

Last Mile Solutions for Low-Income Customers

OCTOBER 2018

Lessons learned
from efforts to build
sustainable rural
value chains for
essential products
and services

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About Shell Foundation

Shell Foundation (SF) is a UK-registered charity, established in 2000, that creates and scales business solutions to two major global development challenges: access to energy and access to affordable transport. We exist to serve the low-income communities most affected by these issues.

SF supports innovators to test new technology and enterprise models that can contribute towards the SDGs, achieve financial independence and operate at scale. Once demand for a new product or service is proven, we co-create supply chain intermediaries, blended funds and non-profit institutions to support replication and market growth.

Since our inception we have deployed \$335m into over 100 pioneering enterprises. We use grant funding and non-grant instruments as appropriate, alongside extensive business support, and allocate a third of our budget to build a stronger enabling environment for social enterprises in target countries.

Our Access to Energy programme is bolstered by two \$30m, five-year programmes with the UK Department for International Development (DFID) and the US Agency for International Development, (USAID) to accelerate the availability of renewable power for low-income households in Africa.

Impact to-date

Several of our portfolio partners have now achieved financial independence and operate internationally. Cumulatively our programmes have created over 100,000 jobs, saved 19 million tonnes of carbon and leveraged \$6.7bn towards scale – benefiting 102 million people across Africa, Asia and Latin America.

www.shellfoundation.org

Since 2000 our portfolio partners have...

**CREATED
100,000+
JOBS**

**SAVED
19m
TONNES OF CARBON**

Glossary

Are we speaking the same language?

Impact or Social Enterprise:

In this report we use these terms to describe any business that provides a product or service which is socially beneficial to low-income consumers (those living on \$2 to \$10 a day) in emerging markets, based on a business model that is both financially viable and scalable.

Social Investor:

An organisation, individual or intermediary fund that deploys capital into businesses that generate social and/or environmental benefit through the sale of a product or service. This encompasses a full spectrum of instruments: from impact-focused grants to finance-first commercial investment.

Sustainable Development Goals:

17 goals (with 169 targets) designed by the UN General Assembly to replace the Millennium Development Goals at the end of 2015. They cover a broad range of development issues including ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change and delivering universal access to energy.



BENEFITING
102
MILLION PEOPLE



Key takeaways

01.

Advances in last mile distribution are urgently needed to unlock rural markets for social enterprises.



- Last mile consumers in Africa and Asia have little disposable income and are therefore more sensitive to risk and more demanding of value for money. In our experience, most enterprises who seek to serve these customers, regardless of how great their products or technology, find it hard to establish cost-effective routes to market. Serving a widely dispersed, low-income and uninformed customer base is difficult, especially when faced with limited infrastructure and distribution partners.
- Drawing on success and failure, we note the evolution of several approaches that can help businesses to better understand and serve rural customers, lower distribution costs and broaden reach, including the emergence of dedicated intermediaries who improve cost-efficiency through the combination of technology, specialisation and economies of scale. We offer insight to help **entrepreneurs** select and implement these solutions effectively.
- For the benefit of **fellow social investors, development finance institutions and grant-makers** we comment on which of these solutions are viable and ready for scale and share innovations that we believe carry high potential to drive major improvements in profitability.
- In a fragmented investor landscape, most impact investment flows to manufacturers. Here we will explore the outsized value and impact to be gained by bringing new B2B enablers to market faster and more effectively.
- While predominantly based on efforts to enhance access to affordable modern energy and transport, we believe these lessons are broadly relevant to social enterprises working in other sectors, such as agriculture or healthcare, which serve the same customers and can share distribution channels to reduce costs.

02.

It took SF many years to appreciate how long a runway first-mover innovators can need to understand customer and distributor incentives and achieve positive unit economics. This was one of the reasons that few of our portfolio companies looked likely to achieve viability or scale in our first five years.

