. Observer error and bias

Triangulation of the various research methods will assist in confirming the reliability of the data collected.

4.5. Appropriateness to and alignment with thesis statement and/or research questions

Initial steps were taken to formulate the framework of the value configuration of a law firm, based on the available theory and adaptation thereof to the current study, with recourse to available literature and through personal

knowledge. This adaptation was tested primarily through the content of the interview questions.

The survey provided for the identification of the various activities of the value configuration with recourse to general terminology that would be understood by the participants. It then identified whether IS were being used during the various activities of the value configuration, alternatively whether the participants felt that such systems could be used advantageously during those phases. Where systems were used it was ascertained whether the users felt that such systems added value, and if so, what type of value such systems added from the participants' own perceptions to their own work and the success of the law firm in general.

4.6. Ethical issues: procedures for ensuring ethical research and ethical use of the research

Due to the two different methods employed in obtaining the information, various procedures have been adopted in order to ensure ethical accumulation and interpretation of the information gathered.

4.6.1. *Stakeholder and Risk Analysis*

In looking at the value configuration itself, the stakeholders can be broadly identified as the participants throughout this configuration, from the employees of the law firms to their suppliers and clientele. More directly however, the participants themselves were identified as stakeholders, together with the researcher, the supervisor, the law firms as entities, the supplier entity where two of the participants were employed, and the competitors to this supplier entity.

As ethical issues result from the interaction of people with each other and their environment, a stakeholder risk analysis was done to highlight the possible ethical issues that would need to be addressed in the study (Greener, 2008). The major areas of concern were time constraints imposed on the participants

and their availability and exposure to privileged information regarding confidential business practices. In order to address these concerns, the participants were given a number of weeks to complete the questionnaire and return them to the researcher, while interviews were scheduled to accommodate the participant. Further undertakings were given to the participants that any confidential business information would not be disclosed to other third parties other than the SBL and the researcher's supervisor for the sole purpose of the dissertation. In the event that any information would be required for future studies then their consent would be obtained first.

4.6.2. Informed Consent

Consent was obtained by each of the interviewees and their superiors where applicable prior to the interview by informing them of their purpose of the study and advising them that should they not want their interview or any portion thereof disclosed, then they can merely state so. The introductory correspondence advised them of the purpose of the study, their role in the study, what the researcher will do with their input and how the researcher will record the information and the method of safekeeping of the information (Greener, 2008).

Consent was confirmed to have been obtained by the interviewees by recording their statement confirming same and consent was deemed to have been given by the participant with regards to the survey by them forwarding the completed questionnaire, as was stated in the introduction of the questionnaire.

4.6.3. Disclosure

Full disclosure about the purpose of the study and the researcher's role and position was made in the correspondence requesting the interview and on the questionnaire distributed.

4.6.4. *Anonymity and Confidentiality*

An undertaking was made not to disclose the names of the firms or organisations that participated in the study to anybody outside of the SBL, unless specific consent was given.

In the introductory correspondence an undertaking of anonymity and confidentiality was made. In the surveys it was mentioned that the questionnaires would not be disclosed to anyone other than the researcher and her supervisors and would only be used to validate the findings. No disclosure regarding identity would be made to the participants' colleagues, superiors or competitors. In the interviews it was explained that the contents of the interviews and the identity of the participants might be disclosed upon the request of the educational institution for validity or confirmatory purposes.

Any specific concerns raised by the participants would have been noted and the responses given would have been recorded so as to ensure compliance with any assurances given (Greener, 2008).

In so far as the occupation and age of the interviewee was relevant, as this correlated with certain themes raised, mention had to be made of these characteristics and this was the only method of identification of the participants.

4.6.5. *Interview deportment*

Care was taken not to cause any embarrassment, stress, or discomfort to the participants during the interview. The participants were advised first that should they wish to cease the interview at any stage they could.

4.6.6. *Objectivity*

The nature of the interviews and the interpretation of the information obtained from these interviews does fall foul to subjective interpretation. In pursuing a mixed method research method by also gathering information from questionnaires, an attempt was made to ensure the objectivity of the data

interpretation. Any discrepancies that may be found between the data collected in the two methods can be identified and highlighted as possible biased interpretations.

The questions in the interview were phrased openly so as not to indicate whether there was a right or wrong answer. Thus the interviews took the form of a discussion. Care was taken not to ask leading questions.

The method of recording the data can affect the objectivity of the data and thus a dual approach was taken in respect of the interviews, that being a recording of the interview together with a written record of the answers of the participant. The completion of the questionnaires was done without the presence of the researcher so as not to interfere with the participant's response.

Due to the time constraints of the study and the time demands on the participants, it is foreseen that there may not be much response in respect of the questionnaires and possibly the interviewees may decide not to proceed with the interview. Should this happen this will be disclosed.

4.6.7. Internal researcher

One of the firms that was approached was the researcher's own firm. Caution was exercised in interpreting this data. Anonymity was emphasised.

4.6.8. Ethical Codes of the legal profession

The legal profession is governed by certain ethical codes, however they do not address research. To the extent that the interviewees may have disclosed certain information pertaining to their practices and their clients, whether for illustrative purposes or not, this information was treated as privileged.

4.6.9. Audit trail

All correspondence and research material, including the completed questionnaires and interview recordings, were kept to provide an audit trail for the data collection undertaken and the analysis of this data (Greener, 2008).

4.6.10. Advice

When confronted with an ethical dilemma, recourse will be made to the supervisor of the researcher in order to resolve same or to obtain guidance on the way forward (Greener, 2008).

4.6.11. Participant Access

Difficulty was encountered in gaining access to multiple members of a firm as the interview was quite long and the availability of subordinate staff was limited.

4.6.12. Convenience sampling

Two interviews were conducted with non-practitioners who were suppliers of IS to law firms. Their insights proved valuable and thus were reported.

4.6.13. Jargon

The researcher had to explain certain terms, specifically in relation to the value configuration and IS jargon. It was easier to give examples as a method to explain the terms, however the participant then restricted their answers to the examples given and did not attempt to find alternative IS solutions.

5. Findings and Analysis

5.1. Introduction

During the interviews the aim was to determine whether IS were adopted by the participants' law firms in their various value configured activities. Various themes were identified by the participants but difficulty was encountered in their understanding of the applicable principles and jargon, both in relation to IS and their understanding of the value configuration. The possibility of adopting IS where there were not was also addressed with the participants and there result will be dealt with herein.

The information gleaned from the surveys was intended to contribute to the validity and reliability of the interview information due to the qualitative nature of the interview research methodology. The surveys were less successful as the participation was low, despite having sent the surveys to additional firms.

5.2. Demographic Data

5.2.1. *Interviewees*

Participants were identified by their position within a company and their years of experience. The data collected are nominal values and are presented here in Figure 5.1.

1.	12 years	Director/Attorney
2.	34 years	Director/Attorney
3.	7.5 years	Director/Attorney
4.	8 years	Sole Practitioner
5.	18 years	Director/Attorney
6.	42 years	Director/Attorney
7.		Service provider
8.		Service provider

Figure 5.1 Years of Experience and position of Interviewees

5.2.2. *Service Providers*

Two participants that were interviewed were not working within law firms but were service providers to law firms. They were approached by the researcher to assist in identifying the types of IS that could be utilised in the law firm, as the initial interviews with legal practitioners yielded results that showed a lack of knowledge of IS. The researcher attempted to determine from these interviews whether there were in fact IS available that would facilitate the value configuration activities identified.

The first interviewee was an IT and Value Added Products Manager with 24 years experience in the field, specifically with information technology and office automated systems.

The second interviewee was the Chief Executive Officer of a leading legal IS company within South Africa. Their product aims to provide a comprehensive IS solution for law firms inclusive of accounting, document generation, document storage, billing and management solutions.

The researcher included her findings from these specific interviewees despite their interviews falling outside of the scope of the research, as their input and knowledge of IS did contrast with the knowledge and understanding of those in the legal profession and proved invaluable. Their insights into the trends and the approach of the legal practitioners to IS proved worthy of noting.

5.2.3. *Survey Respondents*

The survey respondents were classified into years of experience as depicted by figure 5.2, and position within the law firm as depicted by figure 5.3.

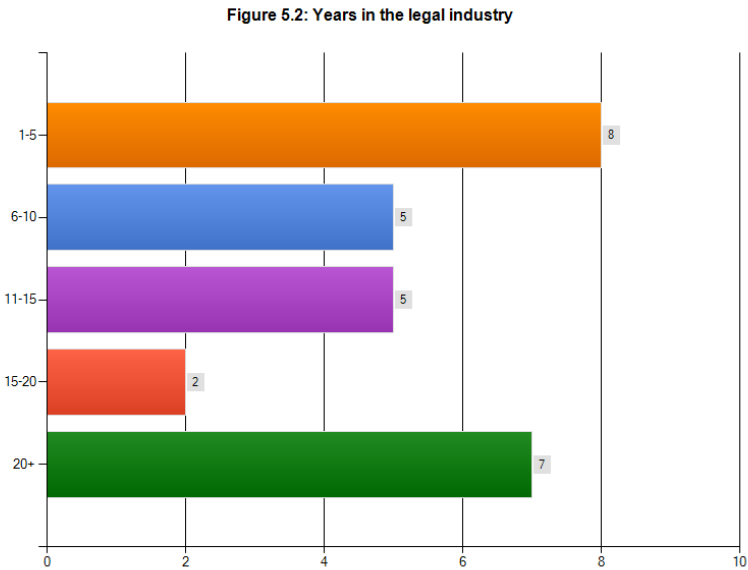


Figure 5.2: Years in the legal industry

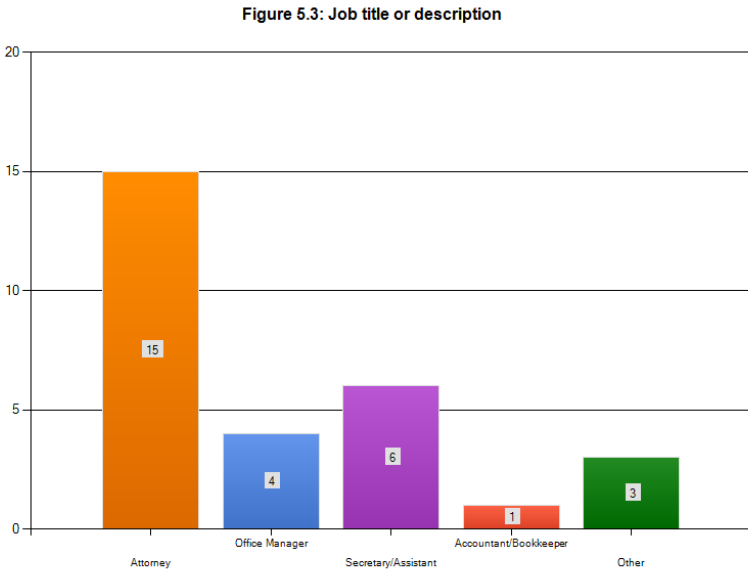


Figure 5.3: Job title or description

The majority of the respondents were attorneys (15) and the rest comprised of office managers, secretaries or assistants, one accountant and three others.

Figure 5.4: Computer literacy

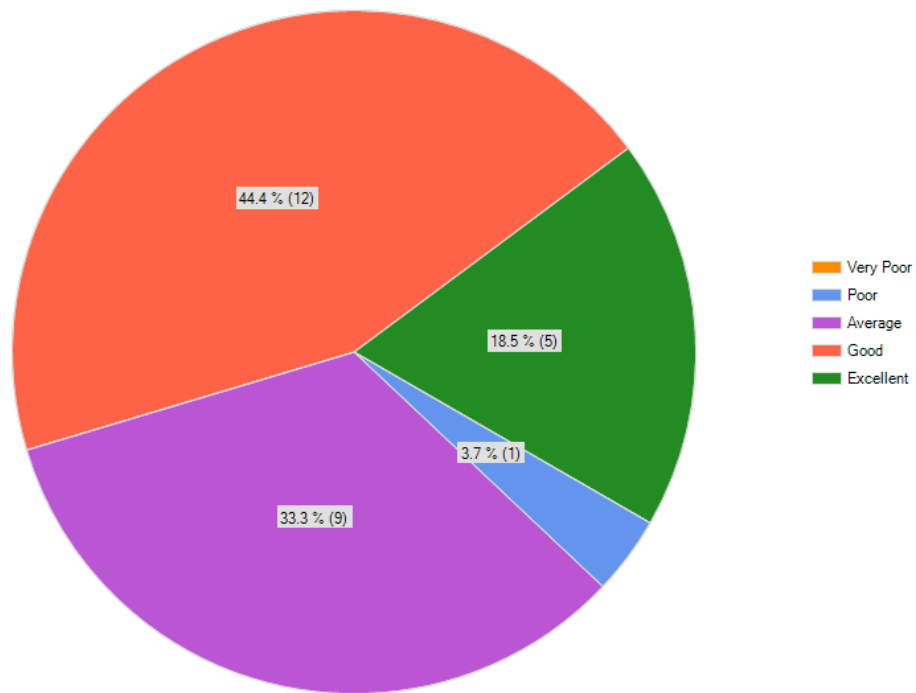


Figure 5.4: Computer literacy

62.9% of the respondents considered their level of computer literacy to be good to excellent, thus it can be inferred that the majority of participants had a fair understanding of IS and the impact the use of such systems can have on a law firm. The noticeable lack of knowledge of the systems used in the value activities however does possibly refute the respondents' perceptions of their level of computer literacy, alternatively they were unable to understand the jargon used to differentiate the activities listed in the various value configurations.

