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BUSINESS SOLUTIONS TO POVERTY

Smart Duka

Lessons Learnt in Developing Kenya's Micro Retail Sector

March, 2020

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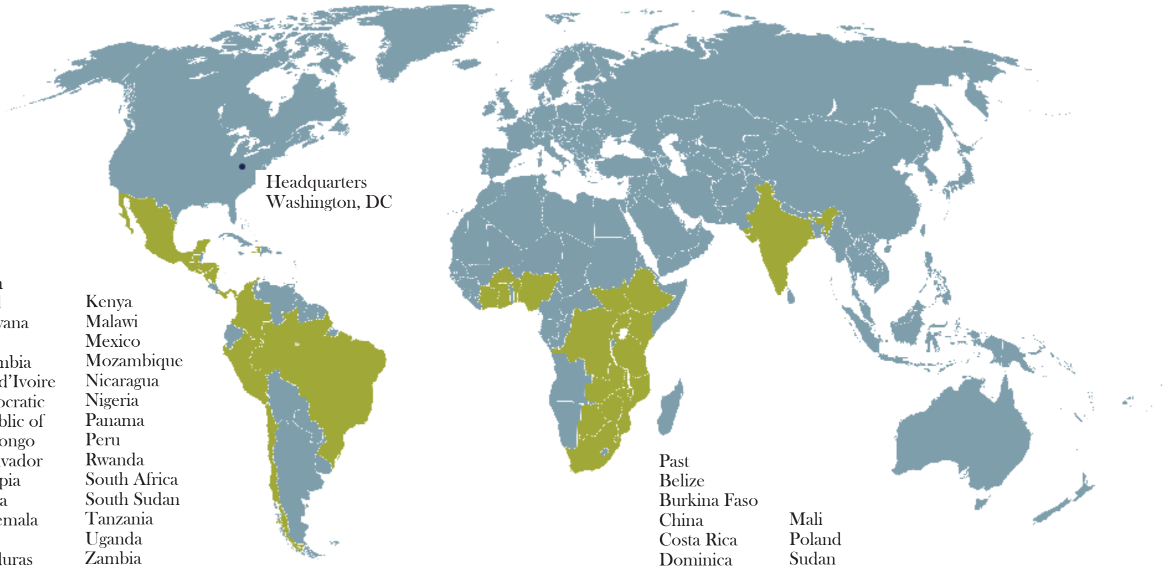

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ACRONYMS

SECTOR SPECIFIC ACRONYMS EMPLOYED IN THE BODY OF THIS REPORT INCLUDE:

BOP	Bottom-of-the-pyramid
CPG	Consumer packaged good
Duka	Swahili word for "shop"
FMCG	Fast-moving consumer good
GDP	Gross domestic product
GRDI	Global Retail Development Index
KES	Kenyan Shilling
NGO	Non-governmental organization
POS	Point of sale
TNS	TechnoServe

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INTRODUCTION

TechnoServe

TechnoServe is an international leader in harnessing the power of the private sector to help people lift themselves out of poverty. A nonprofit organization operating in 29 countries, TechnoServe works with enterprising men and women in the developing world to build competitive farms, businesses, and industries. By linking people to information, capital, and markets, TechnoServe has helped create lasting prosperity for their families and communities.

This report was commissioned by TechnoServe in order to aggregate best practices learnt in the micro-retail sector. Specifically, TechnoServe hopes to leverage its success and experience working in micro-retail to grow existing initiatives through consolidation and communication of the best practices described in this report.

Purpose and Objective

Thus, the purpose of this report is to document lessons learnt from implementing growth initiatives in Kenya's informal retail sector. The findings documented in this report are intended to:

(1) Define and communicate TechnoServe's role as a global thought leader in micro-retail sector development;

(2) Guide the scale-up of TechnoServe's work in Kenya and other countries; and

(3) Serve as a reference for future interventions within the sector.

> “Micro-retail shops play a critical role in many developing economies, providing in-come for millions of micro entrepreneurs and making everyday products accessible in low-income communities. These enterprises hold the potential to improve hundreds of thousands of lives, but due to limited business skills, poor financial management and limited inventory, shopkeepers struggle to make a profit. With targeted support these shopkeepers can reduce costs, increase profits and drive economic growth in their communities.

Methodology

This report was created using a mixture of primary and secondary research. First, a review of internal TechnoServe documentation was conducted in order to consolidate TechnoServe intellectual property on its work in the micro-retail space. Following the internal review, desktop research was conducted on external work in the micro-retail space in order to validate and expand on existing TechnoServe insight. Finally, a primary research campaign was conducted in order to gather perspective on the process and outcomes of TechnoServe micro-retail programs. The primary research campaign incorporated individual and group discussions with:

- Duka owners participating in the Smart Duka program, including:
  - Roughly ten one-on-one conversations
  - Four business group discussions with 5-15 members, each
- TechnoServestaff members, including:
  - The East African Regional Director
  - The Kenyan Country Director
  - The Entrepreneurship Portfolio Lead
  - The Senior Business Advisor for Kenyan Entrepreneurship
  - Five Business Advisors for Kenyan Entrepreneurship

This report is also intended to inform stakeholders, including public and private agencies, of opportunities to engage and participate in the development of the informal retail sector.

Charles Gakuha owns Laikipia stores in JujaKimabu County. He started his shop in 2015 with $50 as startup capital. His business currently generates average daily sales turnover of $ 150. Charles adopted merchandising, customer service, product categorization and display. His business has enabled him buy two pieces of land which he intends to build rental houses. He plans to open a wholesale business in the near future

EXECUTIVE SUMMARY

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This report compiles the experiences, challenges, and successes of the Smart Duka initiative in Kenya to identify key lessons learnt throughout the program lifecycle. The lessons learnt outlined by this report are meant to be descriptive and instructive; thus, they are organized by phase of the program lifecycle. Although, similar to the lessons themselves, program lifecycle phases can be expected to change from one intervention to another, the phases used in Smart Duka Kenya are outlined below:

- **INTERVENTION DESIGN**
  - o Environmental assessment
  - o Risk assessment
  - o Donor identification
- **PROGRAM RECRUITMENT**
  - o Mapping
  - o Participant selection
  - o Recruitment & mobilization
  - o Baselining business assessment
- **CAPACITY & BEST PRACTICE DEVELOPMENT**
  - o Participant training
  - o Technology integration
  - o Financial access
- **BUSINESS ENVIRONMENT IMPROVEMENT**
  - o Business groups
  - o Supply chain partners
  - o Financial partners
  - o Technology partners
  - o Government partners
- **RESULTS MEASUREMENT**
  - o Data collection
  - o Treatment & control groups
  - o Endline survey
  - o Measurement timeline

Based on conversations with TechnoServe stakeholders across country border, the key takeaways outlined in this report are thought to be representative of broad initiatives in micro-retail, across geographies; however, they should not be expected to translate exactly. Any successful intervention needs to be tailored to the specific social, political, and economic context of the culture and nation it takes place in. That said, below is a list of the key lessons learnt to date from Smart Duka Kenya. For a description of the background and rationale behind each lesson, see the Lessons Learnt section of this report.

Smart Duka
Growing Together

Lessons Learnt along the program lifecycle

INTERVENTION DESIGN

Environmental assessment

- Macro-economic reliance on the informal retail sales channel is crucial to maximize the impact of investments micro-retailers
- High literacy and education rates of micro-retailers contributes to the success of the program, as owners are well prepared to learn new business tactics
- Careful consideration of political, social, cultural, and economic environmental factors are critical to the intervention design phase
  Little data is available to inform the landscape of the micro-retail sector in developing countries

Risk assessment

- The micro-retail sector is vulnerable to traditional crime and political unrest, as the BOP communities, micro-retailers serve typically occupy high-crime areas with inherent susceptibility to political turbulence

Donor identification

- It is important to identify financiers that share the overall mission of the intervention
- Creating buy-in from financiers requires a clear mission and value proposition, based on specific and quantified successes of both the initiative and similar work
- Financial sponsors have many options of charitable organizations to choose from; emphasizing expertise and thought leadership will establish credibility
- Persuasive communication and engagement plans are critical to sustaining financial sponsorships, as they communicate the importance and impact of the work to financiers
- Financiers often require programs to highlight a specific aspect of program outcomes (e.g., empowering women, youth, or rural communities)

PROGRAM RECRUITMENT

Target Mapping

Creating a detailed map of potential program participants is a critical step in making informed decisions with respect to participant selection and recruitment

Participant selection

- Different geographical settings (e.g., urban vs. rural) have varying entrepreneurial characteristics; when piloting an initiative, it is important to focus on one setting in order to homogenize the opportunities and challenges being addressed
- Participant selection begins at the region level; staff must leverage target mapping to identify geographic regions that are best suited for intervention
- A thoughtful and pre-established set of selection criteria is important to allow the efficient selectin of high-impact entrepreneurs
- Restricting participants to established retailers (those in permanent locations or with 6+ months of operation) will shield the program from attrition
- Participant selection should seek out micro-retailers that are entrepreneurial and excited about the program, as they are most likely to see the project through to the end

Recruitment & Mobilization

- Some micro-retailers (most duka owners) are naturally skeptical of external interventions, as they are unaccustomed to programs in their sector and distrust the process of formalization
- A simple and relatable business case is the key driver of retailer participation
- Setting clear and consistent expectations is critical to building early and lasting trust with program participants
- Direct recruitment allows the organization to hold participants accountable; however, is time and cost intensive, making partner networks helpful for scalability
- A persistent and dedicated team is pivotal to the success of mobilization; duka owners cite the persistence of their business counsellors as the primary reason for participation

Baseline & Business Assessment

- Business assessments and baseline surveys are a critical part of program recruitment, as they are needed to identify training focus areas and measure results
- Before executing a baseline or business assessment survey, enumerators must be trained on the huge importance of complete and unbiased data collection
- When creating surveys for program participants, questions need to be designed to minimize recency bias and estimation
- When collecting survey data, enumerators should be on the lookout for feedback that is confusing or contradictory; when responses do not add up, it is important to ask follow-up questions

Digital survey tools go a long way in terms of standardizing survey output and reducing the time burden of cleaning and entering data

If not utilizing a digital survey tool, staff should process baseline and business assessments quickly so that surveys are fresh

When conducting a study with a large number of participants, a representative sample may be surveyed in order to cut cost and time requirements

CAPACITY & BEST PRACTICE DEVELOPMENT

Participant training

Training curricula must be short and precise in order to sustain participant interest and minimize lost revenue for participating retailers

Visual and interactive trainings are more likely to produce long-term behavioral change

Do not underestimate the importance of training the trainer, as this is critical to successful program implementation

In selecting training platforms, program administrators must balance a tradeoff of implementation costs and behavioral change

One-on-one training provides the most direct form of engagement with program participants; however, it is costly and difficult to scale; group training provides a broader reach but may leave some participants behind

Group training sessions serve as a helpful step in preparing micro-retailers to join business groups; however, attendance may suffer due to the opportunity costs of participation

Similar to on-on-one training, “aftercare” programs produce measurable behavioral change; however, are time and cost intensive

The technical savviness of program participants will have a significant impact on their potential to benefit from digital training programs

Training co-operators is just as important as training owners

Technology Integration

Digital recordkeeping tools (e.g., mobile POS platforms) provide for efficient and timely records; however, it is crucial to minimize the complexity of digital systems in order to maximize adoption by program participants

Although micro-retailers have broad access to mobile phones, they are often limited to basic operating systems; thus, any mobile platform used by the intervention must be either standalone or compatible with basic mobile systems

Thorough testing is necessary when using mobile applications, as technical difficulties will frustrate participants and significantly impact adoption

Detailed training is necessary to facilitate the adoption of digital POS platforms, as most micro-retailers are not used to operating digital platforms

Technology buy-in from co-owners and co-operators is necessary to ensure that POS platforms and best practices are implemented at all times

If implementing a mobile POS application, dedicated store phones are the best way to ensure consistent adoption; if this is cost prohibitive, co-operators must download and utilize POS apps

There are numerous technologies available that can help micro-retailers keep records; an intervention-specific analysis is necessary to identify which option is best suited, given participant and intervention priorities

“Dukas are the economic and often social backbone of Nairobi, especially in the city’s informal settlements. Store owners are learning simple business fixes that can help their stores, and the communities they serve, to thrive.

