

# Factors affecting choice of financial services among rural consumers: Emerging experiences from Gicumbi District, northern Province in Rwanda

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## Abstract

Enhancement of financial inclusivity of rural communities is often recognised as a key strategy for achieving economic development in third world countries. The main objective of this study was to examine the factors that influence consumers' choice of a rural bank in Gicumbi district of Rwanda. Data was collected using structured questionnaires and analysed using a binary probit regression model and non-parametric procedures. Most consumers were aware of Popular Bank of Rwanda (BPR) and Umurenge SACCO through radio advertisements, social networks and community meetings. Accessibility, interest rates and quality of services influenced choice of a given financial intermediary. Moreover, the decision to open a rural bank account was significantly influenced by education and farm size ( $p < 0.1$ ). These results indicate the need for financial managers to consider these findings for successful marketing campaigns.

*Keywords:* rural bank, survey, probit regression, Gicumbi, Rwanda

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## 1 Introduction

The provision of financial services to a wide spectrum of the rural population is a fundamental aspect in economic development of third world countries (Saunders *et al.*, 2007). Although the financial sector has witnessed changes in depth and breadth of banking institutions, the rural poor have not been sufficiently integrated into the cash economy (Kadri *et al.*, 2013). One can draw a dichotomy between urban and rural areas in terms of financial access and inclusion (Hawkins, 2006). Numerous studies have shown that the rural poor have a positive marginal propensity to save therefore justifying possible provision of financial services by banks (Schoombee, 2000). However, this has not been the

case and many banks are not willing to provide services to rural people because of high transactions costs, high risk and low rates of return (Zhao *et al.*, 2008). In sub-Saharan Africa, it is generally assumed that financial access by the rural poor is less than 20% (Dupas *et al.*, 2012). In order to cover the large gap in financial needs of this neglected sector, different types of informal financial services including Rotating Credit and Savings Cooperatives (ROSCAs), village banks, agricultural banks and group lending have been test-driven with minimal success (Kloppinger-Todd & Sharma, 2010; Kimuyu, 1999).

The advent of communication technologies have helped to reduce transactions costs associated with banking activities (Nam & Ellinger, 2008). To this end, a number of emerging mobile financial tools have been developed including the M-Pesa in Kenya, MTN mobile Money in South Africa and privately operated mobile money transfers in Rwanda (Porteous, 2006). An

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important realisation, however, is that rural consumers are in themselves very diverse with differing needs and thus constituting varying marketing segments (Kaynak & Harcar, 2005). The complexity of consumers in general has long been noted by many eminent scholars that resulted in the emergence of consumer behaviour models (Kotler, 2001). In that context, these models were an attempt to understand the underlying influences behind consumers' purchase behaviour. Tracing from earlier models developed by Howard & Sheth (1969), Engel *et al.* (1968) to Schiffman & Kanuk (2000), one observes that the recent models are more comprehensive in explaining consumer behaviour. However, a substantial portion of this literature is conducted in developed countries (Muzondo & Mutandwa, 2011). There have been arguments that these models may not be appropriate for developing countries leading to alternative explanations such as the Access, Buying behaviour, Consumer characteristics and Disposal (A-B-C-D) model (Raju, 1995). Another strand of models that have been used to understand consumer behaviour is anchored on the adoption theory initially proposed by Rogers (1995). The Technology Acceptance Model (TAM), for instance, encapsulates many of the factors initially recognised to be critical in the adoption of agricultural innovations namely relative advantage, complexity, risk and compatibility (Tobbin, 2012; Zhao *et al.*, 2008; Eriksson *et al.*, 2008; Laforet & Li, 2005).

Recent research on financial services in developed countries focused on the role of internet banking as an alternative for consumers (Berndt *et al.*, 2010; Zhao *et al.*, 2008; Nam & Ellinger, 2008; Gan *et al.*, 2006; Lichtenstein & Williamson, 2006; Kaynak & Harcar, 2005). Generally, adoption of electronic banking is a function of service quality, gender, education, risk, convenience, deposit rates, security, computer skills and image (Berndt *et al.*, 2010; Nam & Ellinger, 2008; Lichtenstein & Williamson, 2006; Gan *et al.*, 2006; Kaynak & Harcar, 2005; Levesque & McDougall, 1996). Research in the third world (including Ghana, Malaysia, South Africa, Indonesia, Kenya, Rwanda, Philippines) is still grappling with the issues related to whether rural consumers could possibly accept to have bank accounts of their own and associated mobile technology (Saunders *et al.*, 2007). For instance, Coetzee *et al.* (2012)'s analysis of the urban poor in Johannesburg revealed that bank image, reputation and quality of services were important determinants of having a bank account while deposit rates were not essential in this decision. Tustin (2010) asserts that enhancing financial knowledge on products and services among the poor may be important

