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Pre-Paid Credit Project

Final report

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1. EXECUTIVE SUMMARY

Our aim is to establish a firm that leverages mobile phone technologies as a means of providing micro-financing to financially challenged, working-age consumers in South Africa. A very large part of the population in emerging markets is currently outside the scope of financial institutions due to a lack of institutionalized information on credit-worthiness and low levels of their income; our initial hypothesis is that a business serving this market could have significant business potential due to a large customer base (approx. 13 million people at the base of the pyramid), and has the capacity for profoundly improving the living standards of a disadvantaged segment of the population.

We propose a project in which customers will use their mobile phone-identifiable account as a means of payment in partnering retail chains; consumer micro-loans will be provided hassle-free whenever credit is required to complete a purchase. Prompt paying-back behavior of existing loans will be awarded through increased loan allowances over a period of consistent payment; personalized credit profiles will also be created akin to a credit score through proprietary algorithms, enabling access to institutional credit sources like banks. This model offers a better value proposition against credit sources currently available (i.e loan sharks, purchase-specific financing) and thus, we expect to quickly attract a sizable clientele.

We project our steady-state profits at approximately 5 million Rand per annum (Table 1.1). Key profitablity drivers are the number of customers, the interest rate charged, and loan duration. Despite an otherwise rosy set of possible outcomes, we discovered certain regulatory hurdles discussed below that critically questions the viability of our project; thus we believe it would be prudent not to proceed with this business plan at this time. Potential viability enhancement attempts could focus on a different geographic and customer base (e.g. also serve business customers); however, this would result in a huge operational and focus shift versus the proposed model herein.

2. IMPACT STATEMENT

In 2006, Muhammad Yunus was given the Nobel Prize for his efforts to spawn microfinance to entrepreneurs. But even with the ballooning of enterprise microfinance, financial services are hardly available to most people in the developing world since consumer credit is unattainable by most the poor majority.

We propose to widely expand financial services to working poor in the developing world through a pre-paid consumer credit product, available through local grocery stores and retailers. Our product will provide small increments of credit after the customer pays a portion of principal upfront. By linking the credit to their mobile phone number, the credit will be personalized and convenient for the user to access, while still allowing the company tracking information on the customer. Because it is available in local major retailers, it is more convenient than banks but still offers more formality than loan sharks. Because it offers small credit amounts, it fits the purchase habits and budgets of working poor while effectively protecting the company's risk. This project will require hardly any fixed costs, with no inventory, equipment or intellectual property licenses needed to launch. With simple and easy to understand terms, we will spare consumer the fine print of traditional banks or the aggressive threats of loan sharks.

The target segment is working low-income adults living in South Africa, defined as those who make a monthly gross income of R4999 and less. We believe that if successful the idea can be expanded to the more than 25 developing countries where there is already credit scoring agencies and traditional bank services unaccessible to the poor.

The seed segment is working poor adults in urban South African townships within the lower Living Standard Measures (LSM) 1-5. Our offering will only be available at the retail outlets which target the same target population that this offering would capture. The value added for these retailers is that their clients can purchase more products at their outlets and this would in turn attract more clients to these stores as clients become aware of this offering. Thus, such retailers in low-income areas will have an increased customer base and earn additional revenue of each transaction through an interest allocation or split.

Ultimately, successful execution of this project will provide consumer credit to over 200,000 people who never had access before, funding items such as ongoing essentials and unexpected emergencies. Moreover, it will provide them a credit history so that they have an opportunity to access large credit sources in the future.

3. MARKET ANALYSIS

A. Customers

Overall, the South Africa's working poor populations between the ages of 15 – 65 years totals 12.8 million. The growth rate has slowed from 1.33% between 2001-2002 to 1.11% in 2010-2011 because of the increasing prevalence of HIV-AIDS.[1]

The credit needs of South Africa's are diverse and include 1) major emergencies like unforeseen health shocks and funerals, 2) large essential expenses such as school fees, 3) special

[1] Stats SA, 2011

occasions such as holidays and weddings, and 4) additionally liquidity for basic needs such as groceries. Additionally, Finscope study has shown that much of the household debt of the low-income adults should be financed by short-term insurance, and without that they would subsequently seek micro-lending. Less than 0.2% of the adult population in LSM1-5 have access to insurance, which points to the opportunity of a more accessible credit option to cover those expenses.

There is very low customer buying power because of the fragmentation and lack of organization among low income customers around financial products and the urgency to receive loans. Formal financial products are growing, in part because of the expansion of microfinance. Nonetheless, microfinance has been criticized as being insufficiently regulated, or exploitive to consumers who cannot pay either the principal or interest rates. Still, many target customers have formal or informal savings but do not have formal credit. In the past four years, the proportion of adult South Africans with bank accounts has jumped from 45% to 63% (All-Africa, 2009). As of 2011, 8.8M South African consumers have an impaired credit rating and there are few offerings to help consumers repair their credit.[2]

The main benefit to customers will be that this product offers short loan amounts for personal use. By using SMS technology, the company can send reminders and financial education to the customer. It will be more accessible than current microfinance or traditional bank loans, more affordable than loan sharks, and more funding availability than friends or family.