Financial Access

Financial training is a fundamental part of enabling micro-retailers to weigh financial options, access credit, allocate it efficiently, and create a path toward repayment

The language used to describe loan products (e.g., describing loans as capital rather than credit) impacts the uptake by micro-retailers

Loan terms must take into account retailers’ business cycles and preferences in order to facilitate uptake

BUSINESS ENVIRONMENT IMPROVEMENT

Business groups

Helping micro-retailers to form small business groups (which act as forums for networking, group lending, information sharing, and collective purchasing) can yield additional growth by supporting individual owners through best practice implementation

Duka owners are not accustomed to working together in a business context; continuous advocacy and clear communication of the business case is required to secure buy-in

Maintaining a cohesive, open, and collaborative environment is key to successful business groups, as members must trust one another financial decisions (e.g., collective lending and group buying)

Business groups can take on a variety of business models; group structure should be tailored to best meet the needs of its members

Groups should be structured to be self-sustaining, such that leadership may change or TechnoServe involvement may wane, without threatening the function or cohesiveness of the business group

Involving members in key roles (e.g., dues collection and consolidation of orders) creates a sense of commitment and ownership over the group

Groups must ensure that they maintain a strong value proposition so that groups remain attractive to shop owners

Business groups create the opportunity to collect business records at the group level, providing usable data while alleviating shop owners of the time intensive process

Supply Chain Partners

Supply chain partners facilitate improvements to the business environment by providing flexibility in how micro-retailers access products

Generating buy-in from supply chain partners requires a clear and well-tested business case that highlights the program's potential to increase product sales and provide direct marketing

Supply chain partners will need flexibility, resolve, and top-down buy in to sustain a partnership, as best practices may need continuous reevaluation

Supply chain partnerships will produce the highest impact if they are structured to allow for feedback from retail partners; integrating supply chain partnerships with other business environment improvement partners will accentuate impact

Financial Partners

Financial partners are important players in improving the business environment for micro-retailers, as they provide much-needed access to capital and financial training

Generating buy-in from financial partners requires a conceptual justification, as well as a data-driven demonstration of the viability of micro-retailers as creditors

When selecting financial partners, it is important to work with program participants to ensure they fully understand the role and products offered by financial institutions

Inviting the financial institutions to introduce their financial products to the micro retailers is important way of connecting them to the financial landscape.

Technology Partners

Establishing partnerships with technology developers (e.g., software companies producing POS platforms) allows for micro-retailer needs and preferences to be incorporated into technology functionality

It is helpful to work with multiple technology partnerships simultaneously in order to compare and contrast various use cases, functionalities, and cost structures

When choosing technology partners, prioritize those that demonstrate a willingness to learn about the sector and adjust product offerings to meet micro-retailer needs

Government Partners

By nature, micro-retailers are often unregistered with governmental bodies; most distrust the process of formalization and doubt the benefits of registering

Despite retailer skepticism, business environment improvement often requires formalization, as supply chain, financial, and technology partners frequently consider it a precursor to formal partnership

RESULTS MEASUREMENT

Data Collection

It is important to have a clear and reliable methodology for data collection and reporting in order to preserve data validity, integrity, reliability, and precision; it is helpful for collection methodologies to be consistent across organization initiatives

It is helpful to sign formal contracts when businesses join the program in order to establish forward-looking data rights and emphasize the need for data sharing

Data parameters, definitions, and specificity need to be clearly communicated to those collecting inputs so that data collection is consistent

Data quality should be collected alongside individual entries in order to capture staff confidence in the data provided

Without a digital data collection tool (used by program participants), a thorough data validation methodology is necessary to triangulate self-reported data

Staff involved in data collection must understand the entire data collection process, as well as their specific role; a lack of clarity may undermine the entire process

Data should be reviewed in a routine and iterative way, such that there are multiple opportunities for discrepancies to be identified; as corrections are made, changes should be tracked

There are a range of data collection and reporting technologies that can be implemented; various tools pose different benefits, depending on the budget and complexity of the initiative

Treatment & Control Groups

Careful isolation of treatment groups is needed to accurately measure outcomes, especially for programs that are provided in tandem (e.g., access to capital and business training)

It may be difficult to create trust with participants in control groups, which can prohibit information sharing; graduating control groups into future treatment groups may build trust and incentivize information sharing

Endline survey

Business assessments conducted at the end of the intervention should be used to identify areas of the program that are implemented and / or received ineffectively

Endline surveys should go beyond questions asked in the baseline to measure gather specific metrics of program effectiveness

Measurement timeline

Results from duka intervention programs can be seen using a 6-month window from baseline and end line evaluations

BACKGROUND

With nearly a decade of work developing informal retail sectors in developing nations, TechnoServe is an international thought leader in the field of micro-retail. In 2015, after a successful intervention supporting micro-retailers in La Paz, Bolivia, TechnoServe created the Smart Duka program in Kenya. Smart Duka began as a Kenyan initiative before growing to support the informal retail sectors in Tanzania, Nigeria, and Côte d'Ivoire. Due to the initiative’s broad success across Africa, Smart Duka has been highlighted as an area of excellence within TechnoServe.

Since the inception of Smart Duka, TechnoServe Kenya has tested various tactics and methods, expanding those that have been successful and refining those that have not. Throughout this process, key takeaways and operating principles have risen to the top as best practices when working to develop the informal micro-retail sector. This report outlines those best practices, organized according to the program lifecycle phase that they inform.

The takeaways identified in this report are grounded in the challenges and successes of Smart Duka Kenya; these are lessons that were learned while implementing and refining each phase of the Smart Duka initiative. Although these lessons are taken from the Kenyan experience, they are thought to be representative of broader interventions in micro-retail, given the ability of Smart Duka to scale across national boundaries. That said, it is important to note that every initiative will function differently depending on its context and that none of the lessons learnt in this report should be considered to apply universally

It is helpful to think about lessons learnt in terms of program lifecycle phase because each of the takeaways highlighted below have specific implications on the lifecycle phase in which they apply. Every program will have a slightly unique lifecycle, with varying elements to suit the objectives of the initiative; however, the lifecycle phases outlined below are representative of the phases implemented under Smart Duka

Intervention design
- Environmental assessment
- Risk assessment
- Donor identification

Program recruitment
- Target mapping
- Participant selection
- Recruitment & mobilization
- Baseline & business assessment

Capacity & best practice development
- Participant training
- Technology integration
- Financial access

Business environment improvement
- Business groups
- Supply chain partners
- Financial partners
- Technology partners
- Government partners

Results measurement
- Data collection plan
- Treatment & control groups
- Endline survey
- Measurement timeline

> Improving the profitability of micro-retailers has the potential to improve hundreds of thousands of lives in Nairobi by creating more and more prosperous employment opportunities, and by increasing access to a wider range of household goods and foods at more affordable prices.

LESSONS LEARNT

INTERVENTION DESIGN

Environmental Assessment

Macro-economic reliance on the informal retail sales channel is crucial to maximize the impact of investments micro-retailers

When it comes to demonstrating the potential social return on an investment in the micro-retail sector, the size of the potential impact is directly correlated to the degree of economic reliance on the informal sector. A higher reliance on informal retail suggests a greater number of micro-retailers and a more sustainable demand. Together, these factors translate into a greater potential impact and greater return on investment.

High literacy and education rates of micro-retailers contributes to the success of the program, as owners are well prepared to learn new business tactics

Kenya is a powerful example of this takeaway: although Kenya's formal retail channel is the second most developed on the continent, the informal sector accounts for a full 70% of retail sales and 80% of FMCG sales. There are 250K+ permanent dukas operating in the Kenyan economy and, despite recent investments in the formal retail sector, the number of dukas has increased ~6% p.a. since 2016. Thus, the return on an investment into the Kenyan informal retail sector will be shielded by the long-term viability of the informal sector.

A key driver of Smart Duka in Kenya is the willingness of duka owners to learn new business tactics. According to a study conducted by Nielsen, only 15% of Kenyan duka owners have received business training; however, 97% identify as willing to be trained. This creates an unmistakable opening for Smart Duka to provide the training desired by duka owners. Programs such as Smart Duka require significant time commitment from program participants (which has a cost in terms of the opportunity cost of time spent training) and would not be successful without the commitment and desire of program participants to learn.

Careful consideration of political, social, cultural, and economic environmental factors are critical to the intervention design phase

When designing an intervention, it is important to carefully and thoroughly study the populations that are intended to participate. It is insufficient and inappropriate to adopt the structure and methodology of another initiative without carefully studying their potential implications on a new population. Every geography will have a different set of relevant geopolitical and socioeconomic factors; every population will have a unique set of challenges and endowments. These dynamics have far-reaching implications on both business and on day-to-day life. Thus, the only way to establish an effective and respectful intervention is to pay careful attention to the specific characteristics and needs of the target population.

Little data is available to inform the landscape of the micro-retail sector in developing countries

Environmental assessments are largely facilitated by access to data that characterizes the geographic and demographic breakdowns of a community. When working in developing countries, access to such data is inherently limited by inadequate data collection. In addition, these limitations will be far more exaggerated when working in micro-retail, as the businesses in question are largely unregistered and, therefore, excluded from many data collection efforts. It is important for program staff to be aware of this during intervention design because it will have implications for many subsequent phases of the program lifecycle. From risk assessment to target mapping, staff must identify means of collecting information that do not rely on a public census. While this may increase the time and costs associated with designing an intervention, it should not lead staff to lower the standard of research applied to intervention design, as careful, preemptive research is imperative to successful program implementation.

