

Drivers of Income



Acumen

60 _ decibels

A study of three social enterprises
and how they impact earning

October 2024



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Delivered by:



This report was co-authored by Acumen and 60 Decibels.

Acumen would like to thank its Partners of the Pioneer Energy Investment Initiative: Powering Livelihoods Using Solar (PEII+) and Trellis: Climate Resilient Agriculture Investing: IKEA Foundation, Autodesk Foundation, Distributed Power Fund, UK aid from the UK government via the Transforming Energy Access (TEA) platform, and the UK Foreign, Commonwealth, and Development Office. However, the views expressed do not necessarily reflect the UK government's official policies. PEII+ is also strategically aligned with the Global Energy Alliance for People and Planet (GEAPP) commitments in India and East and West Africa.

Co-authored with:

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Special thanks and appreciation to the companies and their staff who partnered with us: Lolade Alonge and Natalie Casey at Koolboks, Jiten Ghelani at Promethean, and Daniel Scholler and Hawantu Kabba from Lizard Earth.

PEII+ Partners:



Trellis Partners:



Executive Summary

Poverty is not about income alone, but income (or lack thereof) is a major factor in determining who can escape from poverty and who cannot. Better incomes also mean that low-income communities can adapt to climate change and absorb climate shocks. As an organization committed to solving problems of poverty, Acumen invests in companies that offer vital products and services to marginalized communities around the world. We often hear from customer surveys that these products and services help them generate more income. We wanted to put a number on it, and understand those income shifts in the context of overall household income.

We partnered with 60 Decibels to survey customers and suppliers of three Acumen companies: Koolboks in Nigeria, Promethean in India, and Lizard Earth in Sierra Leone. These are productive use of energy (PUE) companies and innovative agribusinesses that supply or source from micro, small, and medium enterprises (MSMEs). These MSMEs range from smallholder farmers to small family-owned businesses to large restaurants where a freezer is a fraction of their operations.

- First, we conducted a baseline survey with recently onboarded customers who could recall their revenues and expenses prior to engaging with Koolboks, Promethean, or Lizard Earth.
- Second, we conducted an endline survey six months later to see how those revenues, costs, and profits had changed.
- Third, we collected data through monthly diaries and longer interviews to get a more holistic view of respondents' financial health.

Our goal was twofold: First, to conduct a study that would quantify how a company's product or service impacted its customers' ability to make money over time; and second, to draw insights from this data to guide our investments toward greater impact and provide valuable learnings to fellow impact investors, purpose-driven companies, and philanthropic funders.

From the outset, we sought to measure MSME drivers of income that companies target: did power costs fall, cocoa prices rise, or dairy yields grow? If all other factors held steady, improvements in those drivers would lead to increased household income. But our companies do not work in isolation. They operate in fragile economies, serve customers that earn income from multiple sources, and are highly vulnerable to macroeconomic shifts. This means in good economic times, household incomes increase. In bad economic times, household incomes fall — but likely not as far as they would have otherwise. If companies drive meaningful profit shifts with their offerings, that is a boon in good economies or bad.

Participation was strong and we gathered a robust data set. Here's what we learned:

- 1. PUE companies and innovative agribusinesses have a meaningful economic impact on their customers' livelihoods.** All three companies studied improved the specific drivers of income that they sought to shift for MSMEs (reducing costs, improving prices, and growing yields, respectively).
- 2. Macroeconomic factors had both positive and negative impacts on customer incomes, but customers overall reported improved financial well-being.** All companies operate



Koolboks, Kenya. Photo: Peter Irungu

within an economic context beyond their control. Two out of three companies in this study saw median household incomes fall during the study due to brutal macroeconomic factors. Two-thirds of Koolboks customers reported lower household incomes at endline compared to baseline, yet 55% also reported feeling more financially resilient between the two time periods.

3. Successful companies have the most impact on customers with the lowest starting points. Customers with the lowest revenues at the baseline saw the greatest gains in profits at the endline. For example, Lizard Earth's farmers in the bottom half of baseline revenues saw a 192% profit increase on average.

4. A better customer experience drives better financial gains. Customers who did not experience a challenge with a product or service were more

likely to see their incomes increase. Promethean farmers who did not experience a challenge saw a 40% average increase in profits from dairy, compared to 20% for those who did experience a challenge.

Measuring income shifts and attributing them to a specific product or service works best for companies with a strong pathway from *product* or *service* to *income*. This is a complex endeavor, but the lessons we learned can help other investors, companies, and funders make better investment decisions and support targeted interventions aimed at lifting people out of poverty. Especially as companies scale, continued focus on customer experience and the drivers of income change are critical. By measuring what companies can manage, we as investors and our companies get better at solving problems of poverty.

Introduction

“The rain has helped, but the training from [the company] taught me how to brush and maintain my cacao farm. This training has been key to the improvements I've seen on my farm.”

Cocoa farmer and Lizard Earth supplier

A new approach to measuring impact

In the early 2010s, Acumen pioneered a new way of measuring impact through efficient, high-quality phone surveys of customers of social enterprises. Surveys were short and conducted in local languages, with a mix of questions to give space for customers to share their experiences and define impact for themselves. This approach, known as Lean Data, was designed to amplify voices that are typically unheard and gather real-time feedback directly from end-users. The pioneers of this approach eventually spun out to create a company called 60 Decibels, which has become the foremost impact measurement provider in the sector.

At Acumen, we commission Lean Data surveys for most companies that we consider investing in and for almost all companies in our portfolio. Over the years, we have seen plenty of Lean Data studies

where customers reported increases in income, but we — and often the customers — were unable to quantify those increases. Economic transformation is at the root of our work, so we wanted to put a dollar figure on it while still capturing the holistic impact on the customer.

We knew this would not be a simple undertaking. Changes in incomes can take multiple forms: business earnings and expenses can increase or decrease in varying timeframes, and customers often have multiple sources of income, each with different recurrences, uses, and shortcomings. These changes can also be affected by macroeconomic or environmental factors outside of the customer's and company's control. Moreover, income is just one piece of the broader livelihoods puzzle: assets, savings, and liquidity are critically important, as is the ability to access funds in an emergency.

"It's getting more expensive to keep them well-fed and healthy."

"The changes I am seeing in my plantation are slow for now, but I believe it is a process; it will get better someday."

"Business growth has increased by 20%."

"Doing business has become difficult. Everything is now very expensive."

"[The company] has made me a financially independent woman now."

"The economy is responsible for the change."

"Cow and goat meat have become expensive at the market, so people are buying chicken and fish more from us."

"This training has been key to the improvements I've seen on my farm."

"One main reason is because I'm putting really hard work into my cocoa plantation and the second main reason is [the company] because they are really helping us to get a better harvest."

"It's convenient to go there from home, which saves time and they give advances during emergencies."

"I also get good rates for milk and we get regular payments from the company."

"[The product] is outrightly perfect and has good quality more than others that make it."

Designing Our Research

Due to the complexity of measuring changes in income, Acumen and 60 Decibels designed our research as a longitudinal, multi-method exercise to get a robust and granular assessment of economic impact over time. We partnered with three social enterprises working in agriculture and energy access in Africa and India. We surveyed groups of 100 to 200 new customers: people who recently received a product or service or began selling to the company for the first time, and who could easily recall their cashflows prior to working with the companies. We spoke to these customers multiple times over a period of up to six months. The goal was to provide a comprehensive understanding of the users' income profiles, assess the significance of the companies' interventions, and measure the holistic impact being generated.

From the outset, our aim was to measure the companies' impact on the **drivers of income** their business models targeted — that is, the specific changes in volumes, pricing, costs, or other levers that lead to profit increases for MSME customers. These vary by company, so to understand what to measure we had to understand each company's theory of change: were they trying to lower costs, increase yields, or shift more pricing power to farmers?

Drivers of income

Our companies serve households that have multiple sources of income. For this study, we focused specifically on income from the MSMEs supported by our portfolio companies: frozen good sellers, dairy farmers, and cocoa farmers. For any given MSME, our companies target one or more key drivers of income.