- Achieving unit economics is a pre-requisite for a scalable business. Relying on economies of scale to improve viability rarely works when serving last mile customers. We have seen several partners strive for and achieve rapid growth, urged on by early equity investors, only to find that attracting further capital requires them to downsize and completely revisit their cost structure.
- To achieve those unit economics, first-movers need to solve three supply chain challenges simultaneously: build (or find if possible) cost-effective logistics and distribution channels; provide financing options for low-income consumers; and build trust with consumers who cannot afford to make poor choices with their limited income.
- Early innovators require significant, patient capital to help prioritise unit economics ahead of further product development and potential expansion. As a result, far more of the funding that we have provided to each B2C partner (mostly patient grant) since 2009 has been directed towards supply chain innovation rather than product R&D.
- Technology is a critical enabler to reduce costs and reach viability and is featured in each of our subsequent lessons; but is not a silver bullet. Without addressing business fundamentals (cost focus, supply chain incentives, understanding customer needs, talent management), adoption of new technology can prove an ineffective and costly exercise.
- Tackling issues such as demand creation, last mile logistics and consumer financing represent a significant sunk cost that most enterprises will struggle to bear alone. First-movers therefore require either mixed income models (blending donor funding with social investment and commercial capital) or support from organisations that provide public goods such as consumer education campaigns and quality assurance. This type of aligned support has been rare in off-grid energy markets.



03.

We believe several high potential solutions for improved viability in rural value chains are emerging – and that they will deliver a step-change in the ability of social enterprises to drive inclusive rural growth and materially impact the SDGs.



- By harnessing the approaches outlined in these pages, several of our portfolio partners have achieved major breakthroughs in rural distribution and customer traction, with enterprises such as d.light, Envirofit, M-KOPA, Greenlight Planet and Dharma Life now reporting a ‘pull’ from consumers in many towns and villages for some products.
- These partners, often manufacturing internationally and with vastly different offerings, have been able to attract customers in rural Asia and Africa and deliver high-quality products that are accessible, affordable and perceived as low risk. Some of these off-grid pioneers now serve millions of rural customers across Asia and Africa. As their ability to serve customers has grown, so too has interest from social investors, development finance institutions, corporate partners and commercial funders.
- These partners are profitable in many parts of the market and are attracting commercial capital to support their rapid growth. Outliers in their sectors,

we believe that beyond the strength of their management teams and a relentless focus on cost and value, tackling value chain challenges systemically and simultaneously has been crucial to their success.

- Further innovation in the value chain will improve the viability of such businesses, drive down prices, raise investor interest and ultimately increase the availability of socially-beneficial products and services to customers in remote locations.

In this report, we explore six lessons that have led to the development of new technology and business models to improve the viability of enterprises in rural markets, and hence their ability to scale.

Lesson one: The main driver of uptake and long-term value is the customer relationship. Invest accordingly.

Lesson two: The market is ready for specialist intermediaries. It is inefficient for organisations to re-invent the wheel.