in enhancing their ultimate choice of banking intermediary in South Africa. Tobbin (2012) explored the possibility of adopting mobile banking in rural Ghana and showed that perceived usefulness, ease of use and trust were essential factors underlying consumers' decisions. An earlier study by Owusu-Frimpong (1999) in Ghana determined that banked rural consumers were mostly male and that they considered deposit rates and quality of services in their decisions. Social capital emerged as an important tool used in sharing information about banking products. Narteh & Owusu-Frimpong (2011) study on Ghanaian students showed that image, attitude and behavioural aspects of staff and service quality were critical to open an account. These findings were also corroborated by outputs from Zimbabwe that noted the importance of usefulness, ease of use, relative advantage and risk which are embodied in the TAM (Chitungo & Munongo, 2013). Studies in India, Pakistan and Malaysia have also confirmed that age, education, gender, governance, customer satisfaction, interest rates, location, service quality are useful indicators in consumer decision making (Padmaavathy & Brindha, 2014; Sharma & Prasad, 2014; Ram & Subudhi, 2014; Ramayah *et al.*, 2003). Despite these findings, consumer segments are unique in terms of demographic, cultural and economic factors and these influence perception towards banking products by the poor (Laforet & Li, 2005).

### 1.1 Structure of Rwanda's financial services sector

Rwanda is a small landlocked country located in East Africa covering a total surface area of about 26,000 km<sup>2</sup> (National Institute of Statistics of Rwanda [NISR] Demographic Survey, 2014). It lies about 120 km south of the Equator and is bordered by Uganda in the North, Tanzania in the east and Burundi in the south and the Democratic Republic of Congo in the West. According to the national official statistics, the total population is approximately 12 million people, with women accounting for 55 % of the people (NISR, 2014). In addition, the country's population density is 505 people per km<sup>2</sup>, making it one of the most densely populated countries in Africa. Furthermore, since the turn of the millennium, the annual population growth rate has been 2.9 %, and it is believed that by the year 2020, the country will have an estimated population of 20 million, thus exerting pressure on the limited land resources. Rwanda's economy is largely predicated on agriculture, which accounts for at least 50 % of the Gross National Product (MINAGRI, 2004). The climatic conditions in the country are eminently tropical but tend to vary from region

to region. However, agricultural production is largely subsistence with little commercialisation for local market. Tourism also forms an important parallel economic activity generating significant foreign exchange for the country. It is estimated that this sub-sector contributes about 70% of the country foreign currency, emanating from tourist visits to the country's three main national parks namely, Akagera, Virunga (Volcanoes) and Nyungwe national parks (MINECOFIN, 2009).

The banking sector of Rwanda is small but emerging (Rwanda Development Board [RDB], 2014). As of 2014, it comprised 9 commercial banks, 3 specialised banks, 1 microfinance bank, 122 microfinance institutions, 8 insurance companies, 1 public pension fund and 10 growing private pension funds (RDB, 2014). The commercial banks include Commercial Bank of Rwanda (BCR), Banki of Kigali (BK), Fina Bank, ECOBANK, Urwego Opportunity Microfinance Bank (UOMB), Popular Bank of Rwanda SA (BPR) and Equity Bank while three special banks are Bank Housing of Rwanda, Continental Discount House- investment bank and Development Bank of Rwanda. In 2007, an estimated 1,200,000 people (over 12% per cent of the population) held bank accounts rising to an estimated 72% of the population (RDB, 2014; Access to Finance Rwanda, 2012). The microfinance (MFIs) sub-sector in Rwanda has been providing an important alternative to formal banking intermediaries and in 2007 about 300,000 people held bank accounts in these institutions (Kantengwa, 2009). However, the MFIs have a higher penetration in volumes for depositors given that by June 2006, 93% of all branches opened by credit institutions in the country were MFIs (rather than commercial banks) and these served more than one million customers. The insurance sub-sector in Rwanda includes five insurance companies and six insurance brokers. Those companies offer a conventional range of insurance products (life, health, property) and are estimated to contribute approximately 0.7% of the country's GDP. The major players in the sector consist of registered stockbrokers, investment advisors or investment bankers (African Alliance Rwanda, Faida Securities Rwanda, Continental Discount House, Kingdom Securities Rwanda, Dallas Securities Brokerage, MBEA Brokerage Securities, Dyer and Blair Securities Rwanda, MBEA Financial Services Rwanda) and commercial banks. This is regulated by the Capital Market Authority Council (CMAC) instead of National Bank of Rwanda (BNR), the regulatory body of the others financial sectors.

## 1.2 Research problem and objectives

Although the proportion of the population with access to financial services has been increasing according to Access to Finance Rwanda (2012) - FinScope survey, there is inadequate understanding of rural consumers in terms of the factors taken into account when choosing among alternative financial intermediaries as postulated by theories of consumer behaviour. Not only are consumers different in terms of socio-demographic characteristics but also financial needs. Therefore, the objectives of this study were (1) to examine factors influencing choice of a rural bank by rural consumers in Gicumbi District in northern Province of Rwanda, and (2) to assess the socio-demographic factors that influence respondents' decision to open a bank account.

