

# **Developing a managerial framework for e-contracting in the agricultural business environment**

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## ABSTRACT

The aim of this study is to conduct a thorough theoretical study on developing a managerial framework for replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province.

Every business should adapt to the current economic environment, especially new technology, and need to consider the risk and reward within the industry. Businesses should analyse any new processes and investigate its impact and whether a competitive advantage is created.

An extensive literature study has been conducted on the factors that could assist to develop a managerial framework. Firstly, CRM - a good CRM system will improve customer service and increase customer satisfaction, which will yield more loyalty. Secondly, improved technology will shorten the value chain by adding more value to each product or service. Thirdly, new technology, such as e-contracting, will reduce the time it takes to contract with customers and reduce the overall processing costs. Fourthly, training is crucial for any business to be successful. Fifthly, Business Process Management (BPM) system will assist a business to implement a new process. Lastly, it is important to investigate what resistance to change a business can expect.

An empirical research has been conducted to investigate the effect what e-contracting has on the agriculture environment in the North-West Province in order to enable the author to develop a managerial framework to assist an agriculture business to improve customer service. It could be concluded that there is a good linkage between the results of this study and the literature.

A managerial framework that can be used for the purpose of replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province, has been proposed.

**Key terms:** Business Process Management, BPM, managerial framework, agriculture, customer service.

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## LIST OF ABBREVIATIONS

<b>Acronym</b>	<b>Term</b>
CRM	Customer Relationship Management
IT	Information Technology
BPR	Business Process Management
E-Contracts	Electronic Contracts
E-Contracting	Electronic Contracting
RFID	Radio Frequency Identification
E-Business	Electronic Business
E-Signature	Electronic Signature
E-Signed	Electronic Signed
MSA	Kaiser's Measure of Sampling Adequacy
SAS	Statistical Analysis System

# **CHAPTER 1**

## **SCOPE AND NATURE OF STUDY**

### **1.1 INTRODUCTION**

“Service”: a small word with a big responsibility. This study deals with Customer Relationship Management (CRM) of an agriculture business in the North-West Province.

“Your great-grandmother’s milkman certainly used it – the piece of paper in his wagon that listed who bought what each day was an early predecessor to the cloud-base CRM applications today” (Allison, 2011:1). The study will be done from the service deliverer’s perspective in the agriculture business environment. CRM is the process involving all management aspects of a customer’s relationship with an organisation to increase customer loyalty, retention and an organisation’s profitability (Baltzan & Phillips, 2010:28).

Contracting with a customer is the first and most important step in any credit lending process, it is important that this process is correct and quick. The importance of this study is in the development of a managerial framework for e-contracting to identify the factors that will improve the contracting process. A managerial framework is a tool that needs to be considered to follow a process.

Agriculture businesses totally depend on the farming community as their target market, but the farming community has plenty options in their area regarding which agriculture business to support. It is imperative that businesses in the agriculture environment do effective planning and utilization of information technology (IT) resources available to gain a competitive advantage in the current market place.

Information technology (IT) plays an increasingly important role in the success of businesses in the field concerning the use of technology in managing and

processing any information. The contracting process covered by IT is quite large, covering many areas that deal with software to convert, store, protect, process, transmit and retrieve information. IT can be utilized as the trigger to enhance success and innovation (Baltzan & Phillips, 2010:9).

Competition is fierce and profit margins are small. Every business is looking for an edge in the way they do business, to ultimately improve their triple bottom line. Some have done just that, thanks to electronic contracting (Autodealer, 2013:1). The triple bottom line approach is used to evaluate a business against its social responsibility, economic prosperity and environmental responsibility. The aim is to measure and expand the financial, social and environmental performance in addition to the financial performance of a business, by taking into account the full cost involved in doing business (Chase & Jacobs, 2011:58). This will not only strengthen a business's competitive advantage but will add value to customers.

## **1.2 PROBLEM STATEMENT**

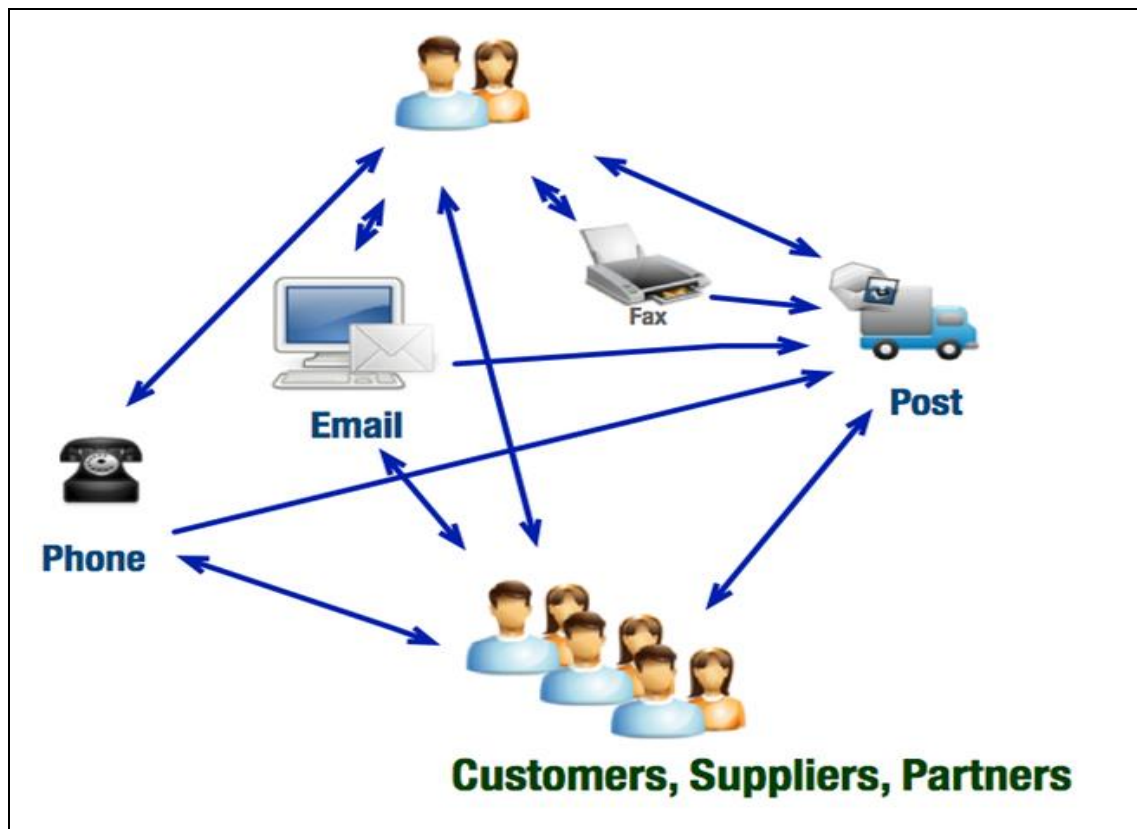
The current paper based contract process is taking up too much time before all contracts are signed and returned to the agriculture business. The nature of the problem is that the current process is very time consuming. The aim of this study is to improve the time to get the contracts signed and returned to enable quicker pay out of funds. The managerial framework should support the triple bottom line approach by considering its effect on the environment, employees, community and the shareholders of the business (Chase & Jacobs, 2011:58). The quicker the funds are transferred to customers the quicker the business can recover the costs which will improve cash flow immediately and thus also put pressure on competitors. This will indeed ensure that the current client base is retained and eventually increase the market share.

The current process for a typical paper based contracting process follows the following six steps (Aontu, 2013:1):

1. An agreement is formed by way of conversations over the phone and numerous email exchanges, which can be time consuming.
2. Only once the terms have been negotiated and been acted upon, will a paper contract be formed to support the agreement.
3. The paper contract is then drafted.
4. Once the contract is drafted, it is sent by post to the contracting partner, any issues are clarified by means of email and/or telephone correspondence. A new contract will be drafted should any changes occur.
5. The contract will be returned if not signed correctly.
6. After the contract is signed correctly it is scanned and filed for electronic and physical storage. This process could take between 3 to 5 days.

The process of paper-based contacts is illustrated in Figure 1.1.

Figure 1.1: Process of paper-based contracts



(Source: Aontu, 2013:1)

Estimates show that 80-90% of any business resides on paper while the rest is stored in electronic format. 1 Terabyte of paper is equal to 50,000 trees, and as a result savings on paper will support a business's responsibility against the environment and the concept of "Going green" could be considered. Without a good system, documents are hard to find, hard to share and easily lost. Documents that are lost are impossible to reproduce and are costing a company more in money, time and man-power than imagined (Micropal, 2013:1; Bunn, 1997:1).

The biggest problem with a paper-based filing system is (Micropal, 2013:1):

1. High labour cost – If on average it takes 6 minutes to retrieve and file a document, the total time taken to handle 100 documents equals 10 hours per day.
2. Lost and missing documents – It is estimated that 7.5% of all documents get lost and 3% of the remainder is misfiled. This dramatically increases the risks and costs associated with a paper filing system.
3. Hard to share – To share documents, office employees generally make their own copies. The average document is copied 19 times.
4. Security issues – It is hard to keep track of who has used or copied which document. Paper documents are often maintained with very low security measures, resulting in the risk that critical information leaks to unauthorised personnel.
5. Storage problem – There is a cost associated with storing documents, both on and off-site. The difference could be measured by comparing the cost of an external hard drive to the annual rent and overhead cost of maintaining a huge number of cabinets for storing.
6. Slow access – Finding and retrieving a document is a slow process when using a paper-based system. This time delay may cause client dissatisfaction (Micropal, 2013:1).

The above shows that good office management skills are needed to improve performance and that training courses could be an additional expense.

Lexecon (2013:1) states the following benefits for both parties of electronic contracting:

- Protecting contractual partners in an electronic environment.
- Avoiding errors and save data in a back-up system.
- Re-using content after closing.
- Reducing the time to contracting.
- Reducing process cost and contract management cost.
- Leading to a new skill in office management.
- Providing machine-processable documents.
- Minimizing CRM risks when doing contracts for ad hoc businesses over public networks such as the Internet.

The aim of this study is to develop a managerial framework and to determine the effect of electronic contracting on customer service and the value it will create for the customer and the business. The impact and value of electronic contracting on an agriculture business in the North-West Province will be investigated by this research. Electronic contracting is a process that enables creation, workflow, retention and management of contracts and terms. By contracting on-line, businesses can improve efficiency, reduce paperwork and streamline their operations (Jankoff, 2012:1; Foster, 2012:1).

Electronic contracting is a paperless system that greatly speeds up the funding process; this will improve the time it takes to sign the contract and enable quicker pay out of funds (Autodealer, 2013:1). This will ultimately improve customer satisfaction, product value and customer retention.

The future of a company greatly depends on minimizing the office clutter - going paperless is becoming a reality sooner than imagined (Greenerbilling, 2010:1).

### **1.3 CAUSAL FACTORS**

The causal factors for this study were the following:

- Continuous enhancement of new technology – long tail of technology.
- Skills available and the ability to learn new improved technology.
- To improve customer service.
- The ability to contract customers faster to enhance the time involved to grant the approved facility (Need for speed).
- To reduce paper cost.

### **1.4 OBJECTIVES OF THE STUDY**

#### **1.4.1 Primary objective**

The primary objective of this document is to develop a managerial framework when replacing paper based contracts with electronic contracts and measuring its effect on the agriculture environment in the North-West Province. The purpose of the managerial framework is to assist an agriculture business to create a long term profitable relationship with agriculture clients but more importantly, to create value and deliver superior customer service.

#### **1.4.2 Secondary objectives**

The secondary objective is to investigate whether a customer relationship management (CRM) system will improve customer service. The aim is to deliver excellent customer service, not only to attract new businesses, but to retain the current customer base. More objectives are:

- To identify any change in the value chain and if any cost benefit exist.
- Technology and security.
- Risk factor and training.
- Business process management (BPR).
- To identify whether resistance to change exist.

## **1.5 SCOPE OF THE STUDY**

### **1.5.1 Field of study**

The field of the study is client relationship management. The aim is to analyse what benefits and value is created by making use of electronic contracting instead of signed paper based contracts.

### **1.5.2 The scope and boundaries of the study**

The empirical study focuses on the farming community in the summer grain producing areas of South Africa, namely the North West Province. The population sample will include credit managers and farmers that are land owners and farmers renting land.

## **1.6 RESEARCH METHODOLOGY**

The methodology followed in this study consists of two parts, namely an extensive theoretical literature study of the relevant literature and an empirical study by means of a questionnaire.

### **1.6.1 Literature/theoretical study**

The aim of the literature study is to gain theoretical knowledge of:

- Customer Relationship Management.
- Value chain.
- Electronic contracting.
- Technology.
- Training and support.
- Business process management.
- Risk and legal complications.
- Change management.



### **1.6.2 Empirical study**

Both primary and secondary resources have been used to gather information during the study. Primary sources have been used to identify benefits of electronic contracting and the value thus created for the farmers in the agriculture sector. The secondary resources include journal publications, authors from text books as well as information obtained from reliable Internet sources. The aforementioned resources have been used to provide an accurate definition of CRM and to identify the benefits and value of electronic contracts that thus will be created for the farmers in the agriculture environment.