Figure 5.5.: Percentage of day using IS

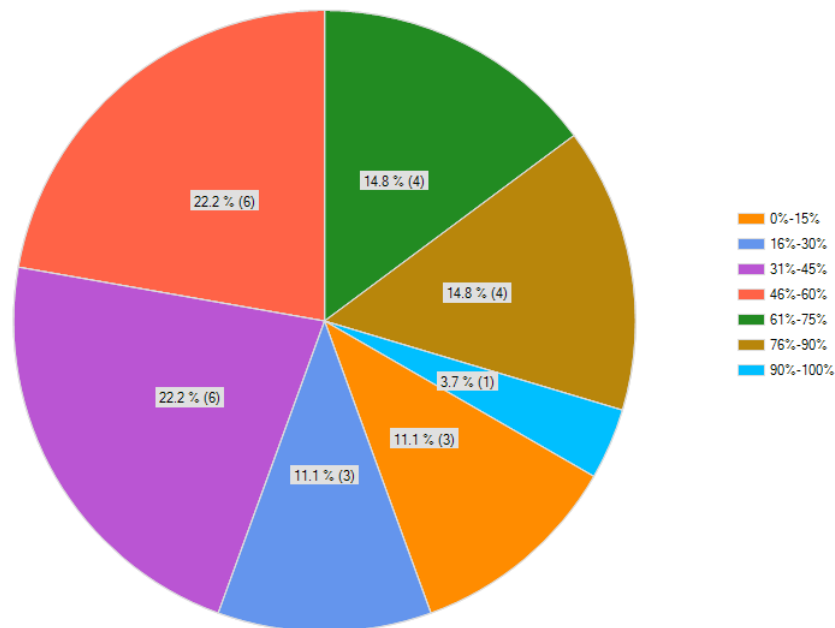


Figure 5.5: Percentage of day using IS

55.5% of the participants estimated that the time they spend using IS is between 46% to 100% of their day, indicating that IS are being used in the law firms and comprise a large part of the daily activities of the participants.

5.3. Response Rate

A total of six interviewees were legal practitioners and two were service providers. Eight interviews were conducted.

123 surveys were sent electronically, however only 27 responses were received of which only 23 completed the survey. The survey was sent to the prospective participants for a second time due to an initial poor response.

Seven e-mail addresses were invalid, leaving a balance of 89 of non-responses.

Annexure 3 summarises the responses and identifies the categories within which the survey respondents fell within the size of firm and the number of responses received.

5.4. Possible Bias

The interviewees' biases towards IS were noted to influence their answers. A specific interviewee particularly stated that he was not interested in learning more about IS as he was approaching retirement. He was however encouraged to state the positive or negative effects of IS as he saw it. His answers regarding the impact of IS are cautious and restrictive as he himself stated that they were clouded by a negative attitude. Despite this, this specific interviewee did ascribe positive attributions to IS.

5.5. Research Results

In order to determine what type of IS are used in law firms, the respondents were requested to indicate whether they used certain types of IS as listed initially.

Figure 5.6: IS used in law firms

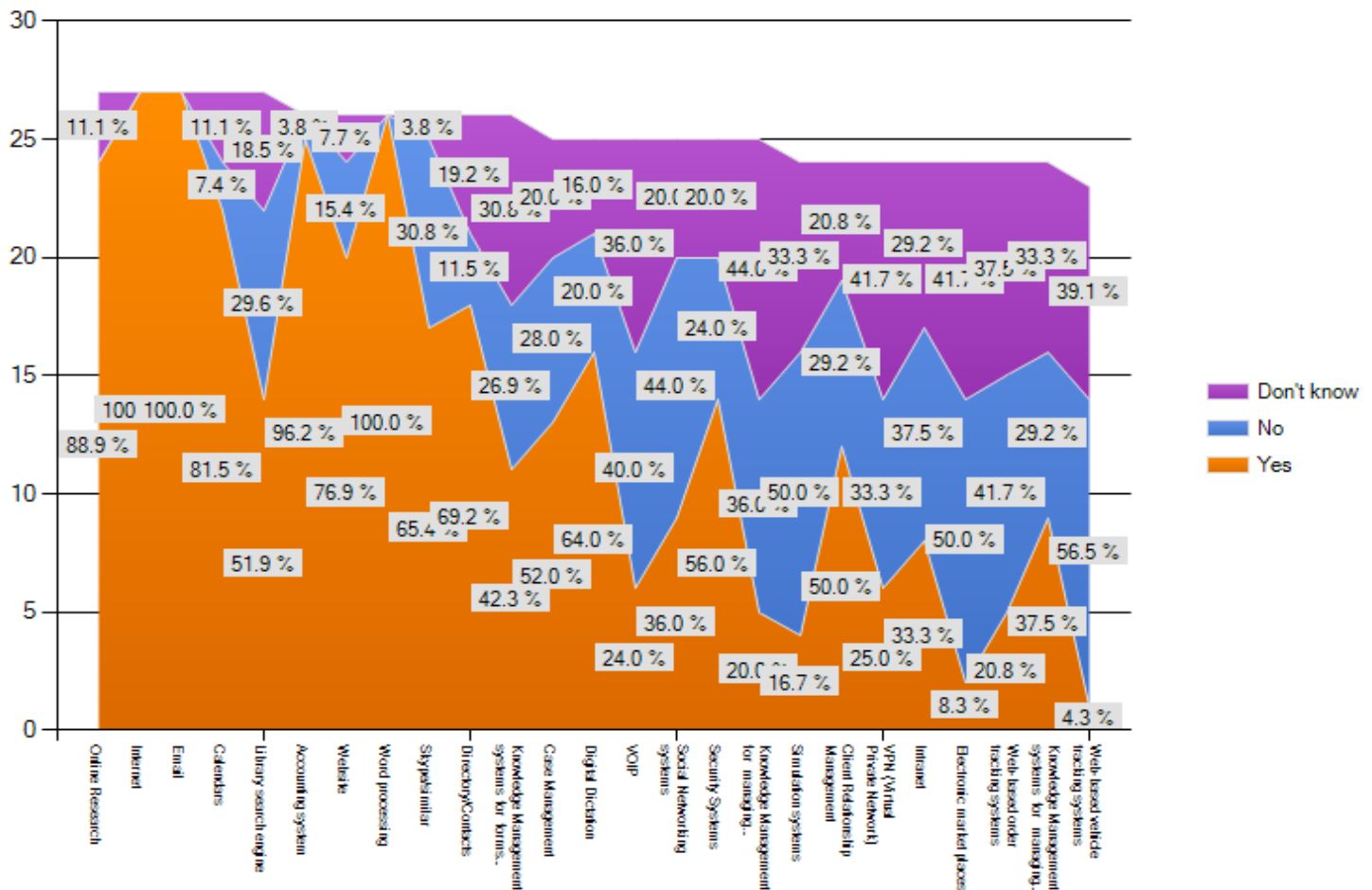


Figure 5.6: IS used in law firms

The users' perceptions of the uses and potential uses of IS and their effect on the performance of a law firm was established through the interviews. It was sought to determine whether the different activities in each of the three value configurations were supported by IS, and if they were not, whether they could be was also explored.

The support activities, human resources, procurement and infrastructure were found to be supported to a small extent and no effect on firm performance was seen. Procurement was limited to the use of electronic market places and no support activity was used in the human resources activity due to no knowledge of available IS to support this activity and also where the available IS were

found to be unviable. Technology was seen to stand out due to the nature of the research as this was heavily related to IS. The interviewees did not distinguish between the support of IS with regards to the technology support activity but equated IS to technology.

Figure 5.7: Use of IS in Support Activities

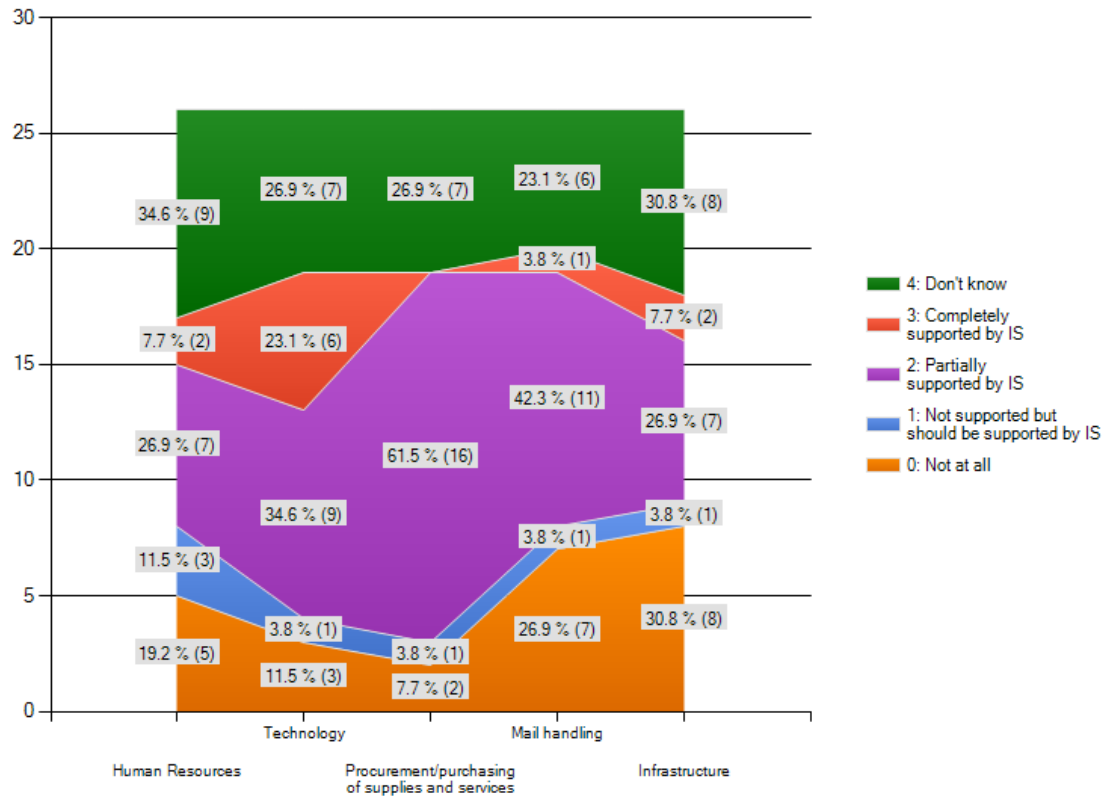


Figure 5.7: Use of IS in support activities

In the survey a fair percentage of participants did not know whether IS supported the various support activities. This could be largely due to the fact that many of the participants did not engage in the support activities, but were more professional than support staff. The procurement activity was noted to be partially supported by IS to the extent of 61.5% and mail handling at 42.3%. The results indicated that these support activities are capable of being supported by IS, at least partially. The activities that were considered to have a positive effect on the firms' profitability at an average of 50%, efficiency at 53.8% and productivity at 55.1%, were technology, procurement and mail handling. Thus there was a strong indication that these three activities are

being supported by IS and have a positive effect on profitability, efficiency and productivity.

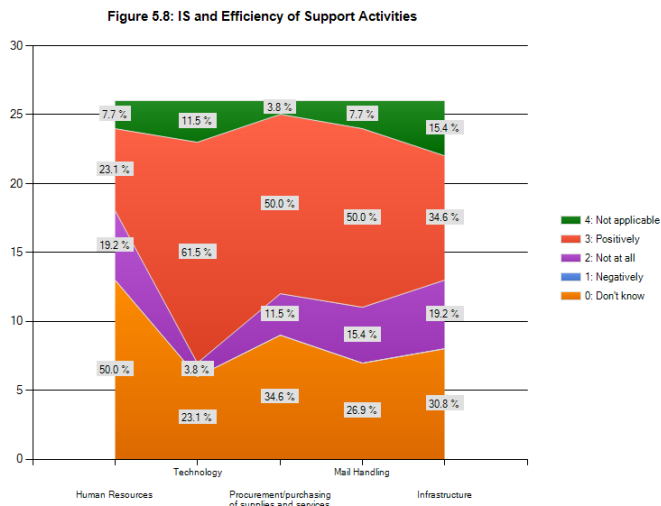


Figure 5.8: IS and efficiency of support activities

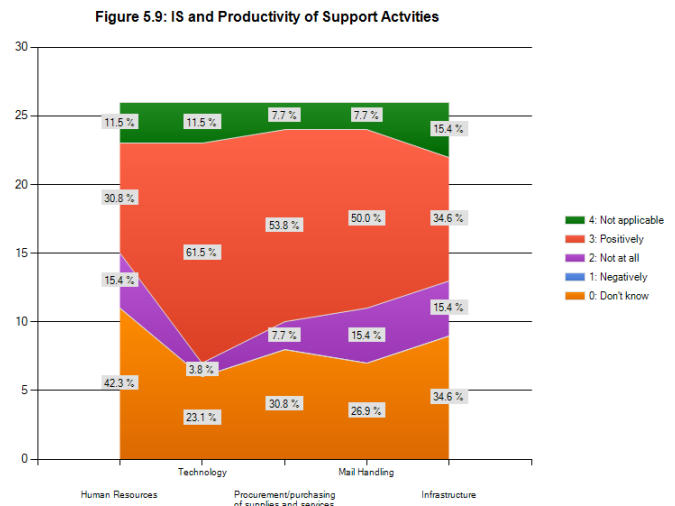


Figure 5.9: IS and productivity of support activities

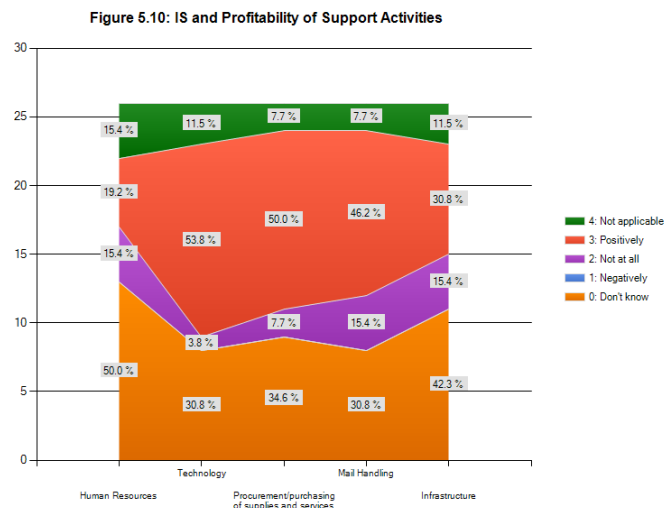


Figure 5.10: IS and profitability of support activities

The value chain activities consisted of logistics, marketing, service and production. The interviewees felt that the service activity was largely supported by IS - primarily office processing systems and research systems.