Revenue

Companies increase the price and/or quantity of goods sold by vertically integrating value chains, focusing on higher quality products, or re-distributing value towards MSMEs. These translate into higher earnings from premium cacao beans and more milk sold.

Costs

Companies help MSMEs reduce operational expenses by offering alternative products and services like solar freezers that mitigate the need to purchase diesel fuel. Companies can also automate processes that cut back on farm costs.

All of these redound to profit

When revenues go up or costs fall, MSMEs become more profitable, which creates higher net incomes from their businesses. Sometimes we need to look at the net effect: increasing revenues in the long-term may require upfront investment, so it's important to be sure that the gains are worth the price.



Lizard Earth, Sierra Leone. Photo: Juergen Sauer, Munich

If all other factors held steady, improvements in these drivers will lead to an overall increase in household income. But our companies do not work in isolation. They operate in fragile economies. They serve customers who have a range of income streams: revenue from selling cacao, wages from a family member's job, rent received on property, and even remittances. A study on low-income households in Kenya showed that the median household had 10 separate sources of income, and many of these were highly vulnerable to macroeconomic shifts.¹ So while we did track overall household income, we did not expect it to be tightly correlated to success or failure of the three companies' value propositions.

Our study integrated four different surveys. We began by conducting a baseline study in August 2023. We followed the baseline study with a series of monthly financial diaries, and finalized with an endline study in April 2024 that included several in-depth qualitative interviews.

Baseline survey: Our initial phone survey targeted new customers (onboarded within the last two months) to get a comprehensive understanding of their demographic and income profiles. We collected data on business revenue and expenses, household income, income sources, financial health, poverty levels, and motivation to use the product or service.

Monthly diaries: We conducted a series of short monthly surveys by phone and WhatsApp and administered to those baseline respondents who opted in.² We collected data on household income, income sufficiency, and stability of income to get a simple overview of respondents' financial situation over time, particularly between baseline and endline.

Endline survey: After a number of monthly diaries (up to six), we reached back out to all baseline respondents.^{3,4} This phone survey focused on evaluating changes in business revenue and expenses, household income, and financial health since the baseline. In addition, we collected data on well-being and customer satisfaction with the company product or service. Where companies offered any kind of training or support, we included questions to track their effectiveness.

In-depth interviews: During the endline surveys, we identified a small group of women respondents for in-depth interviews. The goal was to delve deeper into the how and why of the economic and non-economic impact over time, with a particular focus on impact for women. We gathered insights on their personal backgrounds, day-to-day lives, roles in the business and household, time spent on business-related activities, and other relevant themes.

The Companies

We studied three companies whose business models are structured around improving the incomes of people living in poverty: Koolboks, Promethean, and Lizard Earth.⁵ These companies provide a mix of products and services that enable customers or suppliers to increase business revenue or reduce expenses (see Box 1).

Customers range from smallholder cocoa farmers to small family-owned businesses selling frozen goods to restaurants where frozen goods are only one revenue stream of many. These three companies also work in different geographies, helping us to understand what was valued and effective in different contexts. With better incomes, not only can customers put food on the

table and pay for school fees, but they can also save money in case of a flood, drought, or other climate shock.

There are also both short-term and long-term impacts on income. When a cocoa farmer has access to a consistent buyer, they get more money per bag of cacao, and they typically invest that money back into their farm in the short-term. As they spend and invest more in land and their farm, they could see even bigger increases in their productivity in the long-term: more cacao trees, more beans per tree. The period of these studies was less than a year, which is not enough time to see some of those longer-term impacts.

Box 1:

Are we surveying people? Or enterprises?

Two of the companies in this research source directly from smallholder farmers. The third sells products to market traders. In each case the supplier or customer is an entrepreneur operating a micro-enterprise: a small, family-owned business or a small farm.

These shops and farms have revenues, expenses, and profits (or losses), whether we think of them as enterprises or not.

Throughout the report we use the language of business, not of personal income. We refer to the service providers and product providers as “companies” and the customers and suppliers as “MSMEs” to avoid confusion.

Likewise, our preferred terms are “revenues” (the earnings or income of the MSME), “expenses” (its costs), and “profits” (revenues less expenses).

Koolboks, Kenya. Photo: Peter Irungu



Koolboks

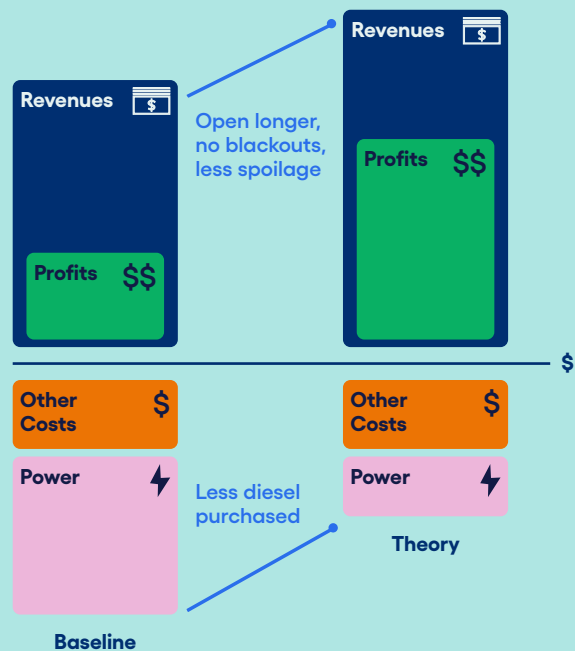
Koolboks sells solar-powered refrigerators and freezers to shops and traders throughout Nigeria. Many customers pay over time, although most respondents to our surveys bought theirs outright. These customers tend to sell frozen or cold goods, such as fish or soda. Prior to accessing a Koolboks refrigerator or freezer, they faced significant challenges due to Nigeria’s unreliable electricity supply, so many of them ran costly diesel generators during the frequent power outages.

Drivers of income change:

By using solar-powered freezers, MSMEs (see Box 1) can reduce their cost of utilities, increase their revenues by staying open for longer periods of time (even during power outages), and reduce losses due to food spoilage.

Theory:

Koolboks drivers of income





Promethean, India

Promethean

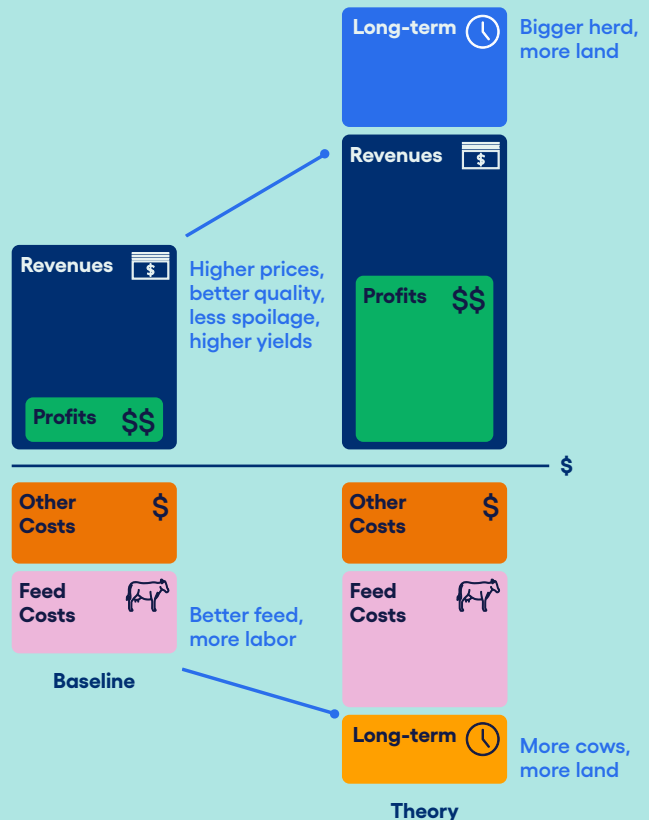
Promethean connects smallholder farmers in Maharashtra, India to dairy buyers, with prices determined by the quality and quantity of the milk. By providing the farmers with access to local milk cooling solutions near the farmgate, the company helps to preserve milk quality and minimize losses to spoilage, which leads to higher prices and more volumes.