The primary information has been collected by means of an empirical study. A quantitative research approach has been followed and the resulting data provide an objective base to meet the research objectives. Questionnaires have been distributed to producing farmers and credit managers. These questionnaires have been distributed through the agent network of an agriculture company of which the author is an employee. The method has been effective in reaching farmers in the North-West Province since the agent is in continuous contact with the farming communities in this area. The aim was to collect data from a study population of at least one hundred and fifty farmers representing the North-West Province.

## **1.7 LIMITATIONS OF THE STUDY**

The challenge for this study has been to get good representation from the population of grain producing farmers in the North=West area. Given the great distances between farmers and the size of the target areas, it has not been possible to gain access to the entire population. The best strategy to reach the majority of farmers in the North West Province has been to make use of the agent's network within the target area.

## **1.8 LAYOUT AND CONCLUSION OF THE STUDY**

The layout consists of the following:

### **Chapter 1 – Introduction and problem statement**

Chapter 1 serves to supply background to the study. Important concepts regarding client relationship management (CRM) are touched on, as well as the benefits of electronic contracting.

The problem statement highlights the value created when electronic contracts are utilized, not only for the farmers but also for the financial company.

### **Chapter 2 – Literature review on CRM and e-contracting**

Chapter 2 contains a literature review on CRM, value chain, e-contracting, technology, training and support, business process management (BPM), risk and security, change management and the value and benefits of electronic contracting for the farming community and the agriculture business that provides the credit facility.

### **Chapter 3 – Empirical research**

Chapter 3 contains a comprehensive explanation of the research methodology followed to complete the empirical study. This includes the data gathering process, as well as an analysis of the findings and presentations of the results.

### **Chapter 4 – Conclusions and recommendations**

In the final chapter, conclusions are derived from both the literature study as well as the results of the empirical research. The conclusion aims to present a response to the problem statement and the objectives as defined in chapter 1.

## **1.9 CONCLUSION**

The main conclusion that can be drawn from chapter one is that a managerial framework for e-contracting can create a sustainable competitive advantage

for the agriculture environment. Agriculture institutions need to remain competitive by addressing the growing demand among financial institutions through emerging technologies such as e-contracting. An agriculture institution should focus on providing value to all stakeholders through the innovative use of technology. The research objectives, as well as the research methods to be applied, have been confirmed. An overview of the chapter division in this research has been provided.

#### **1.10 CHAPTER SUMMARY**

In this chapter, the background to the study on e-contracting, and how it impacts on service and customer satisfaction in an agriculture business environment, is explored. The author aims to determine the effect of electronic contracting on customer service and the value thus created for the customer and the business, by developing a managerial framework to improve the time it takes to get a contract signed and returned.

## **CHAPTER 2**

### **LITERATURE STUDY**

#### **2.1 INTRODUCTION**

The economic environment has become more and more competitive; businesses have to identify new ways to create value and to overcome the uncertainty in the industry. Declining profits triggered firms to refocus their energy on customer retention. Customer relationship management (CRM) projects are trying to deliver project functionalities that intent to enhance better long-term customer retention.

In principle, CRM involves the utilization of customer information to deliver relevant products or service to clients. In the future, successful companies will use customer information wisely to build strong relationships with their customers that will work towards developing a long-term relationship through retaining customers by delivering delighted customers. The goal of CRM is to improve the customer's experience of how they interact with the service provider, which hopefully, creates more satisfaction that will yield more loyalty and sales of products and services (Chou *et al.*, 2002:442; Chipulu *et al.*, 2012:65).

The value chain describes the activities that a business performs and links them to the business's competitive position. The value chain also indicates what value each activity adds to the business's products or services.

The ability to perform particular activities and the ability to manage the linkages between these activities, are sources of competitive advantage (Recklies, 2001:1).

Businesses in the new millennium face pressure to perform better, faster, cheaper and the challenge is to keep a high level of guaranteed results. It is important for a business to focus on core competencies and outsource all other activities. This could result in coping with frequent change across the

entire value chain. In this new world of collaborative commerce, a standard business process is inadequate. Using e-contracts to build new business relationships are an important trend (De Vries & Xu, 2013:1).

To remain competitive, businesses must efficiently and effectively create, locate, capture and share their business knowledge and expertise. This requires increasingly making it imperative for a business to invest in training and support (Zack, 1999:45).

Training, and especially support are imperative; this will ensure that employees perform in their jobs. Training can also be linked to performance and the retention of employees. Employees will only be able to reach their full potential on higher levels if trained well. Poorly trained employees could lead to poor performance and costly mistakes, especially in the field of e-contracting.

E-contracting has the same legal effects as the traditional paper based contracts, the validity or enforceability of it cannot be denied on the ground that an electronic message is used during its stipulation. The general principles of the paper based contracting law will apply to e-contracts (Kalemi & Ndreka, 2012:229).

The managerial framework for e-contracting can reduce the existing risks between contracting parties by improving the contract quality, reducing cost and time, improving the contracting parties' flexibility or through the new opportunities that it can provide (Angelov & Grefen, 2003:7).

Business process management (BPM) is a process that could help businesses to optimize their performance. It is a framework for organising, automating and analysing a business to enhance performance. BPM is also a disciplined approach to identify, design, execute, document, monitor, control and measure both automated and non-automated business processes to achieve consistent, targeted results that are aligned with the business

strategic goals to ultimately drive business results, create value and enable a business to meet its objectives with more success (Panda, 2008:4).

A business culture of consistent behavioural norms is not only a powerful motivator of efficient and productive employee behaviour; it is an important element of business mental health. Cultural consensus is important in coping with anxiety, while significant contradictions among cultural norms contribute to increasing anxiety rather than decreasing it (Phelan, 2005:55).

The aim of this study is to develop a management framework for e-contracting that enables both parties to have a contract that meets their obligations in order to deliver the objectives required from the contract. It also involves building a good working relationship between customer and provider. It continues throughout the life of a contract and involves managing proactively to anticipate future needs as well as reacting to situations that arise.

## **2.2 CUSTOMER RELATIONSHIP MANAGEMENT (CRM)**

CRM is defined as a management philosophy according to which a business's goals can be best achieved through identification and satisfaction of clients' stated and unstated needs and wants by profiling prospects, understanding their needs by building relationships and providing the most suitable products to improve customer service. An integrated database system is created with client's contacts, purchases and technical support. The database helps a business to improve the quality of the relationship (BusinessDictionary, 2013:1).

The term CRM has emerged in the mid-1990s, representing an integration of technologies and business processes used to satisfy the needs of a customer during any interaction. Not only does 65% of the average company business come from existing customers, but businesses spend five times the cost to attract new customers that they do to service existing customers (Chipulu *et al.*, 2012:66).

Basically CRM has four characteristics as illustrated in **Table 2.1**.

**Table 2.1: The characteristics of CRM**

Characteristics	Impacts
Sales-force automation	Greatly empowered sales professionals
Customer service and support	Customer problems can be solved efficiently through proactive customer support
Field service	Remote staff can efficiently get help from service personnel to meet customers' individual expectations
Marketing automation	Companies can learn clients' likes and dislikes to better understand their needs. Consequently to capture a market before competitors.

(Source: Chou *et al.*, 2002:443)

CRM explores an approach to maximize customer value through differentiating the management of customer relationship. The business utilizes its understanding of the drivers of current and future customer profitability to allocate the resources across all areas that affect communications and service (Chou *et al.*, 2002:443).

Ansarinejad *et al.* (2011:409) also state that customers are, in today's dynamic and unpredictable environment, considered to be the most important element of all marketing objectives and that CRM has become a priority to enable integration of technologies, people and business processes that are applied to satisfy the customer's needs.

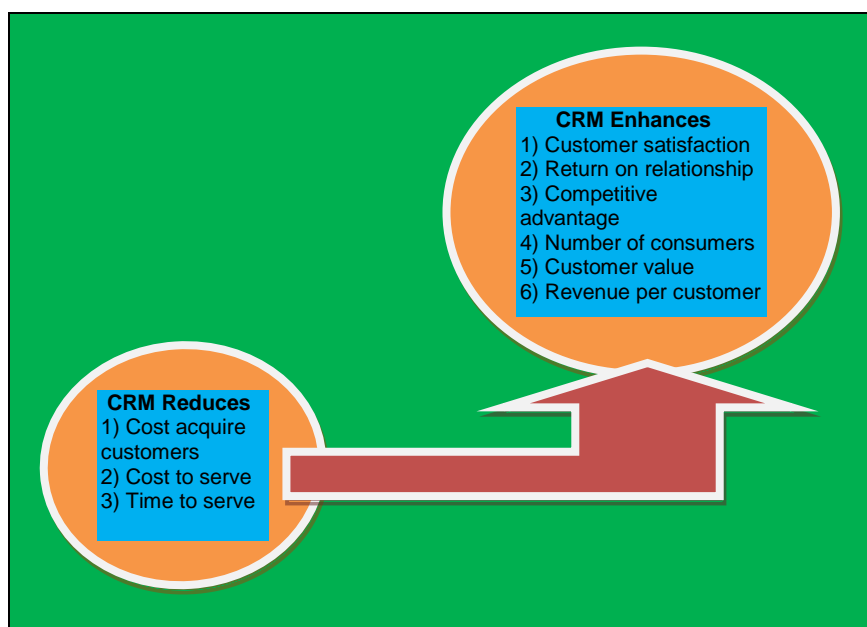
Opportunities for marketing increased due to the rapid growth of the Internet and its associated technologies and transformed the way relationships between companies and their customers are managed. CRM is needed by

companies to improve performance and ultimately profits. In today's competitive world, customers expect more, need more choices and are less brand-loyal. The only thing that is constant is change. Customers will continue to change their needs, lifestyle and consumption and the companies that understand change, will survive and grow (Mandic & Miroslav, 2011:347).

CRM enables a company to identify their customer's needs through cross-selling and up-selling. A good CRM system will provide a single view of each customer and the services used (Acharyulu, 2012:77).

Figure 2.1 explains how CRM is beneficial to a business, will enhance customer satisfaction, return on relationship, competitive advantage, number of consumers, customer value, revenue per customer and ultimately reduces the cost to acquire new clients, the cost to serve them and reduce the time it takes to service them (Acharyulu, 2012:77).

Figure 2.1: CRM Advantages



(Source: Acharyulu, 2012:78)



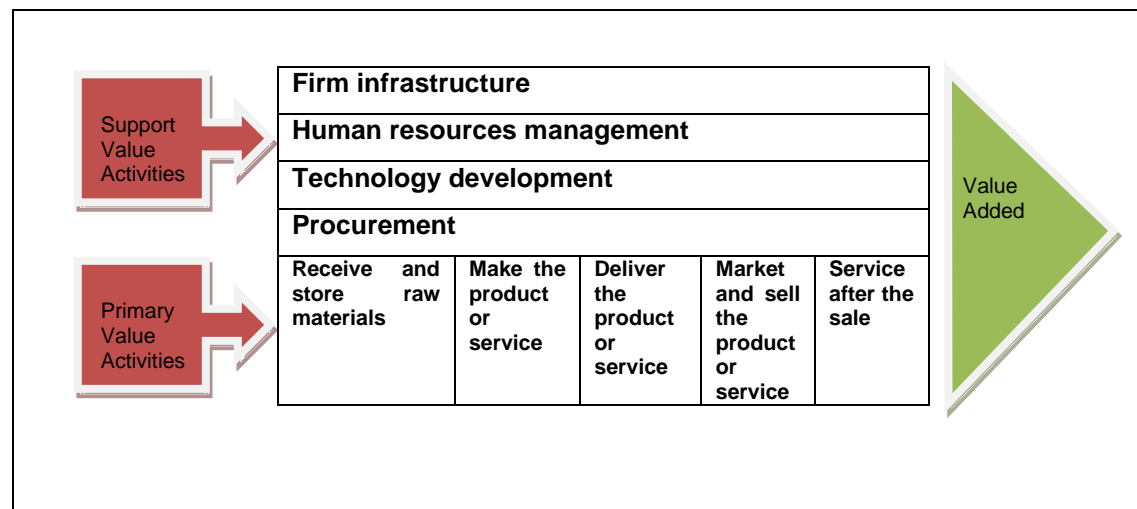
## 2.3 VALUE CHAIN

The BusinessDictionary (2013:1) defines value chain as the “interlinked value-adding activities that convert inputs into outputs, in turn, add to the bottom line and help create competitive advantage. A value chain typically consists of (1) inbound distribution or logistics, (2) manufacturing operations, (3) outbound distribution or logistics, (4) marketing and selling, and (5) after-sales service. These activities are supported by (6) purchasing or procurement, (7) research and development, (8) human resource development, (9) and corporate infrastructure.”

A value chain views a business as a series of processes; each process adds value for each customer to the product or service. The value chain must create an opportunity for a business to provide value to its clients. To achieve a competitive advantage, a business needs to perform value creating activities in such a way that more value than the competitors offer, is created. Value will be added by creating superior benefits for clients. The challenge is to identify the activities that will add value and then finding IT systems that support those activities (Baltzan & Phillips, 2010:22).

Figure 2.2 depicts a value chain. Primary value activities include acquired raw materials, manufacturing, delivering, market, sales and after-sale service. The support value activities are the business infrastructure, human resources, technology and procurement. The goal is to survey the target market and ask them to what extent each activity adds value to the product or service. The competitive advantage decision is to target the high value-adding activities to further enhance value, or targeting the low value activities to increase value, or a business can perform a combination of the two scenarios. A business should attempt to make use of information technology to add value to both primary- and support value activities (Baltzan & Phillips, 2010:23).

