Uganda Off-Grid Energy Market Accelerator

Credit management in the SHS sector

Insights from pilots in Uganda

November 2020

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Introduction

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As PAYG solar home system operators in Uganda pursue sustainability, credit management is a growing focus area

There is an inherent tension for PAYG businesses between rapid sales growth and mitigating credit risk, which in some cases, has led to serious challenges in credit management

- Significant investment have led companies and their investors to define strong growth targets, which has led many to prioritize rapid customer acquisition over portfolio quality
- This pursuit of portfolio growth has motivated some firms to pursue aggressive sales strategies and limited customer vetting, as well as increasing risk exposure to make products more affordable for end users

These practices have resulted in negative outcomes for many stakeholders, including:

- Higher-than-expected default rates that have led to cash flow challenges, default on debt, and bankruptcy
- Slower-than-expected returns to investors, who may lose appetite for further investment in the sector

Companies and stakeholders now recognize these issues and are looking to promote more sustainable commercial approaches, such as emphasizing robust credit management processes to mitigate portfolio risk

This report merges findings from UOMA pilots and desk research to summarize solar home system (SHS) credit management insights

Process insights: we summarize the credit management processes used by SHS companies, including key factors considered when developing strategies and processes

Case studies: we present insights from the overall market and case studies from 10+ interviews with SHS stakeholders and industry experts

Sector challenges: we identify the top credit management challenges and how the market is addressing them

Recommendations: we suggest best practices and interventions to address many of the challenges highlighted

Refining credit management processes will allow SHS firms to unlock operational benefits and attract more investment

SHS companies can leverage credit management to improve operations and financial performance:

- Reduce losses by maintaining a creditworthy borrower pool
- Protect cashflows by increasing on-time payment rates
- Improve financial planning by anticipating repayment and default rates
- Optimize resources by investing in high-value products & reliable customers
- Identify and address causes of customer dissatisfaction by analyzing default drivers

SHS companies can also attract funding by improving credit management and reporting:

- Enable investors to accurately assess portfolio quality and risk
- Increase investor confidence by exhibiting sound credit practices
- Allow direct comparison with other firms and industry benchmarks and KPIs
- Simplify the creation of innovative financing structures and SPVs
- Improve valuations by displaying consistent cash flows and minimal losses

Credit management also allows companies to generate revenue by selling add-ons to creditworthy customers

1. Obtain data through assessment and payment tracking tools
2. Build credit profiles to identify customers' creditworthiness and competing needs
3. Design and offer products tailored to borrowers' credit profiles, including upgrades and add-ons

This report explores opportunities to address risk across key stages of the SHS credit management cycle

1 Pricing terms

- What are the critical factors that shape (or should shape) design of credit terms in the SHS sector?
- How can companies leverage credit terms to manage credit risk and maintain sales volumes?

2 Credit assessment

- What characteristics predict customer creditworthiness, and how can SHS companies develop assessments to measure them?
- How can companies manage their processes, data, and personnel to ensure credit assessments are well-designed and well-managed?

3 Collections & default management

- What factors shape customer repayment behavior?
- How can SHS companies overcome challenges to ensure consistent repayment and protect cashflows?

4 Portfolio monitoring & management

- What are the metrics used by SHS companies and investors to measure portfolio quality?
- How can companies leverage insights from portfolio analysis to guide future credit decisions and policies?

Pricing terms

Before even contacting a customer, a SHS company leverages pricing instruments to design credit policies that will shape its relationship with that customer by establishing both the amount and cadence of payments for the duration of the customer life cycle

These pricing instruments – specifically the total price charged, the up-front deposit required, the duration (or "tenor") of the repayment period, and in some cases the frequency of repayment – play a critical role in credit management, influencing how much revenue the company will generate and how well it is positioned to mitigate credit risk and credit losses

This section explores the factors that shape SHS companies' use of pricing instruments, as well as the implications of pricing instruments on company sales and credit risk

Internal and external factors shape SHS companies' decisions about how to structure credit terms and policies

When deciding how to set pricing instruments, companies must incorporate both internal and external factors:

Internal factors

Product cost — Companies must recover the cost of the SHS system

Cost of Capital — Companies must incorporate borrowing costs and interest rates into pricing

Default rate — Companies must structure products to minimize nonpayment risk and account for inevitable defaults

Upsell potential — Customers have long-term value through potential add-on products that may justify favorable introductory credit terms

External factors

Competitors — Competitors' credit offerings influence how companies design their own credit products to attract customers

Investors — Impact focused investors may subsidize or prioritize specific initiatives, shaping the credit policy around those initiatives

Customer ability to pay — *Disposable income:* Disposable income dictates how much a customer will be able to pay per month and in total