B. Competitors

[2] http://www.creditinfo.co.za/

Currently, there are no other businesses offering a pre-paid credit product. There are a few direct competitors offering consumer credit in low-income areas. For example, while Shop Rite does not offer store credit in most of its corporate umbrella, it does offer revolving credit at it OK Furniture stores, subject to extensive application requiring banking account information and payslip. Some microfinance institutions (MFIs) offer 30-60 short term cash loans at their in-person branches but many are targeted towards the emerging middle class.[3]Before being acquired by African Bank in 1998, King Finance Corporation targeted civil-service employed low income residents, where customers come in branch and loan repayments are set up with the employer so that it is taken as a deductions from their paycheck.[4] Wizzit is a mobile lending business targeting low-income consumers, but without any in-person interface. Overall, the competitors are substantial in number but fragmented and uncooperative. Most have multiple lines of revenue with the same target market. It is unlikely that any one company would feel wholly threatened by PrePaid Credit because the offering is unique amongst the competitors.

C. Substitutes

The largest substitute for pre-paid credit is layaway (lay-by), which has lost popularity at South African brick and mortar retailers with the growth of credit cards, but is still second to cash in purchasing mechanisms for appliances and clothes.[5] Savings clubs and burial societies are common informal financial services system that enhance liquidity. They are very popular among low-income families, building upon personal familiarity, consistent deposit and reminders and convenience as a conduit for financial growth. Lastly, between 40-90% of traditional microfinance loans for

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[3] http://finbond.co.za/index.php/products/personal-loans

[4] pdf.usaid.gov/pdf_docs/PNACJ665.pdf

[5] www.finscope.co.za/documents/2007/FSPR06_**retail**.pdf

enterprises is often diverted to personal needs.[6] While, enterprise microfinance is only offered to a small percentage of all consumers seeking credit, these loans still have a high repayment rate.

D. Barriers to Entry

The current barriers to entry have been much higher since 2005, with the introduction of the National Credit Act and the regulation of the microfinance industry. Prior to 2005, "loan shark" businesses were easy to open and provided credit to the poor at huge monthly interests rates of 60% and higher. The purpose of the regulation of the National Credit Act is to slow the emergence of illegal and informal credit providers. The regulations require all credit lending companies to register and to uphold regulations around communicating loan terms to the consumer and conducting risk assessments.[7] According to Rossouw, in 2008 there was a 195% increase in the amount of formal credit providers in South Africa which amounted to over 3500 credit providers in South Africa. This is indicative of the growth of this market, thus also prompting the high level of rivalry that exists. Consumer awareness of the National Credit Act is high, at over 66% in 2010.

The low need for patency and propriety knowledge facilitates rival entry into this segment. Because competitors have easy access to knowledge, which is not patented, it makes it easy to enter this segment of the market. The patency of business models, ideas and knowledge would make it more difficult to enter the credit market. The lack of patency on this offering we are proposing creates competitive opportunity to entrants. The competitive strategy will have to be forged and implemented at the business-unit level so as to not feel the affect of the entrants

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[6] http://www.pambazuka.org/en/category/features/74504

[7] www.deloitte.com/assets/Dcom-SouthAfrica/Local Content/Articles/Insights into aspects of the National Credit Act.pdf

The lack of assets and asset-specificity also facilitates entry into the market. Software packages and the relevant, easily accessible information technology makes it easy to enter this segment. The algorithms needed to rate the credit capacity of these clients are embedded in software that creates easy access to the market.

The National Credit Act also caps interest rates with a maximum of 5% monthly interest on short-term loans. The low interest thus forces new entrants and existing competitors to perfect their marketing efforts and business models. Pre Paid Credit addresses the NCR required interest rates in our revenue model (Appendix). To overcome this barrier to entry, larger volumes of low-value transactions, confined within the limitations of the National Credit Act, are required to meet our minimum revenue goals. Convenience based retailers will provide us the customer volumes to achieve the minimum number of transactions.

The low need for patency and propriety knowledge facilitates rival entry into this segment. The competitive strategy will have to be forged and implemented at the business-unit level so as to not feel the affect of the entrants. The lack of assets and asset-specificity also facilitates entry into the market. Software packages and the relevant, easily accessible information technology make it easy to enter this segment as many technologies are widely used across the industry. The credit rating algorithms are proprietary and thus a source of some competitive advantage, however all rivals have equitable access at creating an algorithm that fits NCR standards.

4. MARKET CREATION CHALLENGES

The *process* point of viewprovides a thorough description the offered product, our value proposition and the key challenges that come with it.

The overall idea is that our firm's service (Pre-Paid Credit, or PPC) will provide small amounts of credit (i.e. micro-loans) to customers with no credit background, using their cellphone as their primary identification and authorization means. The customer will make an initial "guarantee" deposit, on top of which a small loan allowance will be added by the service, and which he can use (along with the initial "guarantee") for purchases at participating retailers. Below is an explanation of the customer experience and company processes:

Step 1: Awareness:

Pre-Paid Credit will build its brand presence with new customers through POS promotions at its participating retail network, radio advertising and community partnerships.

Step 2: New account creation

a. Customer goes to a participating retail location (e.g. ShopRite) and establishes a new account providing his name and cellphone number to the merchant. The account can now be uniquely identified by the customer's cellphone number.

b. Customer makes a first deposit to finalize the account creation and activate the new account. This initial deposit is also known as "guarantee" or "collateral" Let's assume that this "initial credit", which has a value of [d] ZAR.

c. Customer immediately receives SMS welcoming him to the service and reporting the "status" of his account. "Status" consists of "collateral" [d] and "remaining balance" [r]. It will be that [r] = [d] * (1+[a]), where [a] is the initial overdraft allowance, typically less than 2% [TBD at a later stage after careful risk evaluation].