Figure 2.2: Value chain



(Source: Baltzan & Phillips, 2010:22)

## 2.4 E-CONTRACTING

USLegal.com (2013:1) defines an e-contract as the interaction of a customer with an electronic agent, such as a computer program, or the interaction of at least two electronic agents that are programmed to recognize the existence of a contract. Traditional contract principles and remedies also apply to e-contracts, which is also known as electronic contract.

An electronic contract is a statement of intent that regulates behaviour between a business and its customer (Bartolini *et al.* 2013:1). Electronic contracting is also a process that enables creation, workflow, retention and management of contracts and terms. It may include electronic delivery mechanisms such as click-wrap agreements or electronic signatures. It applies equally to buy-side and sell-side processes, including areas such as distributors or business partner relationships (Jankoff, 2012:1).

In our current business environment, the analytical and disciplined approaches that a high performing contracting process brings, are fundamental to business management and control and provides a firm

platform for management to implement change effectively. More than 60% (Jankoff, 2012:1) of businesses see automation of their contract management process as a priority; it has emerged as the number one priority for 2012. There are several reasons why automation is seen as key to improved performance (Jankoff, 2012:1):

- Management is demanding greater value from the contracting process, which includes improved cycle times, better control and improved management information.
- Resources applied to contract management are stretched, workload is increasing and hiring is generally not an option.
- Increasing regulation is imposing growing pressure on compliance, which is frequently achieved through contract management. Without automation, the necessary visibility and controls cannot be achieved (Jankoff, 2012:1).

New technologies have changed business environments and provided the trading processes in e-business more effectively. Concepts of e-contract under the network environment definitely have different characteristics than the concepts for traditional paper contracts. A paper-based contract-document is a static view of the obligations while the e-contracting system could monitor the responsibility of each contractual party and the performance of the obligation (De Vrieze & Xu, 2013:1).

E-contracts serve different purposes and allow opportunities that will result in extra value during the e-contracting stages, like the extra information available at hand that can be utilized effectively. E-contracting can protect contractual partners in the electronic environments by saving the documents in an unchangeable format and protects it with a password. E-contracting can also provide new opportunities on contract management, avoiding errors and the re-using of content after closing (De Vrieze & Xu, 2013:1).

## **2.5 FORECASTING AND LONG TAIL OF TECHNOLOGY**

Mobility and wireless are the new focus in e-business and some upcoming tail of technologies are mobile commerce, telematics, electronic tagging and RFID (Baltzan & Phillips, 2010:272):

- a) Mobile commerce – provide the opportunity to purchase goods and service through a wireless Internet-enabled device.
- b) Telematics – blending wireless technologies and computers with the goal of effectively conveying information over networks to improve business operations.
- c) Electronic tagging – a device for identifying and tracking assets and individuals through technologies such as radio frequency identification and smart cards.
- d) Radio frequency identification (RFID) – using tags in the form of chips or smart labels that can store unique identifiers and relay this information to electronic readers (Baltzan & Phillips, 2010:272).

The business environment is changing to an even more progressive form. The paper world is transforming in a digital world and the electronic contracts are replacing paper contracts, resulting in cost reduction and more efficiency in the business. The law has defined electronic contracting as the activity performed through the exchange of electronic documents for the sale of products and services. Without public trust, the new economy will not be able to unfold its full potential impeding the society to profit from new technology. This reality resulted in that some authors believe that the inability to build up trust for electronic contracts, will bring the need to create a new concept for the exchange of goods in the digital age (Kalemi & Ndreka, 2012:225). A managerial framework for electronic contracting will assist the business and customer to build trust.

E-business creates new capabilities that are the destabilizing force in business, because it creates competition on unexpected fronts. E-business has completely changed the way people do business. Five advantages of having an e-business (Tan, 2012:1):

1. **Removes location and the availability restrictions** – The Internet reaches across the world and spans all time zones. Meaning that when businesses use e-business, they have the same capabilities, and are accessible from any area with Internet access and are open 24 hours a day.
2. **Reduces time and money spent** – A business can reduce a lot of overhead costs by doing business online. Things get a lot easier from a logistical standpoint, since one person can do the work of several people. Communication improves, for example. Sending a bulk email to a list of clients is easier than sending out 100 direct mailings (paper, postage, staff, etc.). E-business marketing is often more affordable as online advertising tends to cost less than the traditional marketing channels.
3. **Expedites customer service** – When a customer contact you, they want answers fast. E-business has no trouble fulfilling that need. E-business also offers the convenience of delivering contracts straight to a customer's tablet.
4. **Shows you how to improve** – When it comes to learning more about your customers, a physical store is no match for an e-business. Data gives insight into your customers' buying behaviour and interests, which is valuable to improve service.
5. **Keeps your business relevant** – The Internet is a big part of our lives, and there is no sign of it leaving us soon. An e-business will keep the playing field level and gives the business the resources needed to compete in the marketplace.

When it comes to e-business, both the business and the customer reap the benefits. By making use of e-business, a business is convenient, affordable, accessible and better equipped to service its customers, and when a business is focused on benefiting its customers, everyone wins (Tan, 2012:2).

IT resources, like e-contracting, have the potential to induce changes in the total credit lending process. A managerial framework will enhance successful implementation that will result in the right information reaching the right people

at the right time. A workable framework can assist in better integration of processes which facilitates the credit lending process, thus reducing the time needed to complete a transaction. Many businesses have implemented e-contracting processes; instead of applying pen to paper, the customer e-sign (Figure 2.3). Tablets enrich the e-contracting applications and can benefit a business as follows (Softpro, 2013:1):

- Enforce a step-by-step e-process to ensure that the transaction meets the compliance requirements of the industry.
- The e-signed contract can be e-mailed back to the business and the process can continue.

Figure 2.3: E-signature



(Source: Softpro, 2013:1)

## 2.6 TRAINING AND SUPPORT

The BusinessDictionary (2013:1) defines training as a business activity aimed at importing information and instructions to improve the recipient's performance or to help him or her to attain a required level of knowledge or skills.

In a business context knowledge is the sum of what is known and resides in the intelligence and the competence of people (BusinessDictionary, 2013:1).

Training provides a business with the necessary skills of creating, acquiring and transferring knowledge and the ability to modify its behaviour to reflect

new knowledge and insight. That is, training will trigger a business to improve (Chowdhury & College, 2006).

Training is crucial for business development and success. An employee will become more efficient and productive if he or she is trained well. The benefits of training are summarised as (Anon 2008:1):

1. It improves the moral of employees – Training increases job security and job satisfaction for employees. The more satisfied the employee is and the greater the morale, the more an employee will contribute to the overall success and lessor absenteeism and turnover.
2. Less supervision – Less wastage of time and efforts. A trained employee will be more effective and efficient.
3. Fewer accidents – Knowledge and skills increases effectiveness.
4. Chances of promotion – Trained employees are more eligible for promotions and seen as an asset for a business.
5. Increased productivity – Well trained employees show both quantity and quality performance.

E-contracting is a new advanced technology process and training will be necessary. It is important not to underestimate the value that the right training and the right people in the right job can add value to the future success of a business. Training helps employees to feel motivated and valued, and also helps to maintain and add new skills to a business mix. Focused training and development is the key to motivation. If a business shows faith in their employees, even in tough times, a business will be more likely to be able to retain skills and on track to take advantage of future opportunities (White, 2012:1).

Training also creates many long-term positive impacts on the bottom line, including (Anon: 2004:1):

1. Preventing costly mistakes.
2. Reduce reliance on internal support.
3. Better use of applications by employees.

## **2.7 BUSINESS PROCESS MANAGEMENT (BPM)**

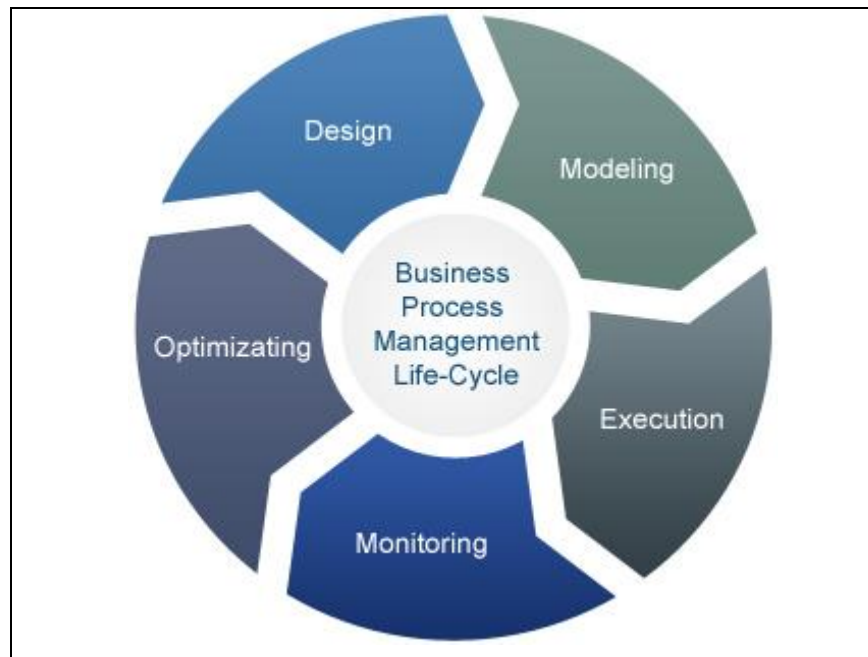
Business process management (BPM) is defined as an activity undertaken by businesses to identify, evaluate and improve business processes. With the advancement of technology BPM can be effectively managed with software that is customized, based on the metrics and policies specified by a business. This type of action is essential to a business seeking to improve process performance related issues to better serve their clients (BusinessDictionary, 2013:1).

BPM can be a process that enables a business to design, implement and manage a business process to achieve business objectives and to improve overall operational performance (Nel, 2009:10).

Normally it takes an experienced team of experts with IT and business knowledge to implement a framework for a BPM project. Business processes will be studied in great detail in order to redesign any processes with the objective of optimizing it so that suits the purpose. This happens during the design phase as shown in Figure 2.4. Processes are carefully designed to be straight forward and as simple as possible so that it can be completed in the shortest possible amount of time. The process is documented during the modelling and simulation phase. Once the process is approved, it will be deployed during the execution phase of the project. Performance will then be monitored during the monitoring phase for any problems that may occur. If any problems occur during the monitoring phase, changes will be made to further optimize the process to take care of exceptions - this will be done during the optimization phase of the project (Anon, 2012:2).



Figure 2.4: BPM Life cycle



(Source: Anon, 2012:2)

The goals for BPM are (Kemsley, 2011:9):

- Efficiency – Implementing automated steps and handoffs and integrating systems and data sources.
- Compliance – Ability to achieve and providing standardization.
- Agility – Changing processes quickly and easily.
- Visibility – Knowing what is happening during a process.

Kemsley (2011) also stated the following benefits of BPM:

- Process improvement – Cost saving, increased revenue, improved time-to-market and additional business opportunities.
- Business agility through process agility.
- Self-documenting processes.

Creating a BPM framework that is appropriate to all businesses, and that will suit all circumstances, is challenging, especially when businesses are not the same. Even if businesses were the same, the approach to the framework of

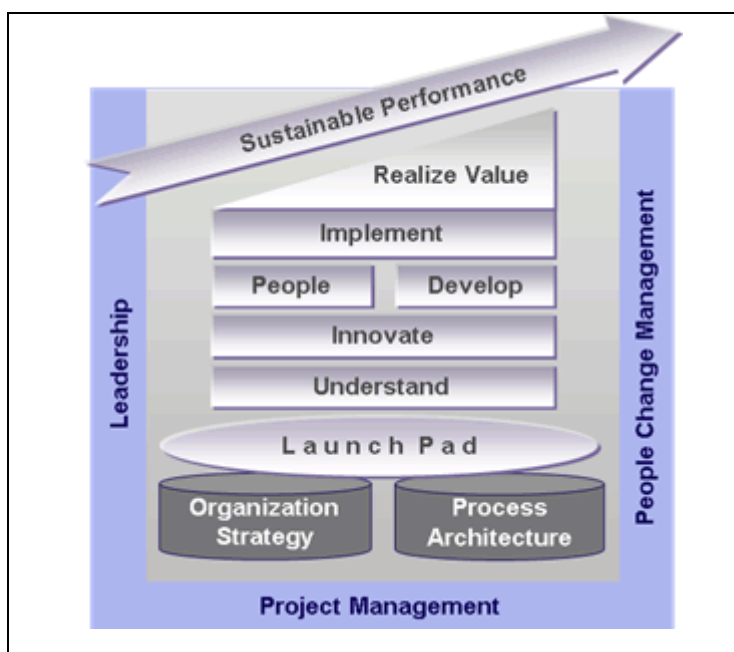
BPM varies enormously both from business to business and even within a business (Jeston & Nelis, 2008:52).