Income frequency: How frequently customers are paid will shape how frequently they can make payments

The key credit terms in the SHS industry are term duration, deposit amount, pricing, and to a lesser extent, payment frequency

Shorter term durations minimize risk favoring companies while longer term durations increase affordability favoring customers

Term duration

The term durations a company offers to customers can impact their:

Credit risk

- Customer engagement and motivation often decrease over time, increasing default risk
- Payment terms that extend past warranty periods can lead to a drop in repayments
- Longer term durations expose companies to risk that customers default and switch providers or push companies to incur large collection costs associated with customer follow ups
- Longer term durations increase exposure to customer disruptions (e.g., personal financial difficulty) that hinder repayment

Revenue risk

- Extending loan tenors, and thus lowering payments, can make SHS products more competitive and enable companies to sell more expensive systems, increasing revenues
- Offering longer terms increases the total revenue earned over the term duration however it also requires companies to request the same duration for any external financing sought
- Longer tenors tie up capital, limiting ability to make other investments and delaying opportunities to sell upgrades or add-ons
- Systems owned by customers on long tenors who stop paying have negligible re-sale or even usable value because of wear and tear

Competitive forces drive some companies to offer loan durations that are not in their best interests but are necessary to stay competitive

Deposit payments help assess customers' commitment to total cost repayment as it constitutes a significant lump sum amount

The upfront deposit a company charges to customers can impact the company's:

Deposits

Credit risk

- Higher deposits can help increase chance of payment completion because it makes subsequent regular payments smaller and therefore more affordable, and customers have more "skin in the game"
- Customers may save for long periods to pay deposits, which may obscure their actual income and ability to make regular payment
- Collecting more of a unit's cost upfront via larger deposits limits the amount of money lost from early defaults

Revenue risk

- Larger deposits make SHS units less affordable to users who cannot make a large upfront payment, decreasing the customer pool for companies
- Timing large deposits with "lumpy" income events (such as a seasonal harvest) can reduce the savings burden and allow companies to attract customers by offering lower payments
- Collecting more money upfront enables companies to redeploy capital more quickly to invest in additional assets or repay debts

Some companies report a strong correlation between deposit (as a % of total cost) and successful customer payment completion

Product prices are still expensive for many despite industry efforts to bring them down

Pricing

The total product price a company charges a customer impacts the company's:

Credit risk

- Higher prices and the associated higher payment amounts make customers more susceptible to missing or falling behind on payments, increasing default risk
- Charging higher prices and collecting larger sums, especially early on, creates a larger buffer to absorb losses on eventual defaults

Revenue risk

- Prices that are pegged to borrowing costs and/or default rates ensure profitable risk-adjusted products on a per-unit basis
- Higher prices reduce the pool of customers able to afford the product and thus reduces the company's total addressable market
- Because the SHS market has many substitute products and customers are price sensitive, customers often seek the lowest price, forcing out high-priced providers
- Customers are willing to pay higher prices for products that have more features or that can power more appliances[1]
- In attempts to recover high distribution costs that can equal or exceed unit product cost, companies can price their products out of the market

Customer repayment-collection associated costs and distribution costs can significantly increase product price

1 Zollman et al, *Escaping Darkness: Understanding Consumer Value in PAYGo Solar*, Forum (Washington, D.C: CGAP, 2017), 14, link

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Flexible payments has helped companies expand their reach however has increased the time and uncertainty of cost recovery

The frequency with which a customer can pay impacts the company's:

Payment frequency

Credit risk

- Due dates often shape whether a customer – especially one with inconsistent income – can make payments, and falling behind on payments frequently leads to default
- Daily or weekly payments allow customers to pay when they are able as oppose to on a prescribed date, a date where scarce cash could have been spent on other competing interests
- Seasonal payments increase repayment for customers with "lumpy" incomes but also expose companies to risk during lull periods. If structured catch up payments, companies are exposed to further risk with customers with volatile incomes who would get overwhelmed by the retrospective billing.

Revenue risk

- Customers value payment flexibility and are more attracted to products with payment cycles that align with their income cycles
- Payment flexibility builds loyalty from customers, which can lead to long-term relationships with consistent repayments and upgrades

While flexible payments has helped onboard customers previously left out of energy access, it has also exposed companies to significant default risk

When developing credit policies, companies are constantly leveraging pricing terms to balance credit risk and revenue risk

Term duration

- Most companies **offer shorter term durations** for lower priced entry level products where margins are small to **minimize their credit risk** , and **increase durations offered** for pricier top-level products that have better margins
- While initially offering **shorter term durations** to **minimize** risk, one company subsequently **increased** their term duration to **improve affordability** on receiving customer feedback