Drivers of income change:

By providing cold chain solutions and direct market access to farmers, the company expects to command higher prices for higher-quality milk, then use those premiums to pay farmers more than competing offtakers. As farmers access more agronomic support and credit to purchase cows, they are expected to spend more on feed and cows, but to benefit in the long-run through increases in the size and yield of their herds.

Theory:

Promethean drivers of income





Lizard Earth

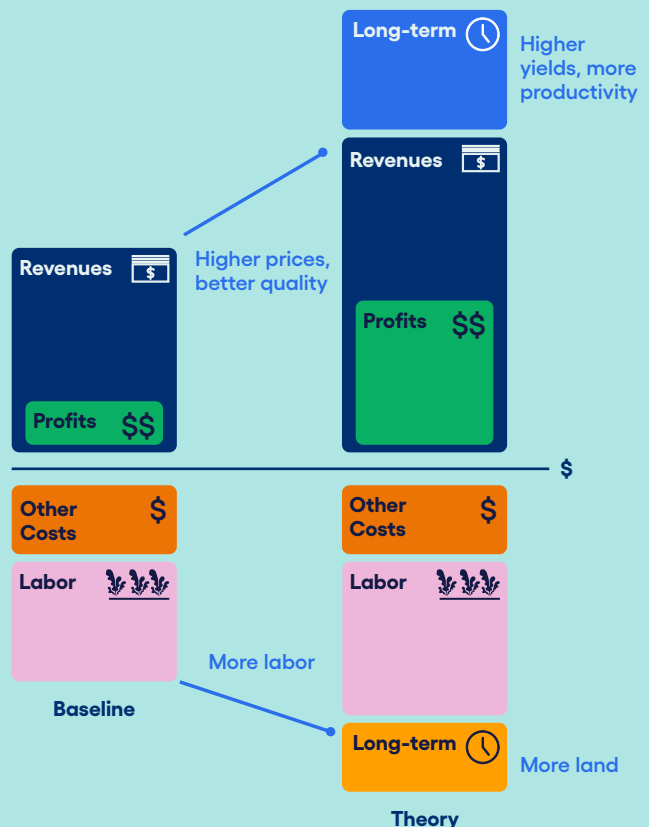
Lizard Earth works with smallholder cocoa farmers in Sierra Leone, training them on improved farming practices and buying cacao from them at transparent, often premium, prices.⁶

Drivers of income change:

Through training and assured market access, cocoa farmers expect to see improvements in volume and quality in the short-term, as well as an increase in the price for their product. Lizard Earth buys wet cacao beans from farmers, then ferments and dries those beans in its processing centers. While farmers receive the same and sometimes higher prices than for dry beans, this approach shifts risks (e.g., theft or spoilage) from farmers to the company and reduces farmers' work loads. Members of Lizard Earth's smallholder network can use the freed-up time for other income-generating activities, including farm work. Labor costs should increase as farmers invest more in their fields.

Theory:

Lizard Earth drivers of income



Key Findings



1. All three companies positively impacted the drivers of income that they sought to shift.

Each company improved the economic factors within their control. Referring back to the drivers of income change for each company (see “The Companies” section), Koolboks wants to improve income by reducing costs for its customers, Promethean wants to improve income by increasing productivity, and Lizard Earth wants to improve income by increasing prices. We measured and evaluated each of these to further investigate each company’s ability to deliver on its goals.

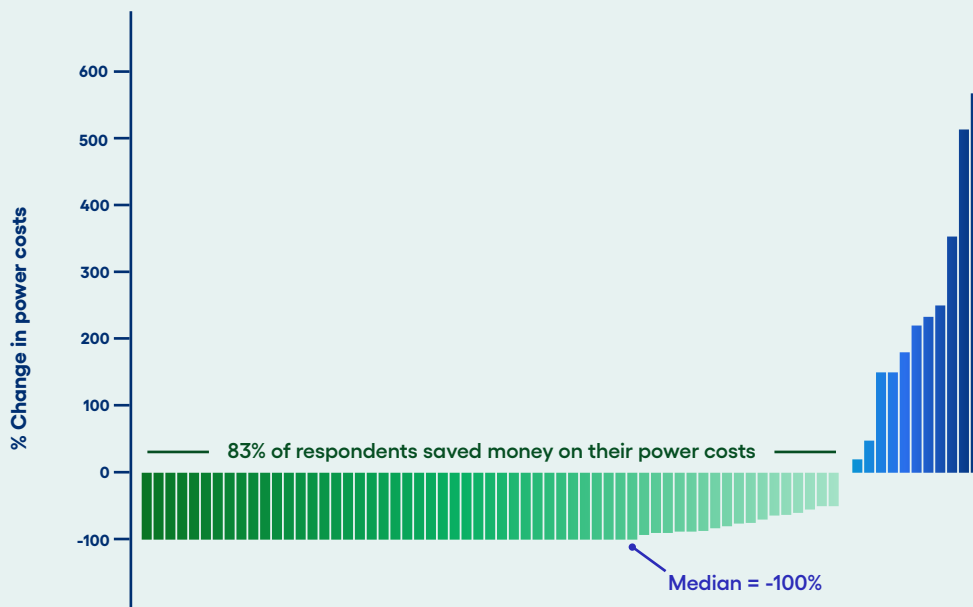
Decreased costs: Over the course of our study with Koolboks, the Nigerian economy experienced one of its worst periods since independence in 1960. In June this year, the country’s inflation surged to 34%,

a 28-year high. Food prices increased even more, hitting poor households the hardest and expounding the cost of living crisis. Average household income for Koolboks respondents fell by 41%. However, Koolboks cannot solve for all household income. The company’s primary focus is on eliminating the need for diesel generators for refrigeration purposes, thereby reducing the costs for traders.

And there they were successful: as you can see in Chart 1, the **median power costs fell 100%, with average costs down 40%.**⁷ Paying utilities was the largest expense for 34% of respondents at baseline; at endline this fell to 11%. Koolboks hoped this would also result in increased income for customers, however significant inflation experienced in Nigeria rendered this difficult.

Chart 1:

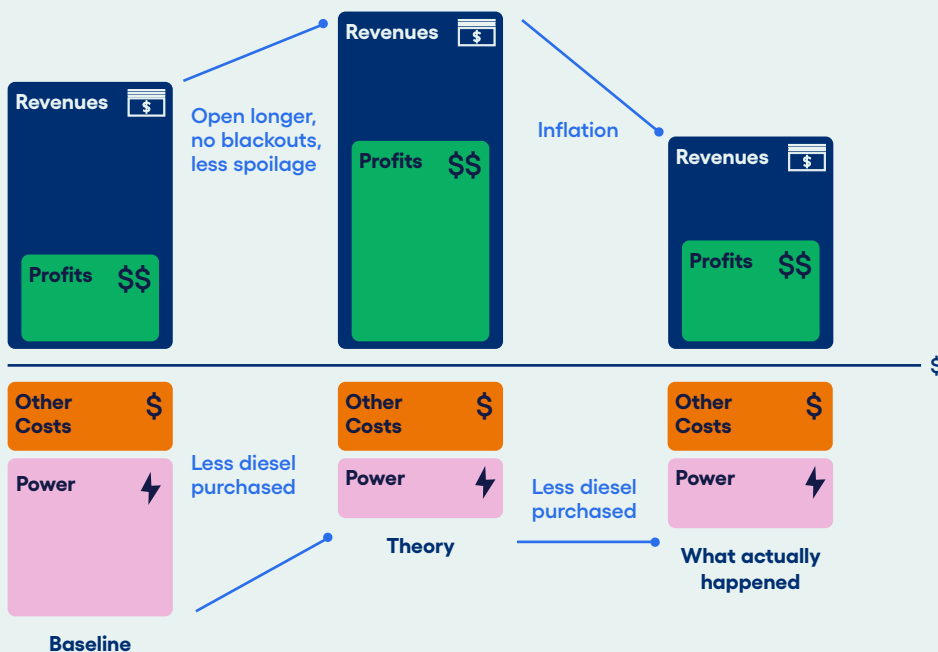
% Change in Koolboks customer power costs, baseline to endline (n = 71)



Each bar represents a single respondent

Results:

Koolboks drivers of income



“Freezer is outrightly perfect and has good quality, more than others that make it. It works 24 hours per day without electricity power supply. Just that the price is too high now compared to when I bought mine when the price was cheap.”