Jeston and Nelis (2008:52) have developed a 10 phases and 3 essentials framework as shown in figure 2.5. The phases are:

1. **Organisation strategy** – It is important during this stage that all the members working on the project know the business strategy, vision, goals and business drivers which will ensure that the scope of the framework adds value to the business.
2. **Process architecture** – The business needs to establish a set of rules, principles, guidelines and models for the implementation of the BPM across the business. IT and business architecture are brought into alignment with the business strategy.
3. **Launch pad** – The framework will provide several ways of determining where and how to start. Once the processes and goals have been agreed on, the project must be established to maximise the rate of success.
4. **Understand** – This phase is about understanding the current business process environment to enable the next phase to take place. It is important that at least basic process metrics are gathered to allow for the establishment of baseline costs for future comparative purposes.
5. **Innovate** – This is a creative phase that should involve all relevant stakeholders. Once new options have been identified, there may be a need to run simulations to determine which options are the best.
6. **Develop** – This phase consists of building all the components for the implementation of the new framework. It could involve the building of infrastructure to support the people who execute the framework.
7. **People** – This is a critical phase. The purpose is to ensure that the activities, role and performance match the strategy and goals of the business. It is important to note that it is people that will make the process function effectively, no matter how much automation is involved.
8. **Implement** – All the aspects of the project will take place during this phase.

9. **Realise value** – The purpose of this phase is to ensure that the benefit outcomes outlined in the projects business case, are realized. This basically comprises the delivery of the benefits realization management process and benefits realization reporting.
10. **Sustainable performance** – It is imperative that the project team works with the business to establish a structure to ensure that continued process agility and improvements are sustainable.

Figure 2.5: 10 Phases for BPM



(Source: Jeston & Nelis, 2008:52)

There are three essential components upon which any successful BPM framework rests, and all three are phases of the framework as per Figure 2.4. The framework essentials are (Jenson & Nelis, 2008:60):

1. **BPM Project management** – Project management is a skill and the requirement is even higher because of the increased complexity of BPM projects.
2. **People change management** – There is a growing belief that the people aspects of an improved project have not always been

addressed in sufficient detail. People need to form part of any new process by making sure they understand the process.

3. **Leadership** – Any change program must have the support of senior management to be successful. The successful projects have excellent executive commitment, attention and understanding, while the poor ones do not have it.

## 2.8 RISK AND LEGAL COMPLICATIONS

E-contracting is a new technology in a business that creates new risks. These risks can have two focusses:

1. **External** – This could be competitive strategy risks e.g. political, business, legal, and standardization.
2. **Internal** – This could be organisational strategy risks e.g. business restructuring risk and security risks (Angelov & Grefen, 2003:7).

Angelov and Grefen (2003:7) note that in addition to the risk introduced by e-contracting, this new technology can allow currently existing risks to be decreased as well.

The managerial framework for e-contracting can reduce the existing risks between contracting parties. This can be done by improving the contract quality, reducing cost and time, improving the contracting parties' flexibility or through the new opportunities. It can provide options such as improved speed, save documents in unchangeable format and to add password protection to documents (Angelov & Grefen, 2003:7).

During the e-contracting process the parties are not physically present and the will is expressed through electronic media. This decisive factor brings the need to analyse the conditions of the ordinary contract, transposed in the electronic one (Kalemi & Ndreka, 2012:229):

1. Legal capacity is related to the adult individuals' ability to hold rights and duties. In e-contracting, considering that the parties do not meet

physically, it is important that they are sure about each-others identities and legal capacity.

2. The mutual assent is necessary in order to create legal obligations for the parties, meaning that they must express their consent, also called the concurrence of the wills.
3. To conclude the contract other necessary conditions will be in existence of a legal contracting object and a motive. This might be the reason that instigates the parties to conclude the contract and to undertake legal rights and obligations.

A contract is a consensual agreement between two or more persons to do something. For a contract to be legally enforceable, including online contracts, there are certain elements which should be present (Buys & Cronje, 2011:101):

- **Contractual capacity** – The parties must have legal capacity to be able to do a contract. Factors affecting contractual capacity are minority, insanity, intoxication, insolvency and marital status. With online contracts it is important to ensure that the contracting parties disclose their personal details like age and marital status. Should parties be reluctant to disclose personal details on the Internet, it is suggested that the person then warrant that he or she has the legal capacity to enter into a contract.
- **Lawfulness** – A legal contract will not be binding if the acts to which the parties agree are illegal. Where the subject matter of a contract is prohibited, that contract is unenforceable.
- **Possibility of performance** – It is important that the performance of the terms of the contract is possible, both legally and physically.
- **Formalities** – The general rule is that validity and enforceability of contracts in the South African law does not require formalities to be met, but there are exceptions: There are instances that the contract must be reduced to writing for it to be enforceable, like contracts for the sale of land, suretyship agreements and contracts for the assignment

of copyright. In some instances it is required that the contract is registered; an example of such a contract is an antenuptial contract.

The current legislation in electronic contracting is of utmost important in South Africa. Current obstacles in the South African law will continue, but it must be remembered that it is not only the law which is undeveloped but also the playing field which it is required to address (Buys & Cronje, 2011:104).

Networking has permeated businesses due to the rapid diffusion of the Internet in recent years. Reliability is essential in order to develop network transactions. A managerial framework intends to enhance reliability by confirming the content of communications (Buys & Cronje, 2011:121).

The term “electronic signature” is general and refers to any kind of connection between an electronic document and the author of the document in question. The ECT Act states that an “electronic signature” means data attached to or logically associated with other data, which is intended by the user to serve as a signature. This means that the voice on an answering machine, the name as part of an email communication, a business name on a facsimile, or the use of a digital signature qualify to meet this definition, if the intention to accomplish a legally binding act is present (Buys & Cronje, 2011:132).

Figures 2.6-2.9 show examples of electronic signatures:

Figure 2.6: Example of electronic signature

Full name can be entered that will confirm a signature.

The screenshot shows a web form titled "Step 7: Submit Application". Below the title is a section labeled "Signature" with a blue header. The text in this section reads: "Carroll College requires that you certify your application by submitting an electronic signature. To certify your application, read the text below and provide an electronic signature (type your name) and click Confirm Signature. I certify that all the information in my application is accurate and true." Below this text is a small icon of a document with a question mark. Further down, there is a label "Enter Electronic Signature" with a black arrow pointing to a text input field. The input field contains the green text "Type your full name here." and is circled with a black oval. At the bottom of the form are two buttons: "Confirm Signature" with a right-pointing arrow and "Cancel" with an 'X' icon.

(Source: Michalsons, 2013)

Figure 2.7: Example of electronic signature

Full name added on a contract will be confirmed as a signature.

The screenshot shows a document with a title "Electronic and Digital Signatures" in a large, bold, dark red serif font. Below the title is a horizontal line, and underneath that line, the name "Richard Warner" is written in a smaller, black serif font. The document has a dark red border on the left and top, and a small green and red square in the top right corner.

(Source: Michalsons, 2013)

Figure 2.8: Example of electronic signature

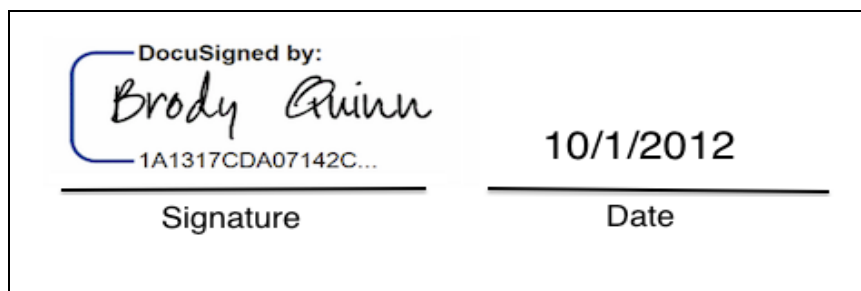
An application can be downloaded from the internet that will enable you to make your signature that you can use to sign documents.



(Source: Michalsons, 2013)

Figure 2.9: Example of electronic signature

Example of a signature created that you can download on documents.



(Source: Michalsons, 2013)

## 2.9 CHANGE MANAGEMENT

Change management is defined as the process to minimize resistance to organisational change through the involvement of key players and stockholders (BusinessDictionary, 2013:1).

Change can generate deep resistance in people and in a business, thus making it difficult to implement business improvements. Change can also arouse anxiety on a personal level by letting go of the known for the unknown. At a business level resistance to change can come from the following sources (Cummings & Worley, 2009:167):



1. Technical resistance comes from the habit of following procedures and the consideration of sunk costs.
2. Political resistance may arise when business changes threaten powerful stakeholders.
3. Cultural resistance takes the form of systems and procedures that reinforce the assumptions about how things should operate.

Global competition, economic downturn and the potential offered by new technologies are pushing businesses to reconsider their current business processes. Many businesses have reached the conclusion that effecting business process change is the only way to leverage their core competencies and achieve competitive advantage. The purpose of radical process change, like BPM, as well as more business process improvements, is the transformation of business processes. It is also believed that the effective implementation of business change processes is essential for an advanced systematic inquiry in the business (Kettinger & Grover, 1995:10).

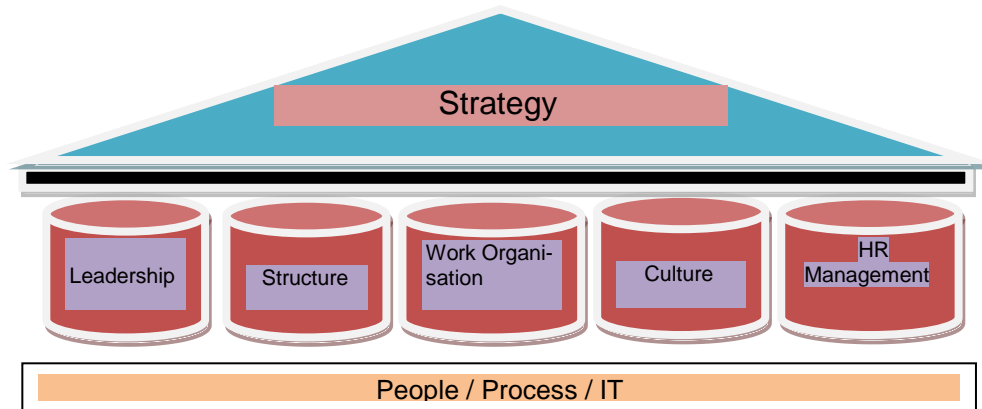
Kettinger and Grover (1995:17) also believe that a business culture serves to integrate the business by influencing its ability to learn, its ability to share information and the ability to make decisions.

IT is also a business resource, providing the necessary means to accomplish the required knowledge processing and induce business change (Kettinger & Grover, 1995:18). This study wants to analyse the importance of e-contracting and if it could be an important business resource that could provide a competitive advantage in the market.

The change model shown in Figure 2.10, represent the business change process. The operative platform of the business is made of processes and people involved in an IT based system. In order to change the operative platform, related changes have to be carried out in the pillars which sustain the business, namely leadership, structure, work organisation, culture and the management of people. On top of that, the roof of the building is the strategy,

which influences and directs the disposition of the rest of the elements (Albizu, *et al.*, 2004:359).

Figure 2.10: Organisational change



(Source: Albizu *et al.*, 2004:359)

It can be concluded from the literature that a good CRM will provide a database to work from which will enhance customer relationships and performance. The aim is to use the vast amounts of information to create a pool of workable data that can be analysed and processed. There are many CRM system vendors; such as Microsoft Dynamics, Salesforce, Sugar, Oracle, SAP and Sage.

It is also concluded that e-contracting is a simple, easy and legal way to get consent or approval on electronic documents or forms. An electronic signature is legal, tested in industry, secure and auditable. An electronic signature is better than a paper based signature, because it is more secure and will get the job done faster, cannot be duplicated with a copier or scanner and is much easier to authenticate.

A managerial framework for e-contracting will also shorten the value chain that will improve service to customers, enhance competitive advantage and ultimately increases the value added for customers.

## 2.10 CONCLUSION

Electronic contracting affects the traditional roles and attitudes of sales and purchasing departments. By growing IT-support for contract managers will be provided in handling the growing complexity of contractual relationships. E-contracting will help to reduce the time it takes to contract, improve collaboration between the trading partners and reduce financial and legal risk (De Vrieze & Xu, 2013:1). A good managerial framework for e-contracting will guide and assist any business to improve service.

E-contracting has penetrated the heart of businesses and will stay there in future. The IT industry is one of the most dynamic industries in the total economy. As a sector, it not only creates millions of high-level jobs, but also helps businesses to be more effective and efficient, which will stimulate innovation going forward (Baltzan & Phillips, 2010:273).

A managerial framework for e-contracting will assist a business to respect the role of training and support that it may be the most effective approach to build a solid and enduring competitive environment.

In recent years, many businesses have made significant investments in a multitude of business process management (BPM) initiatives. Practice has shown numerous examples where BPM projects led to a change in the business, such as increased operational efficiency, new improved service offerings, process automation, improved compliances and structural re-design, to name a few. Businesses need to create mechanisms that can drive BPM actions in a disciplined manner to reinforce the strategic alignment among process management activities and business priorities to ultimately enforce the accountabilities of each involved stakeholder and avoid redundancies related to BPM initiatives (Jesus *et al.*, 2009:1).

Change involves moving from the known to the unknown, because the future is uncertain and may affect peoples' competencies and abilities; people generally do not support change unless compelling reasons convince them to

do so (Cummings & Worley, 2009:165). The managerial framework intent to support the people involved and making the change easier for everyone.