Risk Assessment

The micro-retail sector is vulnerable to traditional crime and political unrest, as the BOP communities micro-retailers serve typically occupy high-crime areas with inherent susceptibility to political turbulence

Proximity to instability is often unavoidable when seeking organizations that serve BOP communities. In Kenya, dukas are predominately located in informal settlements, which host high unemployment and crime rates. This means that dukas are inherently exposed to risk of theft. Compounding this potential for risk is the extremely low rates of business insurance by duka owners: only 6 in 1,000 (0.6%) of duka owners have any form of business insurance.

In addition to the day-to-day risk of theft or damage due to crime, micro-retailers that serve BOP communities are also frequently vulnerable to political instability. For example, the 2017 Kenyan presidential elections and corresponding controversy sparked violence in informal settlements across the country. This increases risk for programs serving or operating in such communities.

Donor Identification

It is important to identify financiers that share the overall mission of the intervention

Sponsors of the Smart Duka initiative are a mix of philanthropic organization and financial institutions, with the majority of sponsors falling into the latter category. The common denominator that links all Smart Duka financiers together is that they all share a common goal of supporting economic growth in developing nations through business solutions that empower low-income communities. This common ground justifies financial sponsorship in Smart Duka because it is, in essence, the key mission of the Smart Duka initiative.

In identifying and approaching potential financiers for an intervention such as Smart Duka, finding this common denominator is instrumental. Most financiers, whether corporate or non-profit, have a stated mission that they look to support and highlighting the overlap between that mission and the intervention goes a long way in demonstrating common cause.

Creating buy-in from financiers requires a clear mission and value proposition, based on specific and quantified successes of both the initiative and similar work

When Smart Duka first began operating in Kenya, it did so with the financial support of the elea Foundation, which was the primary partner and had implemented similar programs In Latin Americal in La Paz, Bolivia. Citi Foundation joined in immediately .The three organizations had a close working relationship and were able to leverage the clear mission and success factors of the Bolivian intervention to support and pilot the program in Kenya.

Since that initial partnership, Smart Duka has broadened its partnerships to include half a dozen philanthropic and for-profit institutions. The primary lever that has helped Smart Duka recruit and retain financial sponsors is the measured impact of the work. Smart Duka is able to clearly communicate the importance and impact of the intervention by leveraging specific and quantified outcomes for program participants.

financial sponsors have many options of charitable organizations to choose from; emphasizing expertise and thought leadership will establish credibility

The landscape of organizations seeking corporate and philanthropic funding is highly competitive. Every mission-driven financier has numerous organizations to choose between, and will weight a potential donation using the expected social and financial return of that donation. Thus, in order to demonstrate the validity of an intervention, the organization must establish its experience and credibility working in the space.

Smart Duka has been successful in establishing credibility by leveraging the vast and measured outcomes of TechnoServe work in micro-retail. TechnoServe has worked in micro-retail for more than five years and has become a thought leader in the space – a credential that helps to assure financiers that money used to support Smart Duka is money well spent.

Persuasive communication and engagement plans are critical to sustaining financial sponsorships, as they communicate the importance and impact of the work to financiers

Once a financial sponsorship have been established, it is crucial to service the relationship by continuing to engage the financier with the meaningful outcomes of their partnership. This communication should go beyond merely reporting the statistical outcomes of the intervention, although measured results should certainly be incorporated.

Smart Duka works to keep financial sponsors highly engaged with both the process and outcomes of the initiative. With respect to the process, Smart Duka engages financiers by sharing pieces of thought leadership (e.g., articles and reports on various intervention methodologies in micro-retail), hosting strategy workshops, and sharing updates on various intervention trials and findings.

With respect to outcomes, Smart Duka goes beyond annual reporting in order to communicate the impacts of the work. Specifically, Smart Duka has had success inviting financial sponsors to visit Nairobi in order to see firsthand the impacts of the initiative. Sponsors visit dukas and attend business group meetings in order to see and hear from participants themselves.

Throughout the relationship with a financier, Smart Duka goes beyond contractual obligation in order to ensure that partners are engaged and participatory in various aspects of the initiative

Financiers often require programs to highlight a specific aspect of program outcomes (e.g., empowering women, youth, or rural communities)

It is important to note that different financial partners will have their own requirements for funding. Despite the common cause shared by participating organizations, sponsors often have a specific focus on various underserved communities, such as women, youth, or rural communities.

This is important to note, as donor communication and engagement plans should reflect the priorities of each financier. A one-size-fits-all approach may cause various donors to feel as though the initiative is not fully focused on their priority causes; thus, deliverables should be tailored to emphasize the particular concerns of the donor.

This key finding can also be helpful in identifying donors. For example, Smart Duka Kenya has found that ~60% of duka owners are women, and ~65% are youth. Thus, donors with emphases on serving women and youth are prime candidates for partnership.

PROGRAM RECRUITMENT

Target Mapping

Creating a detailed map of potential program participants is a critical step in making informed decisions with respect to participant selection and recruitment

A first step to making informed decisions in participant selection is creating a detailed map of potential program participants. This is important for program selection because it provides crucial information on the name, size, type, and location of all potential program participants on a region-by-region basis. This information is important for program selection because it allows program staff to evaluate potential focus regions by identifying areas with a high density of potential participants. In addition, mapping allows the initiative to cross check potential participants in a given area in order to ensure that previously-trained micro-retailers are disqualified from future initiatives.

Different geographical settings (e.g., urban vs. rural) have varying entrepreneurial characteristics; when piloting an initiative, it is important to focus on one setting in order to homogenize the opportunities and challenges being addressed

Smart Duka creates a detailed map of potential participants by sending representatives to walk every street in a given area. This is a time intensive process; however, it is expedited by limiting the amount of data collected on each shop. Despite the time intensiveness, mapping must be done carefully in order to pave the way for successful participant selection, recruitment, and mobilization.

There are a wide range of opportunities and challenges that micro-retailers face. Those differences often fall in accordance with various geographical settings, such as urban vs. rural, formal vs. informal, etc. These differences should be understood by combining intervention design research with participant mapping.

When piloting an initiative, it is helpful to focus on one geographic setting because this will limit the range of challenges and opportunities that program participants are experiencing. The goal of an initiative can be to target micro-retailers broadly; however, seeking out this simplification will facilitate a smooth and successful pilot that can later be expanded.

Participant selection begins at the region level; staff must leverage target mapping to identify geographic regions that are best suited for intervention

The first step of participant selection is narrowing down potential participants by geographic area. To do this, program staff leverage target mapping to identify geographic regions that have a high density of micro-retailers and a high degree of safety.

The high density of micro-retailers increases the potential impact of a geographic region for two reasons. First, it allows an intervention in that region to reach more retailers, more owners, and more customers, broadening its impact. Second, it facilitates efficiency in program implementation. Program staff will be required to visit retailers periodically throughout the lifecycle of an intervention (to administer surveys, training, etc.) and high-density regions allow staff to increase efficiency by decreasing the transportation time necessary to visits participants.

A thoughtful and pre-established set of selection criteria is important to allow the efficient selectin of high-impact entrepreneurs

The specific characteristics of a program participant that lead them to be successful in a program vary significantly, depending on the location, goals, and methodology of the intervention. It is important for program staff to think carefully about the specific pillars and requirements of an intervention in order to identify a list of selection criteria that staff believe will lead to successful participants being chosen. This list should be allowed to change as the initiative develops and gains information; however, it is important for this exercise to be done preemptively in order to facilitate the efficiency and impact of the selection process .

Restricting participants to established retailers (those in permanent locations or with 6+ months of operation) will shield the program from attrition

Attrition typically arises from one of two causes: either participants decide that they don't want to continue with an intervention or they decide that they aren't able to continue. The latter is driven primarily by business difficulties. Participating in programs like Smart Duka require significant time commitment on the part of duka owners, a costly commitment, given that every hour spent during training is an hour spent not running their shop. Thus, participants that are most likely to see the program through are those that are already established. Smart Duka was able to decrease attrition rates simply by restricting program participation to shops that had been in business for 6+ months and those that operated out of permanent locations. Shops that meet these two criteria tend to be more established with higher levels of revenue and stability

Participant selection should seek out micro-retailers that are entrepreneurial and excited about the program, as they are most likely to see the project through to the end

In trying to maximize program participation, it is tempting to go above and beyond to persuade all relevant dukas to participate in an intervention. Although clear and persistent persuasion has its place in program recruitment, it should not be the only driving force behind participation. Instead, intervention staff should seek out duka owners that demonstrate a sense of entrepreneurialism and excitement about the potential to improve shop performance. Those that are excited about the nature of the program are far more likely to commit for the duration of the program, while those that require significant persuasion to buy in are more likely to lose motivation and contribute to program attrition.

Recruitment & Mobilization

Many micro-retailers are naturally skeptical of external interventions, as they are unaccustomed to programs in their sector

Kenyan duka owners are not familiar with external interventions in their sector. They are not accustomed to participating in randomized studies, nor are they immediately comfortable sharing business details with strangers and competitors. This presents an immediate barrier to program participation that program staff need to be aware of in order to recruit effectively. It is important to establish credibility from the get-go and to communicate the nature of the intervention – do not assume that duka owners will immediately understand why they are being approached.

A simple and relatable business case is the key driver of retailer participation

When first approached by a program such as Smart Duka, shop owners are typically skeptical of the benefits to participating. They may see an intervention as potentially beneficial in the long-term but will likely see short-term costs as much more salient. The easiest way to generate excitement about the intervention and increase participation is to have a clearly articulated business case that communicates the short- and long-term benefits of participation. In the business case, it is impactful to have specific data points for improvements that program participants have seen (e.g., participants typically increase revenue by X or profit by Y).

In Kenya, duka owners often dismiss programs, indicating that they have already been to university and thus don't stand to benefit (almost a third of all duka owners in Kenya have a tertiary education). In this scenario, it can be helpful to respectfully point out aspects of the owner's duka that may be improved by the program (e.g., storefront organization, item placement). Additionally, asking pointed questions (e.g., do you know what your profit margin is on sugar?) can help to communicate the aspects of business management that the program will focus on.

Setting clear and consistent expectations is critical to building early and lasting trust with program participants

One of the biggest causes of attrition throughout interventions such as Smart Duka is misaligned expectations on the part of program participants. For example, it is common for program participants to assume that they will be compensated in one way or another upon completion of the initiative. When this assumption is not clarified, participants are likely to become disappointed, if not upset, when they realize that this is not the case. Even if participants are not disappointed to the point of exiting the program, it may deteriorate trust between participants and staff, if owners feel as though they were at all misled. Thus, setting accurate expectations is critical to both build trust with participants and to guard against attrition.

Direct recruitment allows the organization to hold participants accountable; however, is time and cost intensive, making partner networks helpful for scalability

Direct recruitment is a valuable tool, as it allows the organization sponsoring the intervention to have direct control over the messaging and delivery. It allows the organization to take direct responsibility for setting accurate expectations and it helps the organization to hold participants accountable for participation. In addition, it is helpful to have consistency across program staff. Having the team that is responsible for recruiting stays involved throughout training can be helpful in building lasting trust between staff and participants.