Step 3: Goods purchase

a. Customer goes to a participating retailer and shops for desired items. After selecting items, he goes to checkout area and indicates to cashier that he wants to pay using the service, giving him his mobile number.

Step 4: Payment with Micro-Credit

b. Cashier inputs the mobile number & total value of goods purchased [v] to the service's interface. Interface asks for authorization code and customer receives the [one-time unique] authorization code with SMS in their mobile phone.

c. Customer provides merchant with the SMS code received. Merchant enters the SMS code to the system, and as long as value of goods purchased [v] does not surpass the remaining balance [r] { =[d]*(1+[a]) } the transaction is approved and the customer can leave with his goods.

d. Customer receives SMS notification of his new account status, where now both remaining balance [r] and collateral [d] are reduced by the amount of last purchase [v]. If [d] becomes lower than zero, then the SMS reports the collateral as "0" and notifies customer that he is using [d] of the allowance amount. As long as the final value of [r] stays above zero, steps [2a]-[2d] can be repeated indefinitely many times.

Step 5: Reminders

a. If [d] is below 0, then every month (starting from the day when first [d] became lower than zero), [r] and [d] are reduced by [d]*[i], where [i] is the monthly interest rate charged by the service for use of the allowance amount, up to 5% and the customer is notified via SMS of this change. If [r] becomes lower than zero, then a "zero" value is always displayed to the customer, but [d] continues to be reduced (i.e. the amount owed continues to be increased) by [d]*[i]).

b. If a negative [d] is retained for prolonged periods of time (e.g. over 6 months) with no top-up activity then the overdraft allowance [a] for future balances might be reduced and the customer will be notified by SMS that this has occurred. This will NOT affect the customer's current remaining balance [r].

Step 6: Top-up

At any point of time, the customer can go to a service-associated merchant, give his phone number and top-up his account with a payment [p] of more collateral [d]. Then, [d] is changed to [d]+[p] and the allowance for future payments[a] is increased depending on the top-up amount, time lapsed from previous payment, amount of time [d] was below zero etc.. The allowance for future payments [a] cannot increase beyond a certain limit that will be defined by the risk analysis for the service. If final value of [d] ([$d_{initial}$]+[p]) becomes higher that zero, then the current remaining balance [r] takes the maximum value between its last value and [d]*(1+[a]). The customer receives an SMS that acknowledges the payment and informs him of the new [d], [r] and [a] values.

Step 7: Creation & use of credit rating

Customer's credit rating / profile is being updated using his ongoing behavior. Customer can access or ask the service to send his profile to a 3rd party financial institution anytime (the latter for a fee subtracted from [d] and [r]). Steps [2] – [5] can be repeated indefinitely many times.

* * *

The above steps, along with the need for service awareness, create the *customer experience* and subsequent *firm deliverables* table, seen on table 4.1 of the appendix. As one can see, the main tasks our firm should undertake to make the customer experience feasible is creating & hosting the central software / customer management platform (including core banking algorithms and functions, transactional and credit scoring back-end and SMS / retail partners front-end support), establishing relationships & POS with partner retailers, install POS equipment and train partner employees, and finally create awareness to the customer. These are further detailed on Table 4.2 [Firm's required capabilities], along with associated resources and costs. Finally, on Table 4.3 we outlay the expectations from our customers and retail partners. Very little is expected from customers; common goal-setting and willingness for long-term cooperation is the basic requirement from the partner standpoint.

Overall, as one can see on Table 4.4 [Most Competitive Advantage Table] our service enables customers to increase their purchasing power through credit, providing them with a "best of two worlds" solution, comparing existing in-store financing solutions and loan sharks. Indeed, Pre-Paid Credit is purchase-agnostic, has very clear interest rates and payback options, and is essentially hassle-free in case of short-term financial difficulties, as in this case the consumer will not receive any threats from a loan shark or have any of his assets confiscated. Furthermore, it awards good, consistent and trustworthy customers by providing them with an objective credit score that they can use in other formally-established financial institutions (e.g. commercial banks) in order to get access to further credit or financing. That's why we believe that we will be able to attract a large number of users within a relatively short timeframe.

5. DISCOVERY-DRIVEN PLANNING

Using the discovery-driven planning framework, we assessed the viability of our project proposal using a Monte Carlo simulation of key assumptions and derived the sensitivity of our business to these assumptions using a Tornado Chart, and the volatility of outcomes using frequency distribution of possible outcomes. We performed this analysis on two metrics: net income and projected margins, as they are highly indicative of the health of our project at any given scenario.

The tornado models reveal that our business is highly sensitive to the following inputs and drivers: number of customers, interest rates on loans, loan duration, revenue split with commercial partners, revenue adjustment for "micro" status and delinquency rates. (see Exhibits 5.1, 5.2) While none of these drivers were a surprise, the magnitude of the effect of several drivers came as a surprise. For example, comparing scenarios of loan duration of 8 months vs. 12 months, we find that the additional 4 month duration more than tripled our bottom line. Similarly, the number of customers is not linear to our bottom line; doubling the customer base more than triples our bottom line, highlighting the high operational leverage of our project, with our cost structure highly biased heavily towards fixed and overhead costs.