## 2 Materials and methods

### 2.1 Study area

This study was conducted in Gicumbi District located in the Northern Province of Rwanda. The district covers an area of 867 km<sup>2</sup> and is an amalgamation of Rwamiko, Rebero, Rushaki, Bungwe, Kisaro and Byumba towns. It is bordered by Uganda in the North, Gasabo and Rwamagana Districts in the South, Nyagatare and Gatsibo Districts in the East and Burera and Rulindo Districts in the West. Currently, Gicumbi District consists of 21 administrative sectors, 109 cells and 630 villages commonly named Imidugudu in the local vernacular language Kinyarwanda (Gicumbi District, 2010). Like the rest of the country, the district is mountainous and generally positioned at an altitude of 2500 m. Nevertheless, elevation in the eastern part varies from 1500 to 1800 m of altitude. Climatic conditions are predominantly highland tropical climate with an average temperature of 20°C. Rainfall is generally abundant and it varies between 950 mm and 1200 mm per annum. The main soil types are kaolisols dominated by schistes, micaschistes and quartz. These conditions permit a wide variety of crops and livestock activities including maize, wheat and sorghum (Gicumbi District Development Plan, 2013–2018). Major livestock classes are pigs, cattle, rabbits and poultry. At the time of the research, there were 14 commercial banks, 49 branches of microfinance institutions and 50 Village Savings and Loans Associations (VSLA) with 1500 rural farmers present in the district (Gicumbi District Development Plan, 2013–2018).

## 2.2 Population and sampling

Many statistical formulae have been elaborated to determine sample size including Poduri (2000), Bernstein & Bernstein (1999), Israel (1992), Yamane (1967), and Kish (1965). However, the Alain Bouchard (1990) formula (as cited in Nteziryayo, 2014) was used since it is appropriate for social sciences and easy to use. In 2007, Gicumbi District population had a population of 362,331 with 172,144 males and 190,187 females. Following Alain Bouchard's statistical formula for estimating sample size and assuming 90% confidence intervals, we established that a total of 60 households were to be sampled. Although, a large sample is preferred (according to the central limit theorem) to reflect a better picture of the population characteristics, a small sample can also provide reliable findings depending on the sampling procedures adopted (Schiffman & Kanuk, 2000). The sample size was also curtailed by the limited financial resources at the disposal of the research work. This implies that outcomes may be relevant only to selected sectors and cannot be generalised to the rest of Gicumbi district. It must be pointed out that household survey was complemented with qualitative interviews to obtain more robust evaluation of the research problem. This research was restricted to sectors of Byumba, Cyumba, Kageyo, Manyagiro, Mukarange, Nyamiyaga, Nyankenke, Rukomo, Rushaki and Shangasha due to relatively high agricultural and economic productivity as well as availability of financial services.

After determining the sample size, proportionate allocation sampling procedure was used to calculate the number of respondents to interview in each sector. The gender distribution of sampled respondents is shown in Table 1.

**Table 1:** Gender distribution of interviewed respondents

Location	Male	Female	Total
Byumba	7	6	13
Cyumba	7	1	8
Manyagiro	8	0	8
Mukarange	4	0	4
Mutete	2	1	3
Nyamiyaga	3	3	6
Nyankenke	2	0	2
Rushaki	5	0	5
Shangasha	10	1	11
Total	48	12	60

Households were randomly selected using the lottery technique (Bless & Higson-Smith, 1995) for interview using lists obtained from Gicumbi district offices.

## 2.3 Data collection tools

Primary data for this research was collected mainly using a structured questionnaire administered at the household level. The questionnaire had four sections covering demographic information, economic activities, utilisation of financial services and savings and income activities. Demographic variables considered were education, gender, marital status and household size. The second section sought to characterise the economic activities that households were involved and associated incomes. In the third section, the utilisation of financial services was examined while the last component examined the level of savings. In order to obtain the views of financial institutions, a semi-structured questionnaire was developed for bank manager and president of Village Savings and Loan Associations (VSLA) in the district.

## 2.4 Data analysis

Both descriptive and inferential statistics were used to analyse data. For example, categorical variables such as education and marital status were summarised using frequencies whereas continuous variables were summarised through means. The Friedman test, a non-parametric procedure, was used to rank the importance of price (interest rates), promotion, accessibility, quality of service and brand name on a 5-point Likert scale (Beasley & Zumbo, 2003). The scale was defined from 1 representing "very important" through 5 denoting "least important". Both logistic and probit regression models were appropriate for this study because of the binary nature of the dependent variable indicating the individual's decision to have a bank account although there are slight differences related to assumptions of the distribution functions (Gujarati & Porter, 2009). Because of the ease of computation, a binary probit regression model was used to evaluate the socio-demographic factors that influence an individual's choice to have a bank account with 1-representing "yes" and 0-denoting "no". The decision to have a bank account was hypothesised to be a function of education, age, gender, annual household income, farm size and sources of information (Table 2).