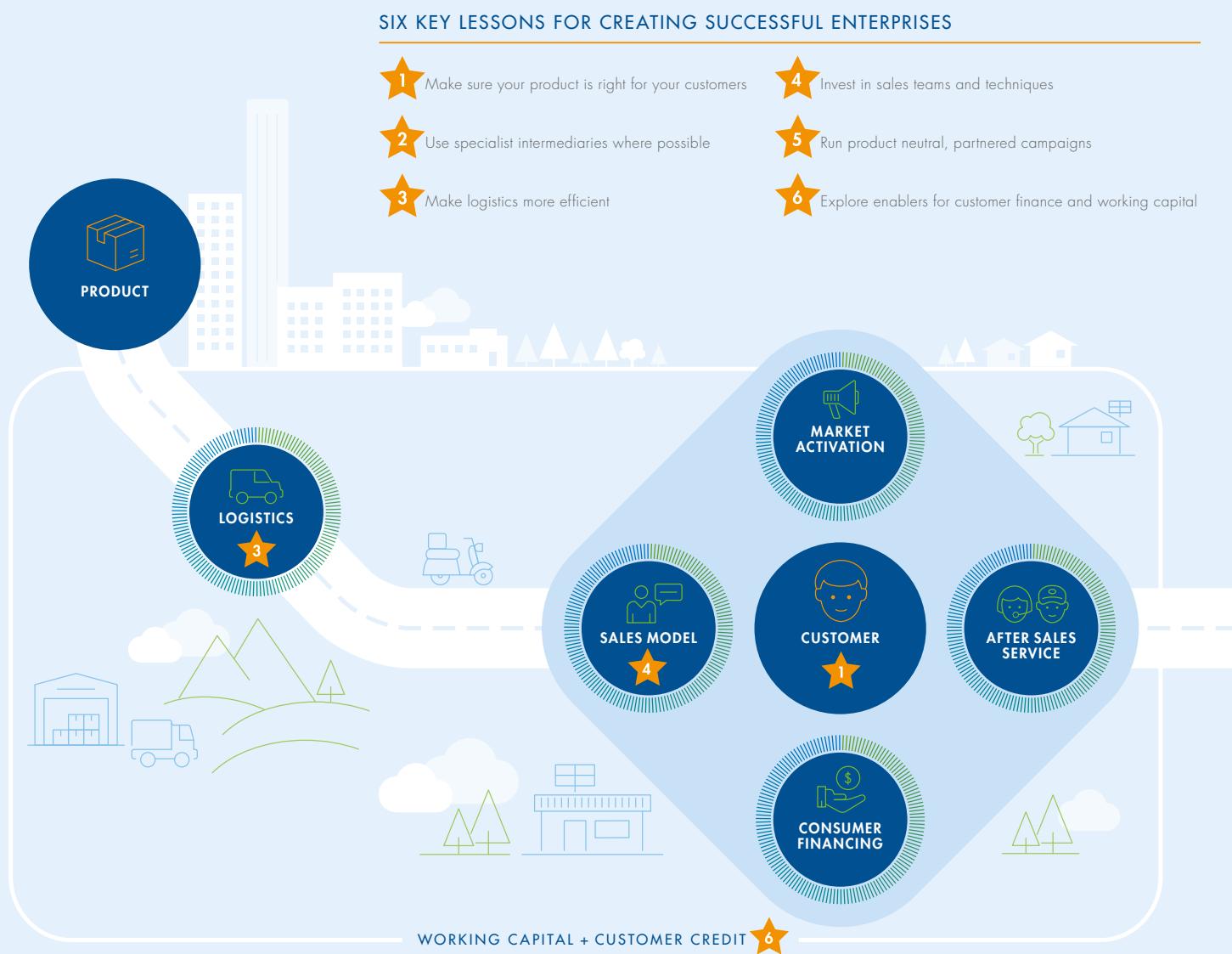
Lesson three: Existing logistics operations can be far more efficient. Major gains can be made through improved management discipline and the use of new software to reduce information asymmetry.

Lesson four: Sales techniques and management will need to improve substantially if social enterprises are to appeal to mainstream, lower-income customers.

Lesson five: Consumer education campaigns for social-impact products will only result in sales if they are product-neutral, run in partnership with enterprises and implemented by local organisations that have credibility with last mile customers.

Lesson six: Serving lower-income customer groups and expanding to frontier markets will require new enablers to increase pay-as-you-go adoption and provide working capital to last mile distributors.

Typical Value Chain for Product Providers Serving Low-Income Customers in Rural Areas



- Customer Relationship
- Working Capital + Customer Credit
- ||||| Delivery Model:
Vertically Integrated to Specialist Intermediaries

DELIVERY MODEL

The combination of delivery models used at each stage of the value chain will vary

	VERTICALLY INTEGRATED	SPECIALIST INTERMEDIARIES
LOGISTICS	In-house logistics	Logistics Providers
SALES MODEL	B2C	B2B
MARKET ACTIVATION	Direct (in-house)	Indirect (outsourced)
CONSUMER FINANCING	Balance Sheet Financing	Financing Partnerships
AFTER SALES CARE	In-house Customer Service Centre	Outsourced After Sales Care

2

04.

Achieving a viable market for social-impact products and services is not a given. A major step-change in funding for social enterprises serving low-income customers is needed – and this can only be triggered with the targeted deployment of finance to build sustainable value chains.