The Monte Carlo simulation forecast of our net income and margins was also an adequate reality check of the risks of this project. (see Exhibits 5.3, 5.4) That is, the range of outcomes is quite large, spanning from approximately a loss of 10 million rand to a gain of 30 million rand, with frequencies crowding around the mean of the base case which yields a profit of 8.3 million rand for the project. Our projected margin is left-skewed, with also a large range with a greater area of the distribution towards the positive in more than 90% of the scenarios. These forecast reveal a good cushion on margins, in the case we have neglected to include any additional costs. As we implement some points of the transactional chain, we will refine the range of the input assumptions and we expect to have a better sense of the forecasts.

6. SOCIOPOLITICAL RESPONSE ANALYSIS AND ENTRY STRATEGY

Country Background

South Africa has undergone immense social and economic change over the last 20 years, following the abolition of apartheid and fundamental reforms aimed at creating a more open and market-oriented economy. Since democracy was established in South Africa in 1994, the country's economy has been completely overhauled. [8]With the establishment of creative macroeconomic reforms the country has boosted competitiveness, grown the economy, created jobs and opened South Africa up to trade in world markets. [9]In 2007, the International Monetary Fund (IMF) annual country assessment, noted that South Africa's economy was "undergoing its longest expansion on record. In recent years, the country has experienced increased growth levels in an environment of rapid credit expansion and strengthened public finances due to rising international reserves financed by large capital inflows."

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[8] African Peer Review Mechanism.Second report on the implementation of south africa's aprm programme of action[online] http://www.thepresidency.gov.za/MediaLib/Downloads/Home/Publications/AfricanPeerReviewMechanism/aprm2ndreport.pdf (accessed 9 March 2012)

[9] South Africa: economy overview. [online] http://www.southafrica.info/business/economy/ econoverview.htm (accessed 10 March 2012)

The South African advertising research foundation developed the Living Standard Measure (LSM) model whereby households can be classified into ten different living standard groups. [10]LSM 1 groups have the lowest living standards and LSM 10 households have the highest living standards. Almost 80% of the total cash budgets of households falling into LSM 1 group was spent on food, clothing, footwear and household goods. Food alone was responsible for up to 71%. This group (including the unemployed) represents over 57 % of the South African population and has remained unchanged since 1998.

Stakeholder Analysis

The appropriate approach to the stakeholder analysis for the Pre-paid Credit Project is akin to that of a microfinance institution, given the similarities of our business model and ultimate social impact. The stakeholder analysis in Table 6.1, can be divided in four distinct categories: allies, potential allies, opponents and sleeping dogs.

The allies represent those whose lives our project is ultimately designed to directly improve—particularly customers who have otherwise low participation levels within the formal credit markets due to lack of access to a credit score. Access to finance is of critical importance to low-income households to take advantage of new business opportunities, expand income-generating activities and cope with unforeseeable shocks and help them smooth their consumption over time eg. participation is encouraged to engage in payment for food, medicines, healthcare and home improvements. Within the South African market, many of these purchases can be made at the same retail store Shoprite Checkers. Through their participation in this endeavour, the

[10] Total Household Cash Expenditure in SA by living standards measure (LSM) group and product. (2006) [online] http://www.sarpn.org/documents/d0000990 (accessed 10 March 2012)

supermarket chain gains more “feet” in their store with more money to spend. [11]A similar micro-finance program, The Hunger Project's (THP's) encourages education, savings and credit options to address the end of hunger in Africa. The National Credit Regulator represents is a government department responsible for the regulation of the South African Credit Industry.

The regulator is tasked with carrying out education, research, policy development, registration of industry participants, investigation of complaints, and ensuring enforcement of the National Credit Act within South Africa. The Act requires the Regulator to promote the development of an accessible credit market, particularly to address the needs of historically disadvantaged persons, low income persons, and remote, isolated or low density communities. Finally, employees of the company represent another ally, ensuring the provision of good management, a clear business objective and benefits in line with the national average.

Potential allies include those with resource and power such as the Ministry of Finance and local government, among other entities. While the government is not a provider of our service, it will play a critical role in facilitating and supporting our business, through the regulation and supervision of local agencies. Commercial banks have generally shunned the microfinance sector. Low-income earners, represent a risky segment to be served because they present high default risk and high cost of service due to their low amounts of their investments and loans. This has allowed the sector to be dominated by the “Alternative Financial Institutions” which consist of small savings and micro-lender companies. However, this offering provides banks a lucrative opportunity to diversify outside of current clientele to include new diversified business models.

[11] The hunger project Empowering women and men to end their own hunger [online] http://www.thp.org/what_we_do/key_initiatives/microfinance/overview?gclid=CNnfiKfG9a4CFYgifAodiRrLHg (accessed 9 March 2012)

Opponents are represented by those who will be threatened by the offering. These include [12]Loan sharks, who in South Africa still charge up to 60% a month in interest and are continuing to flourish despite the introduction of the National Credit Act, forbidding this practice. There are law-abiding micro-lenders also working across the country within the confines of the National Credit Act.

The role of local government represents the sleeping dog in our analysis. Access of credit for the poor and marginalized will play a role in poverty reduction and moving the population from a gift/grant mentality to a credit and savings culture.

Entry Strategy

1. Entry in conjunction with the National Credit regulator and National Credit Act requirements.

2. Initially focusing on a single national retailers, eg Shoprite-Checkers. This would be by partnership with retailers. By using their fixed assets, our overheads are reduced, thus allowing economies of scale in terms of cost reduction.

3. Ensuring commercial partnerships with mobile phone companies, specifically MTN which has the market share in this sector of the South African market segment.

4. Initiating the comprehensive IT solution into the Shoprite-Checkers in-house money market infrastructure, already widely used by its customers.