One of the main problems of conducting a study that measures annual household income is that a large proportion of outputs including maize, beans, sorghum, vegetables, Irish potatoes and tea are not marketed and

**Table 2:** Description of variables included in the binary probit regression model of factors affecting the decision to open a bank account

Variable	Description	Expected sign
Individual's possession of a bank account	1 - if yes, 0 - otherwise	
Gender	1 - male, 0 - female	+
Age	Age of respondent	+
Total income	Total annual household income per year (Rwf)	+
Education	1 - if at least primary education, 0 - otherwise	+
Farm size	Total farm size in ha	+
Sources of information about banking services	1 - advertisements, 0 - otherwise	+

therefore do not have a formal price (Brooks *et al.*, 2011). Such outputs, however, still constitute an important income source because of income savings associated with internal household consumption activities. This challenge was addressed by use of shadow pricing techniques. For instance, if a household produced 200 kg of maize grain and sold 150 kg but retained 50 kg, the on-going maize market price would be used to impute an economic value to locally consumed maize. The prices for various agricultural commodities were availed from Rwanda Agricultural Board. Furthermore, net incomes from on-farm and off-farm sources were taken into account.

A binary probit model was then used to examine the impact of the aforementioned predictor variables on the decision to open a bank account. The model was deemed to be appropriate because of the dichotomous nature of the dependent variable (Gujarati & Porter, 2009). The model was as follows:

$$y^* = X'\alpha + \varepsilon \quad (1)$$

Where  $X$  is the set of predictor variables influencing the decision to open a bank account, and  $\alpha$  denotes the partial regression coefficients and  $\varepsilon$  is the error term.  $y^*$  is an inherent drive to open an account and it is not explicitly observed. Thus, it is important to deduce how predictor variables are likely to affect the dependent variable. Therefore:

$$\begin{aligned} Prob(y > 0 | x) &= Prob(X'\alpha + \varepsilon | x) \\ &= Prob(\varepsilon > -X'\alpha | x) = F(X'\alpha) \end{aligned} \quad (2)$$

$F$  represents the cumulative distribution function of the random variable of the error term. In other words,

$$\begin{aligned} Prob(y = 1) &= F(X'\alpha) \\ Prob(y = 0) &= 1 - F(X'\alpha) \end{aligned} \quad (3)$$

Conditional marginal probabilities were also calculated using the means of each variable. The model was also tested for the presence of multicollinearity by use of variance inflation factors (VIF) values. VIF values of between 10 and 30 indicate moderate incidence of multicollinearity whereas values greater than 30 show severe multicollinearity (Gujarati & Porter, 2009). A threshold value of 10 has been suggested in literature (O'Brien, 2007), and was used as such in this research. Table 6 shows the VIF values associated with each independent variable in the model.

### 3 Results

#### 3.1 Socio-demographic characteristics

With regard to gender, a significant proportion of the respondents were male (80 %) and females accounted for the remaining 20 %. Most respondents were married (83 %) and the pattern was similar across the nine sectors. In terms of age, a large proportion of respondents (45 %) were aged between 31 to 40 years followed by those in the 41 to 50 age brackets who accounted for 30 % of the total count. Fewer respondents (18 %) were aged between 18 and 30 years. Table 3 indicates the distribution of age by sectors included in the survey.

**Table 3:** Age distribution of sampled households

Sector	Age				Total
	18–30	31–40	41–50	Above 50	
Byumba	4	6	3	0	13
Cyumba	0	7	0	1	8
Manyagiro	1	6	1	0	8
Mukarange	0	0	2	2	4
Mutete	1	2	0	0	3
Nyamiyaga	3	1	2	0	6
Nyankenke	1	0	1	0	2
Rushaki	0	2	2	1	5
Shangasha	1	3	7	0	11
Total	11	27	18	4	60
Percent	18.3	45	30	6.7	100

The average size of household was six members. Most respondents had primary level education (65 %) while 20 % completed secondary school. About 12 % never attended school and only 3 % had a bachelor degree. More male heads of household had received agricultural training when compared to their female counterparts. A substantial proportion of the houses (73 %) were constructed using clay based materials but were roofed using iron sheets or tiles.

### 3.2 Economic activities

One of the main challenges in conducting a study that enumerates household income is that many outputs such as milk, honey, maize meal, beans, vegetables are not marketed and therefore do not have a formal price (Brooks *et al.*, 2011). The average annual household incomes for different crops were as follows: tea (\$32)<sup>1</sup>, Irish potatoes (\$109.50), maize (\$24), beans (\$81), sorghum (\$24), vegetables (\$26) and other activities generated \$50 (Table 4). There were wide variations as reflected by the standard deviations for each economic activity.