Frozen foods seller and Koolboks customer

Increased productivity: Promethean’s mission is to influence the amount of milk that dairy farmers sell per cow, and the price those farmers receive for milk. And there we see impressive gains (see Chart 2) for the two-thirds of our sample who are established dairy farmers (i.e., those who had already sold milk before they began selling via Promethean):

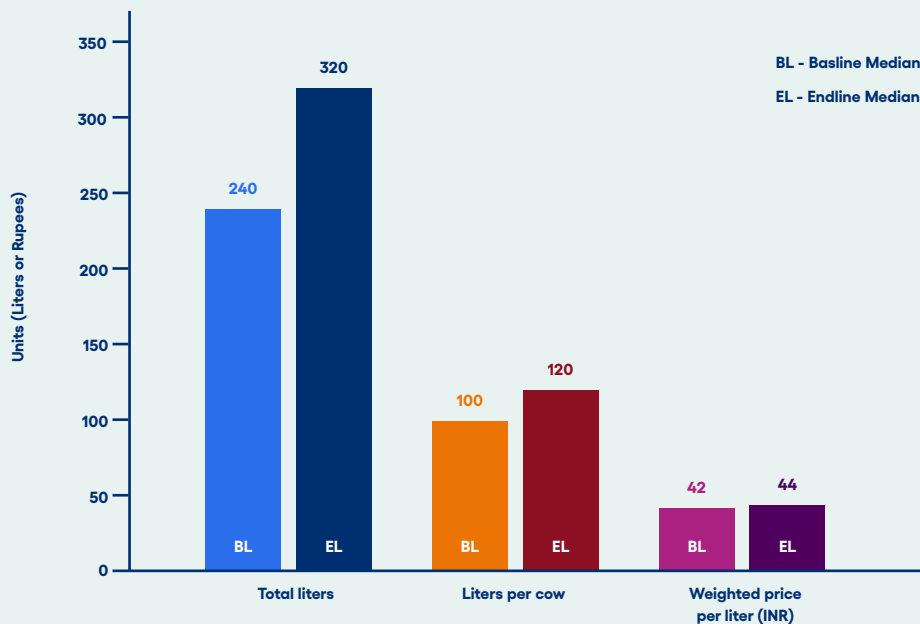
- Farmers sold 27% more liters per cow, likely due to a combination of better feeding and reduced spoilage from milk chilling.
- The combination of larger herds and more productivity meant overall liters sold were up by 42%.
- Prices were flat to slightly up with an overall increase of 3%, within the margin of error.

- For improved cow varieties, farmers increased their herds by 70% (with herds up 12% across all breeds).⁸

These shifts were a result of farmers’ increased investments in feed and agrovet services: costs for the median farmer almost doubled (96%). But those costs are still small in comparison to the absolute revenue increases, **which meant profits increased 61% at the median.**

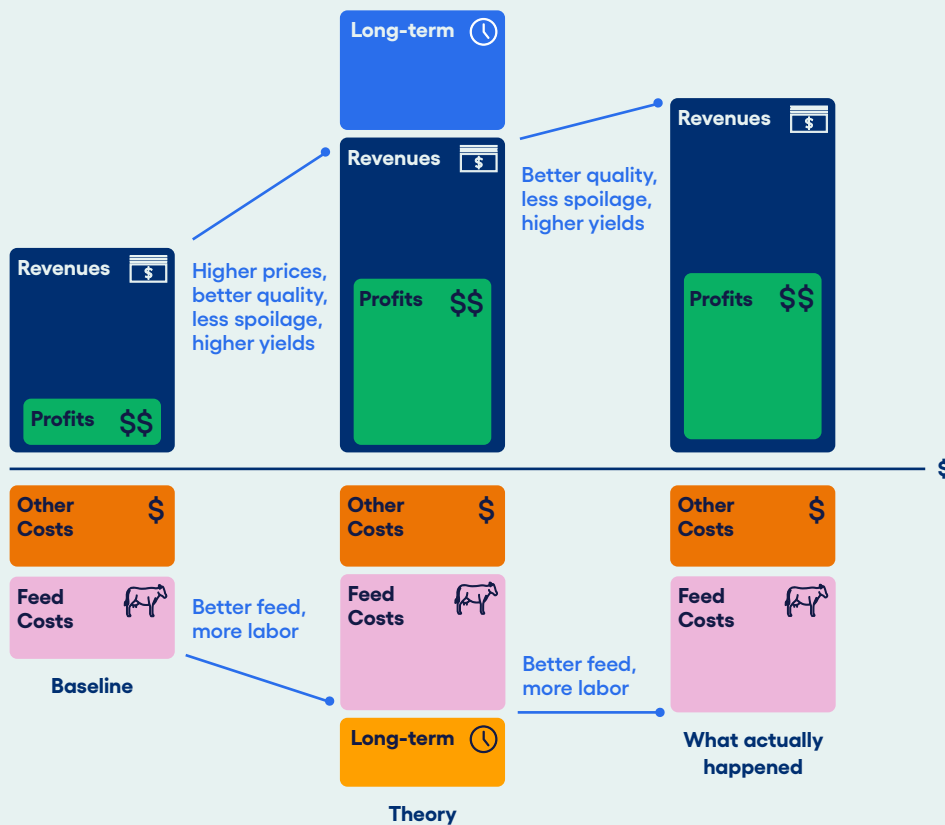
When we added in farmers who were new to selling milk (about a third of the sample), every single one saw a net profit. In just six months, dairy had grown from zero income to 22% of household income on average for these new dairy farmers.

Chart 2:
Major impact drivers for Promethean, baseline to endline (established farmers, n = 101)



Results:

Promethean drivers of income



“The payment process is very good. They transfer money online, offering fair milk prices. They give 60 rupees per liter for buffalo milk and 30 rupees for cow milk. Payments are deposited into women’s accounts.”

Dairy farmer and Promethean supplier

Increased price: Lizard Earth saw similar end results to Promethean, but the mechanism was different:

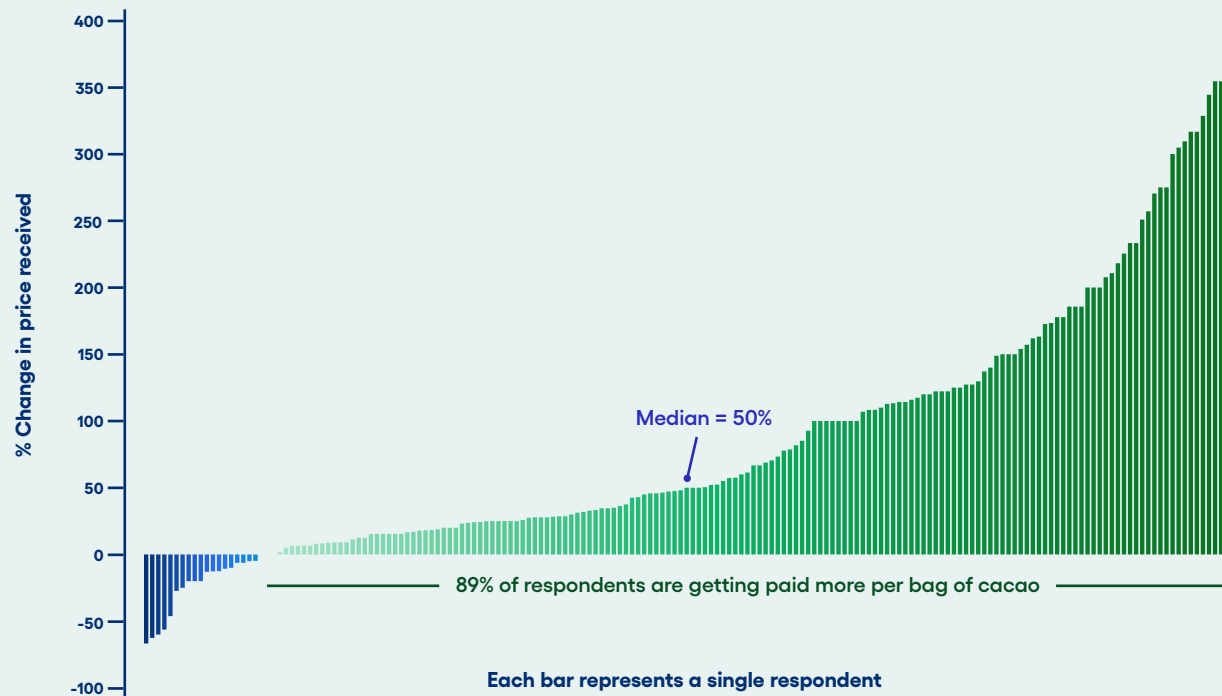
- The median price received per bag of cacao beans was 88% higher at the endline (see Chart 3), although this was at least partially due to the global cocoa price hike during this period.
- This offset a moderate decrease in the number of bags sold (possibly caused by the spike in cocoa prices, which led to a buying frenzy in some areas), so median revenues were up 33%.
- Median profits remained positive but were slightly lower at the endline, because spending more than doubled (142%) as farmers invested more in