5. An aggressive marketing campaign, stressing the empowerment of the individual as a contributor to the economy

[12] HR future: Human strategy for Business. Loan Sharks driven underground. [online] http://www.hrfuture.net/reward-finance-tax/loan-sharks-driven-underground.php?Itemid=271 (accessed 10 March 2012)RHR

6. Downstream the mode of entry into African countries could be by licencing.

7. RECOMMENDATIONS AND KEY RISKS

Risk Discussion

Based on the above analyses and our knowledge of the South Aftrican market, we strongly feel that the project requires substantial reconsidering prior to implementation. We have identified the following as our main sources of concern: First, projected returns (ZAR 5 million/ yr. base case) are relatively low when compared to the inherent risks present. Non-performing loans pose another significant risk for the viability of our business plan: whereas our NPL ratio base estimation is ~30%, recent benchmarking with Blue Financial Services Limited and other Micro-Financial Institutions imply potential ratios of 50% or more (especially in face of a continuing crisis in the Eurozone); this may lead to significant additional write-offs that would seriously deplete our bottom line and margins. A way to deal with this risk would be to choose a different customer base (e.g. also offer micro-credit financing to SMEs or one-person enterprises) or different geographies. However, this could also lead to a significantly different business plan and operating model vs. the one described here.

Other potential sources of risk -which would also be relevant in case we alter the business model to also serve business customer include:

- **Unfavorable Macro-economic Factors –** A slowdown of the South African economy may impact our business. Additionally, we find that unemployment, over-indebtedness and the labour regulatory environment could be impactful. The current low inflationary period and low interest rates are favourable but unforeseen shocks in inflation may cause unfavourable economic environment. Additionally, the tangential and global effects of a slowdown in the Eurozone could induce pressure on the local finance sector and this may benefit or adversely affect the business.

- **Credit Risk –** as measured by the percentage of outstanding loans that are non-performing. By far the biggest risk in the lending business, credit risk must be mitigated by ensuring that any credit provided to customers is appropriate to their ability and capacity for repayment, in accordance with the National Credit Act 2005.
- **Environmental Risk** - these risks are low, given the business model will be coordinating with pre-existing brick and mortar stores. These pre-established edifices would/ already account for risks associated with site selection, life and fire safety, wastewater treatment and disposal, waste management, air emissions, use of CFS's and worker health and safety.
- **Socio-political Risk** – we must take steps to ensure that host governments are favorable and amenable to our business, so as no avoid expropriation or nationalization of our business
- **Adverse competitor and partner response** – we find that competitors or even partner entities may take hostile action to expropriate the business or replicate our model and squeeze out our entity from the transactional chain. We must take proper steps to cement our position within and guarantee our place as a linkage in the chain
- **Customer Response Issues** – given the novelty of the project, customer understanding of the benefits from enrolling and increased frequency in use are highly critical to success. There are also marketing risks in understanding the target customers to ensure the product is in alignment with customer requirements.

- **Ethics** – The financial nature of the transactions leaves it vulnerable to compliance and ethical risks. Steps must be taken to ensure compliance with the code of conduct directives and controls must be in place to prevent fraud both from the customer and provider perspective.
- **Accounting and Financial Compliance** – With regard to financial reporting risks, oversight and controls must be maintained to have adequate levels of accounting and financial compliance with respect to locales and international reporting standards.
- **Treasury Risk** – the company must ensure that the business has adequate liquidity to run day-to-day operations and ample ability to forecast and diagnose timing of financial liabilities in relation to the availability and timing of certain liquid assets.
- **An increase of impairment of receivables among our credit customers -** restrictions on our ability to charge market interest rates could have a negative impact on the performance of our credit and financial services business
- **Competitor reaction risk –** Even though the offering would be unique in nature competitors could catch up to this business model. Lack of patency would expose this offering allowing competitors to copy this offering. It is thus essential to build strong revenue to allow for price adjustments by means of lowering internal interest rates without running losses.
- **Operational risk:** downtime or failure of our IT infrastructure to fulfill mission requirements would seriously jeopardize partner and customer trust to our firm, and potentially have legal or regulatory implications. Thus, a sound enterprise risk management (ERM) must be put in place to ensure constant and full mitigation of foreseeable risk. Insurance and SLA with IT suppliers / partners could be utilized to hedge any unforeseen risks.

8. APPENDIX

Table 1.1: Pro-forma steady-state [Year 5] income statement in ZAR

Interest Income from Loans	50,625,000
Credit Score Revenues from Credit Bureaus	350,000
Advertising Revenues on cards	50,000
Total Revenues	**51,025,000**
Revenue Share with Distributors	5,062,500
Coordination Fees (Collection/Distribution of Funds)	200,000
Rent	500,000
IT	300,000
Non-performing loan Write-off	22,500,000
Depreciation/Amortization	6,000,000
Telecom Partnership Fee	2,000,000
Telecom Hardware Partnership Fee	420,000
Total COGS	*36,982,500*
Sales / Partner Training Staff Salaries	1,630,000
Management Salary	5,250,000
Total SG&A	*6,880,000*
Total Operating Costs	**43,862,500**
Gross Income	7,162,500
Tax (28%)	2,005,500
Net Income	**5,157,000**