- None of our partners would lay claim to having cracked the last mile distribution challenge. There is considerable scope for each of these partners to find efficiencies and further value in every part of the value chain. While the ingredients appear to be in place for rapid growth of impact sectors, our optimism is tempered by the size of the continued challenges confronting social enterprises with the potential to materially contribute towards the SDGs.
- For example, to take just one of these global goals, recent research from Catalyst Partners finds that 100 million households in Africa will still not have access to modern affordable energy by 2030. Aggressive expansion of national grids, off-grid utilities and solar home system (SHS) businesses will be needed to achieve SDG7. In such a scenario, the SHS sector alone would need to serve 40% of energy demand – more than double the projected growth rate of this sector.
- Catalyst estimates that such a feat would require at least \$33bn of private capital, leveraged by \$1bn of grant funding and \$4bn in public finance to serve the poorest households. With 85% of off-grid customers living in rural areas, the majority of this finance needs to go towards establishing costeffective rural value chains for new and existing enterprises.
- Nurturing these new approaches will require patience, significant risk capital and extensive business support. By way of example, our partners often pivot their business models 5+ times before an investable and effective solution emerges.

05.

We believe that immediate investment in last mile solutions is possible today. This will be a major catalyst for the commercialisation and ongoing competitiveness of social-impact enterprises, and the expansion and replication of these markets.

- More and more organisations are interested in serving rural consumers in emerging markets – but most do not have the resources, capacity and know-how to build a sufficient value-chain to serve those customers and/or find the right product-market fit.
- Our experience suggests that few foundations or social investors are willing to support supply chain innovation or B2B intermediaries, instead being drawn to enterprises with exciting technology that offers a more direct impact on people's lives.
- There are a number of existing specialist intermediaries, such as Dharma Life and Logistimo, which have a proven business model, strong management teams and are growing year-on-year – and some have gone on to raise Series A and B rounds. These are not traditional distribution companies, but rather technology-enabled platforms that take a sophisticated approach to mapping customer needs with numerous products and services. Not only are these businesses investable in their own right, their very existence and success will help other businesses' viability further up the value chain.



06.

We believe foundations like ours and aligned social investors must play a critical role to support high-risk, high potential last mile innovators to scale.



- Support pioneers of social-impact sectors to build their distribution capacity, and find more effective ways to market and sell to last mile customers. Leveraging private capital will depend on **both** unit profitability and scale of operations to demonstrate that these are sustainable and investable businesses.
- Support pioneering B2B intermediaries to demonstrate that they can reduce costs for social enterprises to build long-standing relationships with rural consumers. Building a robust rural market for social-impact products will require investment in both B2C and B2B enterprises – but lack of knowledge and limited returns (until businesses reach scale) create risk and are constraining investment.
- Foundations providing blended finance and bridging instruments such as recoverable grant can offset this risk while investors gain comfort with these markets. However, investors will need to be transparent about their investment criteria and risk-return preferences, and invest significant capital once these can be met, to make this worthwhile.
- Support further supply chain innovation and expansion of ancillary services for social enterprises, particularly to facilitate the advance of social-impact markets beyond East Africa – investing directly or through specialists, like Persistent Energy Capital, who are building the capacity of distributors in West Africa.
- Work with public agencies and donors to facilitate results-based finance schemes that allow B2B enablers to monetise the impact that they are able to deliver – thereby improving their ability to offer market-rate returns to investors – and build capacity for effective consumer education and quality assurance.
- Participate in new ‘blended finance’ vehicles designed to provide consumer finance and working capital to downstream distributors and retailers, providing a layer of grant or social investment to improve returns to mainstream investors and lower risk, in exchange for outsized impact.
- Facilitate the entry of larger corporates to develop new products for the last mile customers. Many corporates are trying to reach and influence low-income consumers. We have found there can be great synergies with national or global corporates who are trying to further penetrate rural locations and social enterprises who have operational capacity on-the-ground. Corporates like Unilever, Vodafone, Mars, Johnson & Johnson, Total and Engie are starting to work much closer with impact enterprises who are closer to new customers and are seeing the impact on their bottom line.



credit: Communications for Development

Introduction

Advances in last mile distribution can unlock rural markets for impact enterprises. These solutions merit immediate and significant social investment.

01

Twenty years ago, the notion that enterprises could provide essential services to low-income¹ communities in Africa and Asia – in ways that could attract private capital to scale and materially contribute to sustainable development – was totally unproven.