**Table 4:** Average annual incomes of each economic activity

Activity	Mean (US\$)	Standard deviation (US\$)
Tea (\$/acre)	32	173
Irish potatoes(\$/acre)	109.5	205.48
Maize (\$/acre)	23.82	60.34
Beans (\$/acre)	80.94	121.24
Sorghum (\$/acre)	24.16	65.72
Vegetables (\$/acre)	25.83	97.53
Cattle (\$/cow)	198.44	294.69
Goats (\$/goat)	23.69	77.91
Sheep (\$/sheep)	10.08	25.12
Pigs (\$/pig)	24.66	78.44
Other	49.06	227.91

These results revealed that Irish potatoes and beans accounted for the highest proportion of crop income per unit of land. On the other hand, most of the livestock income emanated from cattle (\$198), pigs (\$25) and goats (\$24). Overall, cropping generated a mean annual household income of \$263 whereas livestock contributed \$219 per year.

<sup>1</sup>1US\$ = 600 Rwf (at the time of research)

### 3.3 Financial services known and used by consumers

To assess unaided brand recall, respondents were asked to indicate the financial institutions they were aware of and results are indicated in Table 5.

**Table 5:** Respondents awareness and use of financial services in Gicumbi district

Bank	Proportion of respondents indicating awareness of bank (%)	Proportion of bank users (%)
Bank of Kigali	12	6.7
Commercial Bank of Rwanda	10	5
Popular Bank of Rwanda (BPR)	83	63.3
Reseau Interdiocesain de Microfinance (MIR)	15	–
Vision Finance Company (VFC)	12	–
Zigama CSS	–	–
Compte de Travailleur (CT)	–	–
Umurenge SACCO	76	45

Most respondents recognised BPR and Umurenge SACCO as financial intermediaries offering services in the district. We then examined respondents' use of the different banks and associated services in the district. There seemed to be a relationship between unaided brand recall and actual use of a bank. In this regard, 56 % of respondents had accounts in BPR for purposes of either savings or accessing credit. In addition, 37 % of consumers patronised Umurenge SACCO for the same purposes. Vehicles for community sensitisation on financial services were radio advertisements (57 %), local authority meetings (21 %) and informal social networks (20 %). Radio advertisements were conducted mostly in the local Kinyarwanda language. Using a five point Likert scale, five factors were ranked to indicate their potential influence on the choice of rural bank. Rural consumers prioritised accessibility to the services (2.2), quality of services (2.7) and interest rates (2.8). However, they least important consideration was the brand name.

According to binary probit regression results (Table 6) age, gender, total income and sources of information did not have a significant impact on the decision to have a bank account ( $p > 0.1$ ). However, education and farm size did ( $p < 0.1$ ). The overall model was statistically significant with Wald Chi<sup>2</sup> value of 15.04 ( $p < 0.05$ ).

**Table 6:** Binary probit regression results of factors affecting the decision to open a bank account in Gicumbi district

Variable	B	Robust S.E.	Marginal effects	P-value
Education	0.9678	0.5858	0.3082	0.099*
Age	-0.8430	0.5128	-0.1521	0.100
Total income	0.3357	0.5226	0.0735	0.521
Gender	0.5462	0.4650	0.1523	0.240
Sources of information about banking services	0.0243	0.4190	0.0058	0.954
Farm size	0.7689	0.4421	0.1558	0.082*
Constant	0.0924	0.7812		0.906
Wald Chi <sup>2</sup> (6)	15.04			0.0199**

\*\* Sign. at 5 %, \* Sign. at 10 %

According to VIF values, multicollinearity was not a serious problem if the minimum VIF value of 10 is used.

**Table 7:** VIF values for testing for the presence of multicollinearity in the model

Variable	VIF
Education	7.38
Age	5.17
Total income	1.78
Gender	5.17
Sources of information about banking services	2.16
Farm size	1.88

#### 4 Discussion

In this section, we consider three issues related to the results. First, a comparison of sampled household characteristics with national level data is conducted. Secondly, we examine the factors influencing choice of a rural bank in the context of previous research. Third, we juxtapose the results from the binary probit regression model to evaluate consistency with extant literature. Socio-demographic characteristics considered in the survey include gender of household head, marital status, age, household size, and education level, types of houses owned, construction materials used, and farmer's trainings status. These variables are crucial in influencing consumer behaviour (for example Kotler *et al.*, 2002, Schiffman & Kanuk, 2000). In general, most of

the sampled households were male headed, with low educational levels, and relatively large family sizes. These results also reflect basic statistics at the national level from NISR Demographic Survey (NISR, 2014) as well as EICV3 household surveys and can be used to validate the sample. These national level surveys point out that rural Rwanda is essentially patriarchal implying that men dominate household decision making. Moreover, they also indicate that rural communities generally have an average of six members per household. Again, it is noted that a significant proportion of rural people are illiterate or attended primary level education. While it could be argued that farming communities are poor (according to results of EICV3), a number of households managed to generate incomes equivalent to some formally employed individuals. These results have an important bearing on the nature of banking products that could possibly be designed for such consumer segments in terms of simplifying requirements for opening accounts or conducting general banking transactions. They could also mean that there is need to offer complimentary training opportunities to enhance understanding of financial products or services. We draw inferences from South African experience, where the Bubomi financial literacy program has been promulgated for the poor by ABSA Group limited (Tustin, 2010). The program improved knowledge of financial tools among the unbanked.