Table 4.1: Customer Experience and Firm Deliverables Table

Step	Customer Experience Table	Firm Deliverables
7. Credit rating	Customer receives their credit rating from a credit bureau.	Distribute consumers' credit ratings to larger institutions or regulatory bodies as needed.
6. Top-up	Customer makes payments until fully paid by going to a retail partner, giving cellphone number & money to add onto the account. Receives SMS receipt for transaction, stating the deposit amount, new balance and deposit allowance for future transactions	Track payment of money owed and balance deferred. Map payback behavior to a consumer credit rating. Use updated credit rating to recalculate minimum collateral, interest, and microcredit amounts.
5. Reminders	Customer receives periodical SMSes with interest charged, remaining balance, deposit amount, and deposit allowance for future transactions	Develop "core banking" algorithms that will adjust the customer's risk profile depending on behavior.
4. Payment	Customer pays with PPC by giving authorization code to the cashier. Receives SMS verifying the transaction and notifying them of the new balance.	Pay original retailer that sold PPC a distributor fee for customer transaction.
3. Purchase items	Customer goes to partner retail locations and shops for items that they desired and could only afford with additional credit.	Market/educate customer on partner retailers.
2. Start-up	Customer goes to a participating retail location. Customer pre-pays specific amount in cash ("deposit") and provides their name and cellphone number to cashier. Customer receives SMS verifying the deposit, allowable credit, terms of service and authorization code for purchasing items with PPC.	Establish a network of retail partners and train them on processing transactions. Transfer funds from retailer to the central account of the firm . Transmit user information from retailer to central database. Interface with telecom providers to use auto-SMS software to send automatic confirmation to customer of deposit and allowable credit.
1. Awareness	Become aware of the Pre-Paid Credit (PPC)	Market/educate the consumer about the benefits of the PPC, basic terms of service and where it is available.

Table 4.2: Firm's Required Capabilities, Fixed Assets, Staff and Material / Other expenses required, along with associated costs, for Each Step in Customer Experience

Step	**Capabilities**	**"Fixed" Assets**	**Staff**	**Materials / Other Expenses**	**Est. Cost** ZAR 000s
7. Credit rating	NCR Compliance Develop credit profile creation software, export & verification mechanisms	Credit reporting software.	Compliance Officer	None.	
6. Top-up	Same as (2)	Same as (2)	Same as (2)	Same as (2)	100/year for fund collection/ distribution and salaries
5. Payment	Risk assessment algorithms, data base & info mgmt	Same as (2)	Risk assessor	Same as (2)	330/year for salaries
4. Reminders				Liquidity to cover lag time between purchase at merchant and customer payback.	
3.: Goods purchase	Enable retailer payments through the service Marketing	Everything from (2) plus: Integration software with retailer payment system.	Same as (2) plus IT administator		100/year for retail transactional platform
2. Start-up	Retailer sales and support Database integration with retailers	Software (CRM system, Database, Core Banking Platform & algorithms, front-end & SMS interface) Computer hardware (Servers, network equipment, POS equipment)	IT administrator PR representative Retail Partner employee trainer	Hosting service subscription Bulk SMS sending technology with telecoms Training materials	2850/year for salaries and overhead
1. Awareness	Educate customers about the advantages of PPC and microcredit		1-2 marketers	Advertising space, leaflets, retail store banners / posters	250/year

Table 4.3: Retail Partner and Customer Required Capabilities for Each Step in Customer Experience

Step	Retail Partner required capabilities	Customer Required Capabilities
7. Credit rating	None	Desire for credit score assessment (i.e. need for further credit from other institutions / lenders).
6. Top-up	Same as (2)	Same as (2) plus Funds to top-up.
5. Payment	Same as (2)	Funds to repay amount owed to PPC
4.Reminders	None	None
3. Goods purchase	Same as (2) plus: Adequate availability of goods desired by service users Retail transaction processing mechanism	Same as (2) plus: Can find & transport desired goods from merchant
2. Start-up	Accessible to target customer Cashiers / POS salespeople capable of processing PPC Technology-enabled sales equipment. Secure money receiving processes	Access/transportation to retailer. Ownership of activated cellphone Funds to pay initial deposit Authority to consent to terms of service.
1. Awareness	Capacity to market (e.g. display banners, distribute leaflets) and promote PPC.	Understand benefits of service. Desire credit

Table 4.4: Most Competitive Advantage Table

Step	Advantages of PrePaid Credit (our service)	Advantages of retail-specific financing (e.g. OK furniture)	Advantages of loan sharks	Advantages of not using credit at all
7. Credit rating	Builds credit history	Builds credit history	Personal affiliation created with the loanshark; possibility to receive higher loans in future	Less confusion and less opportunity to spend more than needed and get caught with a bad credit rating.
6. Top-up	Top-ups are manageable amounts and terms because based on previous payment history. No		Personal affiliation created with the loanshark.	No need for topping up or paying back the loan. No loan-related stress or threats received
5. Payment	Can repay loan at any associated retailer	Installments can be repaid at any location	No cellphone required to pay back the loan.	No need for future payments or interest.

	location Flexibility to delay repayment without any significant penalties (apart from consequences on credit score)	of the retail chain No cellphone required for the transaction	Personal familiarity with loan shark; can possibly negotiate interest rates & payment terms	
4. Reminders	Transparent interest-charging mechanism; frequent notifications. Mobile convenience—no paper contracts or fine print.		No technical jargon.	No need for reminders since goods/services already paid in full.
3: Goods purchase	Greater buying power Can be used in a wide array of retailers	Greater buying power. Seamless pass from financing to purchase so less steps for consumer to complete in order to use credit.	Greater buying power Loan given in cash so can be used anywhere.	100% ownership from day of purchase No need to predict future ability to pay off credit.
2. Start-up	Immediate financing. Can claim collateral at any time before credit is used. No existing credit history required Small loans are manageable for customer and can help customer get bigger loans in future.	Same-day financing at same POS as purchase. Large amounts provided.	Same-day financing. Possibility to claim back collateral in a later stage Large amounts provided. Terms put in simple language.	No need to spend time in order to set-up account or take a loan. No cellphone needed.
1. Awareness	Promoted in a wide array of stores	Promoted directly at POS	Word of mouth	Intrinsically aware.