## **2.11 CHAPTER SUMMARY**

In this chapter various concepts relating to e-contracting have been defined. Firstly, CRM - a good CRM system will improve customer service and increase customer satisfaction, which will yield more loyalty. Secondly, improved technology will shorten the value chain by adding more value to each product or service. Thirdly, new technology such as e-contracting will reduce the time it takes to contract with customers and reduce the overall processing costs. Technology can also provide new opportunities like more effective marketing channels, avoiding errors and ultimately improve customer service. Fourthly, training is crucial for any business to be successful. Any employee will become more effective and efficient if he or she is trained well. The risk associated with e-contracting has also been discussed and the effect of resistance to change; change can generate deep resistance in people that will make it very difficult to implement a new improved technology.

## **CHAPTER 3**

### **SCOPE AND NATURE OF STUDY**

#### **3.1 INTRODUCTION**

The empirical research on a managerial framework for e-contracting in the agriculture business environment was done by means of field study using a structured questionnaire. The questionnaire (Appendix A) was structured in such a way that the statements and conclusions within the literature study of Chapter 2 were verified for validity, correctness and to see if the literature portrays the actual outcomes in practise.

This chapter will focus on the research methodology used to obtain the research objectives stated in Chapter 1 and present the subsequent results from the survey. Chapter 3 focuses on the procedure and scope of the quantitative research, followed by a statistical analysis and discussion of the results and finally conclude with a conclusion.

#### **3.2 THE RESEARCH PROBLEM**

The research problem identifies the research destination and what will be researched. The nature of the research will determine whether the research type will be:

- Exploratory: This research has been conducted to clarify and define the nature of a problem.
- Descriptive: This type of research intends to describe the characteristics of the population and sample which can be qualitative or quantitative in nature.
- Casual: This research is defined as a cause and effect relationship among variables when the research problem has been identified.

The purpose of this study is to answer the research problem or statement “Developing a managerial framework for e-contracting in the agriculture business environment”.

The answer will be achieved through achieving the following research objectives.

- Developing a managerial framework when replacing paper based contracts with electronic contracts with the purpose to create a long term profitable relationship with agriculture clients.
- Improve CRM through electronic contracting to improve customer service.

To establish the abovementioned aspects, the empirical study was aimed at agriculture clients and Credit Managers in the North-West Province. This was done using a descriptive research method which can be measured qualitatively and/or quantitatively.

Quantitative research uses structured methods to evaluate objective data, whereas qualitative research uses more flexible methods to investigate subjective data (Welman, Kruger & Mitchell 2005:8).

A quantitative approach was chosen by the author in order to be able to provide an objective base to meet the research objectives. This decision was based on the amount of time and cost involved conducting a qualitative research study compared to a quantitative research study.

This study presents a research process where the aim and objectives were well framed and defined around the research problem and motivation. The research questions and methods were determined by the nature of the specific research question that emerged during the process.

### **3.3 THE SCOPE AND PROCEDURE OF THE QUANTITATIVE RESEARCH**

The empirical study focused on the agriculture environment in the North-West Province in South Africa. The empirical study attempted to establish whether e-contracting, instead of paper based contracts, will assist an agriculture business to contract faster with their clients that will create a better long term relationship.

#### **3.3.1 Target Population**

By studying an object that could be individuals, groups, businesses, events or the conditions to which these elements are exposed, are called a population (Welman *et al.*, 2005:52). Due to budget and time constraints the Credit Managers and Farmers from an agriculture business in the North-West Province of which the author is an employee, were selected by means of a non-probability, convenience sampling. Convenience sampling refers to data collection from members of the study population conveniently available to participate in the study, which was chosen by the author as the best way to collect the data effectively and quickly (Welman *et al.*, 2005:69). The responses obtained from the Credit Managers and the Farmers are the population.

The author used a non-probability convenience sample, as some members of the study population had no chance of being selected (Welman *et al.*, 2005:56). It will, however be established that the sample used in this study was representative of the population due to the demographic profile of the sample.

All Credit Managers were asked to complete a questionnaire and they had to request their farmer customers to also complete a questionnaire.

### 3.3.2 Study Population

A total of 208 questionnaires were returned from the Farmers and 18 questionnaires were returned from the Credit Managers. As a result that no random sampling was done, interpretation of comparisons between group means were done according to Cohen's effect sizes,  $d$  (Cohen, 1988). Effect sizes indicate practical significance – that is the extent to which a difference is large enough to have an effect in practice (Steyn, 2009). However  $p$ -values will be reported as if a random sample was completed, for the sake of completeness.

The following guidelines were used for  $d$ -values regarding differences between means: small effect:  $= |0.2|$ ; medium effect (noticeable with the naked eye):  $d = |0.5|$ ; large effect (practical significant):  $d \geq |0.8|$  (Cohen, 1988). The descriptive statistics of Cohen's  $d$  sized are reported in table 3.1. (See Section 3.4.2 for validity and reliability of the constructs)

Table 3.1: Cohen's  $d$  effect sizes

Construct	Mean	Standard Deviation	p-Value • (when random sampling is assumed)	d-Value
CRM: Farmers	3.62	0.45	0.63	0.08
Credit Managers	3.66	0.28		
Technology and security: Farmers	3.19	0.53	0.11	0.36
Credit Managers	3.38	0.46		

Note:

- $p$ -value according to  $t$ -test results for independent groups

The small  $d$ -values as indicated in Table 3.1 indicate that there is no difference of practical value between the Farmers and the Credit Managers



regarding their perception about the two constructs; CRM, Technology and Security.

Non-responses have been expected and could have been due to (Welman *et al.*, 2005:73):

- The respondents refuse to answer.
- Some respondents may not meet the research requirements and will then be ineligible to respond.;
- Some respondents may be unreachable that means they will not be represented in the study.
- Some respondents may be located but are unable to make contact with.

### **3.3.3 Measuring instrument**

The instrument used in this study was a self compiled questionnaire. The questionnaire was constructed by the author himself and was based on the literature study conducted and reported in Chapter 2. The questionnaire is included in Appendix A. The questionnaire consisted of 44 questions; consisting of demographic questions, four point Likert scale questions and yes/no questions. The strategy with the structure of the questionnaire was to obtain three angles: Firstly, questions 20-35 were only for the Farmers; Secondly, questions 36 – 44 were only for the Credit Managers while questions 1-19 were for both the Farmers and the Credit Managers. Lastly, question 25 was only applicable to farmers that already experience the world of e-contracting and was testing their experience. The objective was to obtain a 360 degree view on e-contracting from (1) Farmers who are at present not making use of any type of e-contracting, (2) Farmers who are at present making use of e-contracting, and the (3) Credit Managers.

The questionnaire was also designed by the author to test three constructs. A construct, deliberately created, is an abstract concept that represent different forms of behaviour (Welman *et al.*, 2005:21). Table 3.2 below highlights the

constructs and the questions seeking to test the respective construct. (See section 3.4.2 for validity and reliability of the constructs)

Table 3.2: Constructs and associated questions

Constructs	Questions	Associated Questions
Customer Relationship Management (CRM)	7	Q3 – Q9
Technology and Security	8	Q12 – Q19
Business Process Management (BPM)	5	Q39 – Q43

### 3.4 DATA ANALYSIS AND FINDINGS

The data analysis was performed by the Statistical Council Services of the at the Potchefstroom Campus of the North-West University, using Statistical Analysis System (SAS Inc) to analyse the collected data (SAS, 2011). The data was analysed using descriptive statistics as well as possible conclusions based on relationship between certain responses on specific questions and referring to the literature obtained in Chapter 2. The responses that were received were populated into a Word spread sheet to make the analysis of the data easier. The spread sheets were then used with the statistical packag SAS Inc to analyse the data.

#### 3.4.1 Frequency analysis and descriptive statistics

The arithmetic mean, or mean, is the most commonly used measure of central tendency that will indicate the balance point in a set of data (Levine *et al.*, 2011:114). The mean, denoted  $\bar{x}$ , is the sum of the values in a set of data divided by the number of values in the same set of data, then the mean calculation becomes Equation 3.2 (Levine *et al.*, 2011:115):

### Equation 3.1: Mean

$$\bar{X} = \frac{\sum X}{N}$$

(Source: Levine *et al.*, 2011:115)

Where:

$\bar{x}$  = Mean

$\sum X$  = The sum of all the observed values in the data set

N = Sample size

The standard deviation measures the average distribution around the mean. The majority of the values lie within an interval of minus or plus one standard deviation below or above the mean (Levine *et al.*, 2011:121). A formula to calculate the standard deviation is set as per equation 3.2.

### Equation 3.2: Standard deviation

$$S = \sqrt{\frac{\sum_{k=1}^n (x_k - \bar{x})^2}{n-1}}$$

(Source: Levine *et al.*, 2011:121)

Where:

$\bar{x}$  = Arithmetic mean

n = Sample size

$\sum (x - \bar{x})^2$  = The sum of the squares of the difference between the observed values and the average values of the data points

S = Standard deviation

The arithmetic mean and standard deviations calculated for each of the three constructs are given in Table 3.3. (See section 3.4.2 for validity and reliability of the constructs)

Table 3.3: Arithmetic mean and standard deviations of constructs

Constructs	n	Mean	Std.Dev.(S)
CRM	226	3.63	0.44
Technology and security	226	3.20	0.53
BPM	18	3.54	0.79

The construct **CRM** (Mean = 3.63, S = 0.44) yielded the highest mean value whilst the construct **Technology and security** (mean = 3.2, S = 0.53) yielded the lowest mean value.

### 3.4.2 Validity and Reliability

The validity of a test concerns what the test measures and how well it does it (Anastasi & Urbina, 1997:113). If valid, it measures what it is intended to measure.

The validity of a questionnaire relies on reliability. If there is no proof that a questionnaire is reliable, then there is no validity. The content of a questionnaire has to match an actual situation that is studied to proof content validity. The objective of the study must be representative of what is investigated (Welman *et al.*, 2005:9,107). The questionnaire of the author was reviewed by Statistical Consultation Services of the North-West University to check for internal validity.

Reliability of a test refers to the consistency of scores obtained by the same persons when they are re-examined with the same test on different occasions, or with different sets of equivalent questions, or under other variable examining conditions (Anastasi & Urbina, 1997:84).

The Cronbach's alpha test is used to assess how reliable survey questions are answered. This is a method to measure reliability of a score in a questionnaire. The value of the Cronbach's alpha test ranges between one and zero where values above 0.7 shows high internal consistency. A benchmark of 0.7 is commonly used (Field, 2009:667-678).

Cronbach's alpha coefficient was calculated using SAS (2011) of each of the three constructs and the results are given in Table 3.4.

Table 3.4: Cronbach's Alpha Coefficient

Constructs	No. of questions	Cronbach's Alpha Coefficient ( $\alpha$ )
CRM	7	0.88
Technology and security	8	0.86
BPM	5	0.96

Since attitudes are measured rather than ability all three constructs with Cronbach's alpha of 0.5 and above were used. All of the Cronbach's alpha coefficients calculated were found to be greater than 0.8 which indicates a high degree of internal consistency for the questionnaire utilized. The questionnaire used to test the three constructs can therefore be regarded as reliable. Separate analysis of responses received for each of the 44 questions in the questionnaire is thus not necessary.

### 3.4.3 Kaiser's measure of sample adequacy (MSA)

To determine whether a factor analysis may be appropriate, Kaiser's measure of sample adequacy (MSA), which gives an indication of the inter-correlations between variables, have been used (Field, 2009:647). To evaluate whether a factor analysis is appropriate, it is essential for variables to be related. The MSA statistics varies between 0 and 1 and the closer the value to 1 the more it is likely that a factor analysis should yield distinct and reliable factors (Field, 2009:647).

Guidelines for the interpretation of the MSA statistic (Field, 2009:647):

- 0 – 0.49 unacceptable
- 0.5 – 0.59 miserable
- 0.6 – 0.69 mediocre
- 0.7 – 0.79 middling
- 0.8 – 0.89 meritorious
- 0.9 – 1 marvellous

The cut-off value for MSA of 0.5 is suggested whilst values of 0.8 or higher are desirable (Field, 2009:647). Using SAS (2011), the MSA values for the three constructs were calculated and given in table 3.5.

Table 3.5: Kaiser's measure of sample adequacy

<b>Constructs</b>	<b>No. of questions</b>	<b>Overall MSA</b>
CRM	7	0.80
Technology and security	8	0.92
BPM	5	0.70

(Source: SAS Inc., version 9.3, 2011)

With all MSA values being greater than the cut-off value of 0.5, it can be concluded that performing a factor analysis to confirm the model of three constructs is appropriate. These constructs are objectives needed to develop a managerial framework when replacing paper based contracts with electronic contracts.

#### **3.4.4 Factor variation**

The eigenvalues of the correlation matrix of the items associated with each of the three constructs have been calculated using SAS (2011). The eigenvalues associated with each construct represent the amount of variance that may be explained by that particular linear component (Field, 2009:660). By applying Kaiser's eigenvalue-greater-than-one (MINEIGEN) criteria in SAS (2011) allows factors with eigenvalues greater than 1 to be extracted, an eigenvalue of greater than 1 is equivalent to the variance of 1 item. This is a popular methodology to determine the number of factors needed to explain correlations among variables (Field, 2009:660). According to SAS (2011) the results of only 1 factor was retained by the MINEIGEN criteria for each of the three constructs. Table 3.6 shows the percentage variation that is explained by each of the three constructs as calculated by SAS (2011).