Deposit

- On noticing customers staggering their deposit payments, one company identified their 30 – 40% **deposit requirement was high** and had likely resulted in lost sales; the company opted to reduce the overall down payment
- Another company decided to **remove its deposit requirement** for certain lower priced products to increase affordability

Pricing

- In order to increase sales, many companies seek **third party subsidydy** to increase **product affordability** and therefore reach, however subsides can distort markets and cause dissatisfaction among customers
- While **incorporating actual default rates** into product costs helps protects companies, it can also make products **unattractive** in competitive markets, forcing some companies to heavily focus on improving collection efficiency to reduce default risk

Payment frequency

- Companies selling OGS products to farmers are increasingly trying **to match repayments with harvest seasons**; collecting larger amounts during harvest seasons while accepting smaller amounts in off-season, helping to maintain strong customer relationships and lower credit risk
- Some companies **partner with employers to deduct monthly payment from salaries** that help maintain customer repayment rates

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Pricing is shaped by competitive forces and customer needs, leaving outstanding questions about the path forward

How sensitive are different customer groups to changes in pricing instruments? How do these sensitivities among customer groups differ across different regions of the country?

How can the industry better incorporate credit risk and default rates default rates into pricing instruments to provide affordable products at sustainable risk levels to SHS companies?

What role do demand side subsidies play in shaping pricing instruments across the industry, and what is the fundamental impact on SHS companies and consumers?

How should companies, industry organizations, and development partners collaborate to leverage collective insights and create a sustainable business ecosystem?

Credit assessments

SHS companies leverage assessments and approval criteria to guide their selection of customers. These assessments are shaped by internal and external factors and evolve as companies learn about their customers and the effectiveness of their processes

Credit assessments are critical to credit management because they influence the overall creditworthiness of a company's customer portfolio. Inadequate assessments will fail to eliminate customers that are unlikely to complete their payments, while inefficient or overly-complex assessments will drain company resources or cause delays and errors that lead to inaccurate conclusions and customer frustrations

This section examines approaches to credit assessments throughout the SHS sector, with a focus on the key steps in the assessment process and the ways that process, people and data shape the effectiveness of those assessments

In the absence of publicly available data, OGS companies design and implement credit assessments in their attempts to mitigate risk

Credit assessment processes typically follow the same major steps

Initial contact
Companies contact potential customers via community or SACCO partners, company branches, or sales agents in the field

Data collection
Company representatives collect customer information using paper forms, hand-held devices, and/or cameras; customers may have to provide supporting documentation

Data submission
For companies with a multi-step credit assessment, data is submitted either electronically or by delivery of paper forms

Data analysis
Customer data is analyzed against defined criteria to decide whether to sell a system to the customer, and which product to sell

However, companies implement these steps differently

- Some assessments simply approve or deny customers, while others classify customers into nuanced credit categories
- Simple assessments only evaluate ability to pay a deposit, while others leverage complicated decision frameworks and statistical analysis
- Either field agents or office-based credits teams can conduct credit assessments
- Some credit assessments are instant while others require > 1 week

The design and execution of the credit assessment process, the people that execute it, and data analysis each influence the success of credit assessments

Process: Companies must design credit assessments that balance cost and practicality while accounting for downstream business impacts

Internal and external factors shape credit assessment policies

- *Capital*: complex credit assessment processes require significant investment in technology, recruiting, and training, limiting access to such processes to well-capitalized SHS firms
- *Product offerings*: sales of low-cost, low-margin products may not justify the per-sale cost associated with complex assessments; additionally, high potential losses on expensive units may necessitate rigorous assessments
- *Competitor behavior*: the complexity and speed of credit assessments affect customer experience, and companies often design credit assessments to be as simple or simpler than competitors'

Credit assessment processes affect companies beyond credit risk

- *Customer satisfaction*: customers prefer simpler, faster credit assessments and may become frustrated with processes that require extensive data or are subject to long review periods between multiple credit teams
- *Sales volume*: in competitive markets, customers may opt for products that minimize credit assessment steps and provide instant decisions
- *Data quality*: paper-based processes are prone to data quality issues that increase maintenance costs and can lead to assessment and sales delays
- *Training and employee engagement*: complex assessment processes require better-trained and motivated field agents, which can lead to retention issues and higher training costs for SHS companies

Credit assessment processes must be tailored to the unique needs (and resources) of companies and their customers; no one-size-fits-all approach suits every SHS company

People: Motivating, monitoring, and training staff improves their ability to conduct effective credit assessments

People management is a crucial aspect of credit management

- Assessment processes are only effective if they are correctly executed by field agents and credit teams, who require training and motivation
- Credit assessments also require input and consent from customers and third parties (e.g., guarantors, local officials), which depend on relationship management