That said, direct recruitment is highly time and cost intensive, making it impractical when an intervention needs to increase capacity in a short timeframe. Leveraging a combination of strategies such as partner networks and digital tools can be very useful in providing scalability; however, it is important to retain ownership over messaging in order to ensure that expectations are still set accurately.

A persistent and dedicated team is pivotal to the success of mobilization; duka owners cite the persistence of their business counsellors as the primary reason for participation

The primary tool used to measure the effectiveness of an intervention is the contrast of the baseline and endline surveys. Baseline surveys should cover every metric that can be expected (or hoped) to change throughout the duration of an intervention. Baseline surveys should pay special attention to business metrics that are covered by the contractual scope (of funding) of the program. Survey questions should be quantitative or binary in order to help quantify the difference between baseline and endline results.

In addition to conducting a baseline survey, interventions should leverage business assessments to capture more qualitative outputs. While baseline surveys aim to capture measurable differences in business performance, business assessments focus more on subjective measures of owner behavior in order to inform training programs. Because business assessments measure subjective metrics, it is highly important that enumerators are trained to utilize the same, simplified standards to capture data.

Baseline & Business Assessment

Business assessments and baseline surveys are a critical part of program recruitment, as they are needed to identify training focus areas and measure results

Even after all best practices have been applied for recruitment and mobilization, persistence will still be necessary to excite duka owners and earn their participation in the initiative. Even the most excited and entrepreneurial duka owners face significant time and cost barriers to participating in the program, and respectful persistence is key to communicating that the benefits of participating outweigh the costs. In qualitative interviews, duka owners cite the persistence of the Business Counsellors that recruited them as being a primary driver of their participation in the program.

Before executing a baseline or business assessment survey, enumerators must be trained on the huge importance of complete and unbiased data collection

Baseline surveys and business assessments are the basis for measuring all impact from an intervention. Unreliable information collected in initial surveys skews the entire output and justification of the intervention. Thus, it is important that enumerators understand the critical importance of baseline data to the intervention. Enumerators must do everything possible to collect full and unbiased information in order to produce accurate perspectives on various impacts achieved by the program

When creating surveys for program participants, questions need to be designed to minimize recency bias and estimation

A significant portion of the data collected by the baseline survey will rely on self-reported feedback from shop owners and operators. Thus, it is important that questions are designed in a way that minimizes bias and estimation. For example, when identifying the monthly sales of a shop, it is helpful to ask for daily sales (or average daily sales) and then calculate a monthly figure accordingly. This is better because data spread over a longer timeline is harder to estimate for shop owners.

When collecting survey data, enumerators should be on the lookout for feedback that is confusing or contradictory; when responses do not add up, it is important to ask follow-up questions

Baseline and business assessment surveys often ask program participants for information that they do not have immediately available. When this happens, program participants estimate answers – sometimes accurately, sometimes inaccurately. Enumerators need to be keenly attentive to participant responses and shop details in order to identify discrepancies and contradictions in respondent feedback. When participants contradict themselves or seem unsure about an answer, enumerators should respectfully ask probing questions in order to get to a reasonable and believable answer.

Enumerators can also use observation to identify inconsistencies in participant responses. For example, if a shop owner indicates that children are the owners' primary customers; however, the enumerator notices that the shop does not sell candy or sweets, it is worth asking targeted follow-up questions to identify the misunderstanding.

In addition to being attentive and observant, enumerators should take thorough notes throughout the administration of the survey. This will help the enumerator to notice discrepancies and it will also help when reviewing surveys with other staff. Often, questions come up after-the-fact that can only be answered if the enumerator can reference a written account of the survey.

Digital survey tools go a long way in terms of standardizing survey output and reducing the time burden of cleaning and entering data

Digital survey tools provide a lot of control and flexibility to survey administrators. First, digital tools allow survey designers to limit answer choices. For example, relying on multiple choice questions and drop-down menus forcefully standardizes survey output: it prevents enumerators from misspelling or miss-entering data that can be simplified to an easy-to-use list. A second way that digital survey tools provide control and flexibility is by preventing blank responses: by requiring every question be answered before the survey can be submitted, it disallows enumerators to leave questions blank when they are unsure. A third benefit of digital survey tools is that they provide integrated capabilities that are unavailable using pen and paper. For example, survey enumerators can record the exact GPS coordinates of a shop's location or can include a picture of the shop owner. A final benefit of using digital survey tools is the ability to track enumerators. Survey administrators can see exactly where and when enumerators submit surveys, ensuring the integrity and efficiency of data collection.

In terms of time reduction, digital data automatically consolidates survey output in real-time. This means that survey administrators need only to clean and review data before uploading output to a database. Without this feature, program staff would need to manually upload survey data, which can cause significant and unnecessary delays when surveying of thousands respondents.

There are a number of digital survey tools available; however, TechnoServe has had significant success utilizing CommCare, which is provided to enumerators on program tablets (so that enumerators can use personal cellphones and collect survey data simultaneously).

If not utilizing a digital survey tool, staff should process baseline and business assessments quickly so that surveys are fresh

Digital survey tools will automatically process output in real-time; however, if a program elects to rely on pen and paper, staff should work to process survey data quickly. Often, discrepancies are identified as data is entered into a database, as this is when staff is first able to see responses across enumerators. However, if data is not processed quickly then it will become increasingly difficult to address these discrepancies, as interactions will not be fresh in enumerators' memory. Even if the enumerator took thorough notes of the encounter, it will be easiest to address confusion if data is processed on a nightly or weekly basis.

When conducting a study with a large number of participants, a representative sample may be surveyed in order to cut cost and time requirements

As initiatives scale to reach thousands of participants, the time and cost burdens of conducting a full baseline survey or business assessment will become prohibitive. Given a limited budget, it will become nearly impossible to reach every participant with a census-style survey. Thus, in order to gather a broad set of representative data without exceeding a budget, initiatives can collect data from a representative sample. As long as the sample is randomized and representative (across demographics such as geography), the results can be taken to be demonstrative of the population. When using a representative sample, however, that same sample of participants must be used for all data collection throughout the initiative. It is not appropriate to different representative samples for the baseline and the endline.

Training specifically on financial management and providing appropriate financial linkages helps small shops improve profitability

CAPACITY & BEST PRACTICE DEVELOPMENT

Participant Training

Training curricula must be short and precise in order to sustain participant interest and minimize lost revenue for participating retailers

A major barrier to program participation is the costs of participating, in terms of the lost sales during that time. In order to increase program participation it is helpful to decrease cost barriers by minimizing the duration of the training program. This applies to all training platforms; however, it is especially true for one-on-one and group training sessions – as these require shop owners to fully leave their shop to engage.

Even beyond the opportunity costs of participating in the initiative, minimizing the length of training programs will improve the adoption of best practices. The concepts covered in training are complex and often counterintuitive. Making trainings short and pithy will avoid overwhelming participants and will thus increase retention and adoption of best practices.

Visual and interactive trainings are more likely to produce long-term behavioral change

Similar to the need to keep trainings concise is the need to make them relatable. Because the topics covered are complex and seemingly academic, it is helpful to make trainings interactive in order to demonstrate the ways in which they are directly applicable to the day-to-day life of a duka owner. In addition, it is important that curricula combine different forms of lessons in order to appeal to different types of learners (visual, auditory,kinesthetic). Increasing the relatability and interactiveness of a training session will help to increase the adoption of best practices and contribute to long-term change / improvement.

This is a key benefit of digital training. By grounding digital training curricula in social media platforms, they become inherently visual and interactive. In addition, digital training platforms have the ability to easily combine various types of media in order to appeal to different types of learners.

Do not underestimate the importance of training the trainer, as this is critical to successful program implementation

Regardless of whether an initiative relies on one-on-one training or group training, the preparedness of the training to teach the training curriculum is of the upmost importance. The trainer will set the tone of the entire training program and so it is vitally important that the trainer be engaging, energetic, knowledgeable, honest, and patient with program participants. Trainers need to establish honest credibility with participants from the beginning and need to create the open, judgement-free environment that will ultimately allow participants to be honest and forthcoming. Thus, it is worth considering social dynamics (racial, gender, tribal, class, etc.) when selecting a trainer so as to ensure that trainers establish trust with program participants. Ultimately, a trainer can make or break the effectiveness of an initiative.

In selecting training platforms, program administrators must balance a tradeoff of implementation costs and behavioral change

Across training platforms, there is a tradeoff between time / cost intensiveness and long-term behavioral change. When creating and implementing training platforms and modules, staff must be aware of the tradeoffs and must understand donor expectations in terms of the balance between the extent and breadth of impact.

TRAINING METHOD	EXPECTED COST (PER PARTICIPANT)	EXPECTED RETURN (PER PARTICIPANT	OVERVIEW
One-on-one	~$1,000	~30%	High expected return because staff can work with participants to answer individual questions and identify areas for improvement. High cost is due to the staff time required to implement.
Group	~$130	~20%	Produces substantial behavioral change, as staff still provide in-person attention; however, groups are less likely to engage and ask thoughtful questions, reducing the expected return, compared to one-on-one
Digital	~$30	~10%	Low cost solution, as participants can be trainedonline and on their own schedules; however, low expected return as the social media platform cannot provide in-person interaction or assistance.

TechnoServe leverages different levels of technological integration for different tiers of training. From there, program sponsors may choose which form of training they would like to support, depending on the outcomes they are hoping to achieve. For example, training sponsored by the elea Foundation incorporates significant one-on-one and group trainings, as the primary goal of the elea Foundation is to produce long-term behavioral change. Conversely, MasterCard Center for Inclusive Growth uses a light touch model that prioritizes program reach

One-on-one training provides the most engaging form of training; however, it is difficult to scale; group training provides a broader reach but may leave some participants behind

The very nature of one-on-one training makes it the most engaging form of training available – this is what drives the higher expected return for duka owners. One-on-one training allows trainers to meet participants where they are, providing slightly customized curricula to each participant at whatever pace is appropriate. When micro-retailers are trained alone, the participant is more likely to ask questions, while the trainer is more able to gage the retailer's level of understanding. Despite the effectiveness of one-on-one training, it is nearly impossible to expand to high numbers. TechnoServe has found that a typical trainer can train as many as six micro-retailers per day: this means that an initiative intending to reach dozens or hundreds of thousands of participants will face relatively extreme time and cost barriers.

In contrast, group training provides trainers the opportunity to reach dozens of participants at the same time. When it comes to increasing the reach of an initiative, this added scale increases the efficiency of the initiative exponentially. However, the cost of the added efficiency is reduced expected return to group training participants. Participants in group training programs experience a lower expected return for a number of reasons: participants often ask fewer questions, receive less individual attention, and lack in consistent participation.

