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The potential for branchless banking services in smallholder farmer value chains: A case of the Zimbabwean smallholder cotton value chain

By

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Submitted in partial fulfilment of the requirements for the degree of

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DECLARATION

I, Kurauone Murwisi, declare that this thesis hereby submitted for the degree of Master of Science in Agricultural Economics at the University of Pretoria, is entirely my own work and has not been submitted anywhere else for the award of a degree or otherwise.

Signature:

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DEDICATION

To my daughter, Kunashe.

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I would like to extend my sincerest gratitude to the many people who made this study a success beginning with the Lord Almighty to who I owe all that I am and the many blessing with which He has awarded me that have seen me through my life to this day. Secondly I would like to thank my parents for the support both financially and emotionally, you guys have been an inspiration. Thirdly and more importantly I would like to thank Professor Gerhard Coetzee for the guidance and giving me the opportunity to work with and learn from him through whom I acquired extensive knowledge that helped build up this study.

My sincere gratitude goes to all my friends and family who have supported me and everyone else who took part in my study providing me with the information that helped compile the study. To my dearest Florence, I cannot thank you enough for being there through it all the support you gave me is beyond comprehension.

May the Lord guide and bless you all

ABSTRACT

The potential for branchless banking services in smallholder farmer value chains: A case of the Zimbabwean smallholder cotton value chain.

By

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Degree: MSc. Agric. (Agricultural Economics)

Smallholder farmers across the developing world are continuously faced with a challenge of failing to access financial services from formal financial institutions mainly due to the high levels of transaction costs associated with small farmer financing. Against this background, this study set out to investigate the potential for incorporating branchless banking services into smallholder farmer value chains as a means to reduce transaction costs along smallholder farmer value chains and to enhance access to finance for smallholder farmers.

While this study acknowledges that assessing the potential for successful development of branchless banking services requires an analysis of demand and supply side factors, this study was however limited to the demand side of branchless banking development. The study's main focus was on investigating whether key demand factors that are requisite for branchless banking services deployment in smallholder farmer value chains are in currently in place. The general arguments were that there is a strong potential for introducing branchless banking services in the smallholder farmer value chain if firstly, there are transaction points along the value chain where branchless banking services can be used to drive financial transactions. Secondly, there should be a ready-to-adopt smallholder farmer market with a willingness and existing physical and technical capacity to adopt branchless banking services. Thirdly, the business environment existing in terms of the branchless banking regulatory framework and rural retail infrastructure should be supportive of branchless banking development.

The study was carried out in the Gokwe farming district of Zimbabwe where a total of 80 randomly sampled smallholder cotton farmers drawn from a relatively homogenous population group, comprising of both contracted and non-contracted farmers, were selected and interviewed as units of the study. Data collection made use of both primary and secondary techniques. Structured interviews with smallholder farmers and semi structured interviews with various value chain stakeholders in the cotton industry contributed towards the primary data. Various government, as well as private company documents and academic publications provided secondary information that was used in the study. The analytical framework of the study made use of three techniques namely the value chain analysis framework, the transaction costs economics framework and descriptive analysis.

The results provided by the analysis indicated that there is a strong potential for branchless banking services within the smallholder cotton value chain. The results showed that there are various transaction points along the smallholder cotton chain where branchless banking services can be used to drive financial transactions particularly where transactions are currently conducted on a cash basis. Smallholder farmers from the study were found to have a positive willingness to adopt branchless banking services as well as the technical and physical capacity to adopt branchless banking services. The regulatory environment and rural retail infrastructure was also found to be supportive in creating an enabling environment for branchless banking development.



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LIST OF ACRONYMS AND ABBREVIATIONS

ATM	Automated Teller Machine
AMA	Agricultural Marketing Association
BB	Branchless Banking
CBZ	Commercial Bank of Zimbabwe
CGAP	Consultative Group to Assist the Poorest
CGA	Cotton Ginners Association
CGAP	Consultative Group to Assist the Poor
CMTC	Cotton Marketing Technical Committee
FAO	Food and Agricultural Organisation
FI	Financial Institution
GDP	Gross Domestic Product
GOZ	Government of Zimbabwe
ICT	Information and Communication Technology
IFC	International Finance Corporation
KYC	Know Your Customer
MNO	Mobile Network Operator
MOU	Memorandum of Understanding
NGOs	Non-Governmental Organisations
NIE	New Institutional Economics
PDA's	Personal Digital Assistances
POS	Point of Sale
RBZ	Reserve Bank of Zimbabwe
SPSS	Statistical Package for Social Sciences
TCE	Transaction Costs Economics
USAID	United States Agency for International Development
USD	United States Dollar
VCF	Value Chain Financing

CHAPTER 1: INTRODUCTION

1.1 Background

Smallholder farmers constitute the majority of the farming population in developing countries where they contribute significantly towards agricultural and economic growth. It is estimated that there are currently 500 million smallholder farming households in developing countries, representing 2.5 billion people, relying to various degrees on agricultural production for their livelihoods (Christen and Anderson, 2013). Together, these farmers also represent the largest client segment by livelihood of those living on less than \$2 a day (Wyman, 2007). The majority of these smallholder farmers often face poor market linkages and many barriers to improving productivity, particularly lack of access to formal financing. According to Varangis (2010) an estimated 2.5 billion agricultural households across the developing world currently do not have adequate access to formal financial services. This is against an estimated unmet total demand for smallholder financing of USD 450 billion (World Bank, 2012).

The provision of sustainable and adequate financial services to rural farming households continues to face many challenges mainly because agricultural finance has always involved high levels of sector specific risks and transaction costs (IFC, 2012). On the supply side, the seasonality and heterogeneity of agricultural businesses and lack of adequate risk mitigation has resulted in most commercial banks holding the perception that agriculture is too risky to finance and therefore does not offer commercially acceptable returns (IFC, 2012). This is further exacerbated by the fact that most commercial banks themselves often lack the technical expertise to engage in agriculture (IFC, 2012). On the demand side, low financial literacy rates, lack of collateral and a limited understanding of banking requirements, poor organisation of smallholder agricultural value chains, lack of transparent pricing, lack of adequate information and fragmentation of production activities have been found to be key factors that create significant barriers for smallholder farmers to access formal financial services (Mahieux, Zafar, and Kherallah, 2011).

Opportunities for smallholder farmer financing do however exist despite the generally risky and costly characteristics of rural agriculture that continue to keep most formal financial institutions outside the sector. Current access to and supply of financial services to smallholder farmers has been largely dominated by the informal sector and private non-financial agribusiness institutions. Non-financial private sector agribusinesses namely processors, input suppliers, traders, marketing companies etc. have taken the lead in providing finance to smallholder farmers in active commercial agricultural value chains offering farmers access to production finance which is often not readily accessible from formal financial institutions. The majority of these private companies enter into formal contract agreements with farmers offering production finance to farmers in the form of input supplies or trade credit. The farmers in turn commit to deliver all their produce to the marketing companies to repay the production loan using their harvest proceeds (Christen and Anderson, 2013). These various contract schemes have awarded smallholder farmers the opportunity to access loans to finance their production and working capital which may often not be readily available from formal financial institutions. In addition, by making use of business linkages along the value chain, these contract farming value chain finance arrangements offer a substitute for conventional collateral which is one of the key reasons why smallholder farmers fail to access formal financing (Miller and Jones, 2010).

Despite the existence of potential business models like value chain financing, smallholder farmers globally remain with limited access to affordable financial services. This has encouraged a lot of private sector companies to a search for cost reducing alternative delivery models of financing smallholder farmers. This search for cost effective business models has seen a lot of private sector companies shifting attention towards using business models that are outside conventional bank branches through the use of retail agents and information and communication technologies to deliver financial services. Collectively known as branchless banking, these business models have been making use of existing retail infrastructure and widespread technologies to allow customers to access financial services in a low cost and convenient manner (Tarazi, 2014). Branchless banking services in addition have opened up innovative channels that reach customers with more than just credit services offering clients access to savings, payments and money transfer products in a manner which is more adaptable than the traditional bank branch, thus bringing more people into formal finance.



Buoyed by its success outside the agricultural context, there has been an increase in interests of tapping branchless banking services into the agricultural sector to bring about an increase in access to finance among agricultural enterprises particularly the small-scale farmers. Despite this rising interest, little has been done to use these services in increasing access to finance to smallholder farmers, particularly within a value chain finance setup. As a result of this key gap in research this study set out to investigate whether there is potential for branchless banking services to be integrated into smallholder farmer value chains to reduce transaction costs along the chain and leverage off existing value chain finance arrangements to help contribute towards increase in access to finance for smallholder farmers.

1.2 Problem statement

Agriculture remains one of Zimbabwe's most important sectors providing employment to 30% of employees in the formal sector and makes up 40% of total national exports and supplies 60% of raw materials required by the local manufacturing industry (Muir-Lersche, 2006; Juana & Mabugu, 2005). Smallholder farmers dominate Zimbabwe's agricultural sector accounting for approximately 98% of the total farming population (Moyo, 2011). The majority of these smallholder farmers live in remote poorly developed rural areas where transactions costs of doing business are high and access to financial services is limited (Zumbika, 2006). Recent statistics from a study by FinScope (2011) show that an estimated 51% of Zimbabwe's adult rural population, where the majority of the smallholder farmers reside, does not have access to any form of financial service. Further results from the study show that only a small share (12%) of the total rural population currently has access to formal financial services with the majority (27%) depending on informal finance.

Opportunities in small rural farmer financing do however exist in Zimbabwe, despite the general risky and costly characteristics of rural agriculture that has kept most formal financial institutions outside the sector. One of the most instrumental small-scale finance models that have emerged in Zimbabwe has been contract farming. Contract farming in Zimbabwe, through private agribusiness companies, has been providing access to short-term financing to smallholder farmers for the production of a specific commodity in selected commercial value chains. By offering farmers access to a single financial product which is often targeted at one cropping enterprise, contract farming fails to adequately address the broad and long term financial needs of smallholder farmers in Zimbabwe.

On the other end, Zimbabwe is currently witnessing a growth in the use of mobile financial services buoyed by increased mobile phone ownership in the country, which is currently estimated to have gone beyond 100% (TechZim, 2014). Against this strong growth in mobile phone ownership, mobile network operators and financial institutions in Zimbabwe have rolled out different mobile financial products that are penetrating the unbanked market in Zimbabwe with financial services. Despite this growth in the development of mobile financial services in the country, very few of the mobile financial products have been used specifically for agricultural transactions outside supporting the flow of remittances to rural residents. Furthermore, to date there has not been any empirical study that has been done in Zimbabwe that looks at whether it is feasible to introduce these mobile financial services into smallholder farmer value chains and how best this can be achieved.

The problem that this study seeks to address therefore revolves around the continued lack of access to finance by many smallholder farmers, Zimbabwe included, in an environment where there is a growing market for mobile financial services and widespread use of value chain financing through contract farming schemes. The study seeks to investigate whether this problem can be addressed through introducing mobile financial services into smallholder farmer value chains as mechanism to reduce transaction costs within smallholder farmer value chain.

1.3 Research objectives

The overall objective of this study was to investigate the potential for integrating branchless banking services into smallholder farmer value chains as a means to reduce transaction costs along the chain and enhance access to finance for smallholder farmers. The specific objectives of the study were:

- To conduct a value chain analysis of the smallholder contract farming scheme and identify how smallholder cotton farmers access financial services within a value chain finance mechanism.
- To identify transaction points along the smallholder cotton value chain where branchless banking services can be used to drive financial transactions.
- To assess how branchless banking compares to alternative transacting platforms in terms of accessibility and quality of providing financial services.

- To investigate the readiness of the smallholder farmer market to adopt branchless banking services.
- To assess the friendliness of the business environment to supporting branchless banking development.

1.4 Research hypotheses

The study tested the following hypothesis:

- Value chain financing through contract farming provides smallholder farmers with access to short term input credit support only.
- There is a potential market for branchless banking transactions along the smallholder farmer value chain.
- Branchless banking services compare favourably to other existing alternative transacting platforms in terms of accessibility and quality of services.
- The smallholder farmer market has the technical and physical capacity to adopt branchless banking services.
- The current business environment supports branchless banking services development.

1.5 Academic value and contribution of the study

This study attempts to contribute towards the growing body of knowledge around the field of rural and agricultural finance innovations through identifying a finance delivery mechanism that combines branchless banking and value chain finance. The findings of the study will help identify ways to increase access to financial services for smallholder farmers through the use of non-conventional banking institutions to link smallholder farmers to financial services through branchless banking services and using mobile phones. This study is designed to be used by agribusiness companies, financial institutions and mobile financial services providers to develop strategies that design products that can meet the financial needs of smallholder farmers and business objectives of various participants in smallholder value chains.



1.6 Organisation of study

Chapter One introduces the study by presenting the research background, problem statement as well as the research objectives and guiding hypotheses. Chapter Two covers the literature review of the study. Chapter Three outlines the methodology that was used to conduct the study. Chapters Four and Five give a descriptive presentation of the research results. Chapter Six summarises the study and gives recommendations proposed from insights from the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to review literature on the development of financial services for smallholder farmers. Firstly, the chapter looks at the role of smallholder agriculture in developing countries. Secondly, the chapter discusses the financial needs of smallholder farmers as well as the challenges associated with small farmer financing. Thirdly, the chapter looks at innovative finance delivery mechanisms that have sought to finance smallholder farmers before presenting the conceptual framework for the study.

2.2 Smallholder agriculture in developing countries

Agriculture remains one of the most important economic sectors across the developing world. The sector contributes towards the general livelihoods of nearly 80% of rural inhabitants in developing countries (IFC, 2011), contributes towards 20% of the Gross Domestic Product (GDP) and generates approximately between 40 and 60% of total rural incomes providing employment to 97% of the 1.3 billion people (World Bank, 2007; Christen and Anderson, 2013). Agriculture in most developing countries is dominated by an estimated 500 smallholder farming households (Christen and Anderson, 2013) who form the largest global segment by livelihood of people living on less than US\$2 a day (Wyman, 2007).

Often this broad and diverse group of smallholder farmers is collectively defined on the basis of their land size as a homogenous group with landholdings of less than two hectares. This definition of smallholder farmers is however limiting as it ignores other dimensions and characteristics such as yield, level of capitalisation, commercialisation of production, type of labour used, education levels etc., which according to the FAO (2010) creates challenges for creating financial products that meet different farmer groups. According to the IFC (2011) it is essential to segment farmers in order to develop tailor-made policies and financial instruments. Various segmentation frameworks for smallholder farmers have emerged over the years based on different characteristics of smallholder farmers. Christen and Anderson (2013) segmented the 500 million smallholder farmers in low and middle income countries on the basis of the types of crops grown, how farmers engage with markets and how the markets are organised. This framework identified three different segments of smallholder

farmers namely, non-commercial smallholder farmers, commercial smallholder farmers in loose value chains and commercial smallholder farmers in tight value chains as the segments that represent smallholder farmers. The characteristics of each farmer segment are summarised below:

1. **Non-commercial smallholders** comprise of farmers who are among the world's poor who are involved in agriculture as a means to survive. Access to land, technology, education, markets, and information about weather or production methods is very limited and production is concentrated mainly on staple crops. These farmers are not linked to structured value chains and rely largely on informal financial mechanisms and simple tools, such as local savings and loan groups, to meet their relatively basic financial service needs.
2. **Commercial smallholders in loose value chains** tend to be relatively poor and are involved in production of staple crops and may include a few selected cash crops for income. These farmers often have larger land holdings and access to a wider range of financial services than non-commercial smallholders.
3. **Commercial smallholder farmers in tight value chains** are the generally less poor of the three farmer groups and often take a business approach to farming cultivating high value cash crops for income. These farmers have better access to financial services from both formal and informal providers.

The IFC (2011) segmented farmers involved in primary agricultural production based on i) size of cultivated land, ii) type of labour used in production, iii) access to technology, iv) commercialisation of production, v) marketing, storage and processing capacity, v) vulnerability in supply chains and vi) annual net income generated from farming activities. This framework identified two segments of smallholder farmers: semi-commercial smallholders (subsistence) and commercial smallholders.

1. **Semi-commercial smallholder farmers** are generally not active in agriculture for economic reasons but rather to survive producing mostly for consumption with little or no marketable surplus in some years. Land holdings are usually smaller than two hectares and net farm income is generally less than 0.3 times that of a skilled labourer in that country or region.
2. **Commercial smallholder farmers** on the other hand produce marketable surpluses with crop production often including at least one cash crop. Land holdings range

between 2-20 hectares and annual net income is generally around 0.8 times of that of a skilled labourer in that country or region.

Dellien and Lynch (2007) profiled farming households according to the risks affecting the farmers. Three farmer categories were identified from their framework: low-risk farmers, medium-risk farmers and high-risk farmers.

1. **Low-risk farmers** are farmers with good crop diversification, multiple harvests during the year and have access to irrigation, which enables them to generate regular monthly cash flows.
2. **Medium-risk farmers** are farmers with some crop diversification, more than one harvest per year, who are able to pay at least the interest on a monthly basis and the principal in lump sums two to three times per year.
3. **High-risk farmers** are farmers who have low crop diversification, generate only seasonal income and cannot pay interest or principal on a monthly basis but can only pay lump sums at the end of the crop cycle.

Although from discussions above smallholder farmers appear to be a very much heterogeneous group with varied plot sizes, production capacity, mechanization, resources, and expertise, they all share a limited ability to access appropriate financial services for their farming activities and overall household needs. The next section provides a general view of the financial needs of smallholder farmers in detail highlighting how smallholder farmers generally access and use financial services.