Companies should consider the following factors when establishing and maintaining their field and credit teams:

Compensation	Sales-based compensation models may encourage agents to sell to sub-prime customers, increasing credit risk
Training	Poorly-trained staff struggle to execute complex assessments, leading to inaccuracy, frustration, and fraud
Oversight	Thorough oversight of credit teams via audits and monitoring limits risk from agent fraud or incompetence
Assessment simplicity	Simpler processes require fewer staff than complex analytical processes that will require whole credit teams
Customer base	Understanding customers' education level and language helps improve information collection and communication

SHS companies must recognize that employees have significant influence on the quality of credit assessments and should prioritize recruiting, training and creating incentives to ensure assessments are executed correctly

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Data: SHS companies collect customer data, but many still struggle to leverage the data to improve credit assessments

Data is critical to accurately assessing a customer's creditworthiness

- All SHS companies collect customer data during the assessment process; however, data integrity varies depending on agent training and motivation
- Poor data quality causes errors in credit assessment systems, requiring companies to defer to subjective assessments
- Even SHS companies that collect extensive customer data struggle to develop indicators for intangible credit factors such as integrity

Assessment criteria and examples	Impact on credit	Key challenges
Income: income amount, source, and frequency; savings amount and location	Influences customer's ability to meet payment requirements	Customer income is difficult to verify
Expenses: rent, school fees, outstanding loans, and health	Diverts customer income from SHS repayment to other needs	Expenses are difficult to verify, and it is not easy to predict unexpected ones
Demographics: gender, employment type and status, and age	Identifies potential high-risk groups	It is difficult to determine how predictive these criteria are
Energy usage: spend on electricity, including lighting and phone charging	Indicates customer need for (and willingness to repay) SHS product	Inaccurate energy use data may lead to false repayment assumptions
Reputation: opinion of community leaders and availability of guarantors	Provides insight into customer character and accountability	Local opinions can be biased, and it is difficult to force guarantors to repay
Property details: house feature (e.g. toilet or roof), property type (e.g. shop/farm)	Provides proxies for income and energy use assessments	Proxies information is subjective and often difficult to collect

While customer characteristics are highly predictive of credit risk in many industries, the SHS industry in general has yet to develop analytical processes that identify and incorporate proven drivers of credit risk

Companies continue to improve creditworthiness assessment despite the inherent challenges associated with their target market

Process

- One company recognized that their current assessment process, a group discussion among sales managers, was not scalable and introduced an **assessment framework** to simplify the process
- After struggling to develop a credit assessment that accurately measured risk, one **company deprioritized assessments altogether** and concentrated on training and incentivizing agents to increase collections instead
- In order to **minimize fraud and limit bias**, their process involves **multiple officers** assessing the **quality** of the customer's **documents**

People

- One company found initial value in consolidating the assessment process and leveraging sales managers in credit decisions; it later realized that **trained credit officers were needed** to effectively complete assessments and allow sales managers to focus on **supporting sales networks and customers**
- After realizing that its agents **consistently entered inaccurate customer financial data** to avoid crossing thresholds that would require customer follow-ups (and extra work), the company scrapped its thresholds

Data

- One SHS firm originally relied on customers' **ownership of livestock or produce as an income indicator**; however, it found that these did not correlate with positive payment behavior and began collecting additional data on produce and livestock income-generating activities
- To mitigate the risk of collecting incomplete or inaccurate data, one SHS firm had **credit officers call customers to verify data** that was previously shared with the sales agent

While some resource rich OGS companies may be further ahead in the quest to improve their credit assessments, the industry continues to experiment with new ideas in pursuit of effectively assessing customer creditworthiness

SHS companies cite assessment issues as key barriers to generating quality sales and mitigating credit risk

Process

Case study

- One SHS company consistently struggled to convert leads into completed sales
- Upon investigation, the company found that customers abandoned the application process because it was overly complex and lengthy (due in part to a partnership with local financial institutions)
- The company reengineered its assessments after concluding that "simple, well-understood processes are more effective than complicated, poorly-executed ones"

People

Case study

- One company observed that its customers defaulted at high rates despite its robust credit assessments
- After a thorough review, the company found that agents were falsifying assessment data to avoid triggering thresholds that would require customer follow-up
- The company resolved to increase oversight of its agents and adjust its assessments to reduce incentives to misreport information

Data

Case study

- One SHS company with a data-driven customer assessment process found its assessments were regularly delayed due to data inconsistencies
- Following a detailed analysis, the company determined the root cause was customers reporting different information during time-of-sale visits and phone call follow-ups the following week
- As a result, the company streamlined its data collection and approval process to collect higher quality data at time of sale and validate data more quickly

Credit assessment difficulties and uncertainty around predictors of customer behavior create opportunities for ongoing discussion

How can stakeholders collaborate to identify the strongest predictors of repayment behavior to mitigate credit risk across the industry?