The training format that is best for a given intervention depends on the goals of the intervention and the starting point of program participants. If a program's priority is breadth then one-on-one training may not be feasible; however, if the priority is long-term behavioral change for a fewer number of participants, then one-on-one training may be ideal.

Training co-operators is just as important as training owners

Regardless of the training platform and curricula adopted by an initiative, it is crucially important that training be provided to all relevant stakeholders, not just owners. This is important because the benefits to a retailer of participating in the training program are contingent on the consistent adoption of the principles covered in training. If a shop owner is trained in best practices but co-operators are not, then the adoption of those practices will be inconsistent.

In addition, it is inadequate to assume that a shop owner can participate in training, alone, and then go on to provide training for co-operators. As highlighted previously, the preparedness of the trainer is critical to the success of the training program; thus, allowing shop owners (who have not been trained to provide training) to take responsibility for training co-operators will produce inconsistent best practice adoption that may impact the measured outcomes of the initiative.

TECHNOLOGY INTEGRATION

Digital recordkeeping tools (e.g., mobile pos platforms) provide for efficient and timely records; however, it is crucial to minimize the complexity of digital systems in order to maximize adoption by program participants

Measuring the results of an intervention is entirely dependent on access to credible and consistent data. In planning for the collection of that data, digital collection tools, such as mobile or standalone applications, can go a long way in simplifying the process. Digital collection tools automate the process of data collection in order to increase both the quantity and quality of information gathered throughout the intervention. However, inconsistent use of digital tools may provide an even more questionable stream of data than consistently-utilized analog collection. Thus, it is important that digital systems minimize complexity in order to maximize adoption.

TechnoServe trains program participants to utilize one of several digital POS systems. The system is designed explicitly to reduce complexity and to track purchase and sales data for retailers. Program participants have the option to purchase additional functionalities; however, through a partnership with Buymore, TechnoServe covers the cost of basic data collection that is necessary to measure intervention success.

Although micro-retailers have broad access to mobile phones, they are often limited to basic operating systems; thus, any mobile platform used by the intervention must be either standalone or compatible with basic mobile systems

Smart Duka Kenya has found access to mobile phones to be near ubiquitous among micro-retailers. However, the age and operability of those phones varies widely. A study conducted by Smart Duka found that, while ~98% of duka owners have a cell phone, only ~65% of those phones are smart phones. Even among those with smart phones, duka owners are often limited by old and basic operating systems. Thus, it is imperative that any mobile technology implemented by the program either standalone (come with its own hardware) or function well on the most basic mobile phones.

When initially piloting the Buymore mobile POS application, Smart Duka found that only 48% of interested program participants had access to a cell phone new enough to operate the application. This sharply limited participation, as it meant that TechnoServe had to turn away 52% of all duka owners who expressed interest in the program.

One way to avoid the issue of compatibility is to provide participants with standalone devices that can be used to collect POS data; however, depending on the scale of the initiative, this is likely to be cost prohibitive. If standalone devices are not a practical option, it is simply necessary for staff to ensure compatibility of all POS applications on a wide range of basic and outdated mobile operating systems.

Group training sessions serve as a helpful step in preparing micro-retailers to join business groups; however, attendance may suffer due to theopportunity costs of participation

Group training sessions are a helpful part of preparing micro-retailers to join business groups because it provides an environment in which program participants work together, learn together, and get to know one another. However, group training sessions often struggle to sustain participation, as sessions have a high cost to program participants. The cost of participating in a group training session is higher than that of participating in 1:1 or digital training because shop owners must leave or close shops for hours on end in order to attend. Although trainings are typically only two hours long, participant transportation and time management issues sometimes extends time commitments to entire afternoons.

Smart Duka has worked to sustain participation by providing incentives to group training attendees (e.g., providing bus fare to and from trainings, serving breakfast and / or lunch during programs). Another strategy that has been helpful for Smart Duka is planning sessions around shop owners' typical business week (e.g., holding trainings during slow or off business hours). These strategies help to bolster participation; however, no level of flexibility or incentive will entirely solve the issue of participation. The unfortunate fact is that hours away from their shop will be cost prohibitive for some would-be participants.

Similar to on-on-one training, "Aftercare" programs produce measurable behavioral change; however, are time and cost intensive

Aftercare programs are follow-up training initiatives, in which trainers visit micro-retailer's shops after the completion of training (whether one-on-one or group training). The purpose of an aftercare program is to help micro-retailers actually adopt the best practices identified in training. The measurable impact of a training program is entirely dependent on the extent to which participants adopt the best practices of the training; thus, aftercare programs are highly effective, as they provide consistent and individualized support in tackling the barriers that prevent participants from adopting best practices.

Much like any other one-on-one program; however, aftercare is expensive, as it requires trainers to visit each shop individually and provide individual support. In addition, aftercare programs can last months, depending on the budget and goals of the initiative. Thus, this may not be a viable strategy for initiatives prioritizing breadth over individual behavioral change.

The technical savviness of program participants will have a significant impact on their potential to benefit from digital training programs

When implementing a digital training platform, it is important to recognize that not all participants are equally suited for such a platform. Thus, when allocating participants to various training platforms, tailoring allocations will maximize the overall return of the program.

When assigning program participants to training platforms, TechnoServe conducts a participant survey to measure the technological savviness of each participant. The survey measures the following criteria and assigns participants to a training group based on their expected capacity to utilize all aspects of a digital platform.

- Smart phone ownership
- Smart phone uses (e.g., calling and texting only vs. internet and applications)
- Experience with online trainings
- Experience with mobile trainings
- Frequency of internet use
- Social media usage
- Level of interaction on social media (e.g., following vs. posting)
- Willingness / interest in digital training

It is important to note that tailoring may not always be possible. If the program is intended to serve as a randomized controlled test, then it is not be possible to allocate participants across platforms, as such distribution must be done randomly.

If implementing a mobile pos application, dedicated store phones are the best way to ensure consistent adoption; if this is cost prohibitive, co-operators must download and utilize pos apps

Even if buy-in is secured from all relevant duka operators, the issue still remains of access to the digital tools. For example, if a duka is owned by a sole proprietor and that owner asks her daughter to operate the duka for a day, then the daughter will either need access to her mother's phone or she will need a compatible mobile phone of her own in order to sign into her mother's account and input sales data.

This poses a challenge because it cannot be guaranteed that cooperators will have compatible phones of their own, nor can it be assured that they will be willing to download the POS application. In addition, it is highly unlikely that a duka owner who is unable to operate the shop will be willing to part with her cell phone for the day.

The ideal solution to this challenge is for duka owners to purchase a duka-specific cell phone that is exclusively used to input purchase and sales data. This essentially provides each participating duka with a standalone hardware solution (at the cost of the owner, rather than the sponsoring organization) that can ensure consistent data collection, as long as all operators are properly trained. The issue with this solution; however, is still that it may be cost prohibitive. If it is not possible for a duka owner to purchase a duka-specific mobile phone, then it is important that they ensure all operators have access and training to use the application from their own phones. Without this assurance, the sales data collected will be incomplete and inconsistent.

There are numerous technologies available that can help micro-retailers keep records; an intervention-specific analysis is necessary to identify which option is best suited, given participant and intervention priorities

There are multiple forms of POS technology. In terms of hardware, some platforms are mobile-based, some are computer-based, and some platforms offer standalone systems; some platforms leverage camera technology, some integrate barcode scanners, and others require manual entry. In terms of functionality, different platforms provide different features to assist with inventory management, sales tracking, purchasing tracking, etc. Any intervention working to help micro-retailers implement a digital recordkeeping platform should carefully consider the costs and benefits of each option in order to identify which tool is best suited for the intervention.

Smart Duka has run multiple trials with technology partners in order to compare and contrast hardware and functionality differences. The primary platforms trialed by Smart Duka are the Buymore POS mobile application and the computer-based RetailPay application.

Smart Duka
Growing Together

Thorough testing is necessary when using mobile applications, as technical difficulties will frustrate participants and significantly impact adoption

In addition to ensuring device compatibility with participant mobile phones, it is also important to thoroughly test applications for technical difficulties. This is critically important because when participants are learning how to use a new technological tool they are likely to be skeptical of its functionality and time efficiency. Although such tools do prove effective in the long run, it will cause participants to lose faith in the platform if they experience significant usability issues.

TechnoServe's Buymore pilot encountered this difficulty and recorded the consequences. At that time, the Buymore application had only been tested across 3 mobile devices; however, participants had over 15 unique devices. As a result, the application experienced 13 device-related bugs, which caused 7 participants (22%) to drop out of the study. It is clear from these results that, in order to insure smooth technology deployment, any mobile application used by the intervention must be carefully tested across a wide range of devices to minimize technical issues.

Detailed training is necessary to facilitate the adoption of digital pos platforms, as most micro-retailers are not used to operating digital platforms

Duka owners are highly unlikely to have any experience operating digital POS platforms and their technological savviness will vary significantly. Thus, if the intervention requires any form of digital POS adoption, clear, tested, and substantial training should be provided to ensure that participants are able to collect accurate and consistent data. If such training is not provided, duka owners are likely to become frustrated and decrease adoption, or else to use platforms incorrectly and produce inaccurate or incomplete data points.

Technology buy-in from co-owners and co-operators is necessary to ensure that pos platforms and best practices are implemented at all times

One of the most difficult aspects of implementing digital tools such as POS platforms for micro-retailers is counteracting inconsistency in duka operation. As mentioned in Profile of a Duka, 35% of dukas are owned by a partnership. In these instances, it is common for both partners to operate the duka at different times. Thus, in order to collect continuous and consistent data, it is necessary for both co-owners to buy in to the adoption of the digital tool.

This same challenge exists for the majority of dukas (65%) that are owned by a sole proprietor, as opposed to a partnership. Typically, the sole owner acts as the sole operator of the duka; however, it is not uncommon for the owner to solicit help from a family member or friend to run the duka when the owner is unable to. Again, in order to ensure consistent data collection, it is pivotal that assisting operators buy in to adopting digital tools. Getting co-operator buy-in is even more difficult in this circumstance because it is unlikely that a temporary or stopgap operator will have been trained to use the digital platform. Thus, the onus must be placed on the owner to train any additional operators that will be responsible for the duka.

Financial Access

Financial training is a fundamental part of enabling micro-retailers to weigh financial options, access credit, allocate it efficiently, and create a path toward repayment

Duka owners are financially responsible and are accustomed to using bank accounts and investing in their businesses. However, they are not experienced to leveraging loan products for that investment (recall that only 11% of duka owners have taken out a loan in the past year). Thus, it is important to train duka owners on the nature of credit and on how to integrate the tools at their disposal to allocate investment efficiently.

With respect to the nature of credit, it is important that duka owners know how to read the fine print of any financial obligation they sign onto. It is very easy for owners to make poor decisions if they do not understand the terms of the loan and the consequences of non-repayment. With a duka owner repayment rate of ~97%, Smart Duka Kenya has found that duka owners are exceptionally credible borrowers; however, it is important not to take this for granted, given the high interest rates typically offered by financial institutions (as opposed to business groups).