Table 3.6: Factor variation

<b>Constructs</b>	<b>Factors</b>	<b>Percentage Variation Explained</b>
CRM	1	59.28%
Technology and security	1	60.13%
BPM	1	91.51%

As per Table 3.6 it is evident that the percentage variation explained by the constructs lies between a low of 59.28% and a high of 91.51%. The calculations as per SAS (2011) indicate that all questions displayed substantial loading on their target constructs. It is clear that an appropriate level of information is retained using the constructs as factors in the calculations.

### 3.5. VARIATION OF COMMUNALITIES

Communality is the proportion of a common variance in a present variable that is explained by the extracted factors (Field, 2009:637). SAS (2011) was used to calculate the communalities that represent the multiple correlations between each variable and the extracted factors. A variable with a communality of 1 would have no specific variance, and a variable with a communality of 0 would not share any of its variance with another variable (Field, 2009:637). Variables with a low communality suggest that it do not share much in common with the extracted components and those with a high communality weight more on at least one of the retained components.

Table 3.7 indicates the ranges of communalities calculated for the questions associated with each of the constructs.

Table 3.7: Communality variation

<b>Constructs</b>	<b>Lowest</b>	<b>Highest</b>
CRM	0.75	0.87
Technology and security	0.88	0.94
BPM	0.62	0.97

The question from the questionnaire with the lowest contribution to a construct falls within the BPM construct (0.62) and the question with the highest contribution also falls in BPM construct (0.97).

Based on the calculation above, it can be concluded that the ranges of communalities that are calculated are high enough, and by using the three retained constructs acceptable for analysis.

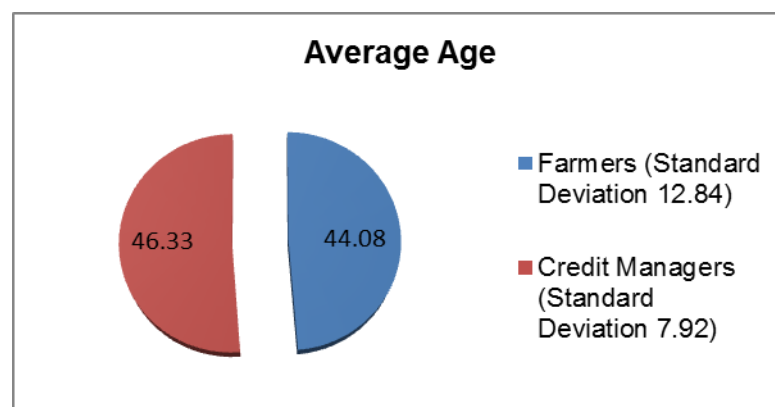
### 3.6 RESULTS (SAS Inc., Version 9.3, 2011) And Discussions

The result for question 2 is as follows:

The average age for Farmers is 44 years, the oldest Farmer is 87 years and the youngest is only 19 years old.

The youngest Credit Manager was 33 years old while the oldest is 62 years. The average age of the Credit Managers is 46 years.

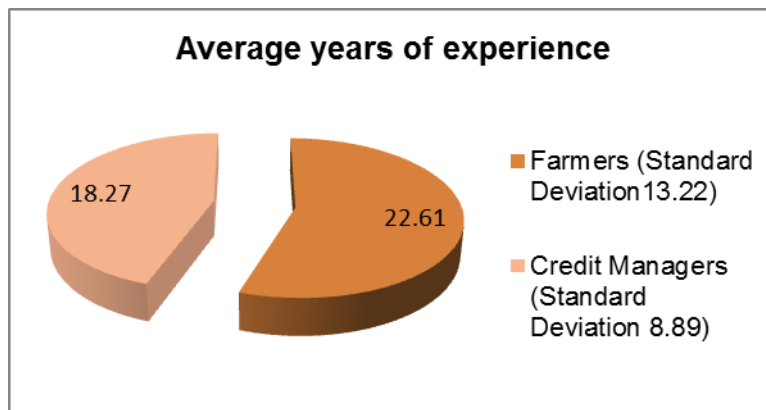
Figure 3.1: Average Age



Question 20 and 36 indicate the number of years of experience in the two different categories. The average years of experience are indicated in figure 3.2. In the sample 3 years is the minimum years of experience and 71 years the longest.

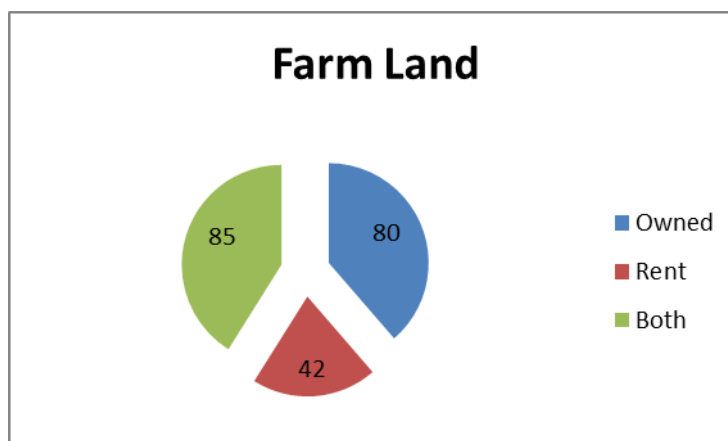


Figure 3.2: Years of experience



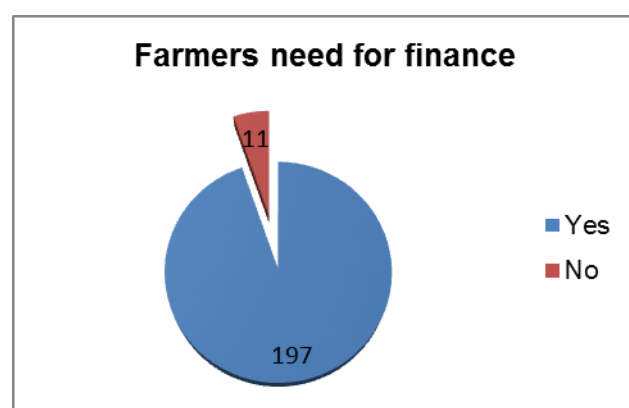
Question 21 states that 80 Farmers are farming on land owned by themselves, 42 Farmers are making use of renting farm land and 85 Farmers are utilizing owned and renting farm land (Figure 3.3). The purpose to see how many Farmers only farm on rented land and how many make use of both.

Figure 3.3: Farm land



Question 22 asked whether the Farmer is making use of any type of finance. Out of the 208 Farmers only 11 Farmers have indicated that they do not make use of any type of finance. This is shown in Figure 3.4.

Figure 3.4: Number of Farmers making use of any type of finance



### Question 3 to 9: Client Relationship Management (CRM)

All Farmers and Credit Managers have indicated that good relationship between client and service provider will improve customer service. 157 Farmers and 11 Credit Managers believe that e-contracting will improve the time it takes to get a contract signed. The majority of the respondents indicates that e-contracting will reduce paper cost. More than 60 per cent of respondents also strongly agree with the following characteristics of CRM:

- To identify client's needs.
- To focus on sales according to needs.
- To effectively solve client's problems.
- To identify individual client's expectations.

### Question 10 to 11 and 26 to 30: Value chain

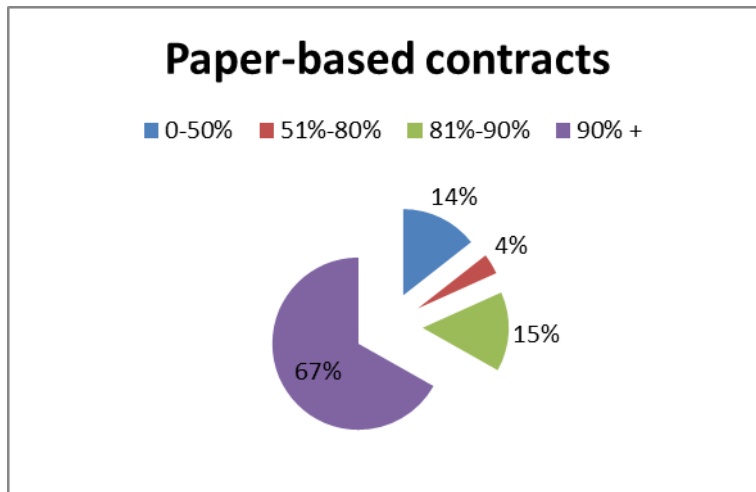
Some 75 Farmers and 5 Credit Managers experience that the time it takes to sign and return paper-based contracts is too long and 110 Farmers and 13 Credit Managers experience it to a large extent. 89% of all respondents feels that too many copies are made of the same contract that needs to be kept for safe keeping.

The mean average days that Farmers wait for a paper based contract is 3.8 days. 75% of Farmers need to return to the Credit Manager to sign the contract, 1.4% obtain it through a courier and 23.5% through normal post. A huge concern is indicated by question 28 – 42% of the Farmers indicate that

they have to re-sign a contract more than once due to an error, only 25% never had to re-sign any contract.

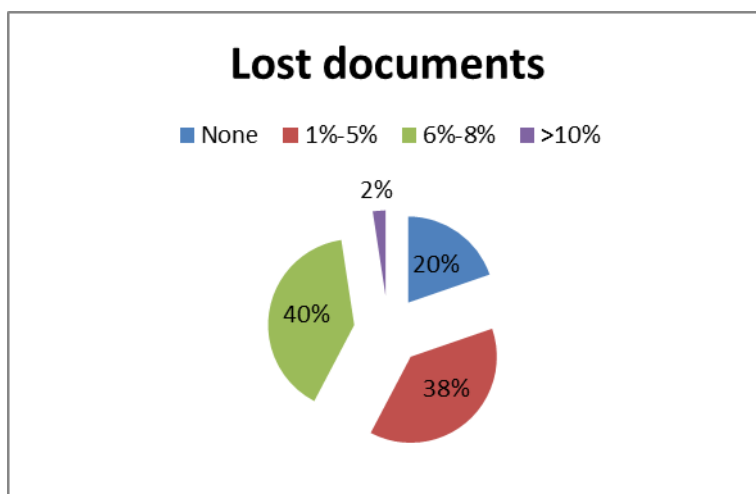
Figure 3.5 shows that 82% of all Farmers do currently make use of paper-based contracts, this is supported with the literature study as per Chapter 2.

Figure 3.5: Paper-based contracts



The Literature study as per Chapter 2 indicates that 7.5% of paper-based contracts get lost. Table 3.6 indicates that 40% of the Farmers do experience a loss of documents of between 6%-8%.

Figure 3.6: Lost documents



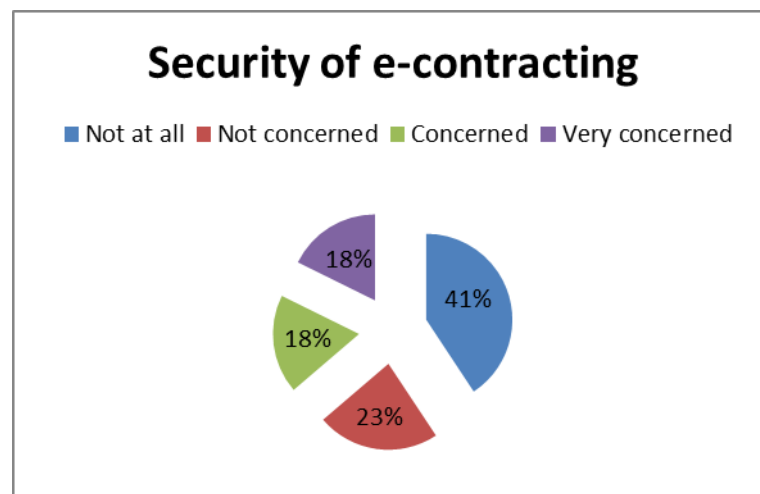
### Question 12 to 19: Techonolgy and security

The majority of both the Farmers and the Credit Managers support the following statements:

- E-contracting monitors responsibility.
- E-contracting create value.
- E-contracting save time.
- E-contracting reduce errors.
- E-contracting protect contractual partners.
- E-contracting reduce overall cost.
- E-contracting will require a new skill in a financial institution.

Table 3.7 indicates that 59% of respondents feel that the security of e-contracting does not concern them.