What opportunities are there to consolidate and share information to build more robust, reliable customer datasets?

How can companies that lack resources for complex analytical processes develop effective credit assessments?

What can the SHS sector learn from credit sales in other sectors to improve credit assessments and mitigate credit risk?

Collections & default management

Beyond designing credit terms and assessing customers at the time of sale, companies' ability to collect payment from customers – especially those who do not make on-time payments – also shapes their credit health.

Effective collections and customer outreach processes help companies manage their working capital, maintain portfolio health, and minimize financial losses. By investing in collections and default management, companies also create opportunities to observe and understand payment trends that can inform improvements to company processes.

This section explores the drivers of customer nonpayment, methods companies use to engage their customers, and approaches they employ to encourage payment from delinquent customers.

Customer personal challenges, especially competing financial obligations and lack of understanding, drive nonpayment

Primary Factors

Expenses

- Customers' regular expenses (e.g., sustenance) often take precedence over SHS payments
- Seasonal expenses (e.g., school fees) also increase periodic nonpayment
- Unexpected major expenses (e.g., medical bills or funeral costs) can lead to persistent nonpayment

Education and awareness

- Customers may not understand the concept of the loan nor the repayment terms
- Customers may not understand that promotional deals have limited timespans
- Customers may not understand how to use their product and how to derive value from it

Secondary Factors

Income disruptions

- Customers may suffer full loss of income (e.g., through a job loss) or partial loss (e.g., poor farm yield) that makes payment difficult
- Customers may receive income seasonally, leading to fluctuations in repayment behavior

Fraud

- Customers may misrepresent themselves with intent to commit fraud, leading to immediate nonpayment and losses
- Customers may provide false contact info, hindering engagement efforts and data analysis
- Sales agents may collude with customers to commit fraud

While some nonpayment drivers (e.g. fraud or education) are largely within a company's control, other major drivers (e.g. income and expense shocks) are external and require SHS companies to be adaptable

However, company-created challenges also contribute to customer nonpayment and difficulty collecting payments

Customers may not pay if…

Product

- Products do not function
- Repairs to disabled systems are not timely
- Loan products are not designed with incentives for consistent repayment

Training

- Field agents are not trained to provide the customer with clear details and payment terms
- Agent turnover keeps the company from developing strong relationship managers

Fraud

- Employees mislead customers about payment terms
- Employees falsely report conducting collections activities that were never completed

Companies may not collect if…

Cost

- Low recoverable balances and equipment salvage value do not justify costly recovery efforts
- The situation requires an expensive form of customer engagement (e.g., home visits)

Motivation

- Agent incentives (e.g., sales bonuses) do not align with payment collection objectives
- Companies rely on temporary staff that are not motivated to build long-term customer relationships

Technology and data

- Lack of digital payment and communication methods make it hard to reach customers
- Poor customer contact data – often from poor data collection practices – hinder follow-up efforts

Payment issues can also drive customer nonpayment, so companies must balance accessibility and ease with security and data quality

	Mobile money	Bank agents	Cash
Pros	• Offers flexibility to pay at any time from multiple locations with a nationwide network of agents • Digital nature of payments helps companies mitigate cash collection-related fraud	• Agents are well known in the community as they offer other services and can easily follow up with customers • Agents are not directly employed by the company, minimizing direct payroll costs	• Mechanics or other employees can collect cash repayments • Offers a simple payment option for customers that do not have access to mobile money • Customers are not affected by lack of cash-on-hand at mobile money agent
Cons	• Customers in locations that suffer from poor connectivity or that are physically far from mobile money agents will find it difficult to make payments • Customers unfamiliar with mobile money usage are likely to miss repayments	• Agents, as non-employees, are less accountable to SHS companies and may be unwilling to risk existing relationships to pursue debts • Agency banking is not as widespread and has lower membership rates compared to mobile money	• Cash collection exposes companies to risk of fraud; agents may not remit, remit less, or delay in remitting • Remote customers need to make special trips to make repayments • Can be expensive to collect payments in remote regions

Payment issues, particularly those related to mobile money technology and accessibility challenges, are among the most commonly-cited causes of nonpayment

Companies engage nonpaying customers based on how overdue their payment is

Not overdue	Slightly overdue	Very overdue

Contact customers to encourage repayment

- Companies must maintain accurate customer contact information to be able to reach them
- Agents conducting customer outreach also must be effectively trained on when to contact customers and how to engage them for best outcomes
- Companies may see improved outcomes by tying agent compensation to success engaging delinquent customers
- Further, companies may benefit from monitoring collections interactions (e.g., via call recording) to evaluate whether processes are executed correctly

Despite employing similar actions in response to nonpayment, companies' timing of these actions varies widely.