BPR and Umurenge SACCO have established numerous branches throughout the country and therefore are more likely to be known by rural people. The fact that household heads were not familiar with Zigama CSS and CT could be attributed to the observation that they only serve active or former public employees but most rural people were informally employed. Our results

showed that accessibility, interest rates and quality of services were important in influencing rural consumers' choice of a bank. Similar results have been obtained in Ghana, South Africa, India, Pakistan and Malaysia showing the centrality of interest rates, location and service quality (Padmaavathy & Brindha, 2014; Sharma & Prasad, 2014; Ram & Subudhi, 2014; Ramayah *et al.*, 2003; Owusu-Frimpong, 1999). However, it is important to consider the peculiarities in Gicumbi district particularly regarding accessibility which is likely to culminate in banking convenience. Given that the region is mountainous, very few banks may be willing to establish branches due to the high costs. Other mechanisms such as "banking on wheels" may also be restricted during some parts of the rainy season due to flooding. In addition, use of cell phone based mobile banking may be negatively affected by poor reception in remote parts of the district. Again, patience of staff is required when dealing with most rural consumers because they may be not be conversant with the administrative aspects associated with banking such as filling in withdrawal forms, writing or reading. Prioritisation of interest rates by respondents reveals that rural consumers may be looking for alternative investments to enhance their low income earnings. Because education had a positive and significant impact on opening of a bank account, targeting the educated consumers may help to increase the probability of patronage (Nam & Ellinger, 2008). They could also be used to convince other rural households to open bank accounts as well. Farm size may be a proxy variable for wealth since it affects the nature and diversity of agricultural activities that can be conducted by rural households (Kalinda *et al.*, 2000). In order to target these consumers, banks may be guided by Ubudehe framework that classifies rural people according to their wealth status. The classification recognizes six categories from *umutindi nyakujya* (the poor who depend on begging) to *umukire* (those with livestock, land, houses). Promotional activities in the marketing mix need to be contextualised to the rural situation. In that regard, extensive use of traditional channels of communication such as community meetings, radio and informal networks may be employed to raise consumer familiarity (Danaher & Rossiter, 2011; Owusu-Frimpong, 1999).

## 5 Conclusions and recommendations

The main objective of this study was to examine the factors influencing the choice of bank by rural consumers in selected sectors of Gicumbi district. Respondents were engaged in crop and livestock agriculture that enabled them to generate some income for possi-

ble deposit into banks. Most respondents were aware of BPR and Umurenge SACCO as alternative financial intermediaries. Awareness was raised through radio advertisements (in local language), social networks and community meetings. In addition, consumers prioritised physical accessibility, interest rates and quality of services in their decision to choose a rural bank. Moreover, there was a significant impact of education and farm size on the decision to open a bank account. Although there are many challenges associated with serving rural consumers with banking services, the design of effective financial services needs to consider expanding accessibility of their services. This may not necessarily imply physically constructing branches in different areas of the district but using other least cost means such as mobile banking services. However, use of mobile banking assumes that potential consumers are capable of using mobile banking technology. This may not be true given the low educational levels of the people domiciled in the district. In that regard, it is crucial to enhance their financial knowledge through community initiated meetings. Against the background of increasing competition, successful marketing strategies should embrace customer services quality at the centre of their actions. This could be enhanced if banking staff are equipped with requisite skills of dealing with rural people. Strategies that make use of community meetings, radio advertisements and social networks are more likely to be successful since they are consistent with the socio-cultural milieu in Gicumbi district. Robust studies with large sample sizes could also be carried out to replicate the study across rural areas in Rwanda.

## References

- Access to Finance Rwanda (2012). How Rwandans Generate their Incomes and Manage their Financial Lives. Access to Finance Rwanda (AFR) / National Institute of Statistics of Rwanda, FinScope Survey - Financial Inclusion in Rwanda 2008 – 2012. URL <http://www.statistics.gov.rw/publications/finscope-survey-report-2012>.
- Beasley, T. M. & Zumbo, B. D. (2003). Comparison of aligned Friedman rank and parametric methods for testing interactions in split-plot designs. *Computational Statistics & Data Analysis*, 42, 569–593.
- Berndt, A. D., Saunders, S. G. & Petzer, D. J. (2010). Readiness for banking technologies in developing countries. *Southern African Business Review*, 14 (3), 47–76.