their cocoa operations. Many farmers mentioned hiring additional workers to help clean and maintain their farms, and labor was cited as the highest cost for almost all farmers.

This means that cocoa, through Lizard Earth, became more significant in respondents' financial lives: 67% of average household income was attributed towards cocoa (and Lizard Earth) at the endline compared to 39% at the baseline.⁹ In a notoriously extractive sector — **one study** found that three-quarters of cocoa farmers do not earn a living income — paying farmers more is fundamental to building an equitable value chain.¹⁰

Chart 3:

% Price change for all Lizard Earth farmers, baseline to endline (n = 181)



Results:

Lizard Earth drivers of income



“I have seen changes in every aspect of cocoa production and processing: from nursery, to planting, to replacement, to brushing, to pruning, to harvesting, to fermentation, to drying, and so on. I use the extra money for labor payments for all my cocoa plantations.”

Cocoa farmer and Lizard Earth supplier

2. Macroeconomic factors had both positive and negative impacts on customer incomes, but customers overall reported improved financial well-being.

All companies operate within a broad economy that is beyond their influence. For our portfolio companies, those economies unfortunately tend to be fragile and volatile. Inflation, climate change, and a number of other factors affect the livelihoods of the communities we are trying to reach, as well as their opportunities to earn an income. These impacts were not always negative; cocoa markets saw prices skyrocket in early 2024, which may have played a role in Lizard Earth's success.

For two out of three companies, overall household incomes for the median household fell during the study period (Koolboks by 41%, Promethean by 28%), while incomes for Lizard Earth improved by 25%. When most people think of how to tackle poverty, they understandably focus on growing household income. But it is not what we set out to measure, because it is outside the control of social enterprises and their investors.

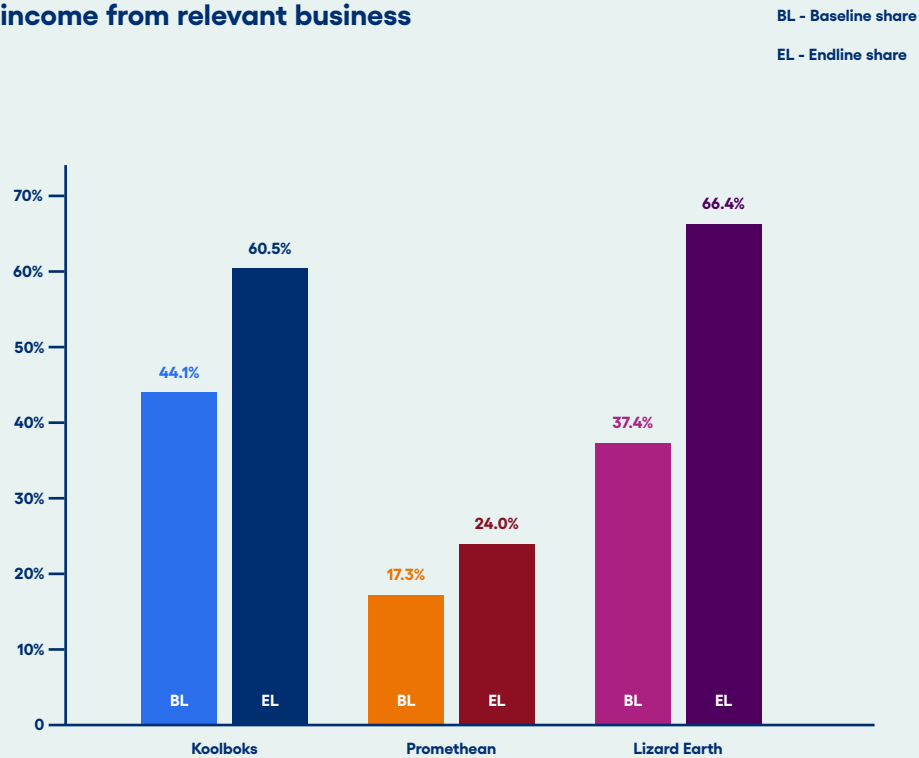
When economies grow, companies' interventions may help customers grow even more. And when economies struggle, company interventions very likely help customers build resilience; without these interventions, customers could have fallen even further into poverty.

This would also help to explain why **despite quantitative decreases in household income, customers offered positive qualitative responses, saying they were more financially resilient** and found it easier to access emergency funds after working with the company.

- For example, two-thirds of Koolboks customers reported lower household incomes at endline compared to baseline. By April (the last monthly diary), 70% said that their incomes were not enough to cover expenses. Despite this, 55% of customers at the endline perceived themselves as financially resilient and able to access funds in an emergency, even in the face of extreme inflation and rising cost of living.
- Similarly, when we asked Promethean's farmers how easily they could access significant funds in an emergency (a good proxy for financial resilience) those farmers gave a median response of '3' at the baseline ('Neither easy nor difficult' to find emergency funds), but improved to a '4' ('Somewhat easy') by the endline. At the same time, median household income fell more than 25%. Having a guaranteed buyer, especially one who helped them avoid wastage, made farmers feel more resilient.

Clearly, overall incomes alone do not determine financial well-being. There are many other factors that affect a household's financial health or vulnerability besides income. These include assets that could be sold in an emergency, an ability to apply for advances, or a flexible creditor that will defer payments. Consistency and stability of income may support savings so households have more to fall back on in difficult times.¹¹

Chart 4:

% Household income from relevant business

When customers have a reliable buyer like Promethean or Lizard Earth, or a company that helps cut costs like Koolboks, they are able to absorb the impact of macroeconomic conditions or climate shocks. While overall household incomes might have decreased, profits from most MSMEs increased. In relation to what was happening in the communities around them, and what they saw within their other sources of income, the overall belief was that they were still more financially resilient as a result of using the product or service. This could be because customers considered what would have happened without the intervention. It may be that customers believed they were better off than they would have been without this support.

To further that point, customers appeared to rely more on company products and

services over time. Income from the relevant MSME increased as a portion of household income from 33% to 50% (see Chart 4). And while these interventions did not provide a silver bullet in turbulent times, they did provide stable sources of income. Across the companies, 61.2% of customers said they would recommend the product or service to a friend or family member: a positive sign.

Impact investors and companies need to measure what matters, and what they can control. Focusing on overall household incomes will lead us down dead ends — there are too many factors outside of our control. Supporting companies to measure and optimize their drivers of income will have a meaningful positive impact on people's livelihoods regardless of whether overall incomes reflect it.