2.3 Financial service needs of smallholder farmers

Access to financial services is widely regarded as a crucial input in smallholder farmer development and commercialisation. Smallholder farmers have been noted to require access to four kinds of financial services namely credit, savings, transfer and payment services and insurance to help them enhance their productivity activities as well as to smooth their consumption activities. At the household level, smallholders typically need financial services to help them address objectives related to meeting regular expenses, purchase income-generating assets and consumer durables, financing life events (e.g. education) and responding to emergencies such as illnesses and death (IFC, 2012). For agricultural activities smallholders require financial services to purchase inputs for production, invest in

agricultural equipment and to address risky events that affect production and marketing of produce (IFC, 2012). The following paragraphs discuss in detail how smallholder farmers access and use each of the different financial services for both their production and consumption needs.

Credit services in the form of loans, personal loans, salary loans, overdraft facilities, or credit lines help farmers to adopt better production technologies, expand the production of food supplies, and increase farm incomes. Credit facilities allow farmers to purchase inputs, invest in equipment such as tractors or drip irrigation and to harvest, process, market, and transport their produce (Sharma 2012; Bagazonzya, Zaid and Soham 2012). Rural farming households access credit from formal as well as informal credit markets. Formal credit is accessed from institutions that provide intermediation between depositors and lenders and charge relatively low rates of interest that usually are government subsidized. Informal credit markets constitute private individuals, professional moneylenders, traders, commission agents, land lords, friends and relatives (Yehuala, 2008).

Farmers also require a safe and reliable place to store their savings. Evidence from a study by Collins, Murdoch, Rutherford and Ruthven (2009) shows that even the poorest of the poor households hold savings of some sort. Savings form an essential part of the livelihoods of smallholder farmers as they enable farmers to better manage seasonal incomes and expenditure (e.g. school fees), accumulate funds for major life events and emergencies (weddings, funerals, etc.) and build assets. For most small rural households savings are managed outside the formal system using instruments which include saving at home, investing in livestock, or membership in a savings club to manage their small and often unpredictable incomes.

Transfer services are also key financial services for smallholder farmers as they allow farmers to access income from family members that have emigrated to other cities and or countries. The bulk of rural remittances across developing countries for the majority of rural households occur outside the formal system (Heyer and Mas, 2009). The most basic form of remittances occurs through human carriage of the funds through neighbourhood stores, traders, transporters, travel agents, relatives and friends.

Smallholder farmers also require payment services to allow them to purchase basic household needs, payment of utility bills, and also to receive payments for commodity sales, social welfare payments and salaries. According to the IFC (2011) access to payment services helps farmers to be more self-sufficient with respect to their cash flow management. According to Pearce, Davis, Onumah & Butterworth (2004) access to payment systems offered by financial institutions leads to the participation of rural producers and traders in modern, efficient commodity trading systems that offer better prices. Informal financial institutions distribute finance as cash, as most of the smallholder farmers are currently unbanked, posing significant security and liquidity management problems for farmers (Grossman and Tarazi, 2014).

Farmers and rural households also require insurance services to address various covariant risks which are both market-related, such as price variations, and non-market-related, such as unfavourable weather, pests, and diseases as well as human life and health. In addition to addressing weather related agricultural risks insurance services play a crucial role in the fight against poverty amongst poor households. Skees (2003) argues that improved access to insurance could reduce enterprise and household risks, and make investment in the rural economy more attractive, contributing to growth and poverty reduction. For the majority of smallholder farmers informal options such as savings, social networks, burial societies and asset sales are used as risk mitigation strategies.

Despite a global consensus of the role of financial services in smallholder agriculture development, access to formal financial services remains a challenge for most farmers in developing countries. The next section discusses some of the key challenges facing farmers and financial institutions in their efforts to close the finance gap of smallholder farmers.

2.4 Challenges to small farmer financing

According to Varangis (2010) an estimated 2.5 billion farming households across the developing world do not have adequate access to financial services. The majority of these smallholder farmers access financial services from informal non-financial institutions. This section discusses some of these key challenges faced by both the farmers and financial institutions in expanding financial services to farmers. According to the IFC (2012) challenges associated with financing smallholders can be aggregated into three key challenges which include, agriculture specific problems, high transaction costs and policy and

regulatory related challenges. The following paragraphs provide a discussion around how each of these challenges has created barriers for financing smallholder farmers.

One of the leading challenges that have resulted in limited financial support to smallholder agriculture from financial institutions is the generally high level of financial transaction costs of serving dispersed small farm households. Various factors have been found to contribute towards these high transaction costs associated with lending to smallholder farmers. Firstly, because the majority of smallholder farmers are located in remote locations with poorly developed physical and information infrastructure, this creates substantial costs of doing business for financial institutions when seeking to interact with smallholder farmers (Grossman and Tarazi, 2014). Secondly, the generally small loan sizes demanded by smallholder farmers are costly to disburse and monitor per unit further increasing the costs of doing business for financial institutions (Doward, Poulton & Kydd, 2001).

Secondly, smallholder agriculture is by nature a seasonal economic activity which is characterised by long gestation periods and time lags between cash inflows and outflows. As a result farmers often realise seasonal and variable incomes which will translate to irregular repayment schedules creating challenges for liquidity management for financial institutions (IFC, 2012). Agriculture is also a generally vulnerable sector which is periodically exposed to pests, diseases and prices and weather volatility which pose significant risks for financial institutions. Lack of diversification and concentration of resources in one agricultural enterprise by most smallholder agriculture farmers makes smallholder farmers and their enterprises more vulnerable to risks and unattractive to commercial lending as this exposes financial institutions to loan default risks. According to the IFC (2012) diversifying portfolios by including off-farm activities is much safer and exposes the farmer to lesser risks that threaten losses and defaults despite being less profitable.

Thirdly, the lack of physical collateral such as titled land is another key challenge in financing smallholder farmers. Under conventional lending financial institutions require a borrower to provide collateral in the form of either mortgage or physical assets which is normally not available and feasible amongst smallholder farmers. For most smallholder farmers principal assets include agricultural produce and land which is often difficult for banks to use as collateral because of tenuous land titles (Miller and Jones 2010). In some cases land under which smallholder agricultural activities are practiced is held under

traditional tenure systems which is often difficult for a financial institution to repossess in the event of default. Furthermore for most smallholder farmers in developing countries the land sizes are small, often less than two hectares, and are located in remote areas with poorly developed infrastructure. This makes the land unattractive to financial institutions as they have little value and cannot be easily liquidated.

Fourthly and also equally important, regulatory and institutional set ups also influence the participation of financial institutions in smallholder agriculture. According to Todd and Sharma (2010) an enabling environment and legal framework and supportive rural infrastructure contribute widely towards sustainable access to finance within a country. Interest rate polices government interventions in financial markets and legal enforcements on contractual obligations affect the provision of financial services within a country. According to (CGAP, 2010) favourable legal environments for lending may enable banks to operate more profitably through lending and to grow eventually leading to expansion of deposit services while red-tape, bureaucracy, and corruption can increase the costs of doing business including the costs of opening and operating bank branches.

Overall for financial institutions, working in remote areas with poorly developed infrastructure, sparse populations with limited financial capabilities under strenuous legal and regulatory requirements result in significantly high levels of transaction costs. The next section attempts to define what transaction costs using the transaction costs economics framework and also to identify some of the key transaction costs that are embedded in agricultural financing that create challenges for smallholder farmers to access financial services using the cost-to client framework.

2.5 The Transaction Costs Economics theory and Cost-to-client framework

The Transaction Costs Economics (TCE) theory is a branch of the New Institutional Economics (NIE) paradigm which focuses on institutions and governance (Hubbard, 1997; Clague, 1997; Poulton et al, 1998). Coase (1937) pioneered the Transaction Costs Economic framework and hypothesised that institutions are transaction cost minimising arrangements, which may change and evolve with changes in the nature and sources of transaction costs. He stressed that transaction costs which include information, negotiation, monitoring, co-ordination, and enforcement of contracts play a crucial role in the organisation of firms and contracts. Williamson (1996) expanded on Coase's (1937) work on organisation of firms and

contracts combining the concepts of bounded rationality and opportunistic behaviour to explain contractual choice and the ownership structure of firms. In his framework Williamson (1996) argues that a trade-off has to be made between the costs of coordination and hierarchy within an organisation, and the costs of transacting and forming contracts in the market. He did however indicate that the trade-off will depend on the magnitude of transaction costs. Eggerston (1995) quoted in Makhura (2001) defines transaction costs as the costs that arise when individuals exchange ownership rights for economic assets and enforce their exclusive rights. He listed the following activities from which transaction costs typically originate:

- the search for information about potential contracting parties and the price and quality of the resources in which they have property rights (this includes personal time, travel expenses and communication costs),
- the bargaining that is needed to find the true position of contracting parties, especially when prices (incl. wages, interest rates, etc.) are not determined exogenously,
- the making of (formal or informal) contracts, that is, defining the obligations of the contracting parties,
- the monitoring of contractual partners to see whether they abide by the terms of the contract, and
- the enforcement of the contract and the collection of damages when partners fail to observe their contractual obligations.

Two categories of transaction costs can be distinguished. These are fixed and variable transaction costs. Fixed transaction costs constitute costs that are independent of the traded volumes and affect a farmer's participation in markets. These include costs such as: (a) costs of searching for a buyer to conduct trade with, (b) costs of price negotiating and bargaining and (c) costs of screening for potential buyers and contract enforcement. Variable transaction costs include costs related to transferring products to the market such as transportation costs and the cost of time spent in delivering products to the market (Key et al., 2010).

Makhura (2001) stresses that TCE is relevant for agricultural market analysis in developing countries where there is a high occurrence of market failure and incomplete markets (i.e. caused by higher transaction costs and information asymmetries). He further argues that the

use of TCE can help determine the type of institutions that are needed (either formal or informal) to improve the economic performance in developing countries. Smallholder farmers transaction costs emanate from a number of sources: firstly, most smallholder farmers live in sparse density remote areas with poorly developed physical and market infrastructure far from financial service providers; and secondly, both smallholder farmers and financial institutions have limited information about the nature of the business of the other party resulting in high levels of information asymmetry driven transaction costs.

Another dimension of looking at costs of accessing financial services was put forward by Coetzee (2012) using what he termed the cost to client framework which can be seen from Figure 2.1.

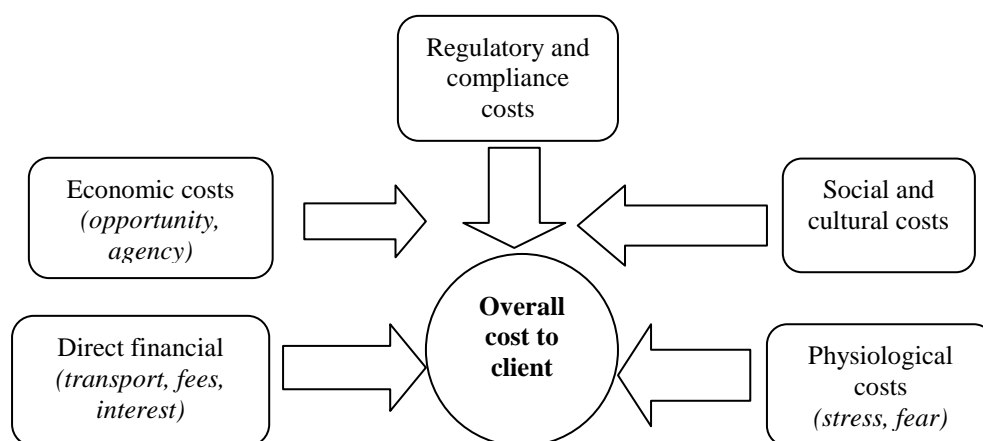


Figure 2.1: Cost-to-client framework

Coetzee (2012) argues that there are five areas that contribute to the overall costs that clients have to incur in order to access financial services which include i) direct financial costs such as transportation, fees and interest; ii) economic cost in terms of, for example, opportunity cost of time; iii) compliance and regulatory costs, such as the cost of documentation to adhere to Know-Your-Client requirements; iv) social and cultural costs, such as the cost of being part of a network to improve access (also considered as bonding costs in the agency cost literature) and, lastly, v) psychological costs, such as the stress of debt and over indebtedness.

Over the years various approaches to supplying agricultural financial services have sought to minimise these transactions cost associated with financing smallholder farmers. Two business models that stand out are value chain financing and branchless banking. These two models

are discussed in detail in the following sections highlighting how these models attempted to tackle the challenge of high transaction costs associated with agricultural financing.

2.6 Agricultural value chain finance

Value chain finance has emerged as a rural and agricultural finance business model that provides financial services to different players along agricultural value chains particularly the smallholder farmers. According to Sharma (2012) value chain finance offers an opportunity to expand agricultural finance, improve efficiency, ensure repayments, and consolidate value chain linkages among participants in the chain.

The popularity of the value chain finance business model ahead of conventional individual lending amongst smallholder farmers rests on its focus of distributing finance on the basis of business relationships and linkages along the value chain and not entirely on the creditworthiness of the individual. By placing a lot of emphasis on the business relationships governing the flow of goods along the chain, value chain finance substitutes the need for collateral based lending making it easier for smallholder farmers without access to conventional physical collateral to access financial services. Miller and da Silva (2007) argue that the interest in using the value chain approach in delivering financial services to smallholder farmers stems from the high transaction costs that have excluded smallholder farmers from formal financial markets. The IFC(2011) put forward three key elements of the value chain finance model that make it more suitable for expanding access to finance to smallholder farmers. Firstly, value chain actors have been noted to have better knowledge of key risks and profitability factors in a particular chain thus eliminating risks associated with information asymmetry. Secondly, value chain finance reduces credit risks through bundling of finance with other fields such as input supply, extension services and off-takers. Thirdly, value chain finance reduces transaction costs of lending by tying credit with commodity.

A typical value chain finance model consists of various actors that are either directly part of the value chain or are external institutions that support the chain. Figure 2.1, which is adapted from Miller and Jones (2010), gives an overview of the value chain framework showing the various actors that form part of the value chain finance ecosystem as well as the flow of financial services as well as goods and support services amongst the actors.

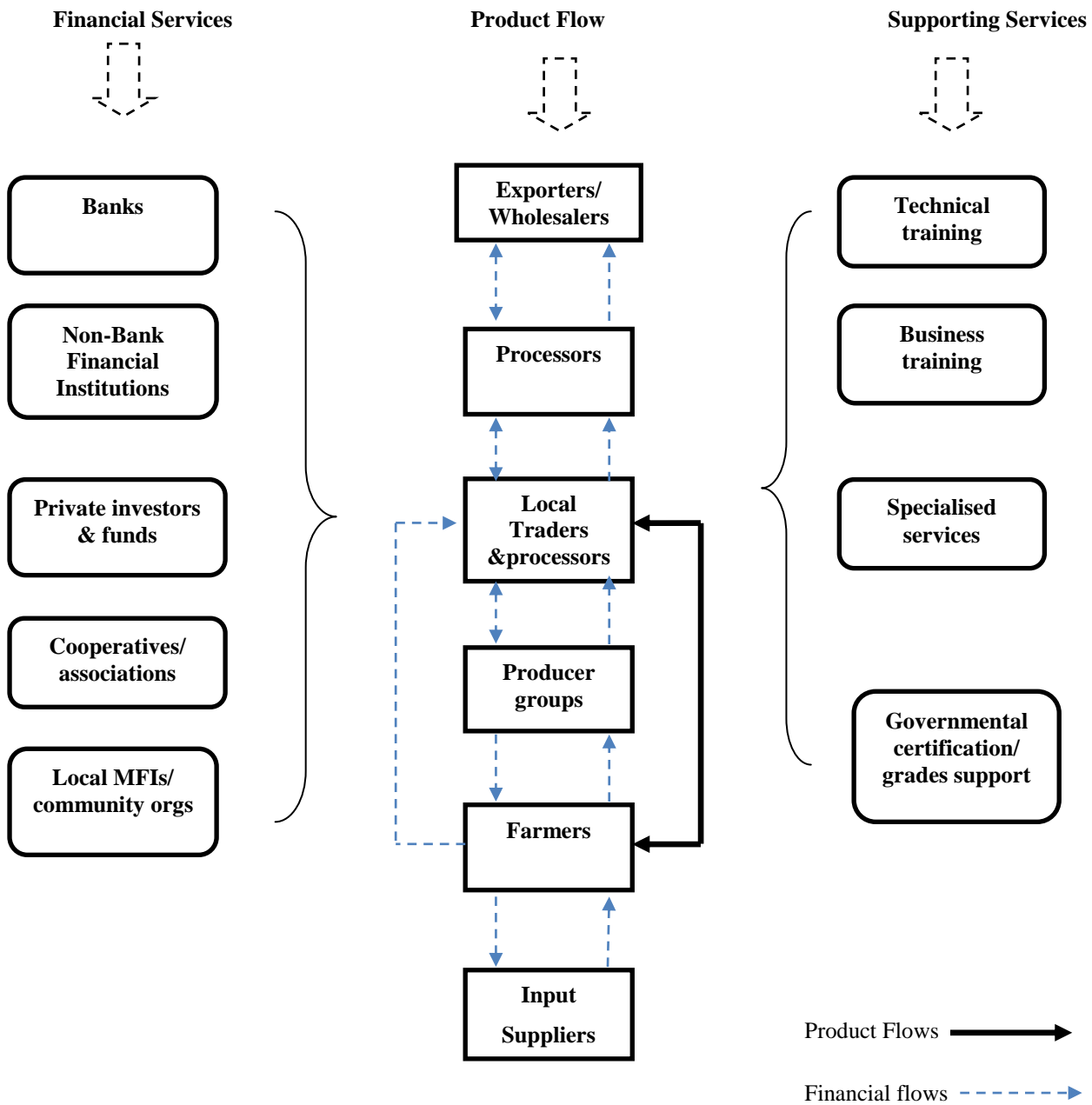


Figure 2.2: Product and financial flows within the value chain

Source: Adapted from Miller and Jones (2010)

Understanding of these value chain actors, inputs and flow of financial services can highlight ways to improve access to financial services along the value chain through 1) identifying financing needs for strengthening the chain, 2) tailoring financial products to fit the needs of the participants in the chain, 3) reducing financial transaction costs through direct discount repayments and delivery of financial services, and 4) using value chain linkages and knowledge of the chain to mitigate risks of the chain and its partners (Miller and Jones, 2010). From Figure 2.1 it can be seen that financial services available in a value chain flow

mainly from two sources. Finance services flow among supply chain actors themselves as well as from institutions external to the chain. These different types of value chain finance and how they flow within and from outside the chains are discussed in more detail in the following sections.