- Bernstein, S. & Bernstein, R. (1999). *Elements of Statistics II, Inferential Statistics*. Schaum's Outline Series, McGraw-Hill, New York.
- Bless, C. & Higson-Smith, C. (1995). *Fundamentals of social research methods: An African Perspective, 2<sup>nd</sup> Edition*. Juta, South Africa.
- Brooks, J., Filipinski, M., Jonasson, E. & Taylor, J. E. (2011). Modelling the distributional implications of agricultural policies in developing countries: the development policy evaluation model (DEVPEM). OECD Food, Agriculture and Fisheries Papers, No. 50, OECD Publishing, Paris.
- Chitungo, S. K. & Munongo, S. (2013). Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe. *Journal of Business Administration and Education*, 3 (1).
- Coetzee, J., van Zyl, H. & Tait, M. (2012). Selection criteria in the South African retail banking sector. *African Journal of Business Management*, 6 (41), 10558–10567.
- Danaher, P. J. & Rossiter, J. R. (2011). Comparing perceptions of marketing communication channels. *European Journal of Marketing*, 45 (1/2), 6–42.
- Dupas, P., Green, S., Keats, A. & Robinson, J. (2012). Challenges in banking the rural poor: Evidence from Kenya's western province. NBER Working Paper No. 17851, National Bureau of Economic Research (NBER), Cambridge, MA.
- Engel, J. F., Kolatt, D. T. & Blackwell, R. D. (1968). *Consumer Behaviour*. Holt, Rinehart and Winston: New York.
- Eriksson, K., Kerem, K. & Nilsson, D. (2008). The adoption of commercial innovations in the former Central and Eastern European markets: The case of internet banking in Estonia. *International Journal of Bank Marketing*, 26 (3), 154–169.
- Gan, C., Gan, M. & Weng, A. (2006). A logit analysis of electronic banking in New Zealand. *International Journal of Bank Marketing*, 24 (6), 360–383.
- Gicumbi District (2010). Gicumbi District Description. URL <http://www.gicumbi.gov.rw/index.php?id=316> (last accessed: 13.12.2014).
- Gicumbi District (2012). District Development Plan (2013–2018). Northern Province, Gicumbi District, Republic of Rwanda. URL [http://loda.gov.rw/fileadmin/user\\_upload/documents/Gicumbi\\_District\\_Development\\_Plan\\_2013-2018\\_.pdf](http://loda.gov.rw/fileadmin/user_upload/documents/Gicumbi_District_Development_Plan_2013-2018_.pdf) (last accessed: 01.10.2015).
- Gujarati, D. N. & Porter, D. (2009). *Basic Econometrics*. Mc Graw-Hill, New York.
- Hawkins, P. (2006). Financial access and financial stability. A special meeting of governors held at the BIS, Basel, 14-15 March 2006. Bank for International Settlements (BIS). URL <http://www.bis.org/events/cbcd06.htm> (last accessed: 01.10.2015).
- Howard, J. A. & Sheth, J. N. (1969). *The Theory of Buyer Behaviour*. Wiley, New York.
- Israel, G. D. (1992). *Determining sample size*. University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS.
- Kadri, A. B. Y., Bunyaminu, A. & Bashiru, S. (2013). Assessing Rural Banks Effectiveness in Ghana. *International Business Research*, 6 (3), 140–153.
- Kalinda, T., Filson, G. & Shute, J. (2000). Resources, household decision making and organisation of labour in food production among small-scale farmers in southern Zambia. *Development Southern Africa*, 17 (2), 165–174.
- Kantengwa, A. (2009). Financial cooperatives in Rwanda - Historical background and regulation. URL <http://www.un.org/esa/socdev/egms/docs/2009/cooperatives/Kantengwa.pdf> (last accessed: 01.10.2015).
- Kaynak, E. & Harcar, T. D. (2005). American consumers' attitudes towards commercial banks: A comparison of local and national bank customers by use of geodemographic segmentation. *International Journal of Bank Marketing*, 23 (1), 73–89.
- Kimuyu, P. K. (1999). Rotating saving and credit associations in rural East Africa. *World Development*, 27 (7), 1299–1308.
- Kish, L. (1965). *Survey Sampling*. John Wiley and Sons Inc., New York.
- Kloppinger-Todd, R. & Sharma, M. (2010). *Innovations in rural and agriculture finance*. World Bank, Washington D.C.
- Kotler, P. (2001). *Marketing Management, 10*. Pearson Education, Canada.
- Kotler, P., Armstrong, G., Saunders, J. & Wong, V. (2002). *Principles of Marketing, Third European Edition*. Pearson Education, Essex, England.
- Laforet, S. & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. *Interna-*