The survey participants also indicated this activity as being partially to completely supported by IS at 76%. The close relationship between service provision and production output could explain the 68% of participants that stated IS partially or fully supports the production activity.

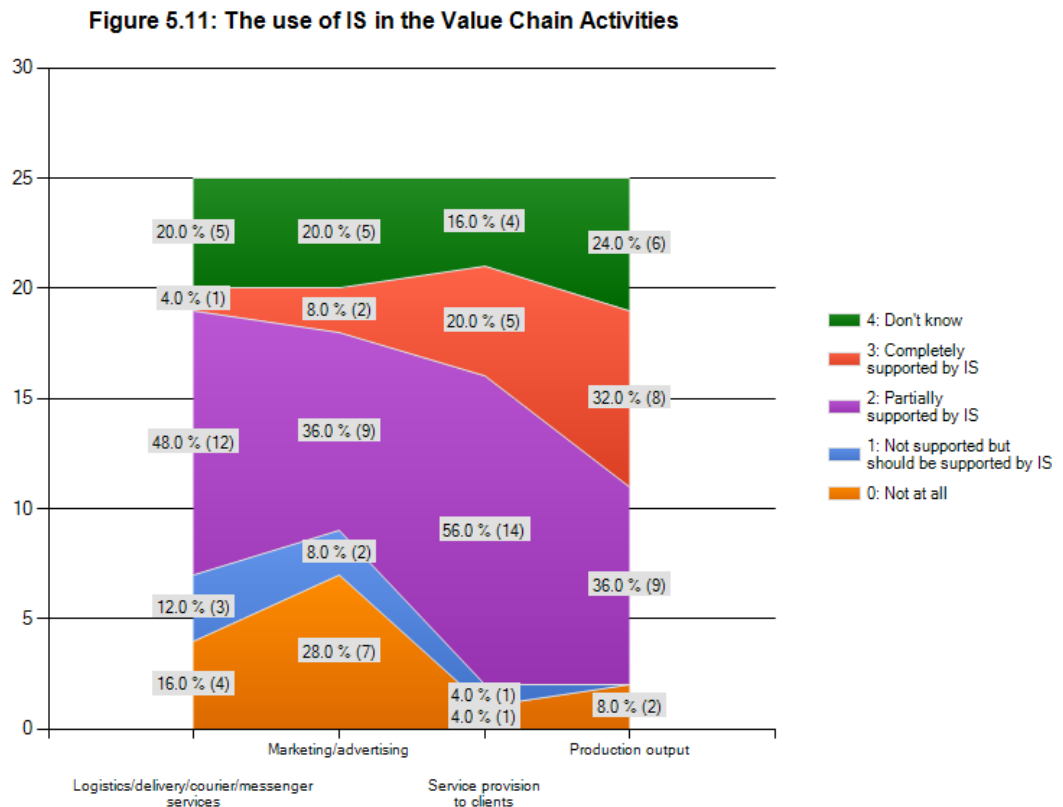


Figure 5.11: The use of IS in the Value Chain activities

Overall, IS had a positive effect on the efficiency, productivity and profitability of law firms, notably the activities of service provision and production to a large extent. The activity of marketing however did not have a large effect on efficiency, profitability, or productivity, as the effect of IS on this activity was unknown.

Figure 5.12: IS and Efficiency of Value Chain Activities

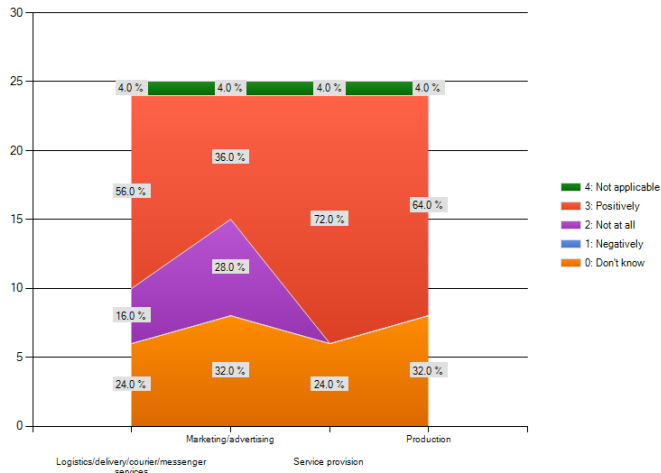


Figure 5.12: IS and efficiency of Value Chain activities

Figure 5.13: IS and the Productivity of Value Chain Activities

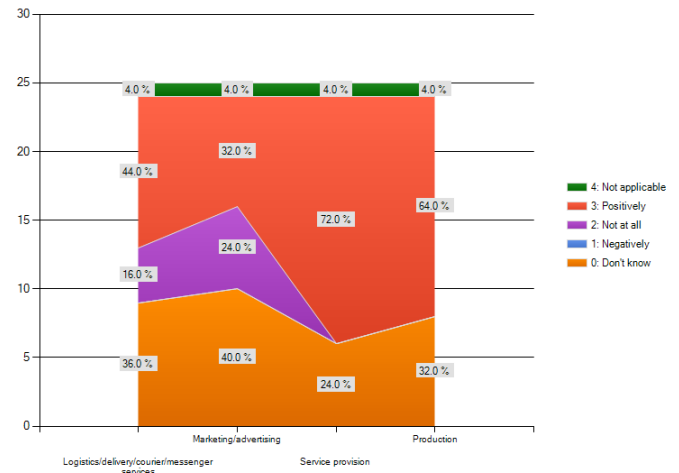


Figure 5.13: IS and the productivity of Value Chain activities

Figure 5.14: IS and the Profitability of Value Chain Activities

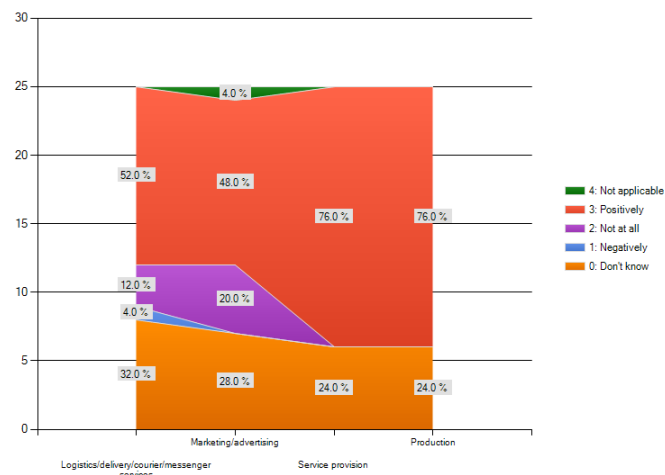
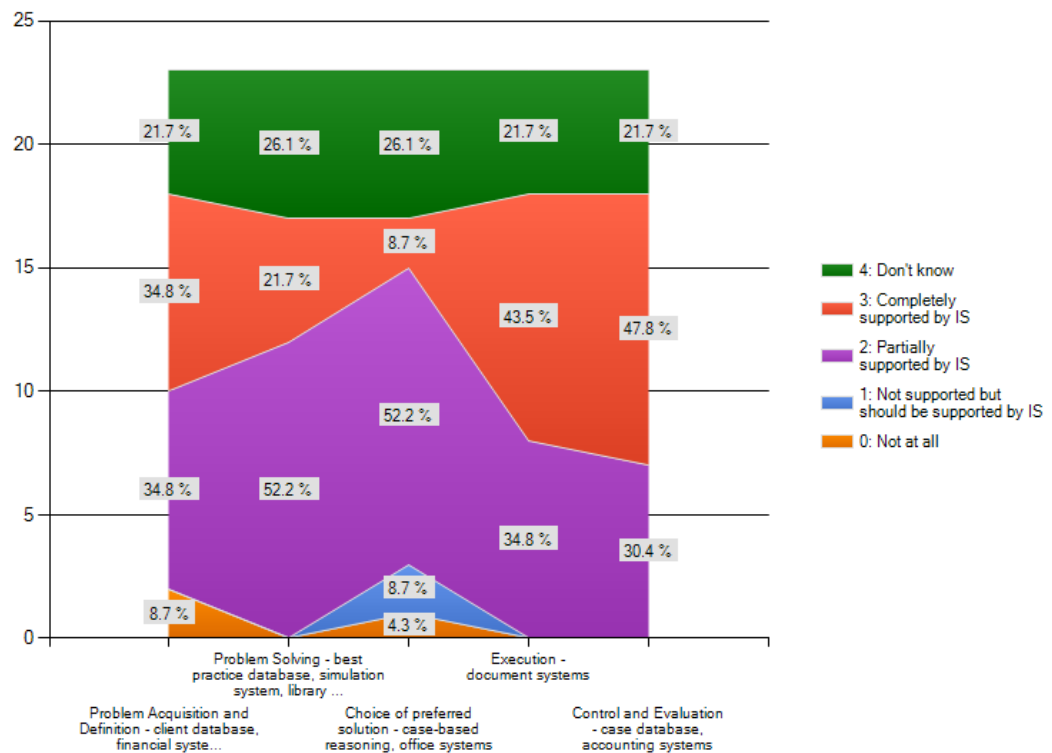


Figure 5.14: IS and the profitability of Value Chain activities

The value shop activities were also found to be supported by IS, however by fewer types, namely office processing and research systems. The role of the attorney was emphasised in every activity as being paramount and the role of IS was limited to support activities. Their effect was further minimal and mainly centred around obtaining information and executing documents.

Figure 5.15: The use of IS in the Value Shop Activities**Figure 5.15: The use of IS in the Value Shop activities**

In the survey, however, over 70% of survey responses indicated that all of the activities were partially to completely supported by IS, but for the activity of choice of solution. This correlated with the majority of interview responses stating that the role of the attorney will not be taken over by IS and the choice of solution will always lie with the professional, due to the human factor that is prevalent in legal practice. This is further supported by the only variance in the activity of choice in relation to the profitability, indicating a 47.8% positive effect on profitability whereas the other activities were over 60%. The use of IS in the value shop activities has a positive effect on the efficiency, profitability and productivity of a law firm.