Figure 3.7: Security of e-contracting



### Question 31 to 33 and 37: Training and support

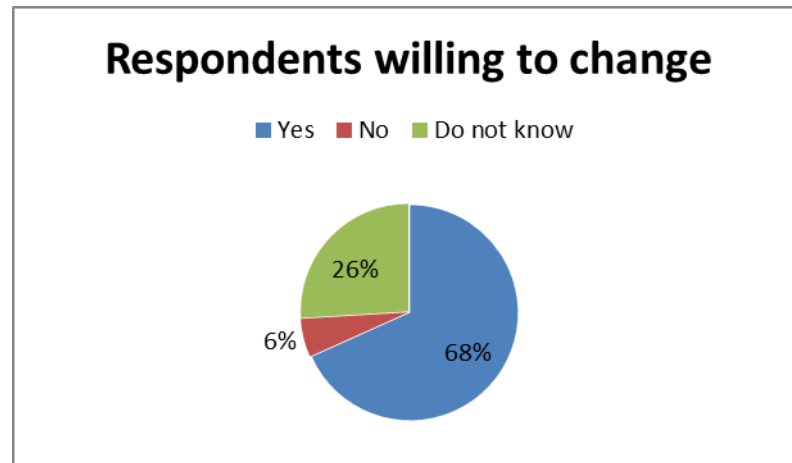
37% of Farmers upgrade their computers monthly while 46% only do it annually. The majority of the respondents make use of Exel and Word programs. The Farmers also indicate that 29% of them do avail of an electronic signature for their computer and 57% do not avail of it.

The Credit Managers show that 88% of them will support and assist management with an e-contracting process.

### Question 35: Change Management

Table 3.8 shows that the majority of respondents / Farmers will consider changing to e-contracting.

Figure 3.8: Respondents willing to change



### Question 38 to 43: Business Process Management (BPM)

83% of the Credit Managers indicate that they believe that an agriculture financial institution should make use of a business processes to improve customer service.

The majority of the Credit Manager's support the following business process:

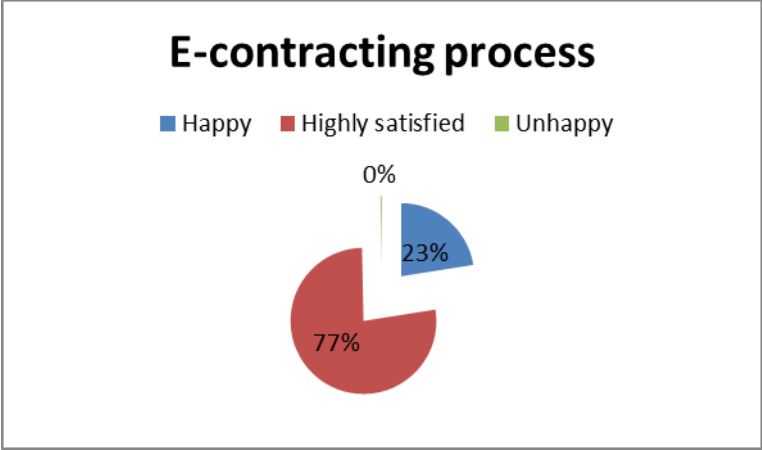
- Step 1: Current processes studied in detail with the objective to improve customer service.
- Step 2: Process design should be straight forward and simple as possible.
- Step 3: Process rolled out.
- Step 4: Performance monitored.
- Step 5: Changes to be done to any problems experienced to further improve the process.

### Question 24 to 25

This part indicates that 29.8% of the Farmers do currently make use of e-contracting at any other financial institution. Table 3.9 shows that 23% of them

are happy with the e-contracting process and 77% are highly satisfied. Not even one respondent is negative.

Figure 3.9: E-contracting process



**Question 34 and 44**

Table 3.10 indicates that 68% of the Farmers believe that e-contracting will provide better service and Table 3.11 shows that 72% of the Credit Managers believe that e-contracting will assist them to provide better service.

Figure 3.10: Farmers

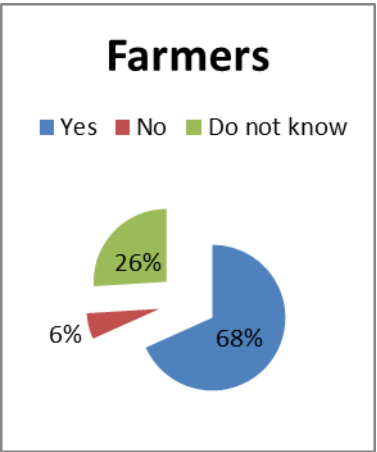


Figure 3.11: Credit Managers



**3.7 CONCLUSION**

In this chapter the results of the empirical research study have been presented and analysed. The aim of this study is to better understand the dynamic interrelationships between the factors affecting the objective to

create a managerial framework when replacing e-contracting with paper based contracts and the effect on customer service in the agriculture environment in the North-West Province.

The respondents have been divided into two groups namely Farmers and Credit Managers. This was intentional as the perceptions of the Farmers and the Credit Managers may differ.

208 Farmers and 18 Credit Managers completed the questionnaire. The majority of the Farmers and the Credit Managers have indicated that client relationship management (CRM) will improve customer service and that e-contracting will improve the time it takes to contract. 63% of all respondents have no concerns with the security of e-contracting.

Most of the Farmers do make use of any type of finance and 29% of them do already make use of e-contracting with other financial services and the majority of them are highly satisfied with the e-contracting process. A good response has been received from all respondents regarding resistance to change - 86% of the Farmers indicate that they will change to e-contracting instead of the current paper-based contract process, and 88% of the Credit Managers indicate that they will support an e-contracting process.

### **3.8 CHAPTER SUMMARY**

This chapter focused on the research methodology and the findings of the empirical study. The empirical research had the objective to assess the attitude towards e-contracting and related aspects on the agriculture environment in the North-West Province in order to enable the author to develop a managerial framework to assist an agriculture business to improve customer service. To meet the research objectives, a quantitative approach was selected. Using SAS (2011), a frequency analysis and descriptive statistics were performed on both the Farmers' and Credit Managers' response datasets by Statistical Consultation Services at the Potchefstroom Campus of the North-West University. Statistical significance tests were

conducted to validate the data. Cohen's effect sizes measurement was used to do a comparison between a group of means. Cronbach's alpha coefficient was utilized to test the internal consistency method to estimate reliability. The coefficient calculated for the constructs were above 0.8, which indicated a high degree of internal consistency for the questionnaire used. Kaiser's measure of sample adequacy indicated values greater than 0.5, concluded that the three constructs used were appropriate to perform a factor analysis. The last section of the quantitative analysis was the discussion on correlations between specific constructs as well as a discussion on the questions.

Overall the linkage between the literature study and the empirical research was also drawn to different aspects. It could be concluded that a good linkage existed between the results of this study and the literature study done as per Chapter 2. The author's conclusions and recommendations will be made in Chapter 4.



## **CHAPTER 4**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **4.1 INTRODUCTION**

The primary objective for this study was to develop a managerial framework for replacing paper based contracts with e-contracts, and the effect it would have on customer service in the agriculture environment in the North-West Province. The secondary objectives, realised to be necessary to achieve the primary objective, were investigated: Firstly, whether a CRM system will improve customer service; Secondly, to investigate if the time it takes to contract will improve when using e-contracting and the effect on overall cost (Value chain); Thirdly, confirming the benefits of e-contracting, and if the security of e-contracting concerns the respondents; Fourthly, it is important to investigate the need for training and support associated with changing from the traditional paper based contracts to a more improved technological process like e-contracting; Fifthly, to investigate the importance of business process management (BPM) and the benefits an agriculture business can achieve to provide excellent customer service and the opportunity to obtain a competitive edge in the market place; Lastly, to investigate the level of resistance to change that can be expected.

The findings regarding the empirical study as described in Chapter 3 have been done in relation to the literature studied in Chapter 2. From the theory and empirical research the final primary objective is to create a managerial framework to assist the agriculture business when changing from paper based contracts to e-contracts. A brief evaluation will be made to confirm that the study objectives are achieved and recommendations for further study will be made.

## **4.2 CONCLUSIONS ON THE EMPIRICAL STUDY**

The empirical study investigated the need for more improved technology such as e-contracting and the effect it would have on service, value chain, technology and security, training, resistance to change and the value of business process management (BPM).

### **4.2.1 Biographical information of respondents**

The populations can be seen as all the responses obtained from the Credit Managers and the Farmers from an Agriculture Institution in the North-West Province of which the author is an employee. Due to time and budget constraints, Credit Managers and Farmers have been selected by means of a non-probability, convenience sampling. The responses received to the survey have been from 18 Credit Managers and 208 Farmers. The responding Farmers' average age is 44 years and those of the Credit Managers, 46 years. The average number of years' experience in farming and financial institutions, is 22.6 and 18.2 years respectively. 39% of the responding Farmers are farming only on own farm land, 20% utilizing only rented farm land and 41% farm on both owned and rented farm land. The responding Farmers indicate that 94.7% of them are making use of some sort of finance at any financial institution.

### **4.2.2 Customer Relationship Management (CRM)**

According to the literature in Chapter 2, an effective CRM system will improve customer service. The responding Farmers' support the literature study and 78.3% strongly agree, while 66.6% of the Credit Managers strongly agree. The four characteristics of CRM noted in the literature study are also supported by the majority of the respondents. The four characteristics are to:

- Identify client's needs;
- Focus on sales according to needs identified;
- Effectively solve queries; and to
- Identify individual customer expectations.

### **4.2.3 Value Chain**

The literature study stated that value will be added when benefits are created for a customer. The respondents also agree to the following benefits created by e-contracting:

- Reduce the time it takes to signed e-contracts (89.8% of all respondents). On average the respondents wait for 3.8 days for a paper based contract (see question 26 of Chapter 3).
- Reduce paper cost (Farmers 99%, Credit Managers 94.4%). All documents will be forward electronically via e-mail (see question 11 of Chapter 3).

Some 75% (see question 10 of Chapter 3) of the respondents have to re-visit the financial institution to sign the contract, and 42% (see question 28 of Chapter 3) indicate that they have to re-visit the financial provider more than once due to an error.

The literature study conducted estimates that 80-90% (see question 29 of Chapter 3) of any business resides on paper while the remaining portion is stored in electronic format. This correlates well with the research: 81.7% of the respondents indicate that their percentage of current paper based contracts are above 81%.

The literature study also indicates that lost and missing documents are one of the biggest problems in making use of paper based contracts. The literature study estimates that 7.5% (see question 30 of Chapter 3) of all documents get lost. The majority of the respondents show that they experience a 6-8% loss of their paper based contracts.

### **4.2.4 Technology and Security**

The literature study states that the business environment is changing progressively and the paper world is transforming into a digital world, suggesting that e-contracts that have a cost reduction effect and improve

efficiency in the business are replacing paper contracts. The respondents indicate that technology will improve the following aspects:

- Monitors the responsibility of both the Farmer and the Credit Manager (90.2% of the respondents agree).
- Create extra value (91.1% of the respondents agree).
- Reduce the time it takes to contract (94.6% of the respondents agree).
- Reduce errors (83.6% of the respondents agree).
- Protecting both parties involved (86.7% of the respondents agree).
- Reduce overall cost (94.6% of the respondents agree).

#### **4.2.5 Training and Support**

The literature study states in Chapter 2 that training is crucial for any business's development and success.

37% of Farmers indicate that they upgrade their computer once a month and 47% annually, 3% never, while 13% never upgrade. The majority of respondents make use of Microsoft Word and –Excel programs. Only 29.3% of the respondents have an e-signature on their cell phones, tablets or computers. The managerial frame work must support training for customers to make sure that they can make full use of the benefits created by technology.

#### **4.2.6 Change Management**

The literature study shows that change involves moving from the known to the unknown. 86.8% of the Farmers indicate that they will consider changing from paper based contracts to e-contracts. This indicates very low resistance to change.

#### **4.2.7 Business Process Management (BPM)**

According to the literature study BPM could enable a business to design, implement and manage such a process to achieve an objective and to improve overall operational performance. The research also focuses on this statement and 83.3% of the Credit Managers indicate that a BPM process will improve customer service, while the majority support the following process:

- Current process to be studied with the objective to improve service.
- Process should be straight forward and simple.
- Performance needs to be monitored.
- Changes needs to be done to any problems experienced to improve the process.