- tional Journal of Bank Marketing*, 23 (5), 362–380.
- Levesque, T. & McDougall, G. H. (1996). Determinants of customer satisfaction in retail banking. *International Journal of Bank Marketing*, 14 (7), 12–20.
- Lichtenstein, S. & Williamson, K. (2006). Understanding consumer adoption of internet banking: an interpretive study in the Australian banking context. *Journal of Electronic Commerce Research*, 7 (2), 50–66.
- MINAGRI (2004). Strategic plan for the transformation of agriculture. Ministry of Agriculture and Animal Resources (MINAGRI), Government of Rwanda publications. URL <http://www.minagri.gov.rw>.
- MINECOFIN (2009). Building an inclusive financial sector in Rwanda: Programme Support to the National Microfinance Strategy Implementation. Ministry of Finance and Economic Planning (MINECOFIN), Republic of Rwanda. URL <http://www.minecofin.gov.rw/pp5-6>, Kigali.
- Muzondo, N. & Mutandwa, E. (2011). The seven Ps of marketing and choice of main grocery store in a hyperinflationary economy. *Contemporary Marketing Review*, 1 (9), 1–18.
- Nam, S. & Ellinger, P. N. (2008). Branch Expansion of Commercial Banks in Rural America. American Agricultural Economics Association Annual Meeting 2008, Orlando, FL, July 27–July 29. University of Illinois at Urbana-Champaign.
- Narteh, B. & Owusu-Frimpong, N. (2011). An analysis of students' knowledge and choice criteria in retail bank selection in sub-Saharan Africa: The case of Ghana. *International Journal of Bank Marketing*, 29 (5), 373–397.
- NISR (2014). Fifth national demographic and health survey. National Institute of Statistics of Rwanda (NISR). URL <http://www.statistics.gov.rw/> (last accessed: 01.10.2015).
- Nteziryayo, J. P. (2014). *Internal audit and growth of public institutions*. Master's thesis (Master of Business Administration), Uganda Christian University, Uganda.
- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, 41 (5), 673–690.
- Owusu-Frimpong, N. (1999). Patronage behaviour of Ghanaian bank customers. *International Journal of Bank Marketing*, 17 (7), 335–342.
- Padmaavathy, P. & Brindha, S. (2014). A study on market potential of rural banking among customers in Pollachi. *International Journal of Research in Commerce and Management*, 5 (8), 59–64.
- Poduri, S. R. S. (2000). *Sampling methodology with applications*. Chapman and Hall, New York.
- Porteous, D. (2006). The enabling environment for mobile banking in Africa. DFID Report. Boston, USA.
- Raju, P. S. (1995). Consumer behavior in global markets: the ABCD paradigm and its application to Eastern Europe and the Third World. *Journal of Consumer Marketing*, 12 (5), 37–56.
- Ram, J. K. & Subudhi, R. N. (2014). Customer Perception on Performance of RRBs in Odisha. *Parikalpana - KIIT Journal of Management*, 10 (1), 37–50.
- Ramayah, T., Jantan, M., Mohd Noor, M. N., Razak, R. C. & Koay, P. L. (2003). Receptiveness of internet banking by Malaysian consumers: The case of Penang. *Asian Academy of Management Journal*, 8 (2), 1–29.
- RDB (2014). Invest in financial services. Rwanda Development Board (RDB). URL <http://www.rdb.rw/rdb/financial-services.html> (last accessed: 13.12.2014).
- Rogers, E. (1995). *Diffusion of innovations (4<sup>th</sup> ed.)*. Free Press, New York, USA.
- Saunders, S. G., Bendixen, M. & Abratt, R. (2007). Banking patronage motives of the urban informal poor. *Journal of Services Marketing*, 21 (1), 52–63.
- Schiffman, L. G. & Kanuk, L. L. (2000). *Consumer behavior, 7<sup>th</sup> edition*. Prentice Hall. Upper Saddle River, NJ.
- Schoombee, A. (2000). Getting South African banks to serve micro-entrepreneurs: an analysis of policy options. *Development Southern Africa*, 17 (50), 751–767.
- Sharma, E. H. P. & Prasad, G. V. B. (2014). Customers' choice of banks – a factorial analysis. *Indian Journal of Commerce and management*, 2 (3), 6–15.
- Tobbin, P. (2012). Towards a model of adoption in mobile banking by the unbanked: a qualitative study. *info*, 14 (5), 74–88.
- Tustin, D. H. (2010). An impact assessment of a prototype financial literacy flagship programme in a rural South African setting. *African Journal of Business Management*, 4 (9), 1894–1902.

Yamane, T. (1967). *Statistics, An Introductory Analysis*. Harper and Row. New York.

Zhao, A. L., Hanmer-Lloyd, S., Ward, P. & Goode, M. M. (2008). Perceived risk and Chinese consumers' internet banking services adoption. *International Journal of Bank Marketing*, 26 (7), 505–525.