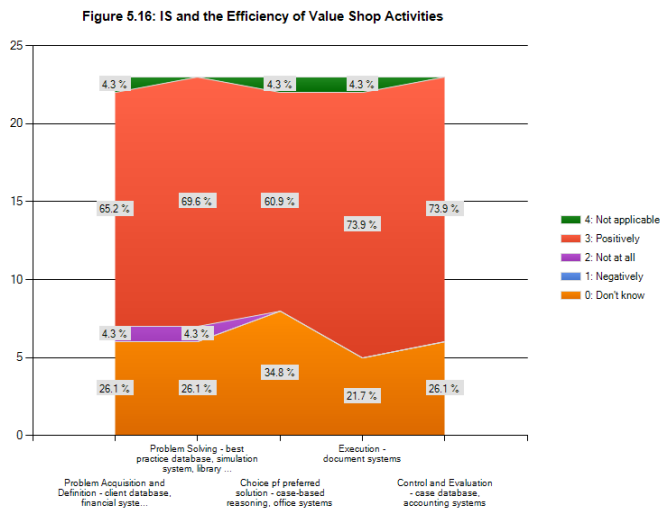


Figure 5.16: IS and the efficiency of Value Shop activities

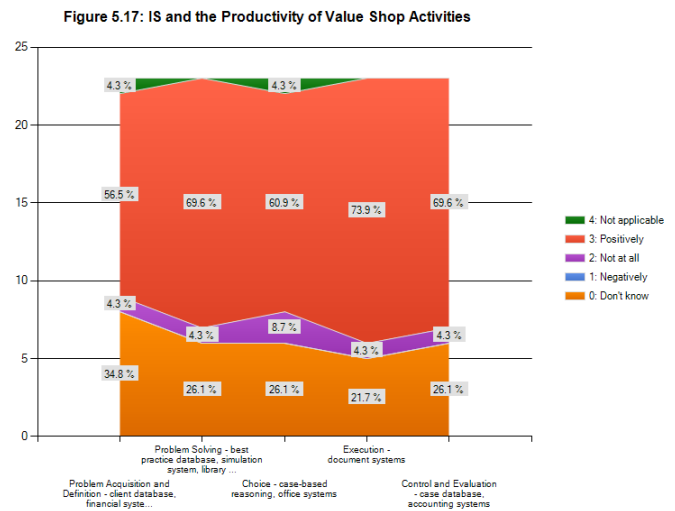


Figure 5.17: IS and the productivity of Value Shop activities

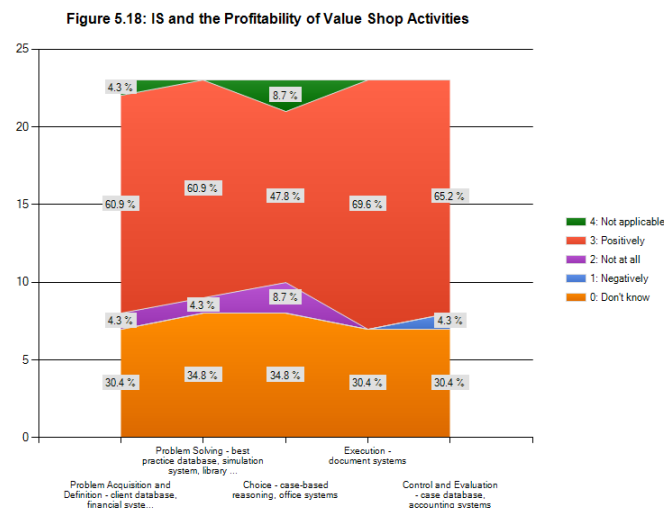


Figure 5.18: IS and the profitability of Value Shop activities

The value network comprises of the activities of developing a customer network, developing new customer services, improving existing services and developing an operational infrastructure. The interviewees generally felt that IS could facilitate these activities but had a limited idea of how. The extent that IS are currently being utilised in these areas are limited to the use of the firms' websites, social networking sites and where the firm has a client database, the use of such a database to facilitate different methods of communication and

updates on legal developments relevant to the client's industry. The conveyancing IS available facilitates much more than the other areas of practice in that they allow for monitoring of matter progress by the use of milestones and by automatic communication to the clients of the progress of their transfers through sms.

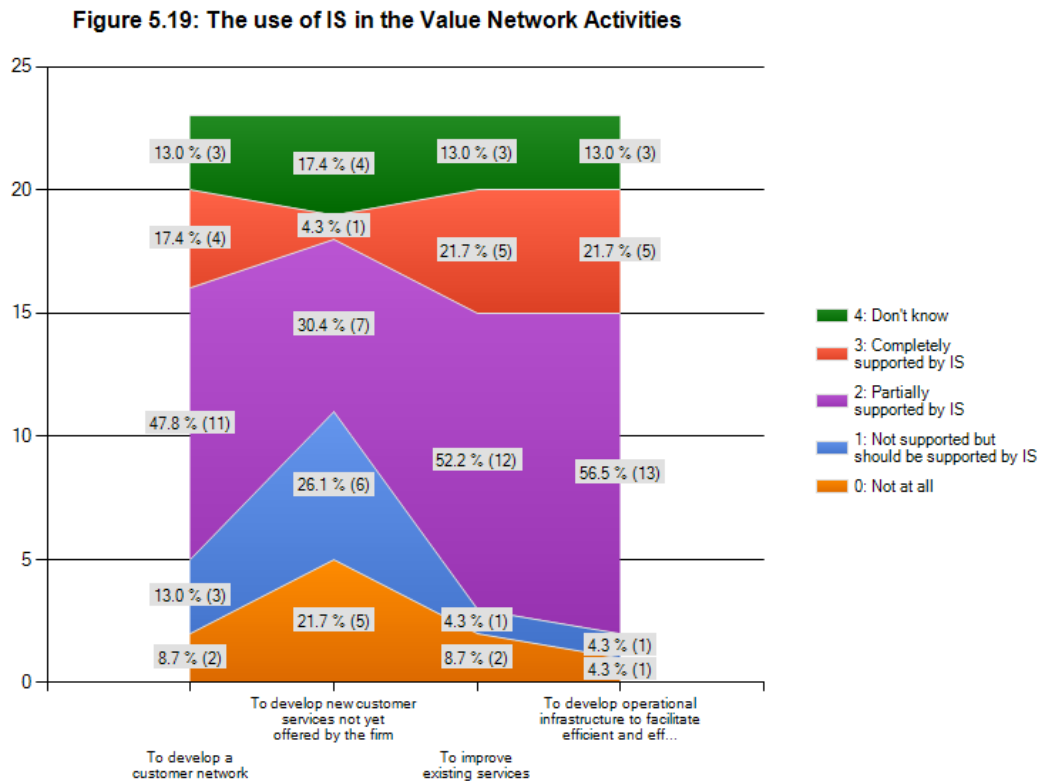


Figure 5.19: The use of IS in the Value Network activities

The surveys herein reflected contradictory data in that the number of IS used in these activities, whether partially or completely, as they did not correlate with the productivity, efficiency and profitability values. The reason could be that the responses were given on what the participants thought such IS would have on the various given activities and not on the effect that they perceive IS have on their actual use. Many of the interviewees also expressed a lack of understanding and/or knowledge on possible new services that could be facilitated by IS.

Figure 5.20: IS and the Productivity of Value Network Activities

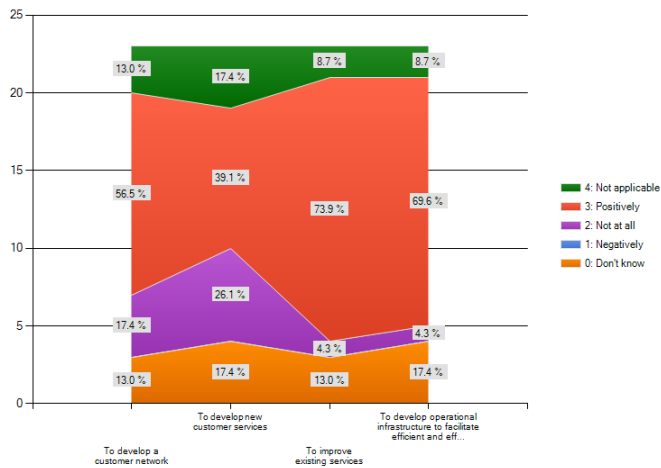


Figure 5.20: IS and the productivity of Value Network activities

Figure 5.21: IS and the Profitability of Value Network Activities

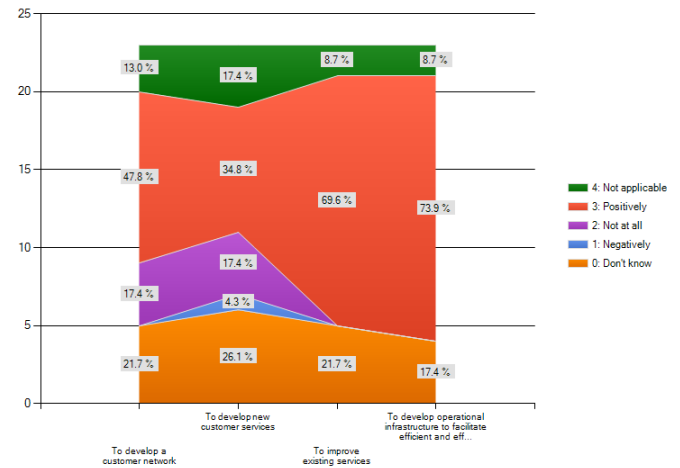


Figure 5.21: IS and the profitability of Value Network activities

Figure 5.22: IS and the Efficiency of Value Network Activities

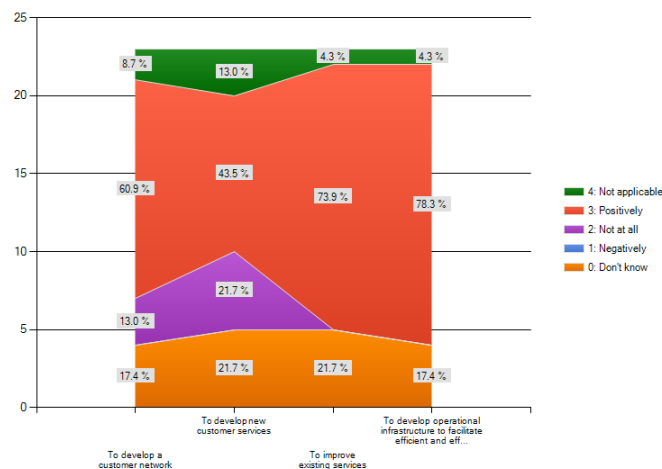


Figure 5.22: IS and the efficiency of Value Network activities

A fair amount of participants did not know what effect the IS had on the various activities or whether IS were utilised in these activities. This could be due to a lack of understanding of the jargon used in the questions, or a lack of knowledge of IS as can be supported by the correlation of participants that noted they had a poor level of computer literacy.

It can accordingly be concluded that most of the activities on the value configuration do lend themselves to be partially or completely supported by IS and that there is a perceived positive effect on the efficiency, profitability and productivity of a law firm.

5.6. Themes

The introduction of IS has affected the efficiency of legal practice and consequently the productivity. Associated with that is profitability, as the more work one can do, the more fees one generates, however the smaller law firms are more cost sensitive in regard to the IS they utilise and thus this is limited.

An interviewee stated that when looking to implement new IS, the considerations are the time and cost saving potential of the systems, while the deciding factors are the professionalism of the systems and whether the system fits with the status of the firm.

5.6.1. *Communication*

The flow of information is the primary purpose of IS that facilitates this activity. Fast and efficient communication with clients was emphasised by all interviewees. Those that had in excess of 10 years experience particularly repeated this characteristic throughout the interview and comparisons were made with those times before e-mail and cell phones were available, even fax machines. Susskind (2008) reflected on the impact the fax machine had on the profession when they were first introduced, to the extent that it facilitated immediate communication and one could no longer play for time. A similar perception was created amongst the older interviewees with the introduction of e-mail. It was noted that clients were happier having received constant communication from the attorneys even if they may not have been successful in their matter, while those clients who were successful but were not constantly kept apprised of their matter were unhappy with the result. This indicates that a client who is more informed is more proactive in the

conduct of his matter and perceives the quality of the legal service provided to be good.

E-mail was utilised by many interviewees to communicate with their colleagues regarding case and management information. The role it played in facilitating a written record of the communication was also emphasised. Some systems that were utilised by the firms do cater for case management, which facilitates communication between the parties working on a file without having to verbally communicate with one another.

The risk of the communicating via IS was of concern as legal advice sought through these mechanisms could be distorted and based on insufficient information.

The constant availability of attorneys to their clients was a concern, as although the use of IS facilitated quick response times, the clients now expect immediate attention despite the fact that one might not be available. The clients' expectations have accordingly changed. Susskind (2008) also stated that a possible disadvantage would be that proper consideration of a response would be overrun by the need to reply immediately, however this was not raised by any of the interviewees.

5.6.2. Cost

Most participants noted the cost of the IS and stated that they did feel that there was a return on investment with regards to their expense on information technology and systems. Many participants noted that the expense on IS would correlate with the size of the firm. The reasons for this however were different in that the smaller firms felt that it was due to affordability and the larger firms felt that the expense would not be justified in comparison to the work output. Although these are related, it is submitted that the smaller firms would still want to make use of more IS. The small to medium sized firms did not allocate a specific percentage of their budget to IS but the larger firm did, however the percentage was unknown by the

interviewee. In interviewing the service providers, the percentage they found to be allocated to the IT budget was between 15 and 20%.

It was also raised that more complicated systems such as case management and billing systems presupposed certain inefficiencies in the firms' existing manual systems, as it was doubtful that the expense of such complicated systems justified their adoption in a system that was working well. One will find that such systems also have other features, specifically management tools and document generation tools to add to their appeal, which may counteract this perception.

5.6.3. *Time*

In addition to the cost of a system, another consideration regarding the implementation of a new IS was whether the IS had a time saving ability in respect of its everyday use. Time taken to learn the programme was referred to. Few interviewees expressly noted the use of systems in their time management. An example given was the use of the calendar system as well as the file diary system.

5.6.4. *Client Value*

The general attitude of the practitioners interviewed was that when considering any IS, the determining factor is whether it creates client value. The other important factor was cost.

IS employed today has had a great impact on the clients' expectations of service, primarily on the speed of communication and availability of the attorney. The trend is that clients prefer to work with IS and they see that the available systems in a law firm is an indication of the firm's ability to render a better service.

Few interviewees mentioned that a wider clientele can now be accessed through the use of IS.

5.6.5. *The Role of the Professional*

The role of the attorney in providing the service came to the fore during most of the interviews and the reliance the attorney had on the IS was merely supportive. The role of the professional was never said to be replaceable by IS and the importance of the knowledge and professional conduct of the attorney was vital in providing the service to the ultimate client. There was a distrust of the possibility that IS could interpret information in a legal sense which was justified by the human factor in legal practice.

Just as Susskind (2008) stated that corporate attorneys exaggerate the bespoke aspect of the nature of their work, the attorneys interviewed generally emphasised their professional and personal role in their activities, specifically in stating that each matter was unique and an IS could not interpret the information available, nor apply it to the unique circumstances.