2.6.1 Types of value chain finance

Value chain finance can be of three types: self-finance, direct informal “within the chain”, and indirect formal “from outside the chain” value chain finance. Each of these types of value chain finance mechanisms is discussed in detail in the following sections.

2.6.1.1 Self-finance value chain finance

Under the self-finance mechanism farmers use retained earnings or savings and/or borrow from friends and family to finance the production of an agricultural enterprise (Sharma, 2012).

2.6.1.2 Direct internal value chain finance

Internal value chain finance involves the flow of financial services within a value chain among value chain actors. A typical internal direct value chain finance approach involves the supply of credit to a farmer from an input supplier. Under this arrangement input suppliers offer credit support to farmers in kind in the form of seed, fertiliser, chemicals etc. and in return the farmer repays the input supplier using agricultural produce and in some cases cash. Loans are usually of short-term nature and are extended to help ensure a smooth flow of products and to keep the activities going and the value chain functioning. Formal financing arrangements occur mainly through contract farming and out grower schemes which are driven mostly by non-financial institutions that extend credit to smallholder farmers for production purposes (IFC, 2011).

According to Sharma (2012) non-financial institutions are more active in internal value chain finance because for these institutions the main interests are in securing quantity and quality of produce rather than on returns on credit. Hoellinger (2011) also argues that for non-financial institutions the motivation in extending credit to farmers is not profit driven rather it is of a commercial nature seeking to promote sales and secure supplies from farmers.

Despite being a potential solution to financing smallholder farmers, financing within the value chain has however been found to have many limitations. Three key limitations of

internal value chain finance have been identified. Firstly, Sharma (2012) argues that value chain players have access to a limited pool of funds which can constrain growth and expansion. Secondly, Hoellinger (2011) argues that lending through non-financial institutions is often restricted to one crop enterprise and this often leads to risks of input diversion as other crop enterprises remain unfunded. Thirdly, internal value chain financing focuses mostly on the supply of credit and does not address other financial needs of the household which may include payments, insurance and savings services (IFC, 2011).

Due to its many limitations the internal value chain finance model cannot fully address the financial needs of smallholder farmers. The next section discusses one approach with the potential to address these limitations of internal direct value chain finance using an indirect approach which involves a formal financial institution.

2.6.1.3 Indirect value chain finance

Indirect external value chain finance involves the provision of financial services to a value chain from external non-chain actors mainly financial institutions. A typical external indirect approach to value chain financing involves issuing of a loan to individual or grouped farmers by a bank based on a contract with a trusted buyer or a warehouse facility. External value chain finance occurs through multipartite arrangements between financial institutions, agribusiness companies and farmers. The introduction of commercial banks into value chains in the indirect value chain finance approach means that farmers can have access to a full range of financial services beyond the specific value chain finance credit, such as savings and payment services.

The key benefits of indirect financing are that the risks of exploitation are considerably less because it allows for transparent financing and for farmers to get loans in cash from commercial banks allowing farmers to source their own inputs (Sharma, 2012; IFC, 2011).. Charitonenko, Heron, Chalmers, Lennon and Miller (2005) identified indirect value-chain finance from financial institutions as a longer term process that complements and builds off the strength of value chain relationships. Linkages between farmers and agribusiness companies help serve as collateral under this arrangement and hence reduce risks associated with lending.

These different types of value chain finance mechanisms fall under three main types of instruments which are briefly discussed in the following sections.

2.6.2 Value chain finance instruments and mechanisms

Value chain finance instruments and mechanisms are often offered mainly through warehouse receipts, trader credit and contract farming credit all of which are discussed in detail in the following sections.

2.6.2.1 Warehouse receipts

Warehouse receipts are a value chain finance instrument that secures storage and facilitates access to credit for a value chain actor who owns an inventory (Miller and Jones, 2010). In warehouse receipt financing a receipt is issued to depositors of non-perishable commodities by safe and secure warehouses. This allows financial institutions to use the deposited inventory for collateral and farmers to sell their products for higher prices in the off-season and extending the marketing season. Warehouse receipt financing typically falls under the indirect value chain financing approach because it is based on multipartite arrangements between banks, warehouses and farmers providing farmers with access to finance from commercial banks based on commodity receipts issued by a warehouse.

The key advantage of warehouse receipt finance is that it allows farmers to access higher market prices for their commodities and also to use these commodity receipts as collateral and to access financial services. The main limitation for this finance mechanism however, is that it is only suitable to non-perishable commodities with a longer shelf life.

2.6.2.2 Trader credit

Trader credit is a value chain financing approach that involves the allocation of short term or seasonal loans to farmers from input suppliers or buyers to agricultural produce (traders and processors). Normally these loans are distributed to allow farmers to access working capital (inputs) which may not be available to the farmers due to unavailability of credit. For the trader this will allow him/her to buy larger amounts of the commodity because the farmer can increase scale of production due to access of credit services.

Trader credit is a form of direct internal value chain finance because it involves the delivery of financial services among supply chain actors. This approach to financing of smallholder farmers is important as it offers farmers access to working capital finance. However, due to the short term nature of the credit and the nature of loans offered (in kind as inputs) it limits the opportunity of the farmers to invest in long term assets which can help farmers increase their productivity.

2.6.2.3 Contract farming and out-grower schemes

Contract farming is a value chain finance mechanism that offers financing to farmers tied by contractual agreement. The contract governs transactions between buyers and agricultural producers and it stipulates product and quality attributes, production methods, and/or the commitments for the future sale (e.g., timing, location, price). Farmers receive loans either in cash or in kind and in turn the farmer agrees to sell his/her commodity to a given buyer and the buyer in turn commits to offer the farmers inputs and technical advice. Loans are either disbursed in cash or in kind. Contract farming also falls under direct internal value chain financing because farmers access financial services directly from value chain actors.

The above discussions on value chain finance indicate that the model offers a potential solution to smallholder farmer financing, however the model does not appear to address the issue of transaction costs which has been highlighted as one of the main challenges to small farmer financing. The next sections provides a conceptual overview of branchless banking, a key transaction cost reduction tool, and how it has managed to bring down the costs associated with accessing agriculture financial services.

2.7 Branchless banking: Definition of concepts

According to the CGAP definition, branchless banking is the use of Information Communication Technology (ICT) to deliver financial services to low income people beyond traditional banking channels by making use of non-bank retail agents. The popularity of this approach rests on its potential to reduce transaction costs of delivering financial services and increasing convenience for customers. Branchless banking has the potential to expand coverage to new and previously financially underserved segments of the population without the need for conventional bank branches. In rural areas branchless banking services have expanded outreach through the use of agents such as shops, post offices, and kiosk chains, which offer a limited and specific range of financial services, such as opening an account and cash-in and cash-out services (IFC, 2011).

CGAP differentiates two main pillars of branchless banking: bank-based and non-banking based branchless banking both which make use of retail agents to deliver financial services. Under the bank based model clients have a direct, contractual relationship with a formally licensed and supervised financial institution even though the customer may deal exclusively

with a retail agent who is equipped to communicate directly with the bank (typically using either a mobile phone or a Point-of-Sale (POS) terminal). In the non-bank based model clients do not have a direct relationship with a licensed and supervised financial institution, instead clients cash in and withdraw at a retail agent (or otherwise transfer, or arrange for the transfer of, funds) in return for an electronic record of value. This virtual account is stored on the server of a nonbank, such as a mobile operator or an issuer of stored-value cards. The balance in the account can be used for making payments, storing funds for future use, transferring funds, or converting stored value back to cash at agents.

Coetzee (2012) identified two pillars of branchless banking, face to face model and self-service model. Face to face branchless banking makes use of retail agents and merchant outlets as transaction points whereas self-service branchless banking involves transacting via ATMs and through mobile phones. Figure 2.2 presents the framework of these two pillars of branchless banking services together with the various institutions that provide financial services under each pillar.

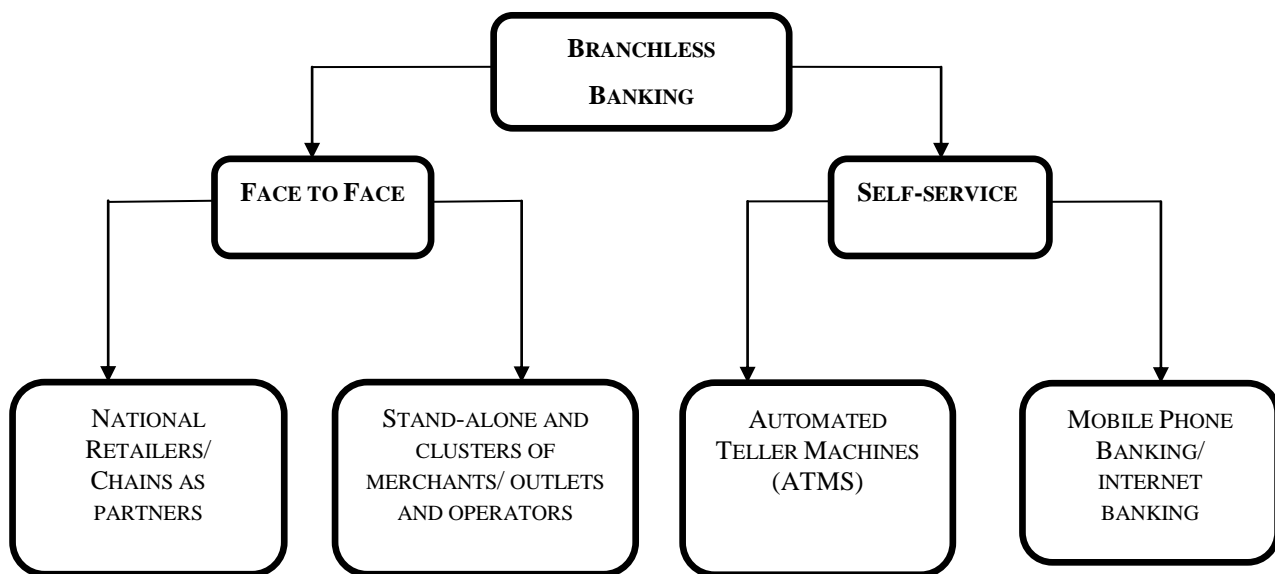


Figure 2.3: Pillars of branchless banking

Source: Coetzee (2012)

The growth of branchless banking services has broadened its applicability in the expansion of financial services and has seen its application extending to sectors such as agriculture buoyed

by its success in the non-agricultural context. The following section looks at how branchless banking services have been applied in the agricultural context across the entire value chain spectrum addressing both the demand and supply side constraints to accessing financial services.

2.8 Integrating branchless banking into agricultural value chains

This section highlights how branchless banking services can facilitate access to financial services to smallholder farmers by addressing both demand and supply side constraints within agricultural value chains. The integration of branchless banking services into agricultural value chains has been found to have immense benefits for various actors along the chain and have spill over effects for the rural economy at large. USAID (2010) identified branchless banking services as a potential leverage tool in agricultural development where it makes it cheaper and easier for smallholder farmers to access financial services which include savings, loans and payment services. Sharma (2012) identified the following benefits for value chain actors that can be derived through conducting financial and information transactions using mobile money platforms:

- Low costs of digital, real time and cashless transactions compared to cash based transactions.
- High security of transactions
- Reduced leakages: in contrast to cash transactions, mobile money ensures more direct approach to payment and hence reduces the opportunities for leakages along the value chain.
- Enhanced immediacy and increased frequency of the transactions: quick, low-cost and high security features of mobile money may trigger immediate payment from the buyer to the producers. As there is a direct channel of moving money, the payment from the buyer to the producer can be in tranches or more frequently than cash payments where the buyer receives one lump sum payment to reduce the cost of the transaction.
- Reduced cost of the transaction, frequent and immediate payments, the cost economics favour all the players of the value chain.
- Accountability: mobile money transactions have a digital trail and hence offer higher accountability than cash transactions.

Halelwood and Surya (2012) examined how mobile-enabled branchless banking services can be used across agricultural value chains and how they can foster the creation of greater efficiencies, reduced transaction costs, and increased incomes. Table 2.1 summarises some of these key areas where branchless banking can be applied and how agricultural activities are enhanced along a value chain.

Table 2.1: Mobile-enabled solutions for food and agriculture

Improving access to financial services	Provision of agricultural information	Improving data visibility for supply-chain efficiency	Enhancing access to markets
Mobile payment platform, Micro-insurance system, Micro lending platform	Mobile information platform; Farmer helpline	Smart logistics; Traceability and tracking system; Mobile management of supplier networks; Mobile management of distribution networks	Agricultural trading platform; Agricultural tendering platform; Agricultural bartering platform
Increasing access and affordability of financial services tailored for agricultural purposes	Delivering information relevant to farmers, such as agricultural techniques, commodity prices, and weather forecasts	Optimizing supply-chain management across the sector, and delivering efficiency improvements for transportation logistics	Enhancing the link between commodity exchanges traders, buyers, and sellers of agricultural produce

Source: Halelwood and Surya (2012)

Earlier discussions in this chapter indicated that among other various challenges financial institutions often fail to lend to farmers because of the risks associated with agriculture and lack of adequate information on smallholder farmers to inform the institutions on the farmers' creditworthiness. The next section looks at how branchless banking services have sought to address these two key issues and provide incentives for financial institutions to lend to farmers.

2.8.1 Using branchless banking to address agricultural finance supply challenges

Commercial banks often exclude themselves from agricultural lending due to the risks inherent in agriculture. For this reason risk mitigation is of importance if commercial banks are to engage in agricultural lending. Branchless banking technologies have also been noted to help address key agricultural risks for lending institutions. The World Bank (2005) identified various agricultural practices where technology can be applied as a means to mitigate risks in agriculture which include the delivery of credit and savings reducing the cost of delivery and risks associated with handling and moving cash, and thus enabling better

targeting and diversification of products and services, as well as providing the market intelligence to manage risk more effectively. These practises are summarised in Table 2.2 below.

Table 2.2: Using technology in agricultural business practices to address limitations in lending

Problem	Impact	Mitigation	Agricultural Business Practices
Poor infrastructure and geographically dispersed	<ul style="list-style-type: none"> • Reaching rural clients is difficult and formal financial services reach those closest to the urban centres. • Cost to clients of banking in the formal sector are prohibitive. • Close monitoring of lending and portfolio by lenders is difficult. 	<p>Electronic data transferred via automated teller machine (ATM), point-of-sale (POS), mobile phones, interactive voice response (IVR), Internet banking, smart cards.</p>	<p>Loan disbursements, Savings deposits and withdrawals; Product servicing, disbursements, and collections; Customer acquisition and retention; Client access to account or branch information; Client driven transactions, 24/7; Remittance transactions; On and offline transactions, including withdrawals.</p>
Lack of credit history and information	<ul style="list-style-type: none"> • Limited credit history keeps banks away from rural clients. • Without credit information collateral requirements increase. • Difficulty building credit databases because of costs associated with accessing information from rural clients, including identity verification. 	<p>Scoring, biometrics technology.</p> <p>Use of cellphone-based record keeping systems.</p>	<p>Building credit histories and data repositories; Loan origination, loan application processing and approval; Product servicing, collections; Customer retention, loyalty programs and incentives; Client identification (with biometrics); Client and agent authentication with personal identification numbers (PINs).</p>
Poor quality Collateral	<p>Banks limit lending to rural clients because the ability to use collateral is uncertain.</p>	<p>Scanning, Personal Digital Assistants (PDAs), mobile phones, Internet.</p>	<p>Collateral management; Tracking physical goods, warehouse receipts, and purchase and sale of goods.</p>
Limited price information and price risk	<ul style="list-style-type: none"> • Risk of defaults due to price swings events limits lending. • Lack of business acumen and information forces growers to sell sub optimally and not optimize premium or direct contracting. 	<p>Distance learning, scanning,</p> <p>Internet outlets, mobile phones, PDAs.</p>	<p>Improving business development and product market of clients; Improving market awareness and negotiation power; Market information; Financial product marketing; Securing premium contracts (EUROGAP); Certification to origin.</p>
Lack of capacity among rural bankers and staff	<p>Difficulty in managing borrowers portfolios, implementing best practices, and new initiatives limits lending products</p>	<p>Distance learning, Internet, handhelds.</p>	<p>Employee training; Performance monitoring</p>

Source: World Bank (2005)

Rural areas are characterised by information asymmetry, a major component of transaction costs, which limits access to finance for smallholder farmers. For commercial banks information on the repayment capacity of a client is crucial in assessing creditworthiness of an individual. In this case the flow of transactions through branchless banking account helps credit providers to analyse information trends, such as delinquency or yields, assess individual creditworthiness through payment histories savings and credit as well as develop scoring models and evaluate repayment prospects (Dermish *et.al* 2011). This creation of transaction histories through a branchless banking account can enable farmers to access loans, insurance, and savings products through banking institutions (IFC, 2012). Kloeppinger-Todd and Sharma (2010) argue that portable smart technology helps in the identification and monitoring of clients and thus alleviates information asymmetries leading to improved repayment rates making it beneficial to a financial institution.