Further, the definition of "default" is not standardized throughout the industry, which leads to inconsistent terminology and data reporting throughout the industry.

Disconnect SHS units

- Disconnections provide motivation for customers to repay, but the effectiveness of disconnection as an incentive largely depends on customers' need
- Disconnection also sets an example for other customers that nonpayment leads to loss of access

Offer leniency or punishments

- Some companies offer incentives or apply punishments to encourage nonpaying customers to restart payments
- These actions have limited effectiveness in circumstances where unexpected income shocks or expense obligations have rendered the customer unable to pay

Companies must optimize their communication methods to balance cost and effectiveness when engaging nonpaying customers

SHS companies leverage SMS, voice calls, and in-person visits to reach delinquent customers directly

	SMS	Voice calls	In-person visits
Advantages	• SHS companies can send standard messages to large populations simultaneously • SMS messages can be sent out frequently due to low relative cost • SMS messaging is easy to monitor	• Voice calls build a personal connection with customers • Voice calls are more difficult to ignore than SMS messages • Calls provide opportunities to understand nonpayment reasons	• In-person visits provide the best opportunity for companies to persuade customers to pay • An in-person visit to a nonpaying customer also communicates that the company is serious about collecting payments
Disadvantages	• Requires equipment and expertise to develop and transmit SMS message • Standardized SMS messages seem impersonal and have low response rates • If SMS message text and customer details are not perfect, it can cause customer confusion	• Phone calls can be ignored or ended, so response rates are lower than for in-person visits • Conducting phone calls is costlier than sending an SMS • Companies must have an oversight and monitoring process in place	• The cost of sending an agent to a person's home is significantly higher than for a call or SMS • Staff conducting in-person visits also require additional training • Companies must develop strong oversight processes to monitor agent activity

On continuous breach of payment obligations, companies take action to minimize exposure, but with mixed results

Company actions include taking customers to court, engaging debt collectors, and repossessing units

Court summons

Case study

After observing increasing non-payment rates among customers, one SHS company sought remedy in the court of law to collect funds and make an example of delinquent customers. However, the effort failed because:

- Some customers were bankrupt and unable to pay
- Judges displayed favoritism toward customers
- Legal fees, increased by delays, outweighed value of recoveries

External debt collectors

Case study

One company employed external debt collectors to engage non-paying customers. While collectors did recover some outstanding debts, the company encountered significant difficulties, including:

- Providing transport and living expenses to collectors was prohibitively costly
- Debt collectors lacked motivation to aggressively pursue customers in the field
- Debt collectors used coercive methods that harmed company reputation

Repossession

Case study

One company that regularly repossesses units found that the threat of repossession was an effective motivator for nonpaying customers. The SHS company did, however, encounter obstacles:

- Location data was incorrect or unavailable
- Customers had relocated or were not present at the time of visit
- Customers and neighbors threatened or became violent towards staff
- Repossessed units were obsolete or damaged, and not fit for resale

If the above measures fail, the amount owed is small, or the customer was defrauded, companies may "write off" outstanding balances; however, these measures may still be effective as deterrents to customer nonpayment

SHS companies are already putting new collections and default management ideas into practice

Companies are adjusting internal processes to discover cost-effective ways to improve collections

- One SHS company emphasized **relationship building between agents and customers**, using the same agents that sold customers their systems to contact delinquent customers; this resulted in repayment rates 50%[1] higher than when using a call center
- One company **reassessed the frequency and method of their customer calls**, shortening the time between collections calls and shifting the calls from local staff to the HQ call center to communicate that the company took repayment seriously; collections rates improved following these adjustments
- Another company introduced a **post-sale/pre-installation call** to ensure customers fully understood the terms and obligations of their contract and identify additional early credit red flags
- Many companies have found value in continu**ously analyzing repayment data** to identify collections methods that work and highlight opportunities for improvements in credit assessment and customer engagement

And they are also attempting to influence customer and employee behavior to drive repayment

- Multiple SHS companies run promotion campaigns **providing incentives for customers** to proactively pay large balances, such as offering a free day of use if they pay for five days at once
- Other firms communicate regularly with their customers about **potential benefits of consistent repayment**, reminding them of opportunities to access other products or loans if they pay on time
- Multiple companies **warn customers of potential penalties** to encourage them to make payments, and many follow through by assessing late fees and fines; however, at least one company found these efforts to be **largely ineffective at increasing repayment**
- Companies are also encouraging sales and collections employees to improve repayment by tying their compensation to customer repayment behavior, **elevating repayment as a company** (rather than team) goal[1]

Sources: 1. Asad Naqvi, Ravi Bhatt, "Stepping Back: Product, Collections and Credit Risk in PAYGo Solar," Financial Inclusion and Energy, CGAP, May 8th, 2019, link; 2. Daniel Waldron, "Growth vs. Sustainability: Credit Risk in PAYGo Solar," Financial Inclusion and Energy, CGAP, November 8th, 2018, link

Increasing repayment rates in a cost-effective manner continues to be an ongoing effort for most companies

Do opportunities exist for companies to outsource their customer collection functions to third parties, allowing them to focus on product design and after-sales service?