5.6.6. *Continuous change/updating*

One interviewee stated that the systems have become more reliable over time, the examples given were the back-up systems and data storage such as CDs compared to floppy disks.

Most interviewees felt that the available IS in their firms do meet their needs, but one interviewee did qualify this statement by stating that there are always new products that become available, making new opportunities for further IS to be adopted. Seemingly new IS create new needs.

The perception of the service providers of IT development is that it is limitless and can cater for any need. The attorneys' perception is that it must fit in with the current activities and procedures of the law firm.

5.6.7. *Generational Gap*

No interviewee indicated that they experience any problem with the adoption and use of IS. Only one interviewee stated that the older generation seem to struggle with the research systems.

The only gap noted was in the different approach to legal research between the older generation and the new entrants, where the newer generation placed too much reliance on the systems and were perhaps deficient in using 'hard resources'. It was seen that this was wanting in their ability and it could be seen through their work in that they do not refer to case law in comparison to the older generation who do.

5.6.8. Competitiveness and Sustainability

The majority of the participants stated that IS can improve the competitive position of a firm. One participant stated however that the competitiveness of a firm is not dependant on IS.

The correlation between the reputation of the law firm and the IS it has was quite strong throughout. The client's perception with regards to the available IS was a driving factor and a common theme was that the law firms adopt IT in reaction to the client's demands and the market and are not proactive. Some rationale behind this was that the legal field is conservative and that there was resistance to IS as it created another cost centre to cater for and they were hesitant to spend funds on speculative IS.

5.6.9. Efficiency

IS have influenced various aspects of legal practice from the entry to exit of a client, as well as administrative and management functions. The use of IS has greatly influenced the efficiency of legal practice primarily through facilitating speedy communication between various parties and the exchange of documents. Another reason given for the effect on efficiency was the ease and accessibility with which legal information is now available to practitioners, even while in court.

The practitioners with over 15 years experience emphasised the impact IS has had on document generation and storage, specifically the speed at which documents are generated and the elimination of errors. Errors were

however found to be duplicated and no firm had a system or practice in place to identify such errors and eliminate them. The only control mechanism mentioned for such errors was discipline and there was a large reliance on individual rectification.

Another interviewee stated however that the firm's effectiveness is dependent on the attorneys, not on the IS utilised.

5.6.10. Productivity

The introduction of IS has led to an increase in productivity within the office activities and with external institutions to a certain extent where they have adopted IS. Those institutions that have not adopted IS must still resort to the manual practices and then the practitioners experience a decline in productivity again. An example given was the interaction with the courts and the trial process. It was not foreseen that an IS could affect the productivity at this stage of a litigation matter as the need for a trial is primarily manual.

One interviewee stated that the workload has increased times four since the introduction of IS. Another interviewee stated that although the workload has increased, so has the cost of living, thus the standard of living has remained the same but with the necessary increased workload required to maintain it.

The introduction of IS has also affected productivity indirectly by facilitating out of office correspondence, whereas before if one was in court office work stood still, now they can attend to e-mails while in court. Instant messaging systems have also been seen to reduce costs substantially and to facilitate inter office communication.

The introduction of digital dictation has made the activity easier and the recordings clearer and smoother.

5.6.11. *Profitability*

Overall it was stated that IS did have a positive impact on profitability with regards to cost recovery, cost reduction and increased fees. The reasons given for this was the proper capturing of fees on systems and accounting to clients regularly. One participant did however state that he was not sure whether the use of IS actually increased the fee earning capacity; notably this respondent has less than 10 years experience. The IS used that were designed to reduce overhead expenses such as e-mail, VOIP, BBM were seen to have an impact of profitability.

The efficiency of systems also had a direct impact on the productivity and thus the profitability of a firm as more work could be done. The traditional methods of working were more time consuming and expensive and thus affected the profitability.

The systems were seen to facilitate doing more work and as a consequence making more money.

5.6.12. *Networking*

Various parties and institutions are dealt with throughout legal practice and the availability of lodging documents online, as well as exchanging of documents and communication via e-mail, were seen to be facilitated by IS and impact the efficiency of the firm. Examples that were given were SARS e-filing and social networking sites.

5.6.13. *Marketing/Sales*

Susskind (2008) identified the electronic legal market place as 'disruptive' technology that will greatly impact the legal industry. The interviewees did identify the use of their websites and social networks to promote their businesses.

An example Susskind gives is that of auctioning legal services via websites that facilitate clients posing questions and receiving responses of potential

attorneys offering them specific services. The websites available locally do facilitate such an exchange, however none of the interviewees brought this method up as a means of using the electronic market place. What was indicated was that they were averse to providing legal advice without having a personal consultation with the client and further the risk of giving legal advice through similar mediums could amount to legal advice on which parties act, negligently so and to their detriment. The view of the application of law to a certain set of facts was always seen to be individualised, especially in the litigation and commercial fields.

The interviewees saw legal services as elite and different to that of a normal product sold online. The few IS utilised were not seen as primary tools for engaging in marketing practices at all.

Client relationship management (CRM) systems are very new to the legal and other professional industries and there is a movement towards these systems. Much of the business however is by referral and the funds are being spent on money generating activities, not getting in new clients. The attorneys do not target their clients through the use of CRM software and seemingly are not using these systems to grow their businesses, which indicates a short-sighted approach. The restrictions on the nature of advertising by attorneys could be partly to blame for this.

There seems to be a lack of awareness of the types of marketing activities available as well as the systems that support such activities. The new CRM systems are designed around using the mobile medium, Internet medium and use of databases to identify what people require and what services firms can add. An interesting point raised by one service provider was that the databases used in these systems need to be developed over time which might indicate a contributing factor to the deficiency in use of such systems by attorneys. The priority of the users of any IS has always been to facilitate current work activities. The concept of using IS in obtaining new work is a relatively new one; for law firms at least.

5.6.14. *Access to information*

The impact of the Internet was highlighted by most interviewees, specifically in relation to its use in legal research. The information was felt to be more reliable and up-to-date, whereas physical libraries need to be updated constantly.

The use of document archiving, retrieval and business process management makes information available at the user's fingertips. Digital format of documentation facilitated a 'paperless' environment.

Only one interviewee and the largest firm stated that the attorneys were expected to utilise the Internet in obtaining information about clients, current or potential, in order to understand the business of the client better.

The different firms stored and accessed matter information differently. The methods that were seemingly employed were common to the firm and not the practitioner. The single practitioner used a combination of physical storage and IS storage. The medium sized firm primarily stored the matter information in physical form on the file that needed to be accessed by uplifting the file. To the extent that documents generated on computers formed part of the precedents, these were accessible and the accounting information was accessible in all firms.

The attorneys felt that their knowledge was accessible through their law firm but this was facilitated through different mechanisms depending on the size of the law firm. The small to medium firms relied on physical contact to a large degree and the larger firm had a designated knowledge management department where the requisite information could be requested.

This was identified throughout as having a positive effect on the ability of the professional to render a proper service.

5.6.15. Availability

The trend between the participants was that they responded to the systems available in the market, thus leaving the problem solving by IS to non-legal entities. The interviewees respond to the products in the market versus the demands of the client.

Some firms prioritised utilising the newest available IS and keeping up to date with the market trends, while others responded to the client demands.

One interviewee noted that those firms that do not keep abreast of the IS market fall by the wayside, as their reaction to clients' demands come too late and they can no longer compete in the market place. This interviewee stated that one must always stay ahead and proactive in adopting the latest available technology, but also acknowledged that some IS available may not be suitable for their practice as they are not large enough.

5.6.16. Management

The IS mostly identified by the attorneys to assist with management activities were the systems that generate reports that can be interpreted by the managers to make business decisions. The complexity of the systems used by the firms were dependent on the size of the firm, with the larger firms employing people who are not fee earners, although they are attorneys, to manage the firm, which activity was supported by the various IS available.

An increased workload was identified as a consequence of these systems due to the ease and speed at which information is available. For example reports were now available at the push of a button at any time during the month, whereas before one had to wait for month end, and often after month end, before receiving reports. The ability thus to identify possible problems and forecast profitability at any stage of the month was seen as an advantage to improve performance proactively and not reactively.

Role of accountability of user in adopting and using the IS is an important aspect.

5.6.17. The Use of IS

Many of the interviewees indicated that they do not fully use all the IS available to them due to a lack of training and time.

An experience was had with an IS to be used by/for? FICA clients, who's implementation was unsuccessful. The reason given therefore was that the users were not forced to use the system. The users thus resorted to the manual system and the IS facilitating this activity is no longer used. Another example provided was the use of a diary system, with many resorting to manual systems as opposed to the IS option. The reason given for this was simply habit.

Many also felt that the IS in their firms were suitable for their needs.

The nature of the legal work conducted by the various interviewees did influence the extent of use and influence of IS on the output.

The size of the firm was also noted as having an impact on the nature of systems used by that firm, not only from a cost perspective but also from a need perspective. The sophisticated Knowledge Management systems were identified as not being needed by the small to medium sized firms.

IS have become more user-friendly over time.

In interviewing the service providers, their grasp of the jargon and of the available applications of IS was vast in comparison to the interviewees. The interviewees showed a limited understanding of not only the technology available to other industries that could be adapted to the legal industry, but also of the business concepts of other industries.

The IS providers, specifically with respect to legal systems for law firms, are largely responsible for educating the users of the systems, especially if the concept of the purposes of the system is relatively new in the industry. The time parameter in training staff plays a large role in the acceptance of the IS and the user's attitude in using the IS to its full potential.

5.6.18. Criticisms of IS

Some negative effects that IS have had on legal practice, a few of which have already been addressed above, were touched upon but quickly disregarded by the interviewees, usually by concluding that the positive effects outweigh the negative effects. These included the cost, the resultant increased work load not only to cover those additional costs but also to address the demand placed on the person to give immediate attention to the client's requests, the continuous need to update systems, to receive and give continuous training, and the time constraints placed on the attorney to perform when they still only have limited hours in the day.

These possible negative effects can form the basis of further research and also determine the impact these have on law firms and to identify possible ways of limiting or removing these negative effects.

The newer practitioners lack the understanding of how and why things are done the way they are as the systems facilitate this to a large extent. The example given was that of accounting and the double entry system. The newer practitioners only know where to put the information in and they lack the understanding of how this information is interpreted and used. This could result in the need for additional training outside the influence of IS. The concept of hard work thus eludes the newer practitioners.

The need for additional training is also required for the use of IS.

The result could be a better attorney but the resources needed would exclude a large number of attorneys, thereby widening the gap between the exceptional and inadequate.

Security risks were also identified such as spyware, malware, phishing and viruses. Further risks involved were that the firms are now primarily functioning through IT, e.g. server, VOIP, Computers. In the event that any one or all of these facets were not working, the productivity of the support staff would stop. The attorneys did however feel that they could continue with their work to a certain extent. The ability of disgruntled staff to sabotage the systems and copy intellectual property was of great concern.

Additional support staff to monitor and use the IS were identified. Examples given were: should one introduce a logistics vehicle tracking system, there would then be the need to allocate a person to monitor the system and people are too busy to add to their duties; and monitoring hits on the website.

The ability to oversee and manage staff performance was seen as a disadvantage since the introduction of various IS, as previously a manager could easily see a staff member being unproductive as they were not at their desk, whereas now there are many systems that facilitate social communication thereby detracting from work productivity. These social interactions via IS were seen to be in addition to the traditional and physical interactions in the workplace. It was estimated by one interviewee that at least one hour of productivity a day is lost due to these social networking and game sites.

Susskind (2008) touched on a possible risk of attorneys when they use systems to generate documents or perform legal services, as this could amount to negligence when their output does not align with the interests of their clients. The professional insurers' stance towards a claim where such a document is used is unknown and it is doubtful that one can rely on the

information system as a defence or denial of liability. This highlights the general theme of the necessity of the professional bespoke approach. Ultimately the attorney is responsible for the output.

A downside to IS raised by many of the interviewees was that clients now expect attorneys to be continuously available, which expectation has been created by the adoption of various IT. This proves to be difficult for the practitioner to manage their time as well as having a balance between work and home.

5.7. Value Configurations

There was a myriad of understandings of the concept of a value configuration in that not many participants have undergone a specific exercise to distinguish between various activities that would form the value configuration and to determine how these activities could add value to the customer experience. Most did not look to IS as a primary support facility but merely ancillary to existing activities.

Many of the law firms made use of a website, accounting programmes, electronic research materials, the Internet, office based systems which would include word processing, calendars, e-mails and excel as a general reference herein.

Case management systems are being utilised by firms with over 4/5 fee earners as their caseload justifies such systems.

5.7.1. *Support Activities*

The support activities that were identified to be common amongst the three value configurations were human resources, technology/IS, finance, procurement and infrastructure. As such, these were addressed separately from the three value configurations.

The interviewee from the larger law firm was not directly involved in such activities and as a result did not know whether there were such systems in place, nor could they identify any possibility of introducing IS with regards to these activities.

The human resource activity was not a priority for most of the interviewees and they were unable to identify any dedicated information system that facilitated this activity. There was a possibility that the interviewees did not have an understanding of the human resource activities themselves, but this was not verified as the researcher did not want to make the interviewees uncomfortable. Within the larger firm a dedicated department did this activity and thus the interviewee expressed no understanding of the activities it would involve. An example of online recruitment was given to some and they acknowledged that it was a possible alternative. Only one interviewee identified the payroll system as an IS that the firm once utilised but stated that the system was no longer in use as it was designed for larger workforces and could not accommodate a dynamic and changing practice. They thus felt that it had no utility and had it removed.