#### **4.2.8 Service**

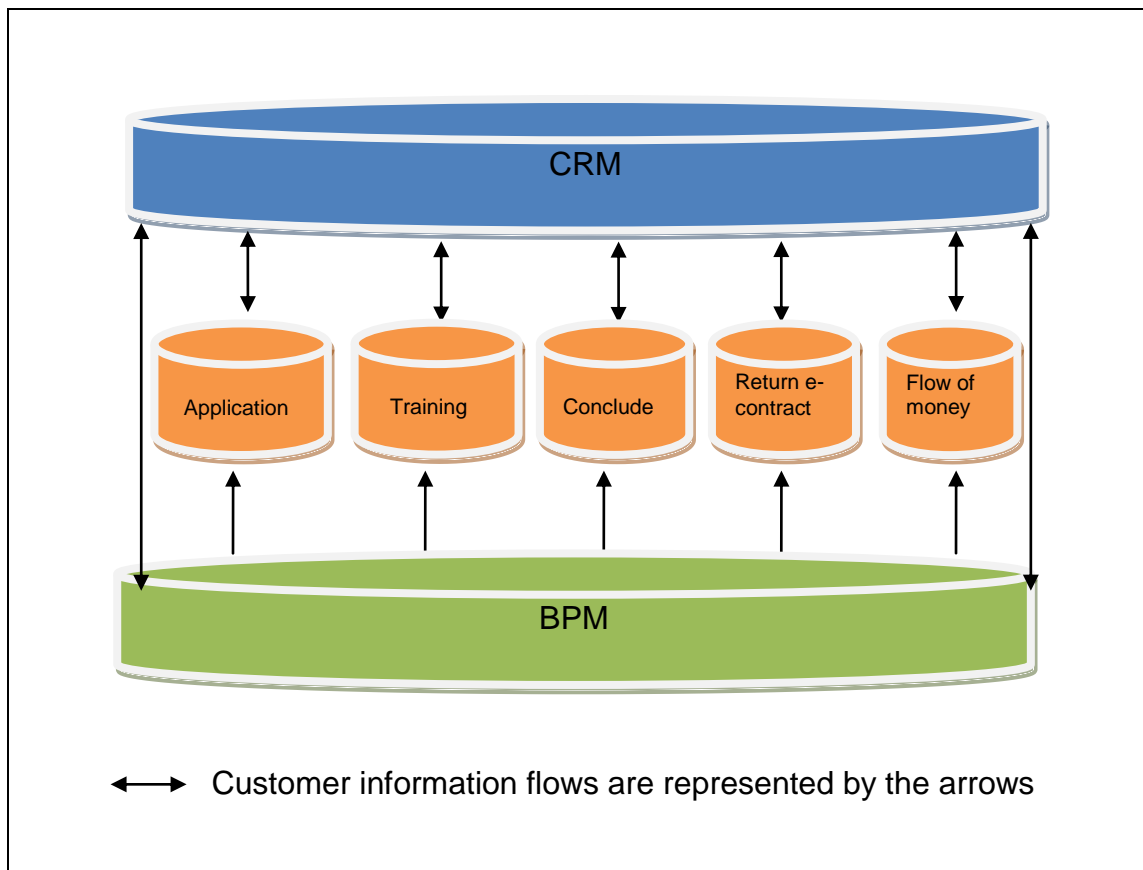
Responding Farmers indicate that 68.2% of them believe that e-contracting will improve service while 72.2% of the Credit Managers indicate that e-contracting will equip them to provide better service.

29.8% of the responding Farmers show that they already make use of e-contracting at any other financial institution and all of them are satisfied with e-contracting.

### **4.3 RECOMMENDATIONS**

It is evident from the research that e-contracting has many possible benefits for a Farmer and the agriculture institution. A managerial framework has been developed (Figure 4.1) by the author to assist the agriculture business to replace the current paper based contracts with electronic contracts.

Figure 4.1: Managerial framework



### Client Relationship Management (CRM)

On top of the framework (Figure 4.1) will be the business's CRM system. The business needs to make sure that the current CRM system used is effective and achieving what it is supposed to. The literature study done in Chapter two states that an effective CRM system will enable a business to identify their customers' needs. During this stage it is very important that a business knows its customers, in order to enable them to act according to their needs. The business needs to indicate what type of technology the client uses during this stage, e.g.:

- Cell phone / Tablet / Laptop.
- Internet availability.
- Software currently installed.

All these information will make it possible to identify any need for training, while the information will also be effectively used in the middle five stages.

### **Application**

Figure 4.1 indicates this as the first stage in the credit lending process. The customer will visit the Credit Manager to apply for any type of finance according to his or her need. The Credit Manager may use this opportunity to update the CRM system.

### **Training**

The CRM system will indicate any need for training. Credit Managers could make use of workshops. During this workshops; the customers can be educated about the process, applications can be downloaded to make sure everyone have an e-signature and the correct programs to enable them to open documents that they receive.

### **Conclude**

Once the customers are trained, the contracts for their credit facilities can be forwarded to the devices they use.

### **Return e-contract**

The customer will receive the necessary contracts via e-mail. They will be able to read through the contract and if they are happy with the content they could sign it electronically and forward it back to the Credit Manager. Sticky notes can be added should anything be change and forward back to Credit Manager.

### **Flow of money**

On receipt of the e-signed contract, the Credit Manager could release funds according the contract.

### **Business Process Management (BPM)**

The literature study in Chapter two mentions a good process for BPM that any business can utilize to effectively implement any new process. The following process needs to be implemented during each of the five middle stages as per Figure 4.1:

- Study the current process in great detail with the objective of improving customer service.
- Monitor performance - these needs to be updated on the CRM system.
- Changes will be made to any problems experienced to further improve the process.

#### **4.4 CRITICAL EVALUATION OF THE STUDY OBJECTIVES**

The success of this study can be measured in terms of the primary and secondary objectives formulated in Chapter one.

##### **4.4.1 Primary objectives of this study re-visited**

The primary objective of this study is to develop a managerial framework for replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province. The aim is to create long-term profitable relationships with agriculture customers and to create value by delivering excellent customer service. This has been achieved through the literature study conducted in Chapter two and the empirical study in Chapter three, where the implications of e-contracting for Farmers and Credit Managers have been researched. The recommendations made in this chapter will guide an agriculture institution towards replacing current paper based contracts with e-contracts. To address the primary objective the secondary objectives have been re-formulated.

##### **4.4.2 Secondary objectives of this study re-visited**

- To investigate whether a customer relationship management (CRM) system will improve customer service. The aim is to deliver excellent customer service, not only to attract new business, but also to retain the current customer base.
- To identify any change in the value chain and if any cost benefit exists.
- Technology and security.
- Training.
- Business process management (BPR).



- To identify whether resistance to change exists.

The first of the secondary objectives has been achieved through a comprehensive literature study in Chapter two. A good CRM system enables an agriculture institution to know their customers and to act on their needs.

The second of the secondary objective up to the last secondary objective have been achieved through a comprehensive literature study conducted in Chapter two, the empirical research discussed in Chapter three and the conclusion in Chapter four.

By achieving all the secondary objectives it can therefore be concluded that the primary objective, namely developing a managerial framework for replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province, has been achieved.

#### **4.5 RECOMMENDATIONS FOR FURTHER STUDY**

This mini-dissertation is concluded by the identification of future research opportunities needed. Little evidence has been found of prior research in developing a managerial framework for replacing paper based contracts with e-contracts, thus many opportunities for future research exist, for example:

- Strategies on how to implement the e-contracting process.
- Effects that e-contracting have on productivity.
- Outsourcing possibilities in the e-contracting process.
- In-depth cost analysis on the e-contracting process.
- Incorporating the different laws of technology.
- Analysis of new and improved information systems.

## **4.6 CONCLUSION**

The primary objective of this study was to develop a managerial framework for replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province. An extensive literature study was conducted on the objectives that influence the customer and business decision to replace paper based contracts with e-contracts. The literature study shows that not only the customer, but also the business, will benefit from making use of e-contracts instead of the traditional paper based contracts. This improved technology will result in customers to obtain their contracts faster, they can return it simultaneously, the contract will be concluded and the funds applied for can be released. The business will save on overall cost and the possibility of missing documents can be eliminated. On the whole both parties will benefit by changing to e-contracting, A business making use of e-contracting have a competitive edge in the market.

A managerial framework was proposed that could be used for the purpose of replacing paper based contracts with e-contracts in the agriculture environment in the North-West Province. It could be concluded that the research outcomes set out for this mini-dissertation had been met.

## **4.7 CHAPTER SUMMARY**

In this final chapter the empirical study was concluded and recommendations presented based on the literature study in Chapter two and the empirical study in Chapter three. A recommended managerial framework was suggested that could be utilized by the agriculture institution to replace paper based contracts with e-contracts.

The primary and secondary objectives were re-visited and by achieving all the secondary objectives, it could therefore be concluded that the primary objective, namely developing a managerial framework when replacing paper

based contracts with e-contracts in the agriculture environment in the North-West Province, was achieved.

Recommendations for further studies were discussed and suggestions were made towards further studies.

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## APPENDIX A: QUESTIONNAIRE

### Developing a framework for e-contracting in the agriculture business environment

Dear Farmer / Colleague

The aim of this study is to develop a managerial framework and to determine the effect of electronic contracting on customer service and the value it will create for the customer and the business. The study will only be conducted amongst farmers and Credit Managers in the agent's network of an agriculture company, in the North-West Province, of which the author is an employee and forms part of a mini-dissertation to be submitted in partial fulfilment of the requirements for the degree Master in Business Administration at the Potchefstroom campus of the North-West University.

Farmers and Credit Managers have been selected in the author's network to assist with this investigation and you are kindly requested to complete this form. It will require about 10 minutes of your time.

Your involvement and time set aside to contribute to this study is highly appreciated. All responses will be treated as strictly confidential and participation in the study is voluntary. The results of the study will be made available to you on request.

Ethical clearance has been obtained: **NWU-00067-09-A4**; *Information and Technology Management*; Expiry date 2014/11/13

**Will you please be so kind as to fill in the attached questionnaire on / before the 3rd of October 2013?**

Kind regards

<b>Researcher:</b> Mr Aubrey Marais email: <a href="mailto:aubrey.marais@gmail.com">aubrey.marais@gmail.com</a> Telephone: 018 581 1225 / 079 513 7656	<b>Supervisor:</b> Mr Johan Coetzee Email: <a href="mailto:1306498@nwu.ac.za">1306498@nwu.ac.za</a> Telephone: 018 299 4012 / 082 8217 177
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## Questionnaire

	1	2
1. Are you a Farmer or Credit Manager	Farmer	Credit Manager

2. Age at last birthday	
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What is your perception on the following statements	Please indicate on a scale of 1 (strongly disagree) to 4 (strongly agree).			
3. A good relationship between client and service provider will improve customer service	1	2	3	4
4. An electronic contract, instead of paper base contract, will be signed faster	1	2	3	4
5. Electronic contract will reduce paper cost.	1	2	3	4

What is your perception on the following characteristics of customer relationship management	Please indicate on a scale of 1 (strongly disagree) to 4 (strongly agree).			
6. To identify client's needs	1	2	3	4
7. To focus on sales according to client's needs	1	2	3	4
8. To effectively solve customer's problems	1	2	3	4
9. To identify individual customer expectations	1	2	3	4

To what extent do you experience the following aspects:	Please indicate on a scale of 1 (not at all) to 4 (to a large extent)			
10. It takes too much time to obtain and returned signed paper based contracts	1	2	3	4
11. It feels that too many copies are made of the same contract that needs to be kept.	1	2	3	4

What is your perception regarding the following statements	Please indicate on a scale of 1 (strongly disagree) to 4 (strongly agree)			
12. Electronic contracting system monitors the responsibility of both parties	1	2	3	4
13. Electronic contracting create extra value	1	2	3	4
14. Electronic contracting reduce the time it takes to contract	1	2	3	4
15. Electronic contracting reduce errors	1	2	3	4
16. Electronic contracting protect contractual partners	1	2	3	4
17. Electronic contracting will reduce overall cost	1	2	3	4
18. Electronic contracting will require a new skill in a financial institution	1	2	3	4

What is your perception regarding the following statement	Please indicate on a scale of 1 (not at all) to 4 (to a large extent)			
19. Does the security of electronic contracting concerns you	1	2	3	4

**If you selected at the beginning that you are a Farmer, please continue to complete the following questions up until question no. 35. If you are a Credit Manager you can continue from question no.36.**

20. Number of years in Farming Industry	
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	1	2	3
21. Farm Land	Owned	Rent	Both

	1	2
22. Do you make use of any type of finance	Yes	No

	1	2	3	4
23. Which credit office serves you currently	Schweizer-Reneke	Vryburg	Leeudoringstad	Christiana

	1	2
24. Do you currently making use of electronic contracting at any other financial institution	Yes	No

25. If you currently do making use of electronic contracting; what is your experience. Please indicate on a scale of 1 (unhappy) to 4 (Highly satisfied)	1	2	3	4	N/A

26. On average how many days do you wait for a paper based contract			
	1	2	3
27. How did you get your paper based contracts delivered	Courier	Normal post	Have to visit the financial provider
	1	2	3
28. How many times do you have to re-sign any paper based contract due to an error	Never	Once	More than once

	1	2	3	4
29. What % of all your current contracts are paper based	0-50%	51%-80%	81%-90%	90%+

	1	2	3	4
30. Do you experience that any paper based contract you already signed get lost. What % of lost do you experience	None	1%-5%	6%-8%	>10%

	1	2	3	4
31. How regular do you upgrade your computer	Never	Once a week	Once a month	Once a year

	Excel		Word	
	Yes	No	Yes	No
32. What program do you currently use				

	1	2	3
33. Do you have an electronic signature on your computer/cell phone/tablet	Yes	No	Don't know

	1	2	3
34. Will electronic contracting provide better service to you	Yes	No	Don't know

	1	2	3
35. Will you consider changing to electronic contracting instead of paper based contracting	Yes	No	Don't know

**This section only for Credit Manager:**

36. Number of years working for a Financial Institution	
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	1	2	3	4
37. Will you as a Manager be able to support and assist management with an electronic contracting process	Not at all	Fairly well	Very well	Excellently
	1	2	3	
38. Do you think an Agriculture financial institution should make use of business processes to improve customer service	Yes	No	Don't know	

To what extent do you feel a business will benefit by using the following business process	Please indicate on a scale of 1 (not at all) to 4 (to a large extent) how you feel about this process			
39. Step 1: Current process studied in great detail with the objective of improving service	1	2	3	4
40. Step 2: Process designed should be straight forward and simple as possible	1	2	3	4
41. Step 3: The process is rolled out	1	2	3	4
42. Step 4: Performance is monitored	1	2	3	4
43. Step 5: Changes will be done to any problems experienced to further improve the process	1	2	3	4

	1	2	3
44. Will electronic contracting assist you to give better service	Yes	No	Don't know