3. Companies had the most impact on customers making the least amount of revenue at the outset.

Customers operate at different scales and start from different baselines. From our baseline study of Promethean, for example, we spoke to dairy farmers who had sold no milk in the last month, and others who had sold more than a thousand liters during the same timeframe. Koolboks serves professional businesses as well as small, family-owned enterprises.

Acumen invests in solutions for people living in poverty, so we wanted to know how impact was being distributed across customer groups and whether there were any noticeable trends. To analyze this, we grouped customers into quartiles based on their baseline business revenue, with the first quartile (Q1) being the lowest baseline revenue and the fourth quartile (Q4) being the highest. Starting revenue correlated closely with reported baseline income (i.e., lower revenue quartiles likely had higher poverty rates).

The results of this analysis were encouraging, and also raised more questions.

Chart 5:
Promethean customer net profit shifts by quartile

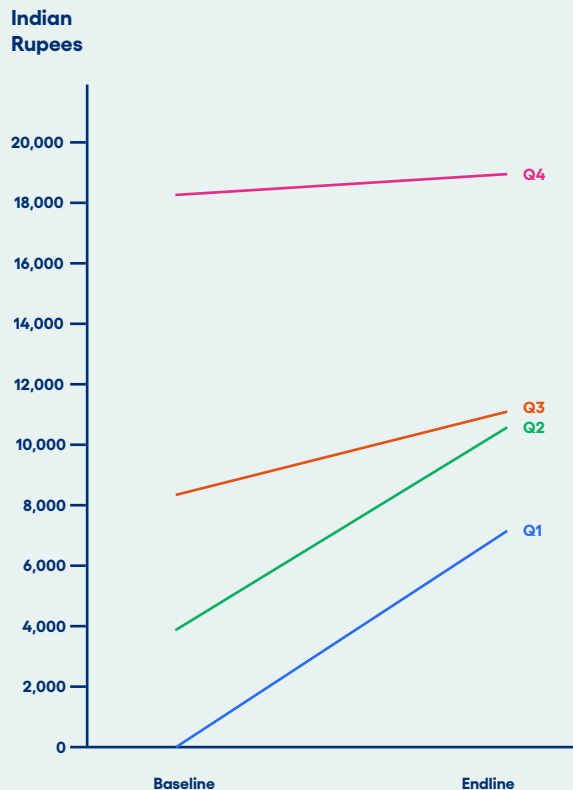
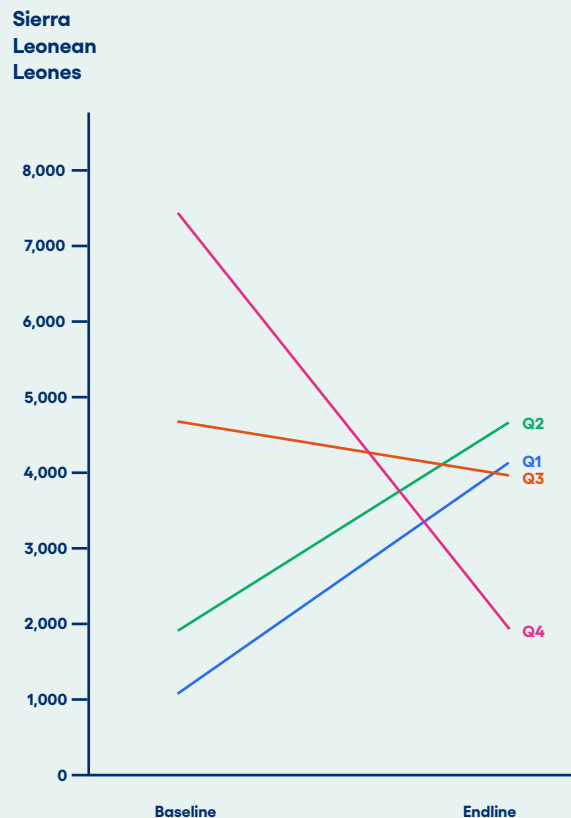


Chart 6:
Lizard Earth customer net profit shifts by quartile



We saw greater positive impacts accrue to customers with the lowest starting points. Customers in the first and second quartiles (Q1 and Q2, comprising the lower half of the revenue distribution) experienced greater positive impacts on their business by the endline.

- For Promethean, the greatest impact on revenue and profits were seen in the first and second quartiles. Each jumped more than 7,000 Indian rupees per month (about \$83). For context, that is a 170% profit increase for the second quartile (the first quartile were new to selling dairy, so a percentage increase would be infinite). This is compared to a 6% increase for the highest baseline earning quartile (Q4).
- For Lizard Earth, all net profit increase came from the first two quartiles. Farmers in the first quartile almost quadrupled their profits; farmers in the first and second quartile increased their profits by 192% on average. This was a factor of both increased productivity (up 16%) and increased price (up 110%).
- This trend was less pronounced for Koolboks, possibly because a higher share of customers were new to selling frozen goods.

We attribute these positive changes to the training and market access provided by the companies:

- Among Lizard Earth's farmers in Q1 and Q2, 89% reported improvements in cocoa yield and quality, with 74% attributing these changes to Lizard Earth's training (compared to 72% and 25% respectively for Q3 and Q4). The higher prices received by lower-revenue farmers suggest that they

may have had less bargaining power before, and therefore had a harder time accessing fair market value. If that is the case, **they benefited from selling to an offtaker who redresses vulnerabilities instead of exploiting them.**

- Promethean suppliers in Q2 increased their productivity per cow by 159% from baseline. The top two quartiles increased just 22% on average. In addition, all of the net increases in herd size came from the first and second quartiles.

On the other hand, customers with higher revenue at baseline saw relatively lower impact, even negative in some cases. The reason for this is less clear. Some possible causes:

- Those farmers or traders were running larger, more established businesses, and therefore had less room to grow their productivity or improve their pricing.
- Established farms may have had multiple potential buyers, especially in a volatile market. In the case of Lizard Earth, 2024 saw a very aggressive purchasing environment. Larger farmers likely sold to a range of buyers, which would show up in our data as lower income since these sales would not be captured by our survey.

More broadly, this data suggests that **impact is closely related to the starting point of the respondents.** For impact investors, there is often a default assumption that sales are linearly related to impact. This data shows that people living on less experience the greatest impact — they should be the focus of more interventions and investment.

4. Economic impact is the result of a good customer experience.

The change in income of customers was strongly linked to whether or not the customer experienced a challenge with the product or service, as well as their likelihood to recommend it to peers, or Net Promoter Score (NPS).¹² The lower the challenge rate, the better the customer experience, which in turn led to a higher likelihood of increased income or reduced expenses.

Koolboks: Among shop owners using a freezer from Koolboks, those who *did not* experience a challenge saw double the power savings (at 14,787 Nigerian naira savings per week) compared to those who *did* experience an issue with using the product (who saved just 7,897 Nigerian naira per week). This makes sense as those who experienced a challenge may have had to spend money on alternative sources.

Promethean: Among farmers who previously sold milk, those who *did not* experience a challenge with Promethean's service saw a 40% increase in profits from dairy, compared to 20% for those who *did* experience a challenge.

Lizard Earth: Farmers who *did* experience a challenge with Lizard Earth saw lower revenue increases (38% compared to 48% who *did not* experience challenges). This was primarily a factor of a drop in volumes sold at endline, which could indicate that farmers who had challenges sold to another buyer.