The procurement activity was facilitated by some firms, regardless of size, by online shopping and product research. No other system was utilised for stocktaking or purchases. A reason given for this was that supplies do not form a large expense of a law firm and no need was identified to implement a system to support this activity.

When addressing the infrastructure of law firms, the common stance was that there was a need to be office bound. A reason given for this was that old school attorneys who are in senior positions preferred to be office bound and generally being out of the office is shunned, despite having the ability to monitor the productivity of the worker through the available systems. This is in contravention of the move towards working from home that is occurring in other industries. A possibility of monitoring the costs associated with infrastructure was identified as an activity that could be supported by IS, but

was not utilised by any firm in the study. The security system was noted as using an IS by connecting to the security company. The application of IS in infrastructure thus was limited.

IT infrastructure facilitates remote access and thus speeds up that ability to attend to a query and resolve a problem – the cost of these systems facilitate the ability to service more clients as opposed to having to be physically present at a designated location, saving on time, so even though they can charge less now, they can do more.

Finance was facilitated by online banking primarily and was noted, particularly by the older attorneys, as being integral to creating customer value as it facilitated speedier and safer transactions. To a certain extent some cost recovery systems were in place but none were seen as favourable.

5.7.2. *Value Chain*

There was a clear difference in the understanding of the larger law firms and the medium to smaller law firms with regards to their analysis of the client in relation to the value chain activities.

The larger law firms have analysed their activities and identified which activities create value for the client whereas the other firms have not. Despite this, the underlying principle that the client must be considered throughout the activities is predominant amongst all sizes of firms.

No one identified an information system that was being utilised as supporting the logistics activity. An example was given of vehicle tracking systems to incite a response and some conceded that such a system could work should the cost of logistics need to be controlled. The direct effect of such a system was however seen as minimal and dependent on the costs of such a system.

However alternatives to the traditional purpose of logistics were given by many of the interviewees as a replacement for the need for logistics, for example

serving of documents via e-mail as opposed to by hand was given on a few occasions. Another example given was that of submitting rates clearance requisitions online. The need for signing of documentation was also noted to be reduced to an extent so the need to travel has been reduced substantially as documents can be exchanged through various mechanisms. One interviewee stated that since their firm adopted the alternative method of serving documents and delivering post, that firm has reduced its post bill by 50% over the past five years and has reduced their correspondent attorney bills substantially.

The supplier participants associated the logistics activity with time and identified the possibility of utilising a system to record the travelling time and cost. The attorneys did not make this association at all.

Primarily the attorneys saw that IS gave alternatives to the traditional practice of logistics that did facilitate cost and time saving. IS were not seen as complementary or supportive to the traditional view of logistics but as supplementary.

Systems used in the marketing activities were not specifically designed for that purpose. The systems identified were primarily e-mail newsletters, social networking sites and website marketing. The larger firm did identify the use of their client database to facilitate notifications or communications to specific classes of clients where needed and also to facilitate cross selling. Most stated that word of mouth was still very effective. The direct effect of marketing facilitated by IS was unknown. The cost of the marketing activities through IS was however considered to be quite low and therefore a viable option.

The sales activity was understood by most to be akin to that of marketing. One interviewee associated the sales activity to be equivalent to touting, which conduct is prohibited. This could be the reason attorneys fail to differentiate this activity from marketing. Accordingly, the sales activity is not supported by IS.

The service provider aligned the sales activity to allocating costs to services provided and the extent that systems facilitated this was emphasised, but the interviewee in this event was in the cost recovery industry and thus cost? .

There was difficulty with the interviewees' understanding of the separation of the production and service activities due to the nature of the legal service. More insight was gained into these activities through general conversation and commentary. IS were definitely seen to facilitate better service to clients. An example given was the case management systems which contain the progress of the matter and should one person be on leave other people could continue with the work without interruption, as the information was readily available and not restricted to one person. One interviewee did attribute the use of digital dictaphones to adding value in the efficient production of documentation and service delivery. Another example given was the ability to receive e-mails on cell-phones, thus facilitating immediate responses.

One interviewee's response was that he was not convinced that case management software assisted the production activity but it could only assist to the extent that it limited files from not "slipping through the cracks" in comparison to a manual diary system. He related this characteristic as a safety mechanism.

The service providers' perception was different in answering this question as they saw the possibility of developing a firm specific system solely developed for the company and the viability of such systems as dependent on the size of the firm. The perception was that systems are always improving and will eventually be able to make decisions.

5.7.3. *Value Shop*

In interviewing the various participants it became clear that the attorneys did not distinguish between the activities in the value shop. Many participants confused the problem acquisition and definition stages with the problem

solving stages. In attempting to avoid these issues, examples were given for each stage as per the Interview Questionnaire.

The activities in the value shop were further phrased as if they only dealt with litigation type matters, whereas many different areas of law are practiced that do not necessarily deal with problems. The question regarding the problem acquisition therefore needed to be paraphrased to state client and instruction acquisition in many instances.

Many firms used the library research systems available to them, as well as the office systems, to support these various activities.

The first activity in the Value Shop, problem acquisition and definition, was supported to a limited extent by e-mail where it was the first point of contact, as well as the legal research systems available, including the Internet, to define the problem. It was also stated that office systems facilitated communication within these activities. The role of personal communication was noted as being the best method to facilitate this activity most effectively and no other alternative was given. It was stated that problem identification was primarily a brain function and that systems could not perform this activity. The only support systems could give in the problem acquisition activity was to receive the information and make the appointment with the client. Therefore IS does facilitate the information flow in these activities, but it is felt that the impact is limited to this feature specifically.

The second activity, problem solving, made use of the firms' precedents on the systems, as well as their library and other research systems, available to them. The case management systems were also identified to assist in work performance by the use of checklists. It was stated however that the systems, specifically the research systems, were only as good as the user as they are generally difficult to use accurately and get the correct output.

The third activity, that of choice, proved to be a difficult concept for most interviewees to grasp. Their reasoning is that in their experience, each matter is different and needs to be evaluated on its own merits. The human factor came into play here to a large extent and few saw how an information system could support this activity other than the possible research of alternative solutions. Few saw the value of an information system supporting this activity and none identified a system that did. It was stated that no programme could evaluate and recommend a solution based on raw data. The nature of law was seen to be application based which was a cognitive function of the attorney.

The fourth activity, execution, was strongly supported by IS activities, and dependent on the nature of the legal 'problem', the extent did vary. It was noted by an interviewee who was a conveyancer that the introduction of IS was applauded and made a dramatic difference in their work. Online registrations are in the plans for future conveyancing transactions and accordingly will be fully IS integrated. This interviewee, with over 40 years in the industry, specifically stated that whenever any new technology or system was introduced it was always for the better and improved the processes, despite some teething problems.

The interviewees who practiced in the litigation field stated that there was a large reliance on IS in execution and the systems used by all were the office and communication systems. These were primarily with respect to communication and document generation activities. Execution of legal services in regard to court work did have a mixed response in that some stated that systems could be utilised for researching in court, but in contradiction thereto, one interviewee stated that systems should not be utilised in court at all as they would distract the attorney from the proceedings and thus hinder their performance. It was observed that any limited use of IS could also be the result of habit and not embracing the facilities available.

The final activities, control and evaluation, were strongly supported by the accounting systems used by the various firms. These systems' abilities are

strongly based on reviewing fees as the primary indication of success. It was stated by one interviewee that such systems are particularly useful in a defined practice in reviewing the performance of one specific field, but that it would have little significance when trying to review and compare the different fields of practice within a diverse law firm.

Other non-IS methods used were direct contact with the client to determine their satisfaction with the service rendered. No IS was identified to support this, despite available systems such as online surveys and even e-mail being a possible alternative.

The systems available in the market do allow for productivity reviews, turnaround times, and financial evaluation methods, but few firms seem to utilise these systems for fields of practice other than conveyancing. They also facilitate the control activity, outside the financial parameters, more so than the accounting packages available in that supervisors can access the productivity reports of users and files not worked on. These systems do not seem to be utilised by the interviewees.

5.7.4. *Value Network*

Not many firms identified an IS that supports developing a customer network although the possibility was stated. One firm uses social networking sites to promote their firm but that was the extent of system use. The presence of websites merely facilitated the creation of trust in the firm allowing potential clients to research the firm prior to instructing the firm. The use of mass communication by e-mail and the Internet was seen as a method to attract potential clients more passively.

IS were seen to facilitate the development of new customer services and improvement in existing services. Some systems utilised allowed clients to log into the firm's database to determine the progress on the status of their conveyancing matter. A problem identified with this however was that the information was not 'live' and a person still needed to input the progress data

on the system. This type of problem was a concern to the majority of the interviewees. The human factor was identified to be important here once again.

The role of systems in communication with clients to improve existing services was a common response, together with the utilisation of existing systems to identify new developments in law that could lead to new services.

The operational infrastructure of the firms was also strongly supported by IS such as Internet banking, scanning, faxing and cost recovery systems, and these activities had a direct effect on service delivery to the client. The main aim of these systems already implemented was to reduce operational costs and the effects were positive. Systems that had been implemented to develop the operational infrastructure had both a positive and negative effect. Firms did look at systems to facilitate this activity and evaluated them on their performance. If such systems did not work they were merely removed. One such example was the cost recovery system utilised by a firm that resulted in necessitating additional data input on each use of the various copy/telephone/printing machines and this was found to cause a delay and bottleneck at the machines. Another system the users identified in this category was the case management system, where they did notice that the system assisted service delivery, but the extent of improvement was dependent on the knowledge of the users. A majority of the operational activities however were manual.

5.8. Implications and recommendations

In determining whether the various components of the value configuration do lend themselves to being supported, many interviewees and respondents answered in the affirmative for a majority of the activities. The only noticeable deviations were in respect of mail handling, infrastructure, marketing/advertising and a small percentage in respect of logistics and the development of new customer services. All the activities within the value shop

were noticeably completely or partially supported by IS, however the IS referred to were few in number in comparison to all the systems referred to.

In determining how IS facilitates the various aspects of legal practice, the interviewees emphasised the speed, availability of information and facilitation of communication, together with the production of documentation as the most dominant aspects of IS facilitating legal practice. These characteristics were noted in respect of the professional duties and not the support activities or marketing and sales related activities.

The general perception was that IS do positively affect the productivity, profitability and efficiency of a law firm. The noticeable lack of knowledge of the systems used in the activities indicates that there is a gap in the users' understanding of the activities and the available IS that support those activities. There was no manifest perception that the IS used have a negative effect on these performance measures.

Accordingly, from the user's perspective, the various components of the value configuration of a law firm can be supported by IS and as a result improve firm performance.

The nature of services is such that the client is central to the success of the organisation. Further research can be done to evaluate the impact of IS on the clients of law firms and whether such systems do add value from the client's perspective.

Further research can be done on the financial benefits in using IS for each activity as well as the time saving and time management benefits that IS may have on the users within law firms throughout the various activities in the value configuration.

5.9. Limitations of the study

Four interviewees were based on the East Rand due to convenience aspects and time constraints. The interviewees also represented a very small group of law firms. The interviewee from the largest law firm that participated indicated use of a bigger selection of information systems and the service providers too had a bigger knowledge base of available systems in the market. It is submitted that more interviews of users in bigger law firms who have access to more IS would have resulted in a more in-depth analysis. A poor survey response also jeopardised the validity of the data and it is cautioned to rely on this data to confirm the interviewee data.

The study was qualitative based on user perceptions, however some more proactive interviewees were able to substantiate their perceptions with financial and productive facts where they experienced same in practice.

5.10. Conclusion

Communication and office systems have had the most effective and positive impact in law firms and support a majority of the value activities, despite the used IS in these activities being small in quantity in comparison to the number of available IS.

Susskind (2008) noted attorneys' limited imagination with regards to the potential uses of IS. Although many interviewees who were comfortable with technology conceded that it is ever changing, they could not see how new avenues could be adopted in practice, but did not doubt the development of new technologies in time. The lack of knowledge of many participants of the available IS and the activities confirms this submission.

The initial general perception is that IS are seen to facilitate the law firm in its activities and a majority of responses do confirm this perception. The extent to which the IS facilitate the various activities is seen to positively affect the performance measures given.

The quality of the attorneys' work, however, was not seen to be impacted by the use of IS but this was not a specific aspect of the study. The role of the attorney is still seen as tantamount to proficient delivery of legal services.

6. Conclusion

This research project attempted to determine whether IS could be used throughout all the value activities of the various value configurations. The value configurations each deconstructed the activities of a law firm from a different perspective and thus it was submitted that all the activities are relevant for the purposes of the study. The users' perspectives of the effect of the use of IS on performance measures, being efficiency, productivity and profitability, of the respective firms were sought, and it was concluded that there was a general perception that IS had a positive effect on these measures insofar as the IS were being used by them. Many of the activities were only partially supported by IS but the positive effect was still experienced, according to the participants.

The extent to which the participants were aware of the existence and use of IS in these activities was integral to the purpose of the project and a limited understanding was exposed to a relatively small but significant degree. The effective use of the available IS, specifically the more complicated and newer systems, was limited due to a lack of training and time.

The use of IS was seen to be vital to the sustainability of law firms and a source of competitive advantage, seemingly more in response to client demand than as a first mover. The effects however were limited as the emphasis of the ability of the attorney in rendering the service was paramount.