Exhibit 5.1: Net income sensitity analysis (Tornado chart)

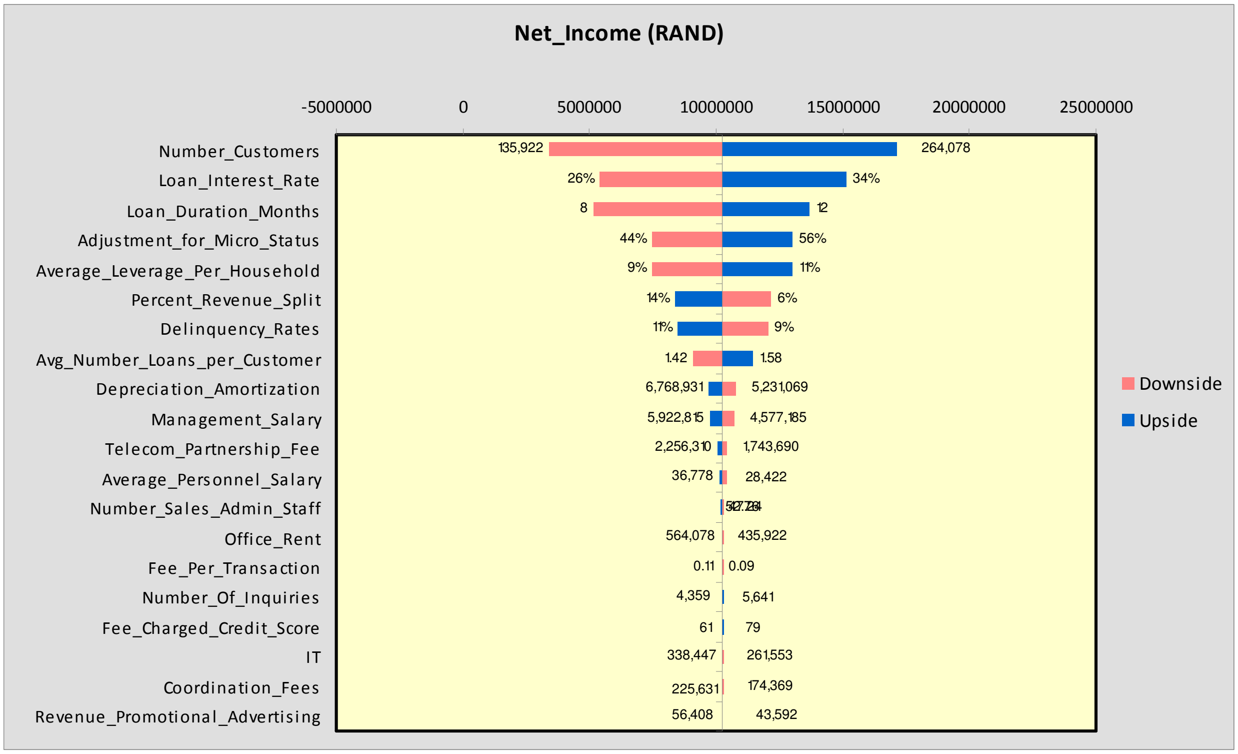

Exhibit 5.2: Net margin sensitity analysis (Tornado chart)