The next section discusses how branchless banking services have helped address demand side constraints and increase access to various financial services for smallholder farmers.

2.8.2 How branchless banking could improve access to small farmer finance

For many smallholder farmers access to finance from formal financial institutions is a challenge. Discussions earlier in the chapter indicated that for most smallholder farmers financial needs are met through informal arrangements and to a less extent from non-financial agribusiness companies supplying limited targeted financial support. Traditionally branchless banking services were limited to facilitating access to a few financial services with evidence from early adopting countries showing that branchless banking has to date been limited to the making money transfers and payments (Corbet, Helms and Parker, 2012) with limited use in the provision of other financial services. The following sub-sections highlight how branchless banking services have sought to improve access to finance for smallholder farmers by addressing some of the key demand side challenges.

2.8.2.1 Access to payment services

Along an agricultural value chain payments there are various points where payment transactions are conducted either facilitating loan transactions or sales transactions between value chain actors. It was highlighted under section 2.3 earlier in the chapter that for smallholder farmers, due to lack of access to bank accounts, payment transactions are often conducted in cash, in public and are kept at home exposing farmers to significant security

risks of robbery (Grossman and Tarazi, 2014). Due to the costs and risks associated with cash payments there is growing interest to use more secure platforms to conduct payments between value chain actors.

Branchless banking services have been found to play a key role in facilitating secure and less costly payments for both agricultural loan transactions and commodity sales along an agricultural value chain (Dermish *et.al*, 2011). Sharma (2012) argues that mobile money transactions reduce payment leakages along the value chain and enhance immediacy and increased frequency of transactions from buyers to producers. Miller & Jones (2010) argue that loan transactions can be structured such that the repayment of loans is automatically made via transaction proceeds and mobile phone based branchless banking which reduces both risks as well as transaction costs of loan repayment. According to the IFC (2012) mobile payment systems can benefit farmers by allowing them to receive payments as electronic credit into their mobile phone-based account (or “m-wallets”) instead of waiting or having to travel to obtain cash payment. Along agricultural supply chains mobile money services also allow for input suppliers to easily manage payments from smallholder farmers and in turn smallholder farmers can use mobile money and other ICT tools to aggregate their demand for inputs and pay for them (USAID, 2010).

2.8.2.2 Access to savings

Savings offer an important source for smallholder farmers’ working capital as well as savings based collateral. The returns on these savings in terms of interest earned are often low and may even be negative after transaction costs have been deducted (Grossman and Tarazi, 2014). Savings have been noted to form part of value chain financing in the form of self-finance mechanisms (Section 2.7.1.1) which can be used to finance value chain activities (production and marketing). However, with nearly half of the world’s population currently without access to a formal bank account (Global Findex, 2012), the majority of low-income people save money using informal channels which are often characterised by high transaction costs and are prone to theft.

Heyer and Mas (2009) propose that there is value in using mobile financial services to manage savings suggesting that mobile money allows people to have access to more formal savings because it gives the poor the opportunity to save money as and when they need it, conveniently near to where they stay in transaction sizes convenient to them. In other

countries branchless banking services have already been rolled out in the savings space. Econet wireless, a Mobile Network Operator (MNO) in Zimbabwe, has introduced its mobile money saving product, EcoCash Save, which allows its customers to open a savings account through a mobile phone offering interest of savings from as little as USD1.00 (Econet, 2014).

2.8.2.3 Access to insurance services

Crop and livestock insurance helps mitigate risks in agricultural finance thus offering incentives to financial institutions to extend their lending activities to agriculture. However insurance services aimed at smallholder farmers are less common in most developing countries as they are often costly to access and in some cases unknown to most farmers despite their importance. Branchless banking technologies have been recently rolled out in the insurance space by some countries in Africa notably in Kenya and Zimbabwe where the Kilimo Salama and EcoFarmer insurance products have been introduced respectively. Kilimo Salama is an index-based weather insurance product that allows farmers to insure inputs purchased at participating agricultural dealers. The product makes it affordable for smallholder farmers through (i) outsourcing farmer registration to lenders and agricultural dealers equipped with a mobile application, (ii) using remote, index-based monitoring technology that does not require costly in-person verification of claims, and (iii) using M-PESA for pay-outs (Grossman and Tarazi, 2014). Econet Wireless in Zimbabwe is currently in the process of developing its own agricultural insurance product which uses mobile technology to insure inputs and crops against drought or excessive rainfall. EcoFarmer also extends extension services to farmers providing daily weather information, farming tips and information on when and where to sell, and the best price for their produce (Econet, 2014).

2.8.2.4 Access to credit services

Branchless banking services have also begun to facilitate access to credit services. In Kenya, the Grameen Foundation is partnering with Farm Concern International (FCI) to develop an e-Warehouse pilot program for maize farmers. These storage warehouses allow for farmers to access commercial loans by using their warehouse receipt. Mobile-based data collection tools are used by trained village knowledge workers to collect and upload farmer storage information: the amount, the storage method (to indicate risk of pests or spoilage), and the moisture content (to indicate propensity toward rot or disease). Econet Wireless in Zimbabwe has also introduced EcoCash loans through its EcoCash mobile product that allows its subscribers to apply for loans through their mobile phones. Loans are disbursed without the

need for collateral but rather basing lending decisions on the person's transaction history on the EcoCash mobile product (Econet, 2014).

2.8.2.5 Access to information

In agricultural settings farmers and agribusiness require up-to-date market information so as to make informed decisions and enable them to sell products competitively, demand higher prices, accurately estimate product value, access preferential markets, and effectively manage risks as well as availability of financial services. Along smallholder agricultural value chains there are several areas where information exchange occurs and where technology can be used to channel information between value chain actors. Lack of access to information for farmers has been found to limit farmers' access to financial services as well as access to output markets. In the absence of adequate information market intermediaries tend to engage in opportunistic and exploitative behaviour cheating farmers on quality and quantity (Okello, 2010). This exploitation by intermediaries reduces the efforts to enhance value realisation for commodities sold by farmers.

Introduction of ICT services into agricultural markets can help eliminate these opportunistic behaviours of middlemen and improve the farmer's bargaining power thus positively contributing towards rural and agricultural development (Andrianaivo and Kpodar, 2011). In addition it can serve as a means to transfer value along a value chain thus reducing the hold of intermediaries (Sharma, 2012). According to the World Bank (2005) ICT through provision of sound market information to farmers, can potentially be a means to guarantee access to markets to farmers. Wireless communication and related technologies continue to increase and diversify the way that farmers can affordably access agricultural information such as financial products, weather, and pricing information on local or national markets as well as international markets within agricultural value chains.

Although branchless banking has begun to fill the rural finance gap through offering financial services over mobile phones, from simple person-to-person transfers to more complex banking services, branchless banking innovations remain a new phenomenon and not many countries have adopted the practice. The next section therefore attempts to identify some of the key challenges to branchless banking development that may have hindered adoption of branchless banking in some of these countries and the key factors that can drive the successful adoption and implementation of branchless banking services.

2.9 The challenges and drivers of branchless banking adoption

The use of branchless banking services to reach smallholder farmers faces various challenges despite the optimism that surrounds its potential in financing smallholder farmers. Grossman and Tarazi (2014) identified several challenges to branchless banking adoption from various case studies across the world. The challenges include the following:

- Lack of farmer awareness and understanding of mobile money services.
- Lack of financial capability and technology literacy.
- Poor mobile network coverage and lack of access to mobile phone handsets in remote areas.
- Insufficient liquidity amongst rural agents.

To allow for successful development of branchless banking services in light of these challenges certain prerequisites need to be in place that will determine whether a certain market is ready to and will likely adopt branchless banking. Various studies have identified market drivers of successful development and adoption of branchless banking that will ensure a high scalability of the practice. Mas (2011) investigated the readiness of agricultural value chains to branchless banking and identified the following key factors that determine whether an agricultural value chain is ready to adopt branchless banking services:

- Concentration of buyers: the number of payers will affect the potential for limited interventions to have a catalytic effect in driving new mobile money ecosystems.
- Frequency of payments: a steady flow of payments throughout the year creates recurrent business for local agents. The individual transactions are smaller, which makes it easier for mobile money agents to meet liquidity needs.
- Input finance mechanism used: this determines the number of transactions further upstream in the value chain that can be shifted to mobile money. Under contract farming, for example, inputs are provided by buyers in kind, so there are no cash payments for inputs.
- Socio-demographics of the farmer base: the age profile of farmers will affect the ease with which they might adopt mobile money. Also, the physical distribution of farms (population density, distance of paved roads) and the prevalence of other economic activity within those farming communities will impact the viability of mobile money agent business models.

Cobert *et al.*, (2012) identified agent network, product offering, corporate commitment, regulation, partnerships, technology and market structure as key factors that drive on-the-ground success development for mobile money. Coetzee (2012) stresses that branchless banking services can best be deployed provided the following are in place:

- There is reasonable potential for branchless banking in terms of outreach, commercial viability, reaching challenging populations and geographies, partnership options.
- There is shared infrastructure to ensure interoperability and efficiency.
- A high mobile phone penetration (% by population).
- Evidence of literacy.
- Conducive regulatory environment.
- Evidence of technology adoption (prior use of SMS texting, etc.).

Heyer and Mas (2009) investigated pre-existing and enabling country conditions that will ensure fertile mobile money grounds drawing lessons from Kenya's M-PESA mobile money success. In their findings they provided market insights on key business features of mobile money that can ensure a highly scalable viral effect of mobile money. These three features include the needs for volume, speed and coverage. Firstly, they argued that the mobile money business model depends on volume: being able to capture a large number of relatively small transactions. Secondly, the mobile money model requires speed: being able to generate momentum and trigger simultaneous interest among users and merchants. Thirdly, the mobile money model requires coverage: being able to use it anytime, wherever one happens to be, and to send money to anyone, anywhere. In addition they identified five factors that determine the potential for scale of the money market opportunity in a given market. These include: latent demand, the quality of existing alternative services, the regulatory environment, and the market landscape for both retail channels and cellular services (Table 2.3).



Table 2.3: Country readiness factors for mobile money

Factor	Issues to probe
Latent demand for transactions and savings among the poor	<ul style="list-style-type: none"> Do the volumes and profile of transactions (payments, social welfare grants, pensions, and remittances) and savings among the general population indicate a scalable opportunity? Is there a ready market of early adopters
Accessibility and quality of existing alternatives to mobile money	<ul style="list-style-type: none"> What share of households has access to a formal bank account? How many of these enable bank transfers? What are the direct costs (fees, interest rates), safety (the probability that I may lose my money?), reliability (availability when need), convenience (easy to use?), and opportunity costs of accessibility and convenience (time taken and distance travelled to access) associated with making transfers through formal, semi-formal and informal channels
Friendliness of the regulatory environment to mobile money	<ul style="list-style-type: none"> How flexible are Know Your Customer (KYC) requirements for low-balance accounts? Are there pricing restrictions on low-balance or e-money accounts? Are there interoperability obligations on mobile money schemes?
Quality of existing retail infrastructure	<ul style="list-style-type: none"> What is the health and geographic reach of post offices or other government retail networks? Do nation-wide retail franchises exist that have a strong presence in poor communities across the territory? What is the strength of distributor networks? What is the penetration of bank branches across the territory?
Mobile market landscape	<ul style="list-style-type: none"> What is the penetration of mobile services in general and with poorer people in particular? How many cellular subscribers regularly use mobile data services?

Source: Heyer and Mas (2009)

The next section presents the conceptual framework that was used in this study building on insights gathered from the literature reviewed in this chapter. The framework provides a guide to how the study used the value chain analysis framework to answer the research questions and objectives.

2.10 Conceptual framework

The conceptual framework that was adapted for this study is based on the contract farming value chain analysis framework between a produce marketing and processing company and smallholder farmers (Figure 2.4). A typical contract farming value chain finance setup is based on a detailed contract where farmers receive loans either in cash or in kind from a commodity marketing company and in turn the farmers agree to sell their commodity to the

commodity marketing company. Farmers may also access financial services from sources external to the value chain actors which they can use to finance various value chain activities, as can be seen from Figure 2.4 below.

Using the contract farming value chain framework, this study sought to identify key transaction points along the smallholder farmer value chain where branchless banking services can be integrated. The key assumption for this analysis is that branchless banking services can be integrated into the smallholder farmer value chain at transaction points where financial transactions are conducted on a cash basis or where there are informal or formal transactions that can be easily shifted to a branchless banking platform. For analysis the focus was however limited financial transactions that are directly linked to smallholder farmers and not upstream transactions that involve other value chain partners (see circled area in Figure 2.4).

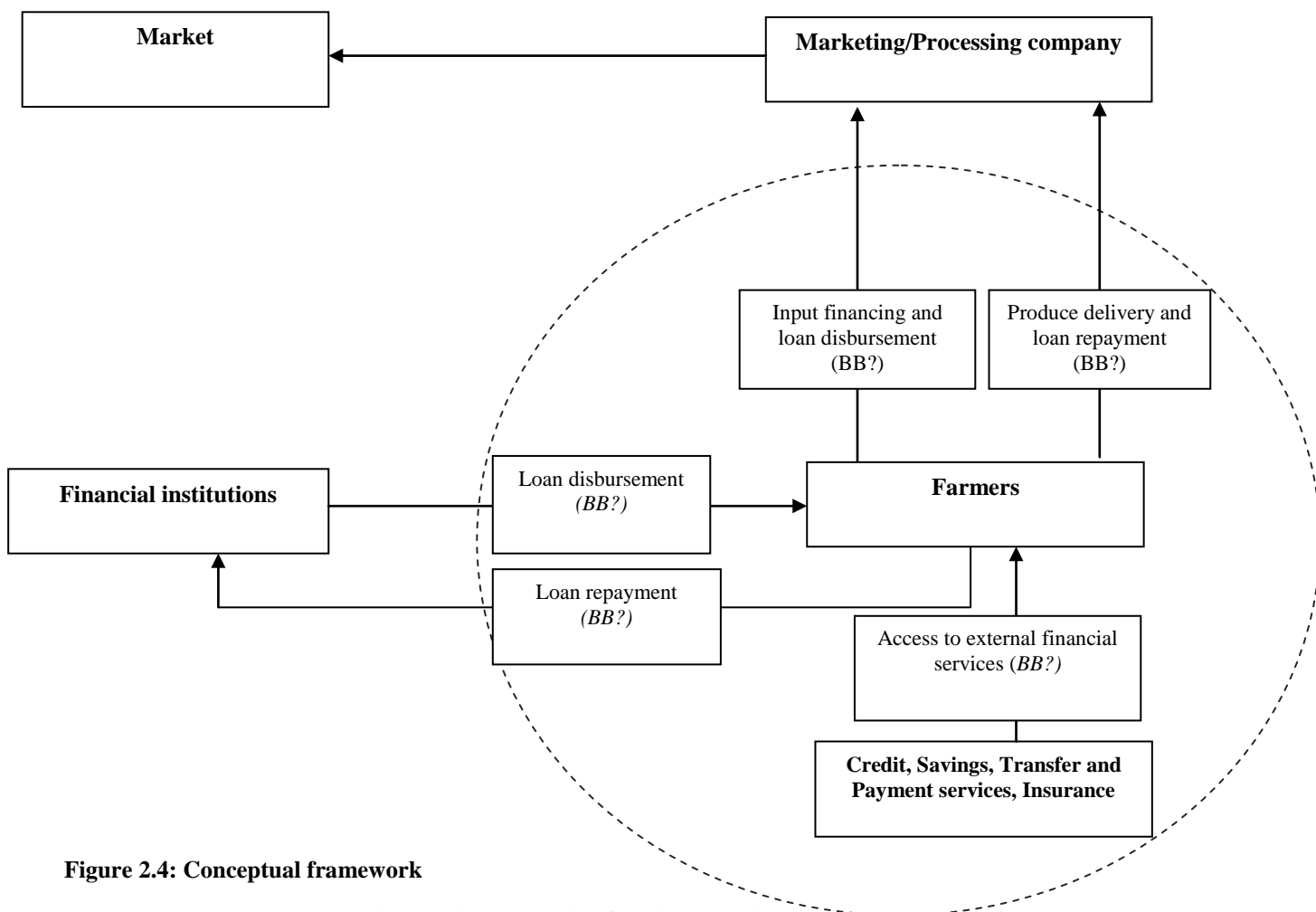


Figure 2.4: Conceptual framework

NB: BB? = Can branchless banking services be applied for this transaction?

2.11 Chapter summary and insights

The objective of this chapter was to present literature around development of financial services for smallholder farmers. The chapter showed that smallholder farmers in general do not have adequate access to formal financial services due to the high levels of transaction costs that characterise smallholder agriculture. For this reason smallholder farmers continue to rely on informal financial services which are often costly to access. Developments in the field of agricultural finance supply models have allowed for smallholder farmers to access financial services making use of business relationships governing their production within a value chain system. However the chapter highlighted that value chain financing is limited as it does not fully address the financial needs of farmers. This was seen to be addressed through application of branchless banking services which will help lower transaction costs and facilitate linkages between farmers and financial markets in respect of the full spectrum of financial services.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodological framework that was used to answer the research objectives and test the guiding research hypotheses. It begins by presenting a descriptive overview of the survey area and the value chain selection criteria. The second part discusses sampling methods, data requirements, sources and handling methods that were used in the study. The last part of the chapter presents the analytical framework outlining the main enquiry strategy that was used to analyse the data and answer the research objectives.