The sample size was relatively small, however various themes were identified which were common amongst the majority of the interviewees and the conclusions were generalised to align with these findings. The findings however cannot be generalised to all law firms and further research would be required in order to determine the applicability of the findings to other law firms in South Africa.

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Annexure 1: Interview Questionnaire

- 1) Characteristics of Respondent
 - a) Job Title
 - b) Years within the legal industry
 - c) Number of persons in the firm
 - d) Number of attorneys in the firm
 - e) Number of persons responsible for IT
 - f) Are IT functions (labour) totally or partially outsourced
 - g) The participant is responsible for generating fees
- 2) % of IT Budget of total revenue budget
- 3) Which of the following systems does your firm makes use of:
 - a) Website
 - b) Accounting
 - c) Electronic research materials
 - d) Case Management system
 - e) Client management system
 - f) KM systems for managing records or documents
 - g) KM systems for managing cases
 - h) KM systems for managing customer relationships
 - i) KM systems for managing expert knowledge
 - j) KM systems for managing forms and precedents
 - k) KM systems for managing research archives
 - l) KM systems for managing procedures
 - m) KM systems for managing in-house developed databases
- 4) How has IT changed since you started practicing?
- 5) Does the available IT within your firm meet your needs?

6) Value Chain

- a) Have you analysed the firm's value chain – logistics, production, marketing, sales and service, together with the support activities of human resources, technology, procurement and infrastructure
- b) The role of the client throughout the value chain
- c) The role of other organisations in the value chain
- d) The frequency of communication between all the role players throughout the service provision process

7) Value shop – five activities

- a) Problem acquisition and definition – client database, financial system, case database
- b) Problem solving – best practice database, simulation system, library search engine
- c) Choice – case-based reasoning, office systems
- d) Execution – document system
- e) Control and evaluation – case database, accounting system

8) Value network

- a) Developing a customer network
- b) Development of new customer services and improvement in existing services
- c) Development of operational infrastructure to facilitate the efficient and effective service delivery

9) How is managerial information communicated to other managers and employees in the firm?

10) How is legal/case/matter information communicated to colleagues and other employees in the firm?

11) How is the knowledge of an attorney/specialist recorded/stored?

- 12) How is the knowledge of the attorney/specialist accessed by another user?
- 13) Is your firm's knowledge accessible? (Alavi & Leidner, 2001)
- 14) Are mistakes in your organisation reproduced several times? (Alavi & Leidner, 2001)
- 15) Would you consider IT as a competitive tool for your law firm? Why?
- 16) Do you consider your firm to be ahead of the technological developments in the legal field than its competitors?
- 17) Does your firm have a generational problem in the use of its available IT resources?
- 18) Should the IT function in my law firm be strengthened?
- 19) Can the use of IT improve the firm's competitive position?
- 20) Can the use of IT improve the firm's effectiveness?
- 21) Can the use of IT improve the firm's profitability?
- 22) Does the use of IT represent a security risk within the firm?
- 23) Does the use of IT facilitate the exchange of knowledge?
- 24) Is knowledge management important to my firm?
- 25) Do you use an internal or external database of forms and precedents for legal documents?

26)Do you create your own database of forms and precedents?

27)Do you add to a current database of forms and precedents?

28)Has your work has improved / declined since the introduction of various IS throughout the years?

Annexure 2: Survey Questionnaire

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Firm Information																									
<p>This survey is regarding the "The Effect of Information Systems on the Value Configuration of Law Firms".</p> <p>Your participation is greatly appreciated.</p> <p>The questionnaire should not take longer than 10-15 minutes to complete. The results of the survey are completely confidential and should you not wish to complete your name or other contact information in the spaces provided please just fill in N/A.</p> <p>* 1. Please complete the information below. This information is strictly confidential.</p> <p>Name: <input type="text"/></p> <p>Company: <input type="text"/></p> <p>City/Town: <input type="text"/></p> <p>State/Province: <input type="text"/></p> <p>ZIP/Postal Code: <input type="text"/></p> <p>Email Address: <input type="text"/></p> <p>* 2. Please state your job title or description</p> <table><thead><tr><th></th><th>Tick</th></tr></thead><tbody><tr><td>Attorney</td><td><input type="radio"/></td></tr><tr><td>Office Manager</td><td><input type="radio"/></td></tr><tr><td>Secretary/Assistant</td><td><input type="radio"/></td></tr><tr><td>Accountant/Bookkeeper</td><td><input type="radio"/></td></tr><tr><td>Other</td><td><input type="radio"/></td></tr></tbody></table> <p>Other (please specify)</p> <p><input type="text"/></p> <p>* 3. Your number of years in the legal industry, regardless of job description</p> <table><thead><tr><th></th><th>Tick</th></tr></thead><tbody><tr><td>1-5</td><td><input type="radio"/></td></tr><tr><td>6-10</td><td><input type="radio"/></td></tr><tr><td>11-15</td><td><input type="radio"/></td></tr><tr><td>15-20</td><td><input type="radio"/></td></tr><tr><td>20+</td><td><input type="radio"/></td></tr></tbody></table> <p>* 4. Are you responsible for generating fees?</p> <p><input type="radio"/> Yes <input type="radio"/> Other</p> <p><input type="radio"/> No</p> <p>Other (please specify)</p> <p><input type="text"/></p>			Tick	Attorney	<input type="radio"/>	Office Manager	<input type="radio"/>	Secretary/Assistant	<input type="radio"/>	Accountant/Bookkeeper	<input type="radio"/>	Other	<input type="radio"/>		Tick	1-5	<input type="radio"/>	6-10	<input type="radio"/>	11-15	<input type="radio"/>	15-20	<input type="radio"/>	20+	<input type="radio"/>
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Office Manager	<input type="radio"/>																								
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11-15	<input type="radio"/>																								
15-20	<input type="radio"/>																								
20+	<input type="radio"/>																								

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*5. Are IT services outsourced by your firm?

- ☐ Yes
 ☐ No
 ☐ Partially
 ☐ Other

Other (please specify)

*6. Number of persons per category in your law firm

	1-5	6-15	16-25	26-50	50-100	100+
Number of Attorneys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of persons responsible for the Information Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Fee Earners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*7. What percentage of the total budget is allocated to information systems?

- ☐ 1%-5%
 ☐ 6%-10%
 ☐ 11%-15%
 ☐ 15%+
 ☐ Unknown

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8. Does your firm use any of the following information systems?			
	Yes	No	Don't know
Accounting system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Case Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simulation systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Word processing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Client Relationship Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital Dictation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VOIP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skype/similar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calendars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VPN (Virtual Private Network)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Directory/Contacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intranet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic market places	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web-based order tracking systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web-based vehicle tracking systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge Management systems for forms and precedents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library search engine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge Management systems for managing records or documents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Networking systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security Systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge Management for managing expert knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)			
<input type="text"/>			

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***9. The extent of my computer literacy is as follows:**

☐ Very Poor
 ☐ Poor
 ☐ Average
 ☐ Good
 ☐ Excellent

***10. Approximate percentage of your day using information systems:**

- ☐ 0%-15%
☐ 16%-30%
☐ 31%-45%
☐ 46%-60%
☐ 61%-75%
☐ 76%-90%
☐ 90%-100%

Support Activities

***11. Support Activities: To what extent does your firm use information systems (IS) while performing the following activities:**

	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know
Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurement/purchasing of supplies and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mail handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***12. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurement/purchasing of supplies and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mail Handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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* 13. Productivity: How do information systems used in these activities effect your productivity?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurement/purchasing of supplies and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mail Handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 14. Profitability: How do information systems used in these activities effect the firms overall profitability?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurement/purchasing of supplies and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mail Handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Value Chain Activities

* 15. Value Chain: To what extent does your firm use information systems (IS) while performing the following activities:

	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know
Logistics/delivery/courier/messenger services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/advertising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provision to clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 16. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Logistics/delivery/courier/messenger services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/advertising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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* 17. Productivity: How do information systems used in these activities effect your productivity?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Logistics/delivery/courier/messenger services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/advertising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 18. Profitability: How do information systems used in these activities effect the firms overall profitability?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Logistics/delivery/courier/messenger services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/advertising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Value Shop

Value Shop activities are centered around identifying and addressing the client's problem/need.

* 19. Value Shop: To what extent does your firm use information systems (IS) in the following activities?

	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know
Problem Acquisition and Definition - client database, financial system, case database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problem Solving - best practice database, simulation system, library search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice of preferred solution - case-based reasoning, office systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execution - document systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control and Evaluation - case database, accounting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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***20. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Problem Acquisition and Definition - client database, financial system, case database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problem Solving - best practice database, simulation system, library search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice pf preferred solution - case-based reasoning, office systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execution - document systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control and Evaluation - case database, accounting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***21. Productivity: How do information systems in the following activities effect your productivity?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Problem Acquisition and Definition - client database, financial system, case database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problem Solving - best practice database, simulation system, library search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice - case-based reasoning, office systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execution - document systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control and Evaluation - case database, accounting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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***22. Profitability: How do information systems in the following activities effect the firms overall profitability?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
Problem Acquisition and Definition - client database, financial system, case database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problem Solving - best practice database, simulation system, library search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice - case-based reasoning, office systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execution - document systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control and Evaluation - case database, accounting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Value Network

The value network refers to all external bodies such as clients, suppliers, sheriffs and government institutions

***23. Value Network: To what extent does your firm use information systems (IS) while performing the following activities:**

	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know
To develop a customer network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop new customer services not yet offered by the firm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To improve existing services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop operational infrastructure to facilitate efficient and effective service delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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***24. Productivity: How do the information systems used by the firm in these activities effect your productivity?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
To develop a customer network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop new customer services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To improve existing services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop operational infrastructure to facilitate efficient and effective service delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***25. Profitability: How do the information systems used by the firm in these activities effect the firms overall profitability?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
To develop a customer network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop new customer services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To improve existing services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop operational infrastructure to facilitate efficient and effective service delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

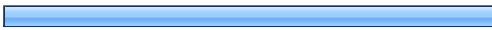





Thank you very much for participating in this survey!

***26. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?**

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable
To develop a customer network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop new customer services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To improve existing services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To develop operational infrastructure to facilitate efficient and effective service delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Annexure 3: Survey Responses



MBL 3 The Impact of IS on the value configuration  SurveyMonkey
of a law firm

1. Please complete the information below. This information is strictly confidential.			
		Response Percent	Response Count
Name:		100.0%	27
Company:		100.0%	27
City/Town:		100.0%	27
State/Province:		100.0%	27
ZIP/Postal Code:		96.3%	26
Email Address:		92.6%	25
answered question			27
skipped question			0





2. Please state your job title or description		
	Tick	Response Count
Attorney	100.0% (15)	15
Office Manager	100.0% (4)	4
Secretary/Assistant	100.0% (6)	6
Accountant/Bookkeeper	100.0% (1)	1
Other	100.0% (3)	3
Other (please specify)		3
answered question		27
skipped question		0

3. Your number of years in the legal industry, regardless of job description		
	Tick	Response Count
1-5	100.0% (8)	8
6-10	100.0% (5)	5
11-15	100.0% (5)	5
15-20	100.0% (2)	2
20+	100.0% (7)	7
answered question		27
skipped question		0





4. Are you responsible for generating fees?

		Response Percent	Response Count
Yes		88.9%	24
No		11.1%	3
Other		0.0%	0
Other (please specify)			0
answered question			27
skipped question			0

5. Are IT services outsourced by your firm?

		Response Percent	Response Count
Yes		40.7%	11
Partially		25.9%	7
No		29.6%	8
Other		3.7%	1
Other (please specify)			1
answered question			27
skipped question			0





6. Number of persons per category in your law firm							
	1-5	6-15	16-25	26-50	50-100	100+	Response Count
Number of Attorneys	74.1% (20)	14.8% (4)	0.0% (0)	3.7% (1)	0.0% (0)	7.4% (2)	27
Number of Employees	25.9% (7)	33.3% (9)	11.1% (3)	11.1% (3)	7.4% (2)	11.1% (3)	27
Number of persons responsible for the Information Systems	85.2% (23)	11.1% (3)	3.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	27
Number of Fee Earners	44.4% (12)	29.6% (8)	7.4% (2)	7.4% (2)	3.7% (1)	7.4% (2)	27
answered question							27
skipped question							0








7. What percentage of the total budget is allocated to information systems?			
		Response Percent	Response Count
1%-5%		33.3%	9
6%-10%		11.1%	3
11%-15%		3.7%	1
15%+		0.0%	0
Unknown		51.9%	14
answered question			27
skipped question			0