How can SHS companies improve their value proposition to make paying for OGS a household priority?

What avenues exist for start up off-grid solar companies with limited resources to improve their collections?

How can industry stakeholders work with local authorities and community groups to improve customer accountability?

Portfolio monitoring & management

Evaluating an SHS company's credit portfolio holistically is the best way to understand the effectiveness of its credit management efforts. Companies must navigate broad (and often messy) datasets to understand customer behavior, assess credit health, and identify developing trends.

Portfolio monitoring plays a significant role in shaping credit policy and enabling SHS companies to improve internal processes. However, it also plays a critical role in attracting investors who are often reluctant to invest in SHS companies without clear evidence of portfolio health.

This section highlights the importance of portfolio management, the metrics that are most important to monitor, and the ways that companies can leverage portfolio monitoring to benefit their businesses long term.

Analysis of credit portfolios provides operational insights and highlights improvement opportunities

Effective portfolio monitoring entails tracking and analyzing credit data…

- To effectively manage their credit portfolios, companies must collect detailed credit data and maintain databases
- They must also conduct regular analysis of portfolio health to identify trends, warning signs, and opportunities for improvement

… and relies on quality data, established benchmarks, and trained analysts

Quality data *(up-to-date and accurate)*
- Data processing errors and delays hinder effective assessment; automated data capture systems may minimize data issues

Performance benchmarks
- Benchmarks (relative to competitors and to the company's past performance) are essential to provide analytical context

Analyst training
- Credit analysts must be familiar with analytical tools and techniques to ensure that accurate, actionable insights are developed

Portfolio monitoring and management helps companies improve their businesses

Investment
- Investors evaluate SHS companies' portfolio health metrics to guide investment decisions

Problem diagnosis
- Regular portfolio analysis allows companies to measure performance against benchmarks and identify potential problems

Credit policy improvement
- Tracking portfolio metrics allows companies to measure the impact of credit policy and make adjustments if necessary

Compensation
- Companies can leverage credit performance data to evaluate staff performance (e.g., quality sales or effective collections)

Upselling opportunities
- Companies use repayment data to identify reliable customers and offer upgrades or other products, earning additional income

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While companies use internal KPIs to track credit performance, there is a need for industry credit standards

Companies need to expand from custom internal KPIs to industry-standard KPIs

- Many companies use internal metrics to solve problems, monitor credit risk, and improve products and policies, but they are often company-specific and may not align with metrics used by other companies. Benefits of adopting industry-standard KPIs include:

Identifying market trends: enable stakeholders to monitor themes across the industry, highlighting trends and potential disruptions to the market

Supporting best practices: allow in-depth analyses of industry credit performance, leading to the development and dissemination of best practices

Improving investor assessments: streamline due diligence of SHS companies by investors, supporting increased sector investment

Increasing transparency: facilitate greater industry transparency and boost investor confidence in SHS portfolio reporting

PAYGo Perform has already developed a framework for industry-wide credit KPIs

- World Bank IFC, GOGLA, and CGAP developed an initial suite of KPIs for the PAYGo sector through their PAYGO Perform project:
  - **Default rate:** Outstanding payments received by the company as a fraction of total outstanding payments
  - **Average credit period:** Average nominal number of days between system acquisition & expected final payment
  - **Portfolio at Risk:** Total amount owed on units with any balance billed in the last 90 days which is overdue by 30 or more days, divided by total amount owed by customers
  - **Portfolio size:** Total number of customers in the portfolio
  - **Average customer deposit as a proportion of unit cost:** Average customer deposit as a fraction of total unit cost

Sources: Key Performance Indicator Technical Guide, GOGLA, Link

Companies are already finding applications for portfolio monitoring, and untapped opportunities remain