Part of training duka owners to read and understand the fine print is teaching them how to choose between loan options. In order to make their financial access sustainable, it is important that duka owners know which metrics to compare when choosing between banks and loans. This training will require program staff to provide sample analysis of financial products that duka owners can recreate as needed.

When it comes to allocating investments, duka owners should be taught to consider the lessons learned from other training modules. For example, over 80% of duka owners that took out loans in the past year used those loans to purchase additional inventory. While this is certainly a responsible focus for investment, money spent on inventory should take into account sales data in order to ensure that the products being expanded are high turnover and / or highmargin.

Duka owners are more than capable of purchasing loan products and allocating investment spending. The need for training on these topics is to protect owners against predatory lending and to maximize the efficiency of loans taken. Through training, duka owners will be best suited to maximize their financial return and ensure their ability to repay loans on time

The language used to describe loan products (e.g., describing loans as capital rather than credit) impacts the uptake by micro-retailers

In addition to educating duka owners on the benefits of utilizing loan products, there are simple adjustments that can be made in order to make loans more relatable. For example, Smart Duka has found that the language used to describe loan products can go a long way in encouraging duka owners to give it a try. Specifically, Smart Duka found that describing loans as “capital” rather than “credit” received a better response from duka owners. Thus, program staff should work closely with participants and business groups to understand how owners conceive of loans and what aspects incentivize / deter utilization

Loan terms must take into account retailers’ business cycles and preferences in order to facilitate uptake

A key aspect of encouraging micro-retailers to leverage loan products for investment is ensuring that financial products reflect duka owners’ preferences. Smart Duka found that, although duka owners do not typically leverage loan products, they are still highly sensitive to interest rates. In addition, owners tend to have informed preferences regarding repayment terms.

In terms of interest rates, it is common for financial institutions to charge upwards of 7% interest on loans for micro-retailers. Duka owners see this as excessive and are deterred by the cost. In contrast, duka owners have shown a willingness to borrow money from business groups at 5% interest (a number set by the members and leaders of the business group).

When it comes to repayment terms, duka owners tend to prefer monthly repayment to daily or weekly repayment, despite the fact that dukas have short business cycles. Duka owners could theoretically leverage a loan to purchase high-turnover inventory and generate repayment by the end of the day; although short-term loans typically yield lower interest rates, they limit the extent to which owners can leverage loans for more long-term payoffs.

In order to increase uptake of financial products, it is important that loan products (whether from business groups or financial institutions) take the preferences of duka owners into account.

BUSINESS ENVIRONMENT IMPROVEMENT

Business groups

helping micro-retailers to form small business groups (which act as forums for networking, group lending, information sharing, and collective purchasing) can yield additional growth by supporting individual owners through best practice implementation

Smart Duka Kenya has found the formation of business groups to be instrumental in helping duka owners to implement the best practices from training and achieve a sustained growth in revenues and profits. In Smart Duka Kenya, business groups are established by and for members, with a constitution that fits the specific needs of the group.

Business groups play a multifaceted role for their members. First, they take responsibility for aggregating orders. Group leadership aggregates orders from members and places a combined order in order to qualify for volume discounts. Second, business groups provide a forum for networking and information sharing. If one member learns of an upcoming price increase, they can share that intelligence with the group in order to create collective savings. Third, business groups provide a means for members to hold each other accountable: by sharing their successes, group members motivate each other to continue to implement best practices. Finally, groups provide a format through which members can borrow money. Not all business groups offer this; however, groups have the option to collect dues from members in order to build of a savings of collective money that can then be loaned out to members as needed.

Duka owners are not accustomed to working together in a business context; continuous advocacy and clear communication of the business case is required to secure buy-in

On the whole, duka owners are not accustomed to working together. Even dukas that are owned through a partnership rather than a sole proprietor typically source and market goods independently, without the support of other owners. This often serves as a barrier when persuading duka owners to share strategies and business details. Similar to with project recruitment, a clear and persistently communicated business plan is the easiest and most lasting way to secure owner buy-in. Duka owners will be persuaded by the prospect of increasing revenue and will largely be willing to collaborate if it has been made clear how joining a business group will lead to that outcome.

Maintaining a cohesive, open, and collaborative environment is key to successful business groups, as members must trust one another financial decisions (e.g., collective lending and group buying)

Given that duka owners are not accustomed to working collaboratively, creating a collegial environment among dukas before proposing group formation is important. Once joined together as a business group, duka owners will share closely held business data, they will become dependent on each other for purchasing discounts, and they will become each other's creditors. Thus, it is imperative that members trust one another.

Smart Duka leverages group training sessions to this end. By bringing duka owners together to train collaboratively, participants are given the opportunity to get to know one another. By learning about and with one another, participant develop an affinity for one another that makes them more likely to join one another in a business group. At the beginning of group training sessions, participants complain about the time commitment and leave immediately after class; however, by the end of the training program, participants frequently stay to socialize and spend time with one another.

Smart Duka has also found it useful to look for cultural ties that may create a sense of trust between members. Business groups under Smart Duka are organized by Kenyan province so, at the very least, members have geographic proximity in common. In addition, Smart Duka leverages cultural communities to create solidarity, where possible and appropriate. For example, the Maasai have a very strong sense of community and referencing shared ancestry made Maasai participants more inclined to join together.

Groups must ensure that they maintain a strong value proposition so that groups remain attractive to shop owners

As groups begin to operate more and more independently, it is crucial that they preserve and advertise their value proposition in order to retain and grow their members. One way for groups to increase in capacity (and services that they provide to members) is to add members, which will only be possible with a salient value proposition. Conversely, the easiest way for a group to decline is to lose membership, which will be easiest to avoid if the group has a strong value that it provides to members.

Involving members in key roles (e.g., dues collection and consolidation of orders) creates a sense of commitment and ownership over the group

A key challenge that business groups will face throughout their existence is the continued buy-in from duka owners. As soon as buy-in starts to diminish, business groups will likely suffer decreases in dues, participation, and ultimately membership. One strategy that has helped Smart Duka to increase group buy-in is the creation of internal roles for duka owners to occupy. Taking direct responsibility over the function, growth, and decision making of the group gives members an elevated sense of ownership over the group. This is helpful for long-term sustainability because members are more engaged and more involved in how groups operate and grow.

Business groups create the opportunity to collect business records at the group level, providing usable data while alleviating shop owners of the time intensive process

Collecting consistent business records has proven challenging for duka owners, even with the use of digital POS systems. In the mornings and evenings, as individuals travel to and from work / school, dukas become extremely busy. In those contexts, the prospect of scanning every barcode or of recording every sale becomes costly for owners, as it slows down business substantially and risks losing customers. In addition, many of the sales made are extremely low-value products (e.g. countless children stop by to purchase a single piece of candy) that do not seem worth the trouble.

One way to alleviate shop owners of having to keep such meticulous records is consolidating this responsibility to the business group. Because business groups purchase on behalf of all members within their county, business records captured by the group would be able to track product costs turnover on a county level. Rather than duka owners tracking individual pieces of candy sold, business groups would track boxes (or even pallets) of candy purchased. This produces the same level of data utility, with the exception of tracking profitability. Because dukas set their own prices, business groups would only be able to track the average profitability of products across member dukas. In addition, in order for this data to be accurate, duka owners would have to notify business groups of any price changes. It is worth noting; however, that even of that onus was put on duka owners, it would be significantly less burdensome than tracking individual sales.

This has enormous implications because, by simplifying the data collection model, this would significantly lower the time and cost barriers to participating in the Smart Duka program. Additionally, centralizing the data collection process may produce more accurate data, which would inform better decisions for duka owners. Finally, adding this value-add to the role of the business group may help to strengthen groups, increasing commitment by adding to the value that members derive from their groups

Business groups can take on a variety of business models; group structure should be tailored to best meet the needs of its members

There are a number of different operating models available to business groups. Different group structures create varying levels of uniformity between micro-retailers and varying degrees of working relationships. For example, some business models may entail all retailers stocking the same products; another model may entail business groups all adopting the same pricing levels; another may give retailers full autonomy over pricing and inventory but implement table banking for collective financing. The model of the business group dictates the long-term role of the group and the parameters under which retailers will collaborate.

When creating an improved business environment, it is important that all business groups adopt the same model so that they may seamlessly aggregate volume and collectively leverage efficiencies. The goals and priorities of each group should come out in that group's constitution; however, aggregating disparate group models would be detrimentally and unnecessarily complex. That said, when deciding which operating model to adopt, it is imperative that the choice maximize long-term group viability and member preference.

Business groups in different contexts may have different needs and preferences. Those differences may lead one model to be more applicable than another. In Kenya, Smart Duka found that the primary needs that business owners had were: access to training, order aggregation, and access to finance. These needs made the agent model best suited to meet owners' desires because it simply and easily allows partners (technology, supply chain, and TechnoServe) to disseminate information to groups, while implementing a train-the-trainer model to allow groups to provide for their own growth.

Although this is what has worked best in the Kenyan context, it is important that organizations be thoughtful about the operating model that will best meet the long-term needs of group members. A one-size-fits-all solution may lead to disappointment, either from group members, or external partners.

Groups should be structured to be self-sustaining, such that leadership may change or technoserve involvement may wane, without threatening the function or cohesiveness of the business group

A key aspect of creating a successful business group is ensuring for its longevity and sustainability. This means that the business group must be established with the infrastructure in place to allow it to continue to operate, regardless of changes in leadership or external involvement.

In order to adequately establish the sustainability of a business group, independent processes and perspectives must be established form the outset. When incorporating a new business group, Smart Duka starts by bringing the group together to create a constitution. This constitution establishes policies for the group to follow and outlines how the group will function, grow, and operate as an independent institution. That constitution outlines how leadership will be allowed to change going forward, and how the group will function – with or without support from TechnoServe. Once the constitution has been adopted by the group, elections are held in order to select the first group of leader that will help to guide the group from the inside.

Thus, business groups are created to have the confidence and autonomy to establish their own practices, making them self-sustaining and increasing the chances of long-term success.

SUPPLY CHAIN PARTNERS

Supply chain partners facilitate improvements to the business environment by providing flexibility in how micro-retailers access products

When it comes to accessing product supply, one of the challenges that dukas face is the capital intensiveness of purchasing. With ordinary, formalized customers, manufacturers often offer products on credit, with payment collected at the time of sale. This option is not provided for duka owners; however, which limits their capacity to stock shelves, given then amount of working capital required. Thus, a key advantage that supply chain partners can provide to duka owners is access to credit when purchasing products.

Another key advantage that supply chain partnerships can provide to duka owners is logistical support. Specifically, the logistics involved in last-mile delivery of products can become quite costly for dukas. Dukas tend to be highly fragmented and dispersed, especially in rural areas, which means that the cost of delivering products directly to dukas can be complicated. This challenge can be mitigated by dukas purchasing through business groups; however, partnerships with distributors and wholesalers can also help dukas to minimize transportation costs.