3.2 Value chain selection criteria

The study selected its value chain for the assessment using the conceptual framework presented in the previous chapter seeking a value chain where value chain financing is offered to farmers on a contractual basis with a commodity marketing company. The cotton value chain was therefore selected on this basis because it is one of the key value chains where smallholder farmers in Zimbabwe currently access production finance from commodity marketing companies on a contractual basis.

3.3 Profile of the study area

The field research was conducted in the Gokwe farming district which falls under the Midlands province of Zimbabwe. The region was chosen on the basis of its rural location, strong agriculture base and potential and recent influx of new businesses, many of whom provide value chain finance services to participants in the dominant value chains serving the cotton enterprises through contract farming and input credit schemes. Gokwe farming district falls under Natural farming region III which is dominated by smallholder cotton farming. Natural farming region III is a semi-intensive farming region covering 19% of Zimbabwe's total land area. It is characterised by moderate rainfall in total amount of between 650-800mm per year; severe mid-season dry spells make it marginal for maize, tobacco and cotton, or for enterprises based on crop production alone.

3.4 Data sources and types

The study used a combination of both quantitative and qualitative data collected from primary and secondary sources. Primary data was collected from smallholder cotton farmers through a survey which was administered using a structured questionnaire and through semi-structured interviews with various stakeholders in the cotton industry. Secondary data was collected from various sources which included, the Ministry of Agriculture, Reserve Bank of Zimbabwe, post and telecommunications regulatory authorities, FinScope surveys, academic studies, journals and research articles.

3.5 Sample frame and sampling methods

The study used the simple random sampling method to select a total of 80 farming households from the rural areas of Chitekete and Huchu in the Gokwe district. The study selected research sites where a relatively homogenous population of small farmers was located drawing farmers from the same socioeconomic stratum located within a specific geographical proximity that occupied the same agro-climatic and marketing environment. Due to the relative similarity in the socio-economic characteristics of the farmers in the survey area a simple random sampling method provided an unbiased representation of the population as all the farmers in the area had an equal probability of being selected.

Two farmer groups formed the survey sample: contracted and non-contracted farmers. Contracted farmers constituted of smallholder farmers that produce cotton under contract farming schemes whereas non-contracted farmers constituted of smallholder farmers that produce cotton outside contract farming schemes. The contracted farmer category was the focal group of the study because farmers in this category have access to value chain financing through contract farming schemes. Non-contracted farmers were introduced as a control group to allow statistically valid comparisons.

3.6 Data management

Data collected from the household survey was entered, verified, coded and cleaned using the Microsoft Excel software package due to its ease of handling both string and coded variables. The coded data was exported into the Statistical Package for Social Sciences for Windows (SPSS 20.0) for descriptive analysis. SPSS was chosen due to its great analysis capabilities and ability to handle the multiple forms of data collected in the survey.



3.7 Data analysis and analytical framework

Table 3.1 outlines the research analytical framework highlighting the methodology that was used to investigate the study objectives, research questions, hypothesis and the data sources.

Table 3.1: Analytical framework

Objectives	Questions	Hypothesis	Methodology	Data Source (s)
To conduct a value chain analysis of the smallholder contract farming scheme and identify how smallholder cotton farmers access financial services within a value chain finance mechanism	What are the different types of financial services available to farmers within a value chain finance mechanism?	Value chain financing through contract farming provides smallholder farmers with access to short term input credit support only.	Descriptive Value Chain Analysis	Primary + Secondary data
To identify transaction points along the smallholder cotton value chain where branchless banking services can be used to drive financial transactions.	Are there transaction points along the smallholder cotton chain where branchless banking services can be used to drive financial transactions?	There is a potential market for branchless banking transactions along the smallholder farmer value chain.	Descriptive analysis	
To assess the accessibility and quality of branchless banking services in comparison to exiting alternative channels of transacting.	How do branchless banking services compare to existing alternative channels in terms of accessibility and quality when conducting financial transactions?	Branchless banking services compare favourably to other existing alternative transacting platforms in terms of accessibility and quality of services.	Transaction costs economics framework.	Primary + Secondary data
To investigate the readiness of the smallholder farmer market to adopt branchless banking services.	Is there a ready-to-adopt smallholder farmer market with the willingness and capacity to adopt branchless banking services?	Smallholder cotton farmers do have the capacity to adopt branchless banking services.	Descriptive analysis	Primary + Secondary data
To assess the friendliness of the business environment in supporting branchless banking development.	Does the current business environment support branchless banking development?	The current policy and regulatory framework and retail agent network supports branchless banking services development.	Descriptive analysis	Primary + Secondary data

Data analysis made use of three different techniques namely value chain analysis technique, Transaction Costs Economics (TCE) framework and descriptive analysis technique. Value chain analysis was used to provide a description of the smallholder cotton value chain and also a description of value chain financing of smallholder cotton farmers. The TCE framework was used to assess and compare the accessibility and quality of branchless banking services to alternative transacting platforms. This assessment looked at how branchless banking compares in terms of the direct costs (fees, interest rates), safety (the probability that I may lose my money?), reliability (availability when need), convenience (easy to use?), and opportunity costs of accessibility and convenience (time taken and distance travelled to access) associated with making financial transactions. Descriptive analysis techniques were used to assess the readiness of the smallholder farmer market to branchless banking adoption looking at the willingness, physical and technical capacity of smallholder farmers to adopt branchless banking services. Descriptive analysis techniques also helped cover the assessment of the branchless banking business environment in the context of creating an enabling environment for branchless banking services development using two indicators i.e. branchless banking regulation and quality of rural retail infrastructure.

3.8 Chapter summary

This chapter presented the methods that were used to conduct the study to answer the study objectives and hypotheses. This covered the value chain selection criteria, a detailed profile of the study area, data sources, collection methods and management techniques, and the analytical framework that was used for analysing the data.

CHAPTER 4:

VALUE CHAIN FINANCE FOR SMALLHOLDER COTTON FARMERS

4.1 Introduction

The objective of this chapter is to present results and insights around the value chain financing of smallholder cotton farmers. The chapter gives a descriptive overview of the smallholder cotton value chain from a contract farming perspective highlighting the value chain structure, the availability of value chain finance, and the key features of the financial relationships between agents in the value chain. For this value chain, a description of the contract specifications is conducted together with an overview of the institutional framework of contract farming and value chain challenges.

4.2 Description of the smallholder cotton value chain

The smallholder cotton value chain consists of the following main functions: input supply, production, processing, wholesale and retail marketing. Primary production occurs through two main channels which also influence how farmers access inputs. The first channel comprises of small scale farmers independently producing cotton for marketing to cotton companies outside formal contract schemes. Inputs are accessed through private purchase from local agro dealers or through input support schemes provided by government or development organisations. Farmers access production finance through self-finance mechanisms which include informal savings, borrowings from friends and family and remittances. Upon harvest this group of independent non-contracted farmers sell their cotton on spot markets to rural traders or to cotton marketing companies' central buying points.

The second channel of cotton production occurs through contract farming schemes between small scale farmers and cotton marketing companies. Cotton contract farming in Zimbabwe is based on a detailed written contract between individual farmers and cotton companies. Farmers receive loans on an individual basis, however in some cases farmers are organised into groups supervised by a group chairman to ensure compliance and monitoring to reduce issues of side marketing and loan defaulting. Farmers are selected for input credit schemes based on their previous production history and capacity to produce cotton with preference given to farmers with a history of higher production output and a good loan repayment record.

Under the contract, farmers are given a credit limit which is set against the land size on which the cotton is to be grown. The credit limit is further set against the farmer's previous production history. Contracts are seasonal but outstanding debt is carried over into the next season with interest accruing on all outstanding debt. In accordance with the contract, smallholder farmers receive production inputs as well as tillage and transport from the cotton companies with which they are contracted to. Loan and extension officers disburse inputs in tranches according to the growth stage of the crop and also closely monitor farmers and coordinate collection of the crop after harvest and provide technical advice to farmers. In some cases cash loan advances are extended to farmers with landholding of at least 5 hectares to support farmers with tillage, diesel purchase, and to pay labour for weeding and picking cotton (Survey, 2012).

In accordance with the contract, after harvesting the farmer is obliged to deliver cotton to the company in order to repay the input credit. Loans are repaid through deducting the loan from the value of the cotton that the farmer delivers. Cash repayments are only accepted in the event were a farmer fails to repay loans using cotton. Farmers who fail to repay their loans using either cotton or cash have their assets confiscated. These assets are declared upon signing of the contract as a form of collateral. Upon repaying their loan in full farmers will receive net payments for their cotton in cash payments. These transactions are conducted at central buying points which are temporarily set up around farming communities during the cotton buying season.

Cotton seed purchased from both groups of farmers is sent to cotton ginneries for processing. After processing end products are sold on domestic and international markets to various end users who include textile industries, livestock feed producers, and oil producers. Figure 2.1 below provides a graphical illustration of the cotton value chain showing how products and financial services flow among the different value chain actors.

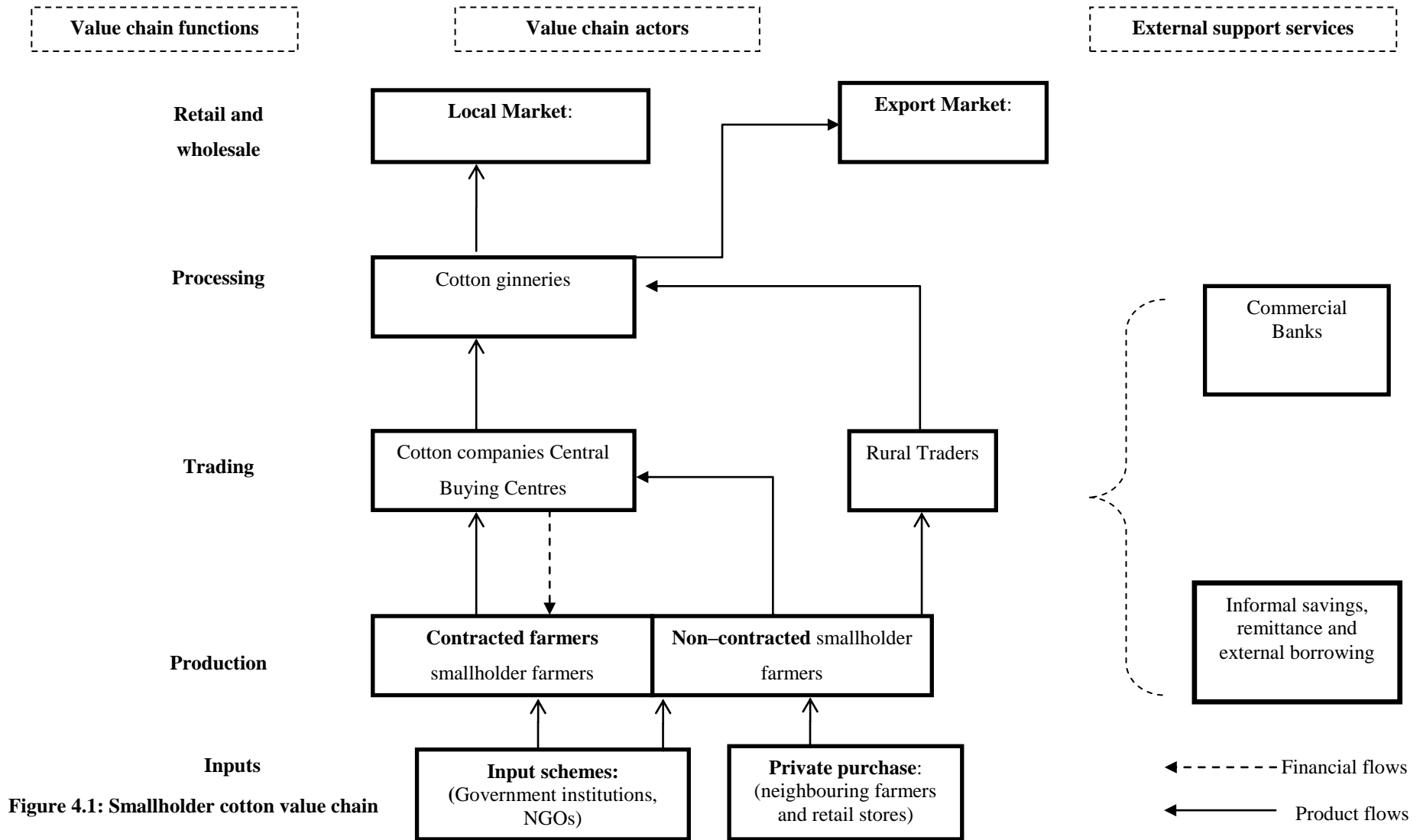


Figure 4.1: Smallholder cotton value chain

4.2.1 Institutional framework and key value chain actors

In addition to farmers, several other players drive the smallholder cotton value chain and play important roles. These players include cotton marketing companies, cotton ginneries, financial institutions and market players. Apex regulating bodies which include the Agricultural Marketing Association (AMA) and the Cotton Ginneries Association (CGA) and government ministries play a regulatory and supportive role within the chain.

4.2.1.1 Farmers

The farmers are probably the most important actors within the chain as their production activities are the key drivers of the value chain. As noted in 4.2 two smallholder cotton farmer categories can be split into two categories: contracted and non-contracted farmers. These farmers were further segmented across the following characteristics: average size of cultivated land, types of crops generally grown on the farm (e.g., staple crops, high-value cash crops), literacy levels of the farmers, mechanisation of farming operations, and commercialisation of production.

Table 4.1 summarises these key characteristics of the smallholder farmers highlighting the similarities and differences between the two farmer groups across the various socio-economic characteristics using segmentation framework designed by the IFC (2013). The results presented in Table 4.1 indicate that of the two different farmer categories contracted farmers display more commercially oriented characteristics. This is because contracted farmers on average were found to cultivate larger areas of land, engage in more mechanised and diversified farming, and have higher output levels, have higher literacy rates, and have stronger linkages to output markets.



Table 4.1: Selected characteristics of the surveyed farmers

Characteristic	Farmer segment	
	Contracted farmers	Non-contracted farmers
Population in sample	58	22
Average size of cultivated land (ha)	2.9	2.3
Literacy levels	96% of sample received formal education	77% of sample received formal education
Predominant labour used	Hired and family labour	Family labour
Mechanisation (land preparation methods)	Use animal drawn and hand implements	Mostly use hand implements few cases of animal drawn implements
Production levels	Average cotton output 1186 kg Average maize output 346 kg	Average cotton output 684 kg Average maize output 449 kg
Crop mix	Staple crops include maize and few cases of groundnuts production. Cotton only cash crop	One staple crop (maize) and one cash crop (cotton)
Engagement with markets	Linked to cotton markets through contract farming arrangements	Not linked to cotton markets through contract farming, sell on spot market basis.

Source: Survey data (2012)

4.2.1.2 Cotton marketing companies

Cotton marketing companies play essential roles in the cotton industry as the contractors, suppliers of farming inputs, financiers to and off takers of cotton from farmers. In addition they also offer technical support (extension) and in some cases tillage and transport support to the farmers. One of the most important of all these roles is the provision of production finance to smallholder farmers through their contract schemes which is often not readily available from formal financial institutions.

4.2.1.3 Cotton ginneries

Ginneries play a major role in adding value to cotton seed and linking processed goods to the market. Cotton ginneries in Zimbabwe are generally of two types, independently run ginneries and cotton marketing company owned ginneries.



4.2.1.4 Financial institutions

Commercial banks are, indirectly, the most active formal financial institutions in smallholder contract farming. These institutions support smallholder cotton farming through extension of credit services to cotton marketing companies to assist them in purchasing inputs used in contract farming. Smallholder farmers in turn benefit indirectly from financial institution financing through input credit schemes.

4.2.1.5 The Government of Zimbabwe

The Government of Zimbabwe through the Ministry of Agriculture Mechanisation and Irrigation Development plays a regulatory and governance role in smallholder contract farming by enforcing the parameters under which stakeholders in the cotton value chain may operate. Companies wishing to contract farmers to grow crops are compelled to sign a Memorandum of Understanding (MOU) with the Ministry of Agriculture Mechanisation and Irrigation Development. The MOU specifies that contracting companies should provide farmers with extension services, farming inputs including seed, chemicals, tillage, harvesting, curing and marketing resources to a specified value (FAO, 2011).

In addition to formulating policies, government also supports smallholder contract farming schemes through various input support programmes targeting smallholder farmers across different value chains including the cotton value chain. One notable example was the Smallholder Farmer Agriculture Inputs, Extension and Marketing Support Programme for the 2011/12 summer crop which was implemented by the Ministry of Agriculture Mechanisation and Irrigation Development in collaboration with Non-Governmental Organisations (NGOs), and the private sector. The programme targeted at least 870 000 households from communal farmers, resettlement farmers and small scale commercial farmers. At least 220 000 households were set to receive subsidized input vouchers, 540 000 households market linkage support to output and credit markets, and 110 000 households benefited from food for asset programmes (Government of Zimbabwe, 2012).

4.2.1.6 Cotton Ginners Association

The Cotton Ginners Association (CGA) is a civil institution that has a broad mandate to ensure fair practices in the cotton industry and to monitor the field operations of individual company members to ensure that farmer sales are made to the input financing company. This

involves facilitating contract production, ginning and marketing of cotton and ensuring fair trade practices and adherence to quality standards by member companies.

4.2.1.7 Agricultural Marketing Association

The Agricultural Marketing Authority (AMA) is a statutory body that was established by the Zimbabwean parliament with a mandate to regulate the participation in production, buying and processing of agricultural products in Zimbabwe. AMA's role in the cotton sector is to ensure increase in seed cotton production and cotton supply to existing ginning, textile manufacturing industries. It also helps cotton companies take advantage of export market opportunities while at the same time, ensuring that there is order and fairness in the marketing of seed cotton.