Companies use customer credit data to leverage internal credit profiles

- Multiple companies **target customers for upgrades or add-on products** based on their repayment histories, creating opportunities to earn revenue from sales of larger SHS units, TVs, cookstoves, and other products
- Some companies also use customers' internal credit histories to **identify candidates for financial products** such as personal or school loans, enabling companies to simultaneously support customers and earn additional revenue; M-KOPA has distributed more than 55,000 loans in Kenya and Fenix has issued more than 7,400 school loans
- Companies also regularly incorporate customer credit profiles to **improve internal processes**, seeking traits that predict payment behavior, investigating trends, and identifying anomalies that may highlight unforeseen challenges

There are also opportunities to use credit data externally to support companies and customers

- With growing interest in credit health from investors, companies can begin **developing straightforward credit datasets** to share with potential funders, simplifying the due diligence process
- SHS companies can also empower their own customers by **providing visibility into their personal credit histories**, motivating them to exhibit positive repayment behavior and improving their own scores; they may also provide reliable customers with **proof of their creditworthiness** to leverage when seeking credit from other organizations
- SHS companies may also be able to **partner with community savings groups and farmer co-operatives** to leverage the strength of their members' collective credit history to obtain cheap financing
- Finally, companies in different industries may benefit from **sharing credit data**, allowing reliable customers to quickly access credit in multiple sectors while minimizing losses among lending organizations

While some efforts exist to standardize measurement of portfolio metrics, questions persist around their usage and effectiveness

How can GOGLA's portfolio monitoring KPIs be adapted throughout the industry? Is there room for a standardized performance index?

What are the biggest hurdles to standardizing credit data across companies?

How can stakeholders ensure that companies are calculating and reporting credit metrics accurately?

How can the industry increase awareness on standardized metrics to help companies understand their credit portfolio metrics and take action to improve them?

COVID-19 impact

SHS companies are severely affected by effects of COVID-19 and are seeking support in managing finances and credit risk

The pandemic has exposed SHS companies to unique challenges[1]

Limited movement has hampered sales activities, after-sale services, collections, and mobile money processing

Supply chain disruptions have prevented planned purchases of new products and spare parts

Many customers are prioritizing non-energy spending, decreasing product demand and creating repayment risk

Social distancing rules make it difficult for companies to maintain office operations

These challenges have led to widespread credit management difficulties

- At the outset of the crisis, companies expressed a need for technical support in evaluating repayment risks as customer spending patterns and behavior shift
- Repayment risk has materialized in lower repayment rates and amounts
- Cash collections have halted
- As repayment rates decrease, companies struggle to take effective steps because government directives prohibit aggressive collections actions
- Companies struggle to determine which customers are suffering hardship
- Companies struggle to move call center tasks to remote work; providing airtime and ensuring accountability are particular challenges

Source: 1. Coordinating an industry response for the off-grid solar sector. GOGLA. Link

Recommendations

SHS companies should emphasize credit management and tailor their processes to ensure strong credit portfolios

People

- Invest in credit-focused recruiting and training to ensure staff are qualified and understand their roles and responsibilities in supporting the credit management processes
- Motivate agents to prioritize creditworthiness when assessing new customers, and provide incentives for success collecting money from delinquent customers
- Involve all staff members at all levels of the company in credit management from agents all the way up to senior management

Processes

- Design simple but pragmatic credit assessment processes that are straightforward easily enforceable and factor in the unique socio-economic circumstances of the served/target customers
- Implement any changes consistently across all stages of the credit management process. All stages are interlinked and thus should be prioritized.
- Employ flexible credit processes that are dynamic i.e. incorporate feedback from past learnings and can change to suit current objectives

Product

- Conduct pilot studies to understand customer needs, test alternative credit structures and collect data that informs better product design and customer centric terms
- Explore cash and non-cash rewards to boost repayment (e.g., discounts for early repayments, access to additional products for good payers)
- Improve affordability by working closely with producers to design high-quality, yet low-cost, products for off-grid consumers

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Members of the SHS ecosystem should lead discussions around SHS credit management and promote standardized metrics

Coordination

- Companies and industry bodies should iterate, standardize portfolio metrics, streamline comparative assessments and due diligence
- Industry bodies should discuss how the SHS sector can collect and centralize customer credit data and how it can be used to support companies in their customer credit assessments
- Industry bodies can provide technical guidance and exhibit case studies of best-in-class credit management practices for SHS companies
- Companies should share expertise with each other on areas of strength and invite assistance from industry leaders on areas that need improvement

Direct support

- Investors should increase focus on company credit management during due diligence, motivating companies to improve their internal processes
- Development partners can provide incentives and show win-win benefits of positive customer repayment behavior to draw support from local communities and government bodies
- Industry bodies can support companies by developing, testing, and promoting the use of standard KPIs to track performance
- SHS companies ought to share challenges faced with financiers and invite technical assistance from financiers with expertise in the industry

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Contact us if you have any feedback or interest in partnering to further explore credit management for SHS

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