8. Does your firm use any of the following information systems?				
	Yes	No	Don't know	Response Count
Accounting system	96.2% (25)	3.8% (1)	0.0% (0)	26
Website	76.9% (20)	15.4% (4)	7.7% (2)	26
Online Research	88.9% (24)	0.0% (0)	11.1% (3)	27
Case Management	52.0% (13)	28.0% (7)	20.0% (5)	25
Simulation systems	16.7% (4)	50.0% (12)	33.3% (8)	24
Word processing	100.0% (26)	0.0% (0)	0.0% (0)	26
Client Relationship Management	50.0% (12)	29.2% (7)	20.8% (5)	24
Internet	100.0% (27)	0.0% (0)	0.0% (0)	27
Digital Dictation	64.0% (16)	20.0% (5)	16.0% (4)	25
VOIP	24.0% (6)	40.0% (10)	36.0% (9)	25
Email	100.0% (27)	0.0% (0)	0.0% (0)	27
Skype/similar	65.4% (17)	30.8% (8)	3.8% (1)	26
Calendars	81.5% (22)	7.4% (2)	11.1% (3)	27
VPN (Virtual Private Network)	25.0% (6)	33.3% (8)	41.7% (10)	24
Directory/Contacts	69.2% (18)	11.5% (3)	19.2% (5)	26
Intranet	33.3% (8)	37.5% (9)	29.2% (7)	24
Electronic market places	8.3% (2)	50.0% (12)	41.7% (10)	24
Web-based order tracking systems	20.8% (5)	41.7% (10)	37.5% (9)	24
Web-based vehicle tracking systems	4.3% (1)	56.5% (13)	39.1% (9)	23
Knowledge Management systems for forms and precedents	42.3% (11)	26.9% (7)	30.8% (8)	26
Library search engine	51.9% (14)	29.6% (8)	18.5% (5)	27

Knowledge Management systems for managing records or documents	37.5% (9)	29.2% (7)	33.3% (8)	24
Social Networking systems	36.0% (9)	44.0% (11)	20.0% (5)	25
Security Systems	56.0% (14)	24.0% (6)	20.0% (5)	25
Knowledge Management for managing expert knowledge	20.0% (5)	36.0% (9)	44.0% (11)	25
Other (please specify)				0
answered question				27
skipped question				0

9. The extent of my computer literacy is as follows:

		Response Percent	Response Count
Very Poor		0.0%	0
Poor		3.7%	1
Average		33.3%	9
Good		44.4%	12
Excellent		18.5%	5
answered question			27
skipped question			0

10. Approximate percentage of your day using information systems:			
		Response Percent	Response Count
0%-15%		11.1%	3
16%-30%		11.1%	3
31%-45%		22.2%	6
46%-60%		22.2%	6
61%-75%		14.8%	4
76%-90%		14.8%	4
90%-100%		3.7%	1
answered question			27
skipped question			0

11. Support Activities: To what extent does your firm use information systems (IS) while performing the following activities:						
	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know	Response Count
Human Resources	19.2% (5)	11.5% (3)	26.9% (7)	7.7% (2)	34.6% (9)	26
Technology	11.5% (3)	3.8% (1)	34.6% (9)	23.1% (6)	26.9% (7)	26
Procurement/purchasing of supplies and services	7.7% (2)	3.8% (1)	61.5% (16)	0.0% (0)	26.9% (7)	26
Mail handling	26.9% (7)	3.8% (1)	42.3% (11)	3.8% (1)	23.1% (6)	26
Infrastructure	30.8% (8)	3.8% (1)	26.9% (7)	7.7% (2)	30.8% (8)	26
answered question						26
skipped question						1

12. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Human Resources	50.0% (13)	0.0% (0)	19.2% (5)	23.1% (6)	7.7% (2)	26
Technology	23.1% (6)	0.0% (0)	3.8% (1)	61.5% (16)	11.5% (3)	26
Procurement/purchasing of supplies and services	34.6% (9)	0.0% (0)	11.5% (3)	50.0% (13)	3.8% (1)	26
Mail Handling	26.9% (7)	0.0% (0)	15.4% (4)	50.0% (13)	7.7% (2)	26
Infrastructure	30.8% (8)	0.0% (0)	19.2% (5)	34.6% (9)	15.4% (4)	26
answered question						26
skipped question						1

13. Productivity: How do information systems used in these activities effect your productivity?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Human Resources	42.3% (11)	0.0% (0)	15.4% (4)	30.8% (8)	11.5% (3)	26
Technology	23.1% (6)	0.0% (0)	3.8% (1)	61.5% (16)	11.5% (3)	26
Procurement/purchasing of supplies and services	30.8% (8)	0.0% (0)	7.7% (2)	53.8% (14)	7.7% (2)	26
Mail Handling	26.9% (7)	0.0% (0)	15.4% (4)	50.0% (13)	7.7% (2)	26
Infrastructure	34.6% (9)	0.0% (0)	15.4% (4)	34.6% (9)	15.4% (4)	26
answered question						26
skipped question						1

14. Profitability: How do information systems used in these activities effect the firms overall profitability?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Human Resources	50.0% (13)	0.0% (0)	15.4% (4)	19.2% (5)	15.4% (4)	26
Technology	30.8% (8)	0.0% (0)	3.8% (1)	53.8% (14)	11.5% (3)	26
Procurement/purchasing of supplies and services	34.6% (9)	0.0% (0)	7.7% (2)	50.0% (13)	7.7% (2)	26
Mail Handling	30.8% (8)	0.0% (0)	15.4% (4)	46.2% (12)	7.7% (2)	26
Infrastructure	42.3% (11)	0.0% (0)	15.4% (4)	30.8% (8)	11.5% (3)	26
answered question						26
skipped question						1

15. Value Chain: To what extent does your firm use information systems (IS) while performing the following activities:

	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know	Response Count
Logistics/delivery/courier/messenger services	16.0% (4)	12.0% (3)	48.0% (12)	4.0% (1)	20.0% (5)	25
Marketing/advertising	28.0% (7)	8.0% (2)	36.0% (9)	8.0% (2)	20.0% (5)	25
Service provision to clients	4.0% (1)	4.0% (1)	56.0% (14)	20.0% (5)	16.0% (4)	25
Production output	8.0% (2)	0.0% (0)	36.0% (9)	32.0% (8)	24.0% (6)	25
answered question						25
skipped question						2

16. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Logistics/delivery/courier/messenger services	24.0% (6)	0.0% (0)	16.0% (4)	56.0% (14)	4.0% (1)	25
Marketing/advertising	32.0% (8)	0.0% (0)	28.0% (7)	36.0% (9)	4.0% (1)	25
Service provision	24.0% (6)	0.0% (0)	0.0% (0)	72.0% (18)	4.0% (1)	25
Production	32.0% (8)	0.0% (0)	0.0% (0)	64.0% (16)	4.0% (1)	25
answered question						25
skipped question						2

17. Productivity: How do information systems used in these activities effect your productivity?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Logistics/delivery/courier/messenger services	36.0% (9)	0.0% (0)	16.0% (4)	44.0% (11)	4.0% (1)	25
Marketing/advertising	40.0% (10)	0.0% (0)	24.0% (6)	32.0% (8)	4.0% (1)	25
Service provision	24.0% (6)	0.0% (0)	0.0% (0)	72.0% (18)	4.0% (1)	25
Production	32.0% (8)	0.0% (0)	0.0% (0)	64.0% (16)	4.0% (1)	25
answered question						25
skipped question						2

18. Profitability: How do information systems used in these activities effect the firms overall profitability?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Logistics/delivery/courier/messenger services	32.0% (8)	4.0% (1)	12.0% (3)	52.0% (13)	0.0% (0)	25
Marketing/advertising	28.0% (7)	0.0% (0)	20.0% (5)	48.0% (12)	4.0% (1)	25
Service provision	24.0% (6)	0.0% (0)	0.0% (0)	76.0% (19)	0.0% (0)	25
Production	24.0% (6)	0.0% (0)	0.0% (0)	76.0% (19)	0.0% (0)	25
answered question						25
skipped question						2

19. Value Shop: To what extent does your firm use information systems (IS) in the following activities?						
	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know	Response Count
Problem Acquisition and Definition - client database, financial system, case database	8.7% (2)	0.0% (0)	34.8% (8)	34.8% (8)	21.7% (5)	23
Problem Solving - best practice database, simulation system, library search engine	0.0% (0)	0.0% (0)	52.2% (12)	21.7% (5)	26.1% (6)	23
Choice of preferred solution - case-based reasoning, office systems	4.3% (1)	8.7% (2)	52.2% (12)	8.7% (2)	26.1% (6)	23
Execution - document systems	0.0% (0)	0.0% (0)	34.8% (8)	43.5% (10)	21.7% (5)	23
Control and Evaluation - case database, accounting systems	0.0% (0)	0.0% (0)	30.4% (7)	47.8% (11)	21.7% (5)	23
answered question						23
skipped question						4

20. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Problem Acquisition and Definition - client database, financial system, case database	26.1% (6)	0.0% (0)	4.3% (1)	65.2% (15)	4.3% (1)	23
Problem Solving - best practice database, simulation system, library search engine	26.1% (6)	0.0% (0)	4.3% (1)	69.6% (16)	0.0% (0)	23
Choice pf preferred solution - case-based reasoning, office systems	34.8% (8)	0.0% (0)	0.0% (0)	60.9% (14)	4.3% (1)	23
Execution - document systems	21.7% (5)	0.0% (0)	0.0% (0)	73.9% (17)	4.3% (1)	23
Control and Evaluation - case database, accounting systems	26.1% (6)	0.0% (0)	0.0% (0)	73.9% (17)	0.0% (0)	23
answered question						23
skipped question						4

21. Productivity: How do information systems in the following activities effect your productivity?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Problem Acquisition and Definition - client database, financial system, case database	34.8% (8)	0.0% (0)	4.3% (1)	56.5% (13)	4.3% (1)	23
Problem Solving - best practice database, simulation system, library search engine	26.1% (6)	0.0% (0)	4.3% (1)	69.6% (16)	0.0% (0)	23
Choice - case-based reasoning, office systems	26.1% (6)	0.0% (0)	8.7% (2)	60.9% (14)	4.3% (1)	23
Execution - document systems	21.7% (5)	0.0% (0)	4.3% (1)	73.9% (17)	0.0% (0)	23
Control and Evaluation - case database, accounting systems	26.1% (6)	0.0% (0)	4.3% (1)	69.6% (16)	0.0% (0)	23
answered question						23
skipped question						4

22. Profitability: How do information systems in the following activities effect the firms overall profitability?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
Problem Acquisition and Definition - client database, financial system, case database	30.4% (7)	0.0% (0)	4.3% (1)	60.9% (14)	4.3% (1)	23
Problem Solving - best practice database, simulation system, library search engine	34.8% (8)	0.0% (0)	4.3% (1)	60.9% (14)	0.0% (0)	23
Choice - case-based reasoning, office systems	34.8% (8)	0.0% (0)	8.7% (2)	47.8% (11)	8.7% (2)	23
Execution - document systems	30.4% (7)	0.0% (0)	0.0% (0)	69.6% (16)	0.0% (0)	23
Control and Evaluation - case database, accounting systems	30.4% (7)	4.3% (1)	0.0% (0)	65.2% (15)	0.0% (0)	23
answered question						23
skipped question						4

23. Value Network: To what extent does your firm use information systems (IS) while performing the following activities:						
	0: Not at all	1: Not supported but should be supported by IS	2: Partially supported by IS	3: Completely supported by IS	4: Don't know	Response Count
To develop a customer network	8.7% (2)	13.0% (3)	47.8% (11)	17.4% (4)	13.0% (3)	23
To develop new customer services not yet offered by the firm	21.7% (5)	26.1% (6)	30.4% (7)	4.3% (1)	17.4% (4)	23
To improve existing services	8.7% (2)	4.3% (1)	52.2% (12)	21.7% (5)	13.0% (3)	23
To develop operational infrastructure to facilitate efficient and effective service delivery	4.3% (1)	4.3% (1)	56.5% (13)	21.7% (5)	13.0% (3)	23
answered question						23
skipped question						4

24. Productivity: How do the information systems used by the firm in these activities effect your productivity?						
	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
To develop a customer network	13.0% (3)	0.0% (0)	17.4% (4)	56.5% (13)	13.0% (3)	23
To develop new customer services	17.4% (4)	0.0% (0)	26.1% (6)	39.1% (9)	17.4% (4)	23
To improve existing services	13.0% (3)	0.0% (0)	4.3% (1)	73.9% (17)	8.7% (2)	23
To develop operational infrastructure to facilitate efficient and effective service delivery	17.4% (4)	0.0% (0)	4.3% (1)	69.6% (16)	8.7% (2)	23
answered question						23
skipped question						4

25. Profitability: How do the information systems used by the firm in these activities effect the firms overall profitability?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
To develop a customer network	21.7% (5)	0.0% (0)	17.4% (4)	47.8% (11)	13.0% (3)	23
To develop new customer services	26.1% (6)	4.3% (1)	17.4% (4)	34.8% (8)	17.4% (4)	23
To improve existing services	21.7% (5)	0.0% (0)	0.0% (0)	69.6% (16)	8.7% (2)	23
To develop operational infrastructure to facilitate efficient and effective service delivery	17.4% (4)	0.0% (0)	0.0% (0)	73.9% (17)	8.7% (2)	23
answered question						23
skipped question						4

26. Efficiency: How do information systems in the following activities effect the efficiency with which you perform your work duties?

	0: Don't know	1: Negatively	2: Not at all	3: Positively	4: Not applicable	Response Count
To develop a customer network	17.4% (4)	0.0% (0)	13.0% (3)	60.9% (14)	8.7% (2)	23
To develop new customer services	21.7% (5)	0.0% (0)	21.7% (5)	43.5% (10)	13.0% (3)	23
To improve existing services	21.7% (5)	0.0% (0)	0.0% (0)	73.9% (17)	4.3% (1)	23
To develop operational infrastructure to facilitate efficient and effective service delivery	17.4% (4)	0.0% (0)	0.0% (0)	78.3% (18)	4.3% (1)	23
answered question						23
skipped question						4