4.2.2 Regulation of the Zimbabwe cotton sector

Zimbabwe has to date not yet formulated a policy that governs cotton contract farming in the country. However, information gathered through stakeholder consultations and key informant interviews revealed that there are some legal instruments that have been put in place that deal with contracting and marketing of cotton in the country. One such initiative was the introduction of The Agricultural Marketing Authority (AMA) Seed Cotton and Seed Cotton Products Regulations Statutory Instrument 142 in August 2009 in an effort to curb side marketing of cotton. This piece of legislation was implemented to help ensure long term viability of the cotton industry though regulating the entire cotton value chain from production to marketing. The Statutory instrument has since been amended (Statutory Instrument 63 of 2011) to make the regulations more effective in addressing side marketing (Mujeyi et.al, forthcoming). The main objective of this instrument is to prevent multiple contracting as well as to ensure timely provision of inputs. The regulations provide for the establishment of a committee, the Cotton Marketing Technical Committee (CMTTC), under the AMA, to spearhead and oversee the implementation of the regulatory framework.

Although not documented, government has also put in place laws that deal with the marketing of processed goods by cotton companies. It was noted in some of the stakeholder interviews that certain processed cotton products are not permitted by law to be sold on the export market. For example all processed cotton seed cake produced in Zimbabwe should be sold on the local market to livestock feed producers who use it to make stock feed and by law may not be exported. Secondly, cotton companies are compelled to sell between 25-30% of

processed cotton lint on the local market to manufacturers and not export more than 70%. Thirdly, all processed ginned seed is sold on the domestic market to oil processors who use it to make vegetable oil, soap and fat and is by law not allowed to be exported.

4.2.3 Key challenges affecting the Zimbabwean cotton sector

This study identified three key challenges facing the cotton sector in Zimbabwe which pose a threat to the sustainability of the sector. These challenges include low productivity of small scale farmers, contract defaulting and government intervention in the cotton market. Each of these challenges is discussed in the following sections.

4.2.3.1 Low productivity/profitability

Low productivity of smallholder cotton farming was highlighted as a significant challenge by cotton companies with the potential of threatening the sustainability of contract farming. Low productivity levels affect the profitability of the farmer's business which may lead to farmers resorting to production of other commodities and thus pushing cotton companies out of business. According to information provided by cotton companies the productivity level of smallholder cotton farmers is currently estimated to be below 50% of the crop's potential yield. This was found to result from lack of production resources (adequate inputs, agricultural labour, and credit), inadequate access to farming implements, unpredictable weather patterns and erratic rainfall are the main challenges limiting productivity. The other key contributing factor towards low profitability of small scale cotton enterprises that was identified was the volatility of cotton prices which are influenced by prices on the world market.

4.2.3.2 Contract defaulting

The second challenge which poses a significant threat towards the sustainability of cotton contract farming schemes is contract defaulting. Contract defaulting occurs when farmers fail to honour their contractual obligation to deliver on their repayment promise. Ways in which farmers were found to default relate to side marketing driven mainly by low market prices and input diversion. Investigation of cases of loan defaulting among the farmers revealed that 10% of farmers from the sample had previously defaulted on their input loans at least once. Reasons for defaulting that were provided by the farmers include low yields and low prices. Farmers reported that upon harvesting cotton should the company they are contracted to deliver their cotton to offer a price lower than that offered by a third party on the spot market,



the farmer will opt to sell his/her cotton to a third party and get more income to repay their loan in cash to the cotton company.

Contract defaulting also occurs as a result of input diversion. Input diversion arises when farmers divert inputs accessed under contract farming and use it in the production of another crop or selling the inputs to another party. As a result the amount of inputs applied to the crop will be inadequate to generate the yield that will provide enough income to repay loans leading to contract default. The study investigated input diversion amongst the farmers and found out that farmers often divert inputs selling inputs accessed under contract farming to other farmers so that they can access cash for other household and production needs. This case of input diversion was reported by 5 farmers (6.3%) from the study. Another 25% of the farmers from the study indicated that they purchase inputs for cotton production from farmers that access inputs under input credit schemes with cotton companies, a case which strongly signifies the existence of input diversion.

It should be noted here that selling inputs to access income and diversion of fertiliser towards the production of other commodities highlights the lack of access to adequate finance by smallholder farmers to meet their various production needs outside contract farming schemes.

4.2.3.3 Government interventions

Government policies and interventions in the cotton market were also reported as another challenge in the contract farming industry. Cotton companies reported that government interventions in the cotton market through price fixing leads to market distortions posing a major challenge to their businesses. This was reported to lead to unprofitability of companies' businesses as they are forced to purchase seed at prices higher than what they will fetch on the world market. As a result cotton companies fail to breakeven.

4.3 Value chain financing of smallholder cotton farmers

Value chain financing of smallholder cotton farmers is generally of two types, direct internal value chain finance and the external indirect value chain finance.

4.3.1 Direct internal value chain financing

Internal direct value chain financing for smallholder cotton farmers follows the typical direct value chain finance approach whereby farmers receive financial support from within the

chain through value chain actors. As was discussed earlier, this is done through contract farming arrangements whereby cotton marketing companies extend finance to farmers in kind in the form of seed, fertiliser, and packaging material.

4.3.2 Indirect external value chain financing

According to the definitions provided in Chapter two, external value chain finance occurs through actors that are external to the value chain. Two sources of external value chain finance were identified from this study; these include commercial banks and informal sources. Commercial banks finance the cotton value chain through marketing companies to assist them with their contract farming schemes. Cotton companies use finance accessed from commercial banks to purchase inputs which they will on lend to farmers under their contract farming schemes.

The second source of external value chain finance was informal finance which provided finance to the farmers. Borrowings from friends and families, informal savings and remittances formed part of the informal external financing options for the farmers. The following sub-sections discuss in greater detail how farmers from the survey access and use these financial services.

4.3.2.1 Loans and credit services

This section provides a descriptive analysis on credit patterns of the smallholder cotton farmers from the sample looking at how smallholder farmers typically access and used credit services.

Results from the study show that less than half of the farmers have access to credit services with only 48% of the farmers from the survey reporting having borrowed money in previous twelve months leading up to the survey time. For these farmers money was borrowed mainly from friends and family and was used to finance daily household needs as well as to purchase production inputs for various agricultural enterprises. All loan transactions were conducted on a cash basis and none of the farmers from either farmer categories reported having borrowed money from a formal financial institution or from a credit and savings group.

4.3.2.2 Savings

This section discusses the savings patterns of the farmers. For purposes of this study savings were defined as income/money put away for future use. Farmers were asked to indicate how

they save money/income generated from cotton sales, off-farm sources as well as remittances which they intend to use for both household and agricultural productive needs.

All the interviewed farmers (100%) from the study reported that they engage in saving activities. For these farmers savings were kept to meet various household needs, paying children's education and to raise income for agricultural practices. Income was found to be saved informally either in kind or as cash. The majority of the farmers (76%) save through purchasing livestock whereas the remaining 24% of the farmers engaged in home based cash savings. For farmers that save in kind through livestock the main reason for their choice was that unlike hiding money at home, livestock breed and grow in numbers giving farmers the opportunity to generate more income. Farmers who engage in home based cash savings reported that they preferred this form of saving because of the convenience of allowing farmers to readily access money when needed. None of the farmers reported having saved their income in a formal financial institution or in a savings group in the past twelve months leading to the time of the survey.

4.3.2.3 Remittances and money transfers

This section looks at how farmers from the survey access remittances from relatives residing in another city or country. Sixty-four per cent (64%) of the farmers reported having received money from family members at least once either residing inside or outside the country over the past twelve months. Money is sent to help family members with household as well as production needs and is delivered to farmers mainly through human carriage of funds. Eighty-six percent (86%) of the farmers reported that they receive money transfers through public transport operators whilst the remaining 14% of farmers receive their money transfers through friends and family members. None of the farmers reported using formal financial institutions to receive their remittances as at the time of the survey.

4.3.2.4 Insurance services

None of the farmers reported having any insurance services for their crops and or livestock either from a formal or informal source.

From the results presented in the above discussions it can be noted that none of the farmers from the survey had access to any financial service from a formal financial institution. In light of these findings the study sought to investigate the reasons for this lack of access to formal finance by smallholder farmers. These reasons are discussed in the following section.

4.4 Barriers to access to formal financial services

From the supply side five commercial banks were and helped provide a supply side perspective of the barriers to small farmer financing. On the demand side smallholder cotton farmers from the survey were simply asked to provide reasons why they fail to access financial services from formal financial institutions. Secondary data sources also helped provide insights on why smallholder farmers in Zimbabwe as a whole fail to access financial services from formal financial institutions. These various reasons are discussed in detail in the following sub-sections.

4.4.1 Limited agricultural support from financial institutions

One of the key challenges to small farmer financing in Zimbabwe is the general lack of interest to finance agriculture and small farmers in particular due to the general perception that agriculture is a risky sector and does not offer commercial returns for a bank. Chikoko and Magwendeza (2012) investigated the key challenges to financial inclusion in Zimbabwe and reported that inadequate funding from commercial banks is a key challenge to financial inclusion in Zimbabwe. The same was identified from this study with the findings from the study showing that most commercial banks in Zimbabwe have a limited presence in agricultural lending. Interviews with commercial banks from the survey highlighted that despite that all the banks have a dedicated agricultural loan portfolio, lending was only limited to large-scale commercial and corporate agricultural activities and not extended to smallholder farmers. Banks were asked to indicate the share of agriculture lending as part of their total loan portfolio as well as the number of active small scale farmers that formed part of their agricultural loan portfolio. The results from the interviews are summarised in Table 4.2.

Table 4.2: Commercial Bank agricultural support as of 2011/2012 farming season

Bank	% of loan portfolio made up by agriculture	Number of actively borrowing smallholder farmers in agri portfolio
CBZ	15-20%	485
Standard Chartered Bank	40%	0
ZB Bank	15%	Approx. 300
AgriBank	Approx. 10%	0
Ecobank	Approx. 20%	0

Source: Survey Data (2012)

It can be seen from these results that for most of these commercial banks have a limited commitment towards agricultural lending and an even smaller number of small-scale farmers that are actively borrowing from the banks.

4.4.2 Information asymmetry

Information asymmetry poses another challenge. Chikoko and Magwendeza (2012) identified high information costs together with transaction and monitoring costs as key contributing factors towards challenges to financial inclusion in Zimbabwe. This study also picked up that smallholder farmers fail to access financial services from formal financial institutions due to lack of adequate information between farmers and the finance institutions. A total of 38 farmers (48%) reported that they have never approached a financial institution for financial services because they are unaware of the bank's requirements when seeking financial services. On the other end banks reported that they often fail to extend financial services to small scale farmers because they lack adequate information to help them to better understand smallholder agriculture and the farmers' creditworthiness and ability to repay loans.

4.4.3 Self-exclusion and psychological costs

According to Coetzee (2012) psychological costs to clients such as the stress of debt and over indebtedness can lead to self-exclusion by individuals. Self-exclusion normally arises when individuals choose not to seek financial services from a financial institution either voluntarily or involuntarily. Voluntary self-exclusion may result through a general lack of interest by individuals to access financial services from financial institutions and rather resorting to other sources of finance. Involuntary self-exclusion can result from individuals choosing not to

access financial services from a financial institution due to the prohibitive costs of banking as well as failing to access products that match their needs from financial institutions.

The main reason for self-exclusion that was identified from the study was fear of indebtedness. A total of 29 farmers (36%) reported that they do not seek financial services from commercial banks because they are afraid of indebtedness as they perceived their productivity levels to be too low to generate adequate income to repay loans from a bank. Another group 8 farmers (10%) of farmers reported that they voluntarily choose not to seek financial services from a bank as they preferred self- using income generated from farming activities or to locally borrow from friends and family members.

Studies by FinScope (2011) and Chikoko and Magwendeza (2012) revealed that access to banking services in Zimbabwe is limited by the high levels of bank charges levied by commercial banks in the country. A similar case was identified from the study with 3 farmers (3.8%) from the survey reporting that they do not seek financial services from a banking institution because they perceive banking costs to be too high.

4.4.4 Collateral requirements

One of the key barriers to lending to smallholder farmers is the lack of access to collateral for commercial banks. For most commercial banks the general collateral requirements constitute of immovable property which may not be feasible for rural farming households. Chikoko and Magwendedza (2012) identified lack of collateral as a key challenge to financial inclusion in Zimbabwe. The same was noted during the survey as all the commercial banks that were interviewed reported that they do not lend to small scale farmers because they are not able to provide security cover which meets their collateral requirements. For these banks, lending practices are collateral based and the required collateral should either be title deeds to a property or immovable property, both of which are not feasible amongst smallholder farmers. Land tenure systems in the survey area characterised by traditional and customary tenure systems with no backing title to land, making lending against such land a significant challenge.

4.4.5 Lack of bank accounts and appropriate documentation

Compliance and regulatory costs, such as the cost of documentation to adhere to Know-Your-Client requirements also drive costs that create challenges for individuals to access financial services (Coetzee, 2012). FinScope (2011), and Chikoko and Magwendedza (2012) cited

regulatory factors which include stringent account opening requirements e.g. provision of identity documentation and proof of residence to open accounts as challenges to financial inclusion in Zimbabwe.

Commercial banks that were interviewed in the study indicated that as part of their KYC requirements they require individuals to have access to a bank account. To open a bank account individuals will be required to provide an identity document, proof of employment or income, proof of residence through receipts of utility bills. For agricultural based lending banks require farmers to submit production records, list of assets used on the farm, proof of access to land through either an allocation permit/offer letter or lease arrangement, cropping programme and cash flow for the coming season. According to information provided by the banks this information is critical for them to assess the repayment capacity of the farmers as well as their creditworthiness. However the banks indicated that the majority of small scale farmers fail to provide these documents particularly production records, cash flow projections, title/lease letters and more importantly a proof of access to a bank account.

4.4.6 Accessibility constraints

Access to finance is often hindered by physical barriers such as distance from a financial institution which poses significant access constraints. Due to the poorly developed infrastructure in rural areas most commercial banks do shy away from setting up bank branches in rural areas thus limiting their accessibility to rural populations. A study by FinScope (2011) reports that the majority of Zimbabweans fail to access banking services because most commercial banks are beyond their physical reach. The study reports that 49% of the urban population in Zimbabwe stay within 30 minutes of a commercial bank whereas only 5% of rural populations stay within 30 minutes of a commercial bank. In another study the Reserve Bank of Zimbabwe (2011) reports that 70% of the country's population which is in the rural areas is served by only 11.7% of the banks' total branch network.

Commercial banks that took part in this study were asked to provide the geographical spread of their bank branches in rural areas to assess accessibility of bank branches in rural areas. The distribution of these banks' branches in rural areas is summarised in Table 4.3. It can be seen that with the exception of the Agricultural Development Bank (Agribank), which has branches across all provinces in both rural and urban areas, the majority of the banks have a

limited to no presence in rural areas making their accessibility a challenge to rural communities.

Table 4.3: Distribution of commercial bank infrastructure in rural areas

Bank	Total number of Branches	Total number of Rural Branches
CBZ	50	10
ZB Bank	56	5
Standard Chartered Bank	29	0
Agribank	52	Across all provinces*
Eco Bank	8	0

Source: Survey Data (2012)

*: Total number of branches in rural areas could not be provided but the bank did indicate that it has a branch across all rural provinces.

Physical access and proximity to a financial institution was investigated in this study using the distance and time taken to get to the closest financial institution from the survey area. At the time of the investigation the closest commercial banks from the survey area (Chitekete and Huchu farming areas) were located approximately 100km away at Gokwe Business Centre. On average it will take individuals 1 hour (60 minutes) to travel to the bank at a cost of USD5.00 for a one way trip

4.5 Chapter summary

This chapter provided key insights on how value chain financing of smallholder cotton farmers in Zimbabwe highlighting how these farmers access and use financial services accessed from sources internal and external to the cotton value chain. The chapter indicated that smallholder farmers have a limited access to financial services sourced from private sector agribusinesses. These financial services are however limited to farmers that are part of contract farming schemes leaving un-contracted farmers to access financial services from informal sources as they continue to face numerous challenges to access financial services from commercial banks.

CHAPTER 5:

THE POTENTIAL FOR BRANCHLESS BANKING IN THE SMALLHOLDER COTTON VALUE CHAIN

5.1 Introduction

The objective of this chapter is to investigate whether there is a potential for branchless banking services along the smallholder cotton value chain. The chapter looks at whether there is a market opportunity for branchless banking driven transactions along the chain, a ready to adopt smallholder farmer market and a business environment supportive of branchless banking development.

5.2 Market opportunity for branchless banking in the smallholder chain

This section investigates the market opportunity for branchless banking within the smallholder value chain by identifying transaction points along the chain where branchless banking services can be integrated to help drive financial transactions. Table 5.1 provides a summary of some of the key financial transactions along the smallholder cotton value chain.