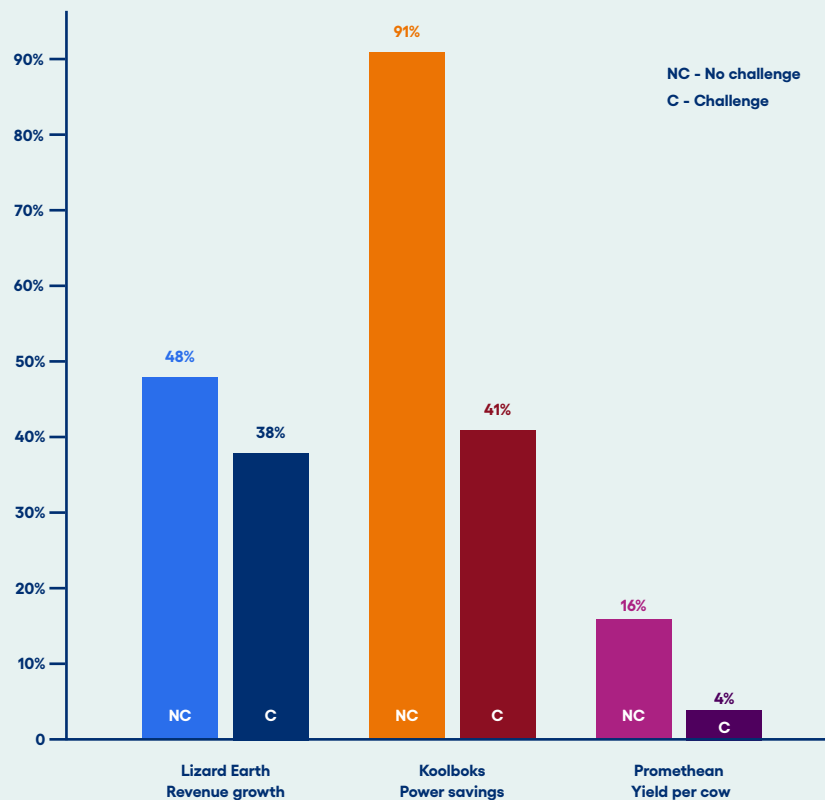
The observation that ease of use (low challenge rates) leads to higher income increases and greater satisfaction seems self-evident, and has been a key theme of previous 60 Decibels research.¹³ If a customer cannot use their product or service to full effect, we can't expect them to realize the full potential benefits of the product or service. NPS is highly correlated to challenge rate (or ease of use) — customers are more likely to be satisfied and recommend the product or service to their friends if they found it easy to use.

This correlation did not just show up in revenues. Both Promethean and Lizard Earth farmers who experienced challenges also reported lower cost increases than their peers who did not have challenges. This makes sense: who would invest in a service offering that does not deliver? But it also offers an important data point to track: customer investment. **Livelihood changes take investment, and if those investments are not happening, there is likely a pain point for customers.**

This data highlights the importance of using the Customer Challenge Rate and Net Promoter Score metrics as proxies for how effectively a company delivers on their customer value proposition. **These metrics provide a critical point of analysis during due diligence and are examined closely by Acumen and other impact investors.**

Chart 7:

Effect of customer challenges on income drivers



"I have changed the way I go about my farming activities and that is because of Lizard Earth. My income has slightly increased and above all my plantation is doing well."

Cocoa farmer and Lizard Earth supplier

Gender and income: Measuring what's intended

In order to understand the gender nuances in the different business models, we disaggregated results on economic impacts by gender. We also tested certain specific hypotheses on women including time savings, access to training, motivation to purchase a good or service, and impacts on agency. The results were mixed, defying easy narratives.

Yet certain companies have embedded gender into their business models in ways that bear further study. Two-thirds of Koolboks customers in this study were women, because the company specifically targets female traders. Similar to our broader lesson on income, focusing on business models that have embedded gender in their theory of change — and especially on the drivers of that gender-specific impact — will create more actionable insights. A forthcoming report from Acumen, Value for Women, and 60 Decibels explores this question in more depth.

“The additional time I spend on my shop has brought more income to me, which I spend on my children’s basic needs such as their school fees, books, and other writing materials.”

Ayokann, MSME owner that sells frozen goods, Koolboks customer

“It has been a nice change. We get online money now, and updates over email. This feels very good.”

Patil, dairy MSME owner, Promethean supplier

“From the beginning, they educate us on how to process our cacao to increase income. Through their training, we learned from our past mistakes that made our cacao less productive. It has been wonderful working with them.”

Hawa, cocoa farmer, Lizard Earth supplier



Lizard Earth, Sierra Leone. Photo: Juergen Sauer, Munich

Lessons on Methodology

When this works and when it doesn't

Measuring income change and attributing it to a specific product or service can be effective when there is a clear pathway or theory of change from the input (product or service) to the desired outcome of increased income. Strong pathways are evident in business models such as off-grid energy appliances designed for productive use, or bundled agriculture offerings that provide farmers with quality inputs, training, and market access. In contrast, business models aimed at increasing awareness, convenience, or time savings often have weaker pathways. While these models may indirectly lead and/or contribute to income impacts, attributing the change becomes significantly more complex.

This tool works best for companies with a strong pathway from product or service to income. In these cases, a specific income change is more within the company's sphere of influence, depending on how they provide access and serve their beneficiaries to maximize economic benefits. Companies with this strong pathway are a great fit for results-based financing programs that could be linked to measurement tools like this one, as there are clear metrics that easily can be tracked and incentivized.

Execution is key, and there are various options based on budget

Effective execution of these surveys is crucial, and there are various strategies to consider based on the budget. To obtain quality data on income changes, we recommend the following:

- Measure over 12 months to account for seasonal fluctuations.
- Incorporate questions to capture external factors (specifically benchmarking prices received to market prices) that may influence results.
- Take a broader view of financial health beyond just income changes.¹⁴

For organizations with limited budgets, there are less comprehensive but more affordable options for collecting quality data. These include shorter surveys, like financial diaries conducted via SMS, interactive voice response (IVR), or WhatsApp, depending on beneficiary context and relevance of these methods. For business models where income impacts are expected to appear quickly (e.g., productive use assets that are not influenced by seasonality), the measurement duration can be shortened. However, it's important to note that while the asset itself may not be affected by seasonality, demand — and consequently sales and revenue — could still be influenced if the economic environment is heavily agriculture-based.

Always adapt the approach based on the business model

Adapting the survey questions to the business model and specific product or service is the key to generating actionable data. Specifically, when asking about income, it's crucial to adjust the time period to what is relevant to the beneficiary (e.g., day, week, month, season), as well as the units (e.g., bags, kilos, pieces). Additionally, we suggest adding deep-dive questions to better understand the drivers behind income

(both revenue and expenses), beyond those that might capture external factors. **There is no one-size-fits-all set of survey questions for measuring income change, and tailoring will optimize the utility of the impact measurement effort.**

Overall, measuring income changes and attributing them to a product or service is a complex endeavor. Following the above recommendations can help organizations gather quality data and increase confidence in their impact findings.



Recommendations

The most important recommendation we can offer is: build on this work. Asking customers about their economic lives in a new way provided us with a rich new understanding of how portfolio companies impact the world. Funding more customer research and finding more scalable ways to listen to customers can only lead to deeper understanding and more effective action.

Companies:

Be clear on what is being influenced and measured.

Companies cannot fight inflation, dictate market prices, or reverse climate change. But a product or a service can save money on key expenses, connect farmers with better prices, and improve agricultural yields. Measuring those narrower outcomes can reveal customer pain points and validate impact.

Prioritize customer experience to achieve impact at scale.

When challenge rates are high and issue resolution is low, economic impacts are lost. As companies scale, they still have to provide the appropriate training and accompanying services, and address customer pain points to bring about improvements in income.

Do not overlook the value in serving lower-income customers.

Companies often aim for higher-revenue MSMEs, as they are perceived as easier to serve. But our data show that lower-revenue MSMEs are more likely to see leaps in earnings and productivity, and may be more likely to remain customers. By serving low-income customers as part of their base and clearly demonstrating the value

proposition, companies can contribute to higher impact and create long-term value.

Impact Investors:

To achieve meaningful economic impact, invest in PUE companies and innovative agribusinesses.

These results validate the recent uptick in investment flows to these sectors, and should encourage more investment into business models that seek to transform livelihoods.

Do not lose sight of service quality as you support companies to scale.

Investors want impact and they want growth. These results demonstrate the importance of finding the right balance between the two. When a company scales, it is part of the investor's responsibility to ensure that a company stays focused on the metrics that determine impact, such as customer satisfaction.

Companies need the right data to assess their impact.