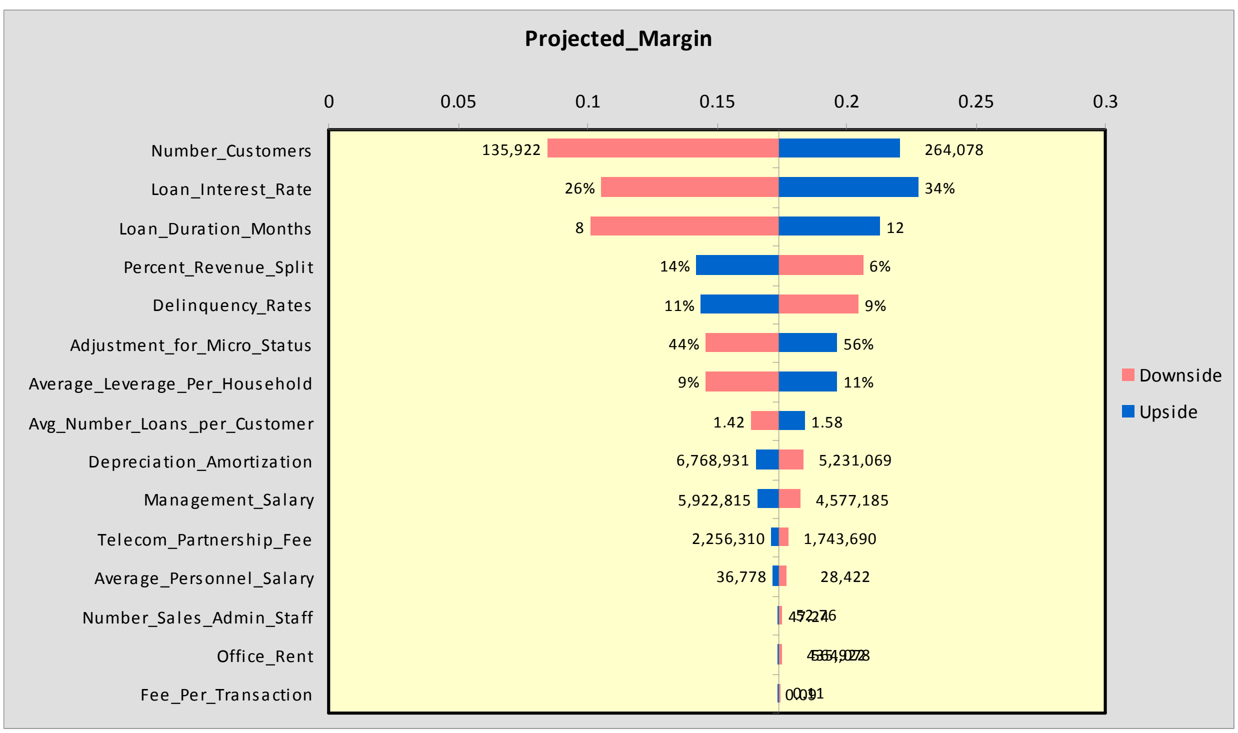

Exhibit 5.3: Net income Monte-Carlo simulation results

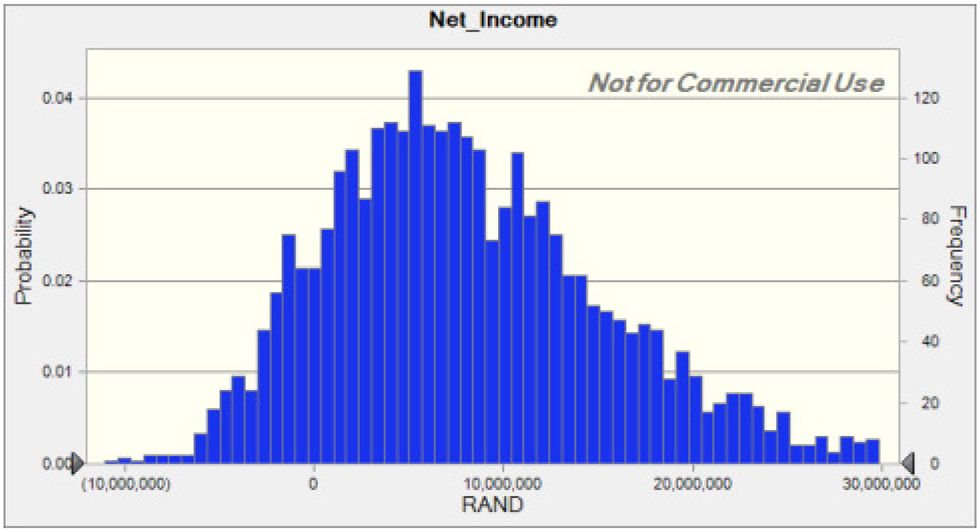

Exhibit 5.4: Net margin Monte-Carlo simulation results

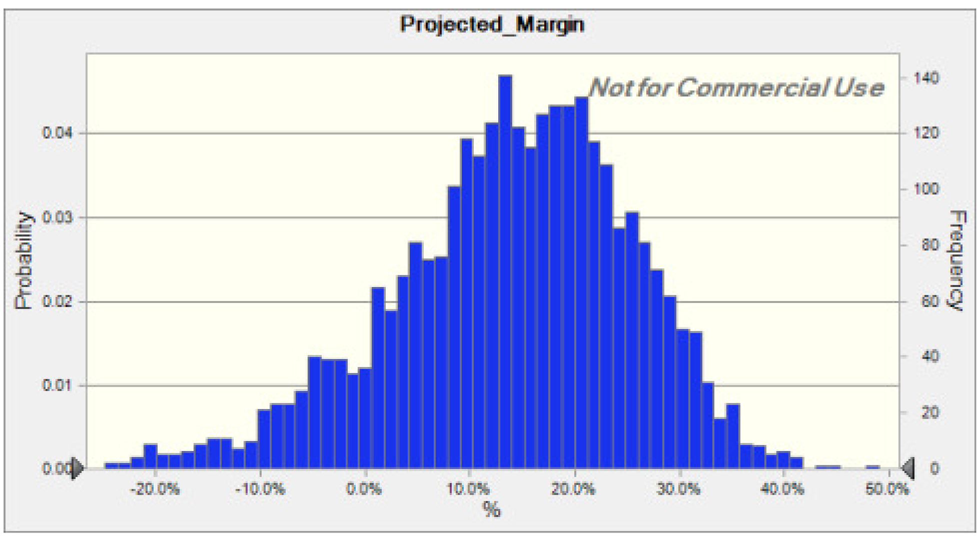

Table 6.1: Stakeholder table

	Benefiting	Inconvenienced
Active	**Allies** 1. Consumers 2. Shoprite-checkers (Merchants) 3. National Credit Regulator 4. Employees of the business	**Opponents** 1. Existing Micro-lenders 2. Loan sharks 3. Mobile lending business
Inactive	**Potential Allies** 1. Credit bureau 2. Financial institutions (initial credit rating screening of customers) 3. SA government (Ministry of Finance) 4. Mobile phone companies	**Sleeping Dogs** 1. Local Government