Generating buy-in from supply chain partners requires a clear and well-tested business case that highlights the program's potential to increase product sales and provide direct marketing

Creating buy-in among supply chain partners can be difficult. Partnerships are largely only possible through business groups (both because of formalization requirements and because of the need for scale) and, even then, require a clear and persuasive business case.

The business case is clearer for wholesalers and distributors than for manufacturers. The fragmented landscape of dukas naturally requires the help of a wholesaler or distributor to consolidate purchasing and minimum purchases tend to be smaller with such partners. Thus, business groups are well positioned to negotiate with wholesalers and distributors on volume-based discounts and delivery support.

The business case for a manufacturer partnership is less clear cut. Duka business groups require higher purchasing volumes to have clout with a manufacturer than they would with a wholesaler / distributor. In addition, manufacturers are often very strict about policies limiting purchases on credit.

In order to generate buy-in from supply chain partners (whether wholesalers, distributors, or manufacturers), it is necessary to highlight the kickback benefits for partners. For example, in Kenya, it is necessary to emphasize that dukas make up ~70% of retail sales and ~80% of FMCG sales. Thus, partnership with a duka association would provide improved sales and records for the majority of the sales channel. It should also be emphasized that working with dukas directly can provide access to data and direct marketing that was previously unavailable. The dukas working through business groups will have implemented consistent recordkeeping, which, in addition to direct marketing, should have significant value for a supply chain partner (consistent and accurate business records can show a wholesaler, manufacturer, or distributor, exactly how products sell in various areas not reached by the formal sector).

Supply chain partners will need flexibility, resolve, and top-down buy in to sustain a partnership, as best practices may need continuous reevaluation

Just as with recruiting participants to the program, recruiting supply chain partners requires setting accurate expectations. Although duka owners have proven themselves to be reliable creditors and viable businesspeople, early partnerships with supply chain players will undoubtedly require patience and flexibility. As business groups become more established they will increase in scale and reliability; however, recently formed groups may fluctuate in membership and in demand. In addition, duka owners may need to acclimate to working with supply chain partners, just as they did to working with one another.

For example, duka owners that have never been able to purchase products on credit are likely unfamiliar with the practices and expectations of making such purchases through partnerships. The organizing group must play as active of a role as possible in order to set accurate expectations (for both duka owners and supply chain partners) and facilitate smooth transactions.

Supply chain partnerships will produce the highest impact if they are structured to allow for feedback from retail partners; integrating supply chain partnerships with other business environment improvement partners will accentuate impact

In order to facilitate buy-in and long-term participation in supply chain partnerships on the part of micro-retailers, it is important that partnerships reflect the needs and priorities of retailers. Specifically, partnerships may stall if micro-retailers view costs as prohibitive or tradeoffs as conflicting with priorities.

A primary example of this is Jaza Duka – a collaboration by MasterCard, Kenya Commercial Bank and Unilever that provides micro-loans to duka owners in order to allow them to purchase Unilever products on credit. For many, Jaza Duka is seen extremely positively, as it allows duka owners to restock inventory without tying up a significant amount of working capital. To others, however, the program was unattractive, as the credit only applied to Unilever products, which some duka owners were able to source elsewhere at a cheaper price. In addition, the credit provided under Jaza Duka involves strict repayment terms with automatic credit repercussions for late payments.

This is a great example of a supply chain partnership integrating other business environment partners. The Jaza Duka program was only possible because of the collaboration of a supply chain partner and a financial partner. That said, it also highlights the potential opportunity of leveraging business groups: by combining the credit offered by Jaza Duka with the bulk buying that business groups are capable of, the program may be able to achieve lower prices and use that to drive uptake.

In addition, the example of Jaza Duka exemplifies the importance of soliciting feedback from micro-retailers. Although micro-retailers value the credit offered through the program, the repayment terms were not customized to meet the requirements of program participants. Repayment cycles were not created with duka owner feedback and, accordingly, many struggle to make payments and then are crippled by automatic credit repercussions.

FINANCIAL PARTNERS

Financial partners are important players in improving the business environment for micro-retailers, as they provide much-needed access to capital and financial training

Financial partners are highly important when it comes to providing dukas with access to capital – one of the primary challenges that duka owners cite. Once duka owners have formed business groups under Smart Duka, a broad range of financial partners have demonstrated a willingness to provide credit to groups whose members co-guarantee one another. In addition, financial partners have provided supplemental financial training in order to train business groups on the details of loan agreements and repayment.

Generating buy-in from financial partners requires a conceptual justification, as well as a data-driven demonstration of the viability of micro-retailers as creditors

Just as with supply chain partners, creating a clear and tested business case will be necessary to generate buy-in among financial partners. However, the business case for a financial partner is largely straightforward. Because duka owners have shown repayment rates of 97%, the case for providing business loans to groups and individual owners is clear. That said, financial institutions do not traditionally provide financial products to the informal sector and require both conceptual and practical explanation of the potential opportunity involved in lending to the informal sector.

When selecting financial partners, it is important to work with program participants to ensure they fully understand the role and products offered by financial institutions

When a financial sponsor begins working with an initiative, it is highly important that their role, value proposition, and product offerings are clearly explained to participants. In addition to the financial training provided by the initiative, it will be helpful for retailers to be trained on the role of the financial partner. Micro-retailers should know to be trusting but thoughtful when dealing with financial partners, and should be encouraged to ask questions as necessary.

A key benefit of the financial partners that work with Smart Duka Kenya is that they provide their own financial training that supplements that of the Smart Duka initiative. This is helpful because it allows duka owners to build a rapport with the financial partner, while also helping them to understand the role and value of the partnership.

Inviting financial institutions to introduce their financial products to program participants is an important way of connecting micro-retailers to the financial landscape

There are several benefits to having financial partners introduce their own product offerings to program participants. First, much like the financial training provided by Smart Duka Kenya's financial partners, it helps to build a rapport. This is important because, in the long term, duka owners need to become comfortable working with and asking questions of financial partners. Working directly with those partners is a positive way to develop that level of comfort. The second key benefit of having financial institutions present their own products is that it allows the partner to become familiar with the context and questions of a micro-retailer. These presentations often take place at group meetings, hosted by one of the members. This provides an ideal environment for financial partners to see shops, speak with duka owners, and better understand where they are coming from and what their needs are.

GOVERNMENT PARTNERS

By nature, micro-retailers are often unregistered with governmental bodies; most distrust the process of formalization and doubt the benefits of registering

The very nature of participating in the informal retail sector entails not registered with local or national governments. Micro-retailers often prefer to remain informal out of distrust for governing bodies or out of an inability to shoulder tax obligations. Regardless of the cause, it may serve as a strong deterrent to participation if they think their participation in the initiative will force them to formalize.

In Kenya, Smart Duka began the program with a goal of formalizing all participants; however, after realizing what a barrier this is for some owners, Smart Duka scaled back this goal and instead chose to play an active role in supporting those that want formalization. It is still encouraged because it is a requirement for working with many partners; however, it is not a requirement of program participation

Despite retailer skepticism, business environment improvement often requires formalization, as supply chain, financial, and technology partners frequently consider it a precursor to formal partnership

Several supply chain partners require formalization in order to work with micro-retailers formally. This is especially true of manufacturers: in order to work with manufacturers directly, a number of manufacturers require micro-retailers to either register individually or operate as part of a registered business group. Because of this requirement, Smart Duka encourages all program participants to register. However, for those that are not required to by a business partner, Smart Duka does not force the issue.

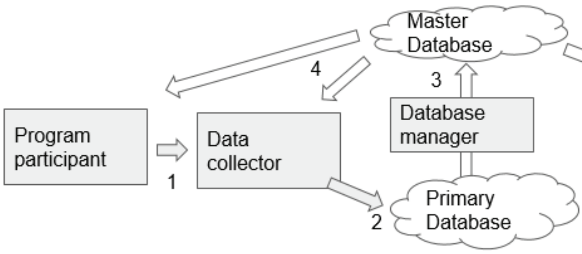
RESULTS MEASUREMENT

It is important to have a clear and reliable methodology for data collection and reporting in order to preserve data validity, integrity, reliability, and precision; it is helpful for collection methodologies to be consistent across organization initiatives

The long-term funding and success of an intervention is largely dependent on the ability of the sponsoring organization to quantify and demonstrate measurable impacts of the program. In order for this to be possible, the intervention must collect, organize, and report detailed data throughout the lifecycle of the intervention. This may sound intuitive; however, the process of collecting, cleaning, and reporting data is anything but self-explanatory. It is very easy for successful interventions to appear unsuccessful, simply because they did not take care to plan out a data collection system that would facilitate the requisite impact analysis.

The broadest foundation of any data collection plan needs to be a clearly communicated (it can help to communicate visually) data collection methodology that outlines each stakeholder's role in the process, as well as the path that data will take on its way from the field to the results dashboard. The goals of this methodology are simple: to make the process clear and consistent so that each stakeholder understands the process. This is the easiest way to preemptively protect the validity, integrity, reliability, and precision of data collected and reported by the program.

When conceptualizing a data collection plan, it is helpful to plan for consistency across interventions. It will be confusing for staff if data collection plans differ substantially from one project to another, and this will set programs up for error. Instead, allow the details, parameters, and technologies to differ across programs, but keep the collection methodology consistent



It is helpful to sign formal contracts when businesses join the program in order to establish forward-looking data rights and emphasize the need for data sharing

Once a data collection plan has been established, but before any data collection has begun, it is considered a best practice to sign formal contracts with participating business. Broadly, these contracts should outline the terms of the collaboration and the requirements of each participant (both the organization and the participant). This helps to align expectations and helps to avoid liability on the part of the organization. In terms of data, such contracts should also establish forward-looking data rights. Contracts should make it clear what sort of data sharing will be required of program participants, and what rights the sponsoring organization has over that data. This alignment can be very helpful when it comes time to collect and publish data

Establishing partnerships with technology developers (e.g., software companies producing pos platforms) allows for micro-retailer needs and preferences to be incorporated into technology functionality

It is not a requirement that initiatives partner with technology developers throughout the course of an intervention. There are numerous technology solutions available to meet the needs of a program and the sponsoring organization could simply choose between them and develop a customer-supplier relationship. However, there are distinct advantages of developing a working partnership, as opposed to a simple customer-supplier relationship. First and foremost, by developing a close working relationship, the initiative has the ability to provide technology developers with feedback on technology tools. This is mutually beneficial because the developer gains insight into the function of the product, while the initiative gains the ability to push for specific features or functionalities that would better meet the needs of program participants

It is helpful to work with multiple technology partnerships simultaneously in order to compare and contrast various use cases, functionalities, and cost structures

When working to establish technology partnerships, it is helpful to work with multiple vendors simultaneously. There are likely to be many potential technology solutions for any given intervention, and different brands / partners will come with different benefits and drawbacks. Working with multiple partners at once (at least at first) allows program staff to trial various tools and identify specific advantages and drawbacks. This process helps to identify the best technology partner for the program and also helps to refine the ways that the intervention will implement technology tools.