Longitudinal data like this helps companies understand the customer journey and identify what can be improved. Investors should support companies to access this type of data, potentially through technical assistance grants.

Use Challenge Rates and NPS as proxies for predicting income increases.

When investors are conducting due diligence, a study on income increases might not be available. But strong correlations between income and Customer Challenge Rate and NPS could help investors see the potential impact of the company on its customers.



Funders and Philanthropists:

Focus on outcomes that are within the company's control, not lofty ideals of impact.

Funders and impact investors alike have ambitious goals: eradicate poverty, strengthen food systems, create a circular economy. But every ambitious goal requires steps to get there. Indicators of success should fit what is within the company's control and should be recognized as part of a broader goal. Saving money on electricity might seem small, but the positive impacts will compound over time.

Measure what can be managed.

For funders who support investors and other intermediary organizations that work with companies, measurement needs to make sense for the level at which companies operate. Each company's business model has different impact aims, and different drivers of that impact. One indicator is rarely applicable across a portfolio. The context in which a company operates and the conditions that enable impact within their business model ought to dictate measurement. Comparability ought not be the goal — actionability should be.

Long-term impact will take more time, capital, and data.

The internal preparation, company outreach, and actual execution of the study took 18 months, and just to see what changed within six months. If we really want to see and measure the long-term impacts of our companies, it will take a lot more. Companies need time to iterate and refine their product or service, capital to invest in their operations, and data to make better decisions.

Be clear on how your priorities impact a company's quality of scale.

Funder priorities become company priorities. The less-glamorous determinants of income (e.g., challenge rates) are just as important when setting impact frameworks and results-based finance targets as are big output numbers.

Improving incomes requires long-term investment. We are committed to continuing this work. We hope you will join us to help drive these gains even higher.

Endnotes

¹ **Kenya Financial Diaries: The Financial Lives of the Poor**

² We initially planned to conduct these surveys by SMS or WhatsApp but identified that short phone calls would be more appropriate for the customer base.

³ For two companies, we completed six rounds of monthly diaries. For the third company, we completed five.

⁴ All respondents who were surveyed for the baseline were reached out to during the endline survey, irrespective of whether they had opted in to the monthly financial diaries or not.

⁵ A fourth company was originally included in the study, but timing limitations led to them not being included in these results.

⁶ For this report, we use ‘cacao’ to refer specifically to the product that farmers sell to Lizard Earth prior to fermentation, drying, and other processes. We use ‘cocoa’ in all other cases, such as referring to the cocoa farm, the farmer, or the broader value chain.

⁷ This data shows savings on utilities, but there may be additional costs not shown. Customers were asked how much they spent on “power” and “related costs such

as fuel and generator.” Most customers purchased their Koolboks freezers in cash, but those who purchased on credit may or may not have included their loan payments here.

⁸ Farmers own three types of cows: Jersey, Buffalo, and local cows. Jersey and Buffalo are considered improved cow varieties.

⁹ There were no new farmers in this study, so all farmers grew and sold cacao prior to working with Lizard Earth.

¹⁰ **A Living Income for Cocoa Producers in Côte d'Ivoire and Ghana**

¹¹ You can read more about the 60 Decibels Vulnerability Index [here](#).

¹² NPS, or Net Promoter Score[®], is a globally used measure of customer satisfaction and loyalty. Customer Challenge Rate and NPS are highly correlated: the higher the challenge rate, the lower the NPS, typically.

¹³ **Why Off-Grid Energy Matters 2024**

¹⁴ This may include resilience, stability of income and expenses, income diversification, future potential (longer-term impacts), asset ownership, and other indicators.

Appendix

Table 1:

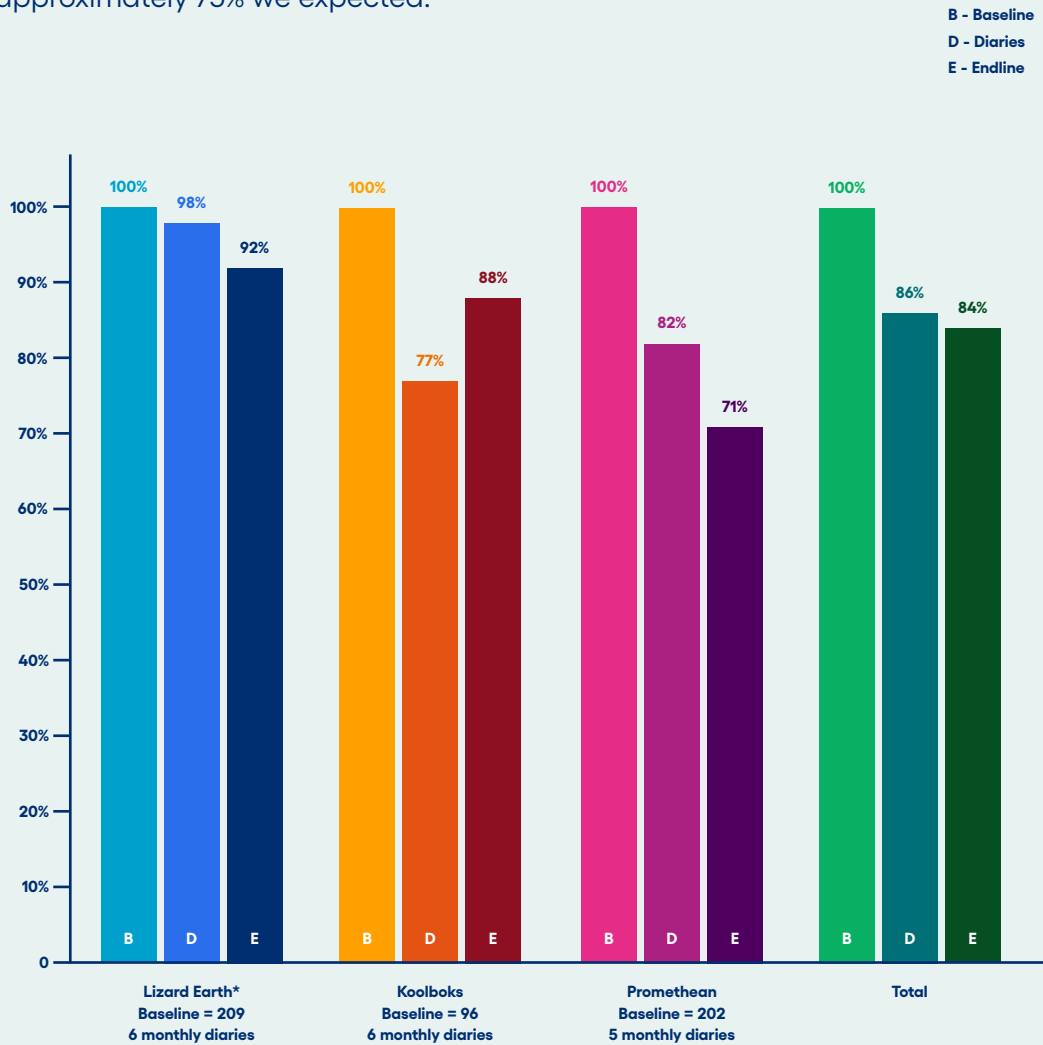
Data collection methodology

Metric	Lizard Earth	Koolboks	Promethean
Country	Sierra Leone	Nigeria	India
Method	Phone via Conveners	Regular Phone	Regular Phone
Response Rate Baseline	100%	85%	65%
Response Rate 60 Decibels Benchmark	60%	67%	63%
Survey Length Baseline (minutes)	20	16	11
Survey Length Endline (minutes)	32	19	15
Monthly Diaries	6	6	5
Overall Complexity	High	Medium	High

Chart 8:

Drop-off rates for diary and endline responses

Overall response rates across monthly diaries and endline studies were similar: 86% and 84%. This was higher than the approximately 75% we expected.



* Lizard Earth surveys were conducted with help from the company, where conveners were deployed to bring respondents together, enabling better response rates across studies.



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To learn more about
Acumen's work reach
out to:

Dan Waldron
Head of Insights
dwaldron@acumen.org

acumen.org
60decibels.com