Table 5.1: Financial transactions along the smallholder cotton value chain

Transacting value chain actors	Business transaction	Financial product (s)	Formality of transaction
Farmers and friends and relatives	Remittances and loans	Cash	Informal
Farmers	Savings	Cash and in kind	Informal
Farmers, retail stores and neighbouring farmers	Payments for input purchases	Cash	Informal
Farmers and cotton companies	Input credit disbursements and loan repayments	In kind and cash	Formal
Farmers and cotton companies	Net payments for cotton sales	Cash	Informal
Cotton companies and commercial banks	Loan advances and repayments	Bank transfers	Formal
Cotton companies, traders and cotton ginneries	Payments for cotton seed sales	Bank transfers	Formal
Cotton ginneries and end markets	Payments for processed products	Bank transfers	Formal

Source: Survey (2012)

Based on the conceptual framework that was built for this study, the potential areas where branchless banking services can be integrated in a smallholder value chain include areas where financial transactions are conducted on a cash basis or where there are other transactions that can be easily shifted to branchless banking platform. From the results presented in Table 5.1 these transactions/transaction points include:

1. Cash payments for both loans and cotton purchases between cotton companies and farmers
2. Cash savings
3. Cash based money transfers and remittances

The results provided above indicate that there is indeed a potential market to use branchless banking driven to drive financial transactions along the smallholder farmer value chain. The next section covers the second stage of assessing the potential for branchless banking in a smallholder farmer value chain looking at how branchless banking services compare to alternative transacting platforms in terms of availability and quality of services. .

5.3 Accessibility and quality of branchless banking services to smallholder farmers

According to Heyer and Mas (2009), in order to assess the market opportunity for a new mobile money scheme, demand-side indicators must be looked at in the context of the accessibility and quality of the alternatives. In their argument, they indicated that it will be difficult to convince users to switch to the new mechanism if there are many “good” alternatives. Similarly this study argued that there is a strong likelihood that smallholder farmers will adopt branchless banking services if branchless banking services compare favourably to alternative platforms in terms of accessibility and quality of services. The study used the Transaction Costs Economics (TCE) framework to compare accessibility and quality of branchless banking services with two alternative options, the cash based option and the commercial bank option. The assessment looked at whether branchless banking services offers the least cost option through which financial services can be transacted. Cost analysis covered direct costs (fees, interest rates), safety (the probability of losing money?), reliability (availability when need), convenience (easy to use?), and opportunity costs of accessibility and convenience (time taken and distance travelled to access) associated with making financial transactions. In addition, and where applicable, the analysis also took into account

the transaction costs that were identified by Makhura (2001) that arise when individuals exchange ownership rights for economic assets which include: (a) costs of searching for a buyer to conduct trade with, (b) costs of price negotiating and bargaining and (c) costs of screening for potential buyers and contract enforcement.

For branchless banking transactions EcoCash, the leading mobile financial product in Zimbabwe by number of subscribers, was selected as the branchless banking channel for this analysis. The assumption for EcoCash transactions was that all transactions would be conducted at a local retail agent located at a local shopping centre within the farmers' communities. The various costs levied by EcoCash as for various transactions are attached in annex B. For the commercial bank transactions the assumption was that transactions would be conducted at the nearest commercial bank branch which was located 50km from the survey area. As at the time of the survey it cost individuals a total of USD10.00 to travel to the nearest bank over a minimum travel time period of two hours for a roundtrip.

From the discussion provided above it can be appreciated that some of the transaction costs associated with the different transacting options will be qualitative and therefore may prove difficult to quantify. This therefore makes precise cost comparison between the three options difficult as a total cost for each option cannot be arrived at. However, to allow paint a near accurate picture the study adopted a qualitative transaction cost comparison approach to determine which of the three options offer the least cost platform to drive financial transactions. This approach involves listing all, both quantitative and qualitative, costs associated with each option and then delisting the ones which are absent from the branchless banking option to determine the costs which are reduced by branchless banking. In cases where costs were existent for both the alternative option and branchless banking option ticks were employed to indicate the severity of the costs with the ones with the most ticks being considered to be the more costly option. For example, option A and option B both carry time and travel costs but option A is located much further than option B one tick will be used to indicate that for option B the costs are lesser than two ticks that will be used to indicate that for option A the costs are a lot more substantial. The following sections conduct this cost comparison between the three aforementioned options for the three financial transactions identified in section 5.2 where a potential market for branchless banking was identified.



5.3.1 Comparative cost analysis for payment services

This section seeks to assess whether branchless banking services offer the least cost option through which farmers can receive net payments for their cotton sales in comparison to receiving payments in cash or through a commercial bank transfer. From the previous discussions, it was noted that currently, smallholder cotton farmers receive net payments for cotton sales after loan repayments on a cash basis. These payment transactions are carried out at several central buying points which are temporarily set up around the farming communities during the cotton buying season to allow farmers to receive their payments conveniently. Under this current payment arrangement farmers incur costs associated with time and travel spent on travelling to the cotton companies' central buying points to receive their payments. In addition farmers may incur significant costs associated with theft because payments are conducted “publicly” with the full knowledge of other community members. It should be noted however that there is no withdrawal fee charged to the farmer for this transaction.

The second option will be for farmers to receive their payments through a commercial bank transfer. For this option the farmer incurs costs which include, time and travel costs to get to the bank to do a physical withdrawal of the payment, a withdrawal fee charged by the bank and to a lesser extent some costs of losing the money to theft while in transit from the bank. As was previously highlighted in the previous section, as at the time of the survey, the closest banks were located 50km away from the survey area costing individuals USD10.00 for a two way trip to get to the bank over a period of two hours excluding queuing time at the bank. Withdrawal fees that were being charged by the bank at the time stood at 1% of the withdrawal amount (see annex B).

The third option will be for the farmer to receive his/her payment through a branchless banking channel. Based on the key assumption that the farmer collects his/her payment at a branchless banking retail agent located at a local shopping centre, the farmer will incur time and travel costs incurred but these can be considerably less than those that would otherwise be incurred should the farmer travel to the nearest bank branch to get to the retail agent to make a physical withdrawal of the payment as well as withdrawal fee levied on withdrawing cash.



Table 5.2 below summarises these various costs mentioned above and for the three options in question. A discussion on the cost comparison of the three options follows after the table summary.

Table 5.2: Cost comparison EcoCash vs. bank and cash payments.

Transaction costs	Payment channel		
	EcoCash	Cash payments	Bank transfers
Cash withdrawal charges	✓✓	-	✓
Transport costs	-	-	✓✓
Theft costs	✓	✓✓	✓
Time costs	✓	✓	✓✓

Source: Survey (2012)

The results presented in Table 5.2 show that when compared to the cash payment option branchless banking services appear to be costly because they attract a withdrawal fee. In addition both options carry a time and travel cost, however these are not substantial because both options allow farmers to receive their payments locally within the proximity of their communities. The cash option however can be seen to have substantial theft costs because for this option cash payments are somehow public knowledge and attract a great deal of theft rather than the branchless banking option under which the transaction can be done privately inside a retail store.

When compared to the commercial bank option the results presented in Table 5.2 show that both options attract a time and travel cost, well as a withdrawal fee and a theft cost. For arguments sake and to allow for a simple comparison between the two options, using a hypothetical USD100 payment it would cost the farmer USD1.00 in withdrawal fees (1%) and USD10.00 in transport costs if the farmer receives his/her payment through commercial bank transfers. In addition the farmer will incur an opportunity cost of time of at least two hours that will be spent on travelling to the bank branch. On the other hand using the branchless banking option will cost the farmer USD3.00 (see annex B) in withdrawal fees and a relatively lower costs of time and travel because the transactions will be conducted at a local retail agent.

Therefore in conclusion from the above discussions it can be noted that for this transaction branchless banking offers a least costs and convenient platform through which farmers can receive net payments for their cotton sales.

5.3.2 Comparative cost analysis savings services

This section seeks to assess whether branchless banking services offer the least cost option through which farmers can save their incomes compared to other alternative saving platforms. The discussions presented in the previous chapter indicated that smallholder farmers from the survey save their income informally either in kind in the form of livestock or through home based cash savings. Under the in kind savings option farmers incur various costs which include (a) costs of searching for a buyer to conduct trade with, (b) costs of price negotiating and bargaining and (c) costs of screening for potential buyers and contract enforcement. These costs were purposely collectively defined as trade costs for the purposes of this study. In addition farmers may also incur costs that include the stock theft, death of the livestock due to diseases and maintenance costs of feeding and veterinary services. The second savings option adopted by farmers currently is cash based system whereby money is kept hidden at home. Costs associated with this option include the cost of theft whilst the money is kept at home.

The third option through which the farmer can manage his/her savings will be to deposit their money in a bank account. Under this option the farmer incurs various costs which include time and travel costs spent on travelling to the bank to make the cash deposit and a monthly fee charged on the savings account of approximately USD3.00 a month.

The fourth option will be for the farmer to save his/her money in a branchless banking account. For this transaction the farmer will incur some time and travel costs spent on travelling to the retail agent to make the cash deposit. As was previously discussed in Chapter two, EcoCash currently offers its subscribers returns on their savings from as little as USD1.00 if they save their money in their EcoCash account. Therefore instead of farmers facing a cost for saving they receive interest on their savings.

Table 5.3 provides a summary of the costs associated with each of the above mentioned options showing which option would prove to be the least cost through which farmers can save their income.



Table 5.3: Costs of saving using branchless banking vs. informal savings and bank accounts

Transaction costs	Saving option			
	EcoCash	Home based savings	In kind savings	Bank
Deposit fees	-		-	✓
Time and travel costs	✓		-	✓✓
Monthly charges	-			✓✓
Trade costs	-	-	✓✓	-
Livestock maintenance costs	-	-	✓✓	-
Theft risks	-	✓	✓✓	✓

Source: Survey (2012)

The results presented in Table 5.3 indicate that when compared to cash based savings branchless banking services help lower the costs of theft. When compared to in kind savings branchless banking services lower costs associated with trade, livestock maintenance as well as death and theft. When compared to the commercial bank option, branchless banking services lower costs associated with time and travel to the bank which as indicated earlier are USD10.00 for transport costs and a minimum opportunity cost of time of two hours. In addition branchless banking services save farmers costs of monthly bank charges in exchange for returns on their savings.

In conclusion it can therefore be said that branchless banking offers a least cost and convenient platform through which farmers can save their incomes.

5.3.3 Comparative costs analysis for money transfer services

This section seeks to assess whether branchless banking services offer the least cost option through which farmers can receive remittances. Discussions in the previous chapter indicated that as at the time of the investigation farmers were receiving their remittances mainly through public transport operators and to a lesser extent through friends and family members. For public transport driven remittances transactions are carried out at local bus stations where farmers receive their remittances and are not charged a fee as the remittance fee is charged the sender. There are some time and travel costs incurred by the farmer spent on travelling to get the money as well as risk of theft from the public transport operators.

The second option will be for the farmers to receive their remittances through commercial bank transfers. For this option farmers incur several costs which include transport and travel costs to get to the bank to withdraw the money from the bank and withdrawal fees charged by the bank. Based on the location of the nearest commercial banks from the survey area, farmers will pay a total of USD10.00 for a two way trip over a total time of two hours. Bank charges as at the time of the investigation where 1% of the amount being withdrawn (see annex).

The third option will be for the farmer to receive his remittances through a branchless banking account. For this option the farmer incurs some time and travel costs spent on travel to a retail agent and also a withdrawal fee charged when making a physical withdrawal of the money.

Table 5.5 provides a summary of the costs associated with using the three different options to receive money transfers. Again due to the difficulty in quantifying some of the, costs are shown in the table using ticks to indicate the costs associated with each respective option.

Table 5.4: Cost comparison EcoCash vs. bank and cash payments.

Transaction costs	Payment channel		
	EcoCash	Public transport	Bank transfers
Cash withdrawal charges	✓✓	-	✓
Transport costs	-	-	✓✓
Theft and liquidity costs	✓	✓	-
Time costs	✓	✓	✓

Source: Survey (2012)

The results presented in Table 5.4 indicate that when compared to the public transport option branchless banking services lower the costs of theft. When compared to the commercial bank option branchless banking services can be seen to lower costs of time and travel to the bank branch. For withdrawal fees comparison, a hypothetical USD100.00 payment made through the bank will cost the farmer 1% (USD1.00) in withdrawal fees whereas the EcoCash will charge the farmer USD3.00 for the same transactions (see annex B).

In conclusion, results presented in this section indicated that branchless banking services compare favourably to existing alternatives in terms of accessibility and quality allowing

farmers to access financial services cheaply, quickly, conveniently, safely and in a manageable manner.

Based on these key findings it can therefore be inferred that there is a strong likelihood that smallholder farmers will adopt branchless banking services. The next section looks at the another angle through which the study looked at the potential for integrating branchless banking by assessing whether smallholder farmers do actually have the technical and physical capacity to actually adopt branchless banking services.

5.4 Branchless banking adoption capacity of smallholder farmers

According to Heyer and Mas (2009) an already existing market of early adopters is significant to kick start a product and propel a significant growth effect. While the study didn't find any early adopters of branchless banking services 51% of farmers expressed willingness to use branchless banking services for their financial services based on their understanding of the service. To assess the physical and technical capacity of farmers to adopt branchless banking services the study used three indicators namely farmers' access to a mobile phone, their financial literacy measured by their experiences with a commercial bank and their technology literacy measured by their ability to use "sophisticated" mobile phone services such as internet services and text message services.

Based on the sampling method that was used to select farmers for this study it was assumed that a strong case of physical and technical adoption of branchless banking will be existent if an above 50% value for each indicator was observed. This will indicate that a scalable number of smallholder farmers have the physical and technical capacity to adopt branchless banking because at least half of the population will either have access to a mobile phone, is financially literate or is technologically literate.

5.4.1 Mobile phone ownership

To investigate the mobile phone penetration rate among smallholder farmers the study looked at the number of farmers that had access to a mobile phone either through private ownership or shared ownership with a family member. A total of 56 out of 80 farmers from the sample (70%) had access to a mobile phone. Of the 56 farmers that reported having access to a mobile phone 47 (84%) indicated they have access to a mobile phone through private ownership whereas 16% had access through shared ownership through a family member.

5.4.2 Technology literacy

The study looked at the technology literacy rate of the smallholder farmers by examining their mobile phone usage patterns by the farmers. For purpose of this study usage of mobile phones to conduct sophisticated activities such as sending, receiving and reading text and internet messages were regarded as technology literate was considered as a strong indication of technology literacy.

Results from the analysis indicated that all 56 farmers (70%) that reported that they had access to a mobile phone from the sample use their mobile phones to make and receive voice calls and to send and receive text messages. Although there were no reported cases of farmers that used internet based services on their mobile phones, the usage of mobile phones for text messaging provided sufficient evidence of technology literacy amongst the farmers.

5.4.3 Financial literacy

Financial literacy of farmers to adopt branchless banking services was measured by past and current experiences of the farmers with formal financial services using access to a bank account as an indicator. Farmers from the survey sample were asked to provide information on their banking experiences looking at whether they were currently or formerly banked. Results gathered from this analysis showed that 97.5% of the farmers were unbanked during the time of the survey. Of the 97.5% unbanked farmers 61.3% of reported that they have never had a bank account with the remaining 36.3% reporting that they were previously banked.

The results provided by the discussions in this section indicated that although financial literacy of the farmers is extremely low based on the indicator used to measure financial literacy results in Table 4.1 indicated that the majority of farmers are literate and have received formal education. In addition a sizeable number of the farmers have access to physical devices (mobile phones) needed for conducting branchless banking transactions as well as the technology literacy to operate the mobile phones. The next section looks at the potential to introduce branchless banking services in smallholder farmer value chains from a business environment perspective looking at whether the regulatory framework in Zimbabwe as well as the strength of rural retail infrastructure is sufficient enough to support the development of branchless banking services.



5.5 Branchless banking business environment

This section looks at whether the state of the current business environment in Zimbabwe in the context of supporting branchless banking development in agricultural markets using two indicators, branchless banking services regulatory framework and quality of retail infrastructure.

5.5.1 Branchless banking regulation in Zimbabwe

The “friendliness” of the legal and regulatory framework to branchless banking development was assessed by reviewing whether the legal and regulatory framework in Zimbabwe supports the development of branchless banking services. Monetary authorities in Zimbabwe have endorsed branchless banking as a financial inclusion tool despite not having drafted legal frameworks that govern the practice in the country. The RBZ (2012) reports that mobile money transfers services in Zimbabwe are merely a payment system or delivery channel which does not amount to deposit taking and that mobile money transfers should operate on a credit push principle where all e-money value is backed by pre-funded balances which are held in banking institutions. However, current developments by EcoCash which have seen it introducing a savings option indicate that policy reforms in Zimbabwe are in support of development of branchless banking products beyond payments and transfers. In the 2013 Monetary Policy Statement the RBZ reported that monetary authorities in Zimbabwe are currently drafting regulatory guidelines for mobile financial services in the following areas:

- Payment systems oversight guideline to be finalised by 30 June 2013;
- E-money and electronic payments guideline to be issued by end of September 2013.;
and
- Agency banking guideline to be finalized by 31 December 2013.

To date none of these reforms have been implemented and mobile financial products such as EcoCash still continue to offer deposits to their clients and the RBZ continues to urge the use of mobile financial products to further financial inclusion in the country (RBZ, 2014).

5.5.2 Quality of retail landscape

Retail stores are an important factor in the success of branchless banking development initiatives as they offer the cash in-cash out transaction platform. The quality of the retail was

assessed by looking at the geographical reach and spread of retail stores in the survey area as well as assessing the number of retail store that qualify to serve as a branchless banking retail agents based on EcoCash agent requirements. Retail stores around the survey area where interviewed for agent eligibility based on the EcoCash agent requirement criteria provided below and stores that were found to conform to these following criteria were considered adequate to serve as branchless banking agents:

1. A minimum of \$200 cash to assist customers with cash-out transactions.
2. Proof of residence of the business owner.
3. Proof of address of the business premises.
4. Copy of ID of the trader.
5. Valid trading licence.