In Kenya, Smart Duka has worked with two primary technology partners for POS platforms: Buymore, and RetailPay. By conducting trials with both companies, Smart Duka has identified specific features and functions that work best for program participants. Thanks to close working relationships, Smart Duka has provided feedback to both companies and benefited from the integration of that feedback: Smart Duka's Buymore trial found a number of technical difficulties, which the company has worked to address; Smart Duka'sRetailPay trial has found that the company's computer-based platform is cost prohibitive and has worked with RetailPay to identify options for cost reduction or payment plans

When choosing technology partners, prioritize those that demonstrate a willingness to learn about the sector and adjust product offerings to meet micro-retailer needs

A key component of developing a close working relationship with technology partners is creating a two-way line of communication. In order to create a two-way line of communication, duka owners must be understanding of the limitations of the partner – and the partner must be interested in understanding the business challenges faced by micro-retailers. This open and empathetic form of communication is important because it will create a mutual understanding that is crucial in allowing micro-retailer needs to be taken into account by technology partners.

Staff involved in data collection must understand the entire data collection process, as well as their specific role; a lack of clarity may undermine the entire process

A data collection plan involves close coordination of program participants, each playing a unique (though sometimes overlapping) and complementary role. In order to ensure that staff are able to execute their roles effectively, the division of labor needs to be clear across the entire data collection and reporting plan.

For example, version control is very important when validating and cleaning a database. Thus, it is typically wise to limit the number of individuals involved in checking data simultaneously so that version control is clear. However, if individual roles are unclear there may be multiple people cleaning a dataset at once, which may result in error.

Another common responsibility is assigning responsibility for uploading data to the database. If roles are unclear and multiple staff believe it is their responsibility, a database may end up with duplicate entries, adding to the amount of cleaning and potential errors down the line.

Data should be reviewed in a routine and iterative way, such that there are multiple opportunities for discrepancies to be identified; as corrections are made, changes should be tracked

At one point or another, every dataset will accumulate errors. This is unavoidable, no matter how clear the collection plan is or how careful the staff is. Thus, it is important for the data collection and reporting plan incorporate multiple, routine points of review, in which various staff are charged with validating and cleaning data. It is helpful to have multiple staff take on this role in order to catch discrepancies missed by other reviewers; however, make sure that the process for version control is understood.

A highly important aspect of data review (especially if multiple staff members are independently responsible for cleaning data) is tracking changes. The data collection plan should outline specific procedures for recording changes made, as well as the staff member making the change and the date and time. This allows for staff to review one another's changes and undo anything that may have been incorrect / inappropriate.

There are a range of data collection and reporting technologies that can be implemented; various tools pose different benefits, depending on the budget and complexity of the initiative

Technology tools are crucial to the process of data collection and reporting. Depending on the budget and complexity of the intervention, there are a wide range of tools that may be appropriate. At TechnoServe, basic interventions may rely on Excel and Google Sheets exclusively, while more complicated interventions incorporate tools such as CommCare and PowerBI. The level of technology used varies based on the needs and scope of each program.

The use of technology tools is unavoidable in measuring program impacts. Even if staff rely on pen and paper to collect data from program participants, data analysis and reporting require the integration of digital analysis tools. Regardless of which tools are adopted, the primary takeaway is to make sure that staff are adequately trained in using those tools.

The importance of making sure that staff are adequately trained is clear. No matter how well staff understand the data collection plan and their role in it, errors will be frequent and inevitable if staff are improperly using tools to enter, clean, and report data.

Data parameters, definitions, and specificity need to be clearly communicated to those collecting inputs so that data collection is consistent

When it comes to actually collecting data, this can take on several forms. Typically, this will consist of staff members visiting program participants in order to collect information on various aspect of their businesses, in order to measure changes since the beginning of the intervention. Unsurprisingly, this process will only produce consistent data points across an intervention if staff have a uniform understanding of exactly what data needs to be collected. Staff must be clear on what business aspects are being measured and to what level of specificity those aspects need to be gathered. For example, if staff are merely told to collect the profitability of their allocated businesses, some may collect that data to the nearest thousand, others to the penny; some may collect profit margins, while others may collect dollar values. This sort of consistency is not complicated; however, it should not be assumed that staff will naturally align on a single metric or specificity.

Data quality should be collected alongside individual entries in order to capture staff confidence in the data provided

As staff collect data, it is considered a best practice to capture data quality as well. Much of the data collected in micro-retail interventions is self-reported, thus the quality of the data may vary from participant to participant, depending on a number of factors (e.g., quality of business records, excitement about the program, degree of best practice adoption). A sufficient data collection plan will include methodologies to identify and correct discrepancies; however, it is helpful for those processes to have a record of the level of confidence of each data point (and why).

Without a digital data collection tool (used by program participants), a thorough data validation methodology is necessary to triangulate self-reported data

When working with micro-retailers, sales data is the primary type of data that will be collected. Without the implementation of a digital POS tool to collect that data real-time, program staff will be reliant on self-reported sales figures from shop owners and operators. This leads to a number of potential issues: first, owners may simply not track important data, leaving gaps that make it difficult to track program results; second, owners may lie about data in order to either improve their perceived performance or to compensate for a lack of records. It is thus important to implement a data validation methodology in order to triangulate data provided by shop owners.

When working with shops that have not implemented digital POS systems such as Buymore and RetailPay, Smart Duka utilizes a three-pronged methodology to validate self-reported data. First, Smart Duka collects data weekly, rather than monthly. By decreasing the amount of time in between data collection points, Smart Duka reduces the chances that duka owners would forget data points. Second, Smart Duka collects data from shop owners starting a month in advance of baseline reports. The collection of additional data points allowed staff to test baseline reports against recent historic data. Although this does not necessarily prevent incomplete or incorrect data points, it was a valuable way to enable staff to identify discrepancies.

TREATMENT & CONTROL GROUPS

Careful isolation of treatment groups is needed to accurately measure outcomes, especially for programs that are provided in tandem (e.g., access to capital and business training)

In order to accurately measure the impacts of individual initiatives within the intervention, treatment and isolation groups must be carefully defined and randomly populated. In order to measure impacts with a high level of specificity, it may be necessary to create treatment and control groups within each treatment group. For example, Smart Duka created a treatment group of those receiving training under the program, and then another treatment group within those receiving training of those provided access to capital. This is important because, in order for TechnoServe to measure the impacts of access to capital, it has to control for access to business training.

A key challenge of creating highly specific treatment and control groups is that it increases the number of participants required to participate in the study. The validity of measured results is built on the number of participants that inform the result; thus, creating a treatment group that has only 10 participants will not be as persuasive as a treatment group of 30+.

In addition, it may be tempting at times to fail to randomize treatment and control groups in order to increase the impacts of the intervention. For example, the impacts of implementing a digital training platform will be greatest if participants are selected to participate in the digital training program (based on digital savviness).This is a valid approach to maximizing impact; however, the results should not be presented as If created by a randomized controlled trial (because the measured impacts may be due more to the savviness of the owner, rather than the digital training itself).

It may be difficult to create trust with participants in control groups, which can prohibit information sharing; graduating control groups into future treatment groups may build trust and incentivize information sharing

Another difficulty caused by careful creation of treatment and control groups is that it may create frustration and distrust among participants that are restricted to control groups. Duka owners that are excited to participate in the program may be dissatisfied by being restricted to a control group and not actually receiving training or access to capital.

One tool that TechnoServe has used to overcome this frustration is allowing owners to graduate from control groups to treatment groups. This provides an incentive for participation in the program, even as part of a control group, and does not necessarily undermine the randomized nature of the experiment, as long as the graduation is accounted for in each study.

ENDLINE SURVEY

Business assessments conducted at the end of the intervention should be used to identify areas of the program that are implemented and / or received ineffectively

The primary purpose of the baseline assessment is its contrast with the endline survey. A business evaluation is slightly different because it can be used to tailor training programs even without a comparison survey taken at the end of the initiative (the results of the initial business assessment help to identify areas for improvement). That said, business assessments should be conducted at both the beginning and the end of the initiative. Comparing the results of the two assessments help program staff to understand the level of best practice adoption achieved by program participants.

In addition to identifying aspects of the program that achieved high adoption, the comparison of the two business assessments helps to identify aspects of the training that are not achieving significant adoption (and thus are being delivered ineffectively). This is helpful because it allows the initiative to think critically about various trainings to identify what works and what does not. In addition, it allows staff to brainstorm alternative ways of delivering material that is not being adopted by program participants

Endline surveys should go beyond questions asked in the baseline to measure gather specific metrics of program effectiveness

Endline surveys should include all of the same questions as the baseline survey; however, the timeline should be adjusted to ask about behavior since the beginning of the intervention. For example, if a baseline survey asks whether a program participant has ever taken a loan, then the endline survey should ask whether the participant has taken a loan since the beginning of the intervention.

In addition, endline surveys should incorporate questions not included in the baseline survey that attempt to capture participant feedback on program effectiveness and benefits. This is where staff can develop an understanding of participant perspective on what specifically was helpful about the intervention and what (if anything) was unhelpful.

MEASUREMENT TIMELINE

Results from duka intervention programs can be seen using a 6-month window from baseline and end line evaluations

Smart Duka has found that intervention programs do not take long to produce results for duka owners. The nature of the business training provided to duka owners facilitates very quick impacts to both revenue and profit. For example, improving shop aesthetics and implementing dynamic pricing schemes will start to impact sales and revenues almost immediately.

However, some aspects of the Smart Duka program should take longer to translate to financial gain, such as the adoption of business groups and the implementation of business records. Simply adopting a POS system will not, in and of itself, increase revenues for duka owners; instead, records must be implemented for long enough to produce useful insights that can be incorporated by owners when making business decisions. Smart Duka has found that six months is enough time for the impacts of business improvement to begin to show.

It is also important to note that, although results may start to be seen after only six months, those should not be interpreted to be the full impacts. Instead, it should be expected that impacts will compound over time, as dukas continue to reinvest profits, expand inventory, and work collaboratively.

CONCLUSION

Smart Duka Kenya has arisen as an area of excellence within the TechnoServe Entrepreneurship portfolio, largely because of the positive impacts it has been able to create, across country and community lines. Since the program's inception, that initiative has been empowered by the constant refining and expanding of the lessons documented in this report.

In order to sustain the positive impact that an intervention has, it is imperative that program staff constantly evaluate which aspects of the program are generating results, and which need to be reconsidered. As TechnoServe expands its work in micro-retail, it will continue to leverage the lessons documented in this report, while also adding nuance from lessons learned elsewhere

ENDNOTES

"Understanding the Retail Environment." TechnoServe, Nielsen, 2018
Ibid.