While there were no retail stores that were offering branchless banking services around the survey area at the time of this investigation, two retail stores were found to be eligible to serve as EcoCash branchless banking agents based on the agent requirement criteria. In addition these retail stores expressed a willingness to act as a branchless banking agent.

From these discussions it can be concluded that the current regulatory environment in Zimbabwe and quality of rural retail infrastructure creates an enabling environment for branchless banking services to thrive.

5.6 Chapter summary

The objective of this chapter was to assess whether there is a potential for branchless banking services to be integrated into a smallholder farmer value chain based on the existence of a market for branchless banking transactions along the chain, a ready-to-adopt smallholder farmer market and supportive regulatory framework and rural retail infrastructure. The results in the chapter all pointed to a strong potential for branchless banking transactions in the smallholder chain.

CHAPTER 6: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The purpose of this chapter is to summarise the study objectives and findings, and also to provide conclusions and recommendations drawn from the study. The chapter begins by presenting the study objectives and hypotheses and then presents the summary of the findings by objective. The conclusion and recommendations are then presented.

6.2 Summary of the study

6.2.1 Overall study objectives

The overall objective of this study was to investigate the potential for integrating branchless banking services into smallholder farmer value chains as a means to reduce transaction costs along the chain and enhance access to finance for smallholder farmers. The specific objectives of the study were:

- To conduct a value chain analysis of the smallholder contract farming scheme and identify how smallholder cotton farmers access financial services within a value chain finance mechanism.
- To identify transaction points along the smallholder cotton value chain where branchless banking services can be used to drive financial transactions.
- To assess how branchless banking compares to alternative transacting platforms in terms of accessibility and quality of providing financial services.
- To investigate the readiness of the smallholder farmer market to adopt branchless banking services.
- To assess the friendliness of the business environment to supporting branchless banking development.

6.2.2 Research hypotheses

The study tested the following hypothesis:

- Value chain financing through contract farming provides smallholder farmers with access to short term input credit support only.

- There is a potential market for branchless banking transactions along the smallholder farmer value chain.
- Branchless banking services compare favourably to other existing alternative transacting platforms in terms of accessibility and quality of services.
- The smallholder farmer market has the technical and physical capacity to adopt branchless banking services.
- The current policy and regulatory framework and retail agent network supports branchless banking services development.

6.3 Study design and methodology

The study made use of quantitative and qualitative data collected from primary and secondary data sources. A total of 80 randomly sampled smallholder cotton farmers comprising of both contracted and non-contracted farmers were selected as units of the study. Data was collected using both primary and secondary techniques. Structured interviews with smallholder farmers and semi structured interviews with various value chain stakeholders in the cotton contributed towards the primary data. Various government, academic as well as private company documents and publications helped provide secondary information that was used in the study.

Data analysis made use of three different techniques namely value chain analysis framework, transaction costs economics framework and descriptive analysis. The value chain analysis framework provided a description of the smallholder cotton value chain and was used to identify various transaction points along the smallholder cotton chain where branchless banking services can be applied. Value chain analysis also provided insights on how smallholder cotton farmers currently access financial services from sources both internal and external to the value chain.

The Transaction Costs Economics (TCE) framework was used to assess the accessibility and quality of branchless banking services to existing alternative transacting platforms. This assessment looked at how branchless banking compares in terms of the direct costs (fees, interest rates), safety (the probability that I may lose my money?), reliability (availability when need), convenience (easy to use?), and opportunity costs of accessibility and convenience (time taken and distance travelled to access) associated with making financial

transactions with other existing formal, semi-formal and informal channels. The general argument was that that the willingness to adopt branchless banking services is influenced by the ability of branchless banking services to offer a least cost, convenient and secure platform for conducting financial transactions compared to other alternative platforms.

Descriptive analysis techniques were used to assess the readiness of the smallholder farmer market to branchless banking adoption looking at the willingness, physical and technical capacity of smallholder farmers to adopt branchless banking services. Physical and technical capacity of farmers to adopt branchless banking looked at farmers' access to mobile phones devices, financial literacy (measured by current or previous access to a formal bank account), and technology literacy (measured by the ability to use text messages and internet services on a mobile phone). Descriptive analysis was also used to assess the current state of branchless banking regulation and quality of rural retain infrastructure in the context of creating an enabling environment for branchless banking services.

6.4 Study findings and conclusions by objective area

Objective One: To conduct value chain finance analysis of the smallholder contract farming scheme and identify how smallholder cotton farmers access financial services within a value chain finance mechanism.

Under this objective the study used the value chain approach to analyse various components of the smallholder cotton value chain, with a special focus on how smallholder farmers access financial services through value chain finance arrangements and the nature of financial flows along the chain.

Results from the analysis indicated that contract farming value chain finance schemes offer smallholder cotton farmers access to short-term credit (seasonal loans) accessed mostly in kind (material inputs) and is limited to cotton production. In addition the analysis also showed that external sources of finance for smallholder cotton farmers are accessed mostly through self-financing arrangements which include savings, borrowings from friends and family and remittances. All of these self-finance sources were found to be accessed mainly from informal sources. In conclusion these results indicate that contract farming as a value chain finance arrangement cannot fully address the long term financial needs of smallholder farmers due to its short term financing of specific commodities.

Objective Two: To identify transaction points along the smallholder cotton value chain where branchless banking services can be used to drive financial transactions.

Under this objective the study sought to identify the transaction points where branchless banking services can be used to drive financial transactions along the smallholder cotton value chain. These transactions points were argued to be existent where financial transactions are conducted on a cash basis and or informal basis. The transaction points that were identified from the study include net payment transactions for cotton sales, savings transactions and money transfer services all of which were found to be conducted on an a cash basis. Therefore in conclusion the results from the study indicate that there is a strong market potential for branchless banking services along a smallholder value chain.

Objective Three: To assess how branchless banking compares to alternative transacting platforms in terms of accessibility and quality of providing financial services.

Under this objective the study sought to assess how branchless banking services compare to existing alternative transacting channels in terms of accessibility and quality covering costs, convenience, security and quickness of accessing financial services. The results indicated that branchless banking services significantly lower transaction costs along the smallholder value chain as well as offer convenience and security to farmers for accessing their financial services. This was assumed create an incentive for farmers to adopt branchless banking services.

Objective Four: To investigate the readiness of the smallholder farmer market to adopt branchless banking services.

Under this objective the study sought to assess whether the smallholder farmer market was ready to adopt branchless banking services based on their willingness, physical and technical capacity to adopt branchless banking services. The study found out that in addition to a number of farmers expressing willingness to use branchless banking services for their

financial transactions farmers also had the physical and technical capacity to adopt branchless banking services as was shown by their access to mobile phones and technology literacy.

Objective Five: To assess the friendliness of the business environment in supporting branchless banking development.

Under this objective the study sought to identify whether the current branchless banking regulations in the country and quality of retail infrastructure in rural areas creates an enabling environment for branchless banking development. Results from the analysis indicated that the current legal and retail infrastructure is supportive of an enabling environment.

The overall conclusion from this analysis is that there is a strong business case for incorporating branchless banking services into smallholder value chains given the existing market opportunity for branchless banking enabled transactions, the potential for branchless banking services to lower transactions costs along the chain and the potential strong market for adoption of branchless banking services along the chain. Given the tremendous potential branchless banking services have displayed in enhancing access to finance, this study therefore can conclude that incorporating branchless banking services into smallholder value chains can award smallholder farmers the opportunity to access financial services at lower costs .

6.5 Recommendations

In light of the major findings and conclusions drawn from the study which indicate that there is a strong potential for branchless banking services within smallholder farmer value chains one strong recommendation is suggested. The study recommends further research which will look at the impact of branchless banking services on early adopters in Zimbabwe amongst smallholder farmers. The study should cover amongst other things the following

- The real factors that drive adoption of branchless banking services among smallholder farmers.
- The type of branchless banking services used by smallholder farmers and the type of transactions they use it for.



- The actual costs associated with using branchless banking services for financial transactions and how the costs compare with costs to a homogenous control population group using other transacting platforms for the same transactions.
- The socio-economic impact of using branchless banking services amongst

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ANNEXURE A: SURVEY INSTRUMENT

ADMINISTRATIVE DETAILS

Farm area location.....

Name of informant.....

Farmer category 1= contracted farmer, 2 = non-contracted farmer

SOCIO-ECONOMIC DEMOGRAPHIC DATA

1. Sex of the farmer (head of the household/ decision maker). 1= male, 2=female
2. Farmer age.....
3. Household size.....
4. Level of education attained? 1= no formal education, 2= primary education, 3=secondary education, 4=Tertiary education, 5= other
5. Farm ownership. 1=family owned-not titled (no ownership certificate), 2= family owned-titled (with ownership certificate), 3=leasing, 4= government ownership (land reform), 5=other (specify)
6. Are you professionally employed (salaried job)? 1= yes, 2= no
7. If yes what is your current profession?
8. If no what is your main source of income?
 1= farming, 2=pension, 3= government grants, 4=remittances (money from family members), 4= other (specify)
9. Do you have off-farm non-agricultural income generating activities? 1= yes, 2= no
10. If yes can you list the off-farm income generating activities that you are involved in
 1.
 2.
 3.
 4.
 5.



LAND USE AND PRODUCTION PROFILE

1. How large is the size of your cultivated land.....(ha)
2. Which types of crops did you produce last season and indicate how the arable land was divided among the different crops produced

Crop	Land allocated (ha)
Cotton	
Maize	
Other	

3. Can you indicate the predominant type of labour you use in your agricultural practices 1= family labour, 2= hired labour, 3=both
4. Provide information on the payment method you use to pay your 1= cash, 2= in kind (specify), 3= other (specify)
5. Can you indicate the methods that you use to cultivate your land?

Method of land preparation	Type of access (tick)	
	Owned	Hired
Hand ploughing		
Animal draught		
Tractor/ power driven implements		

6. For each crop that you grew last season indicate how you accessed the inputs and the total costs of inputs used where applicable

Crop	Type of access (tick)		Total input costs (USD)
	Private purchase	Input scheme	
Cotton			
Maize			
Other			



7. For each crop that you produce can you provide detailed information on the following market practices

Crop	Output (kg)	Amount consumed (kg)	Amount sold (kg)	Income (USD)
Cotton				
Maize				
Other				

8. How do you receive payments for your crop sales? 1=cash, 2= bank transfers, 3= bank cheques, 4=in kind (inputs), 5= other (specify).....

CONTRACT FARMING SPECIFICATIONS

1. Which cotton company are you contracted to?
2. Formality of contract? 1=formal (written), 2= formal (verbal) 3= informal (verbal), 4= other (specify).....
3. Contract duration? 1=seasonal, 2= annual, 3=permanent, 4= other (specify)....
4. Contract signatory? 1= individual farmer, 2=group representative, 3= other (specify).....
5. What services (support) do you receive under the contract? 1= raw inputs, 2= cash advances, 3= extension support, 4=tillage support, 5= transport support, 6=other (specify).....
6. When do you repay your input credit? 1= immediately after harvesting, 2= other (specify).....
7. How do you repay your loans? 1= in kind (cotton), 2= cash, 3= inputs, 4=other (specify).....
8. Have you ever failed to repay a loan? 1= yes, 2= no
9. If yes, can you give reasons why you failed to repay your loan?
 - a.
 - b.
 - c.
 - d.
 - e.

ACCESS TO FINANCIAL SERVICES



1. Do you have a bank account? *1= yes, 2=no*
2. If no have you owned a bank account before? *1=yes, 2= no*
3. If yes do what services do you use your bank account for? *1= cash deposits, 2= cash withdrawal, 3=cash transfers, 4=bill payments, 5=receive money transfers, 6=receive payments, 7= other (specify)*
4. Do you borrow from your bank? *1= yes, 2= no*
5. If yes can you provide the following information?

Loan purpose	Amount borrowed (US\$)	Interest rate (%)	Repayment period	Loan disbursement method

If you do not have an account can you provide information on how you access the following financial services?

6. Do you keep money for future use? *1=yes, 2=no*
7. Where and how do you save your money? *1= at home, 2=in kind (purchase livestock), 3= give friends and family for safe keeping, 4= lend it out, 5= in a savings group, 6= other (specify).....*
8. Do you borrow money? *1=yes, 2= no*
9. Who do you borrow from? *1= friends and family, 2= local businesses and retail shops, 3= cooperatives, 4=social groups, 5= money lenders, 6=other (specify).....*
10. What method do you use to repay loans that you borrow? *1= cash, 2= bank transfers, 3= in kind (produce), 4= in kind (labour), 5= other (specify).....*
11. How do you pay for general household needs where you purchase from? *1= cash, 2=bank transfers, 3= in kind, 4= other (specify).....*
12. Do you receive money from a friend or family member living in a different area, city or country? *1= yes, 2= no*
13. How do you receive the money? *1=in person, 2=bank transfers, 3= public transport operators, 4= through friends and relatives, 5= other (specify)*
14. Can you indicate the risks that affect your production and how you manage the risks

	Risk	Risk management strategy
Input supply risks		
Production risks		



Marketing risks		
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BRANCHLESS BANKING USAGE AND AWARENESS

1. Do you own a cellphone or have access to a cellphone? 1= yes, 2= no
2. Indicate the type of access you have on the cellphone? 1= privately owned, 2= share a household member's cellphones
3. Do you know use the cellphone to make voice calls? 1= yes, 2=no
4. Do you know use your cellphone to send and receive txt messages? 1= yes, 2=no
5. Do you know use the cellphone for internet services (Facebook, whatsapp etc) 1=yes, 2= no
6. Have you use a cellphone to send/ receive money or make any payments? 1= yes, 2= no
7. Have you registered for any mobile banking product (EcoCash, OneWallet etc.) 1= yes, 2= no
8. Which one are you registered under (specify).....
9. If yes can you indicate which services you use the mobile banking product. 1= buy airtime, 2= send money, 3= receive money, 4=cash withdrawal, 5= cash deposits, 6=pay utility bills, 7=other (specify).....
10. What are the benefits that you find in using mobile banking? 1=saves time, 2= safe, 3=save transport costs, 4=cheaper, 5=faster, 6=other (specify).....
11. If you are not yet registered for mobile banking are you willing to register for mobile phone banking? 1= yes, 2= no



ANNEXURE B: ECOCASH TARIFFS AND BANK CHARGES

Lower Value (USD)	Upper value (USD)	Send money to registered user (USD)	Send money to unregistered user (USD)	Cash withdrawal by registered user (USD)
1	2	\$0.09		
2.01	5	\$0.09	0.49	\$0.20
5.01	10	\$0.19	0.69	\$0.30
10.01	20	\$0.39	1.29	\$0.60
20.01	30	\$0.59	1.79	\$0.90
30.01	40	\$0.79	2.29	\$1.20
40.01	50	\$0.99	3.49	\$1.50
50.01	75	\$1.49	4.99	\$2.30
75.01	100	\$1.95	6.95	\$3.00
100.01	150	\$2.45	8.45	\$3.50
150.01	200	\$2.95	9.55	\$3.90
200.01	300	\$4.00	10.95	\$4.85
300.01	400	\$4.30	13.00	\$4.90
400.01	500	\$4.49	13.99	\$4.95

<https://www.econet.co.zw/ecocash/tariffs-limits>

Transaction Type	Minimum per transaction	Maximum per transaction	Daily limit
	USD	USD	USD
Cash-In	1.00	500.00	3,000.00
Cash-Out (Registered Customer)	2.00	500.00	1,000.00
Send Money to a Registered EcoCash Customer	1.00	500.00	1,000.00
Send Money to a Unregistered EcoCash Customer	2.00	500.00	500.00
Cash-Out (Unregistered Customer)	2.00	500.00	500.00
Airtime Top-Up	0.50	100.00	500.00
	Lower Value	Upper Value	Fee/Charge
Airtime	0.5	100	FREE
Cash-In	1	1,000	FREE
Balance Enquiry	N/A	N/A	FREE
Account History (Statement Request)	N/A	N/A	FREE
Change PIN	N/A	N/A	FREE
Bank to Wallet	2	1,000	FREE
Bank Balance	N/A	N/A	0.1
Bank Statement	N/A	Last 5 Transactions	0.3

<https://www.econet.co.zw/ecocash/tariffs-limits>



Merchant Charges

Any organisation (profit making/non-profit making) that receives payments for goods or services offered through the EcoCash platform is a merchant. A merchant usually deals with over the counter sales.

Lower value (USD)	Upper value (USD)	Fee (USD)
1	50	2%
50.01	75	1.2
75.01	100	1.4
100.01	150	1.5
150.01	200	1.6
200.01	300	1.7
300.01	400	1.8
400.01	500	1.9

<https://www.econet.co.zw/ecocash/merchant-charges>

Bulk Payments charges

A Bulk Payer is any organization (profit making/non-profit making) that makes bulk transfers of money to recipients using the EcoCash platform as a channel. Recipients use their mobile numbers as accounts to receive money. This function is ideal for payroll administration, aid distribution.

Lower volume	Upper volume	Fee
1	150	0.5
151	300	0.4
301	450	0.35
451	600+	0.3

<https://www.econet.co.zw/ecocash/bulk-payments-charges>



Bank charges in Zimbabwe (USD)

Service Category	Minimum		Maximum	
	Cash withdrawal	0.10%	\$1.00	1.50%
ATM withdrawal	0.35%	\$1.00	1.00%	\$25.00
Cheque book fee	-	\$4.00	-	\$11.50
Inter account transfer	-	\$0.50	-	\$2.00
Ledger fees	0.10%	\$1.00	0.30%	\$250.00
Monthly admin fees	-	\$0.00	-	\$40.00
RTGS	0.05%	\$1.00	0.50%	\$20.00
Certificate balance	-	\$0.50	-	\$5.00

Source: RBZ (2011)