Today several businesses have emerged with the potential to materially contribute towards the SDGs², driving improvements in health, quality of life, education, productivity and earning power for millions of people in rural areas. Social enterprises offering products ranging from **durables** such as solar lights, cleaner cookstoves or water purifiers, to **financial services** like microfinance and health insurance, to **improved productive assets** including fertilisers, sewing machines, water pumps or irrigation systems, are now serving some of the world's poorest customers.

By way of example, the market for off-grid household energy, one of the fastest growing sectors, has grown from less than 10 certified players a decade ago to over 100 certified providers that serve 200m people today, having attracted over \$1bn in investment.

There is, however, a counter-weight to this progress. Market penetration for impact products remains low (sub-5% for off-grid solar) – mainly because the cost to serve rural customers has proved overwhelmingly high. Social enterprises struggle to serve people in remote locations and frontier markets and to reach the very poorest consumers. With the majority of demand coming from these areas, and scale essential to attract investment into low-margin businesses, this presents an unresolved conundrum.

This report, therefore, focuses on a new question: can we improve the economics of social enterprises **serving last mile customers** to the point where they can secure sufficient investment to serve billions, not millions, of people living on \$2 to \$10 a day.

Meeting the needs of last mile customers

Traditional businesses who wish to operate in rural areas of Africa and Asia face high distribution, marketing and sales costs, which means their customers pay a hefty premium on a very limited range of products.

High costs and low margins are accepted as the inevitable consequence of serving consumers with low and unpredictable earning patterns, spread across vast geographies, mostly without good access by road or rail. Poor communication channels, lengthy payment cycles and limited internet connectivity complicate logistics and stock management. Bespoke distribution models are needed to cater for huge variations in population density, infrastructure, culture and local talent.

The cost for a social enterprise to overcome these challenges is even higher, given there is limited existing knowledge of their products among retailers and customers, and few distribution partners have the skills to build demand for unknown products. Building value chains from scratch, and servicing them, requires major investment – yet most investors, conscious of the magnitude of this task and the level of scale necessary for returns, mark such opportunities as 'high risk'.

In the energy access sector, for example, most enterprises that seek to serve last

mile customers require significant subsidy and are forced to focus on higher-income customers in these areas. Only a handful of (mainly vertically integrated) household solar providers have received significant investment for value chain development, and few have raised more than \$50m in capital overall³. A business that may be breaking even in East Africa may still struggle to attract the risk capital for expansion into West Africa, where demand is nascent, the operating environment less conducive, and there are fewer players driving awareness and behaviour change.

Recent estimates suggest that at least \$33bn investment⁴ will be required for energy enterprises to meet the basic energy needs of all households in Africa by 2030. A high proportion of this will be needed to build out logistics, inventory finance, marketing, sales and customer care to serve last mile customers.

¹ SF defines 'low-income households' as those earning between \$2 and \$10 a day.

² UN Sustainable Development Goals, created in 2015.

³ Commercial investment has tended towards larger PAYG companies who built vertically-integrated operations using grant funding and impact investment, such as M-KOPA who raised \$80m commercial debt in 2017.

⁴ Accessing Capital to Achieve SDG7, Catalyst Partners, 2017.

Why write this report?

In this document we share the findings from our work with leading social enterprises to build sustainable rural value chains in the off-grid energy sector over the last two decades.

Drawing on success and failure, we note the evolution of several approaches that can help businesses to better understand⁵ and serve rural customers, lower distribution costs and broaden reach, including the emergence of dedicated intermediaries who improve cost-efficiency through the combination of technology, specialisation and economies of scale. We offer insight to help entrepreneurs select and implement these solutions effectively.

For the benefit of fellow social investors, development finance institutions and grant-makers we comment on which of these solutions are viable and ready for scale and share innovations that we believe carry high potential to drive major improvements in profitability.

In a fragmented investor landscape, most impact investment flows to manufacturers. Here we will explore the outsized value and impact to be gained by bringing new B2B enablers to market faster and more effectively.

While predominantly based on efforts to enhance access to affordable modern energy and transport, we believe these lessons are broadly relevant to social enterprises working in other sectors, such as agriculture or healthcare, who serve the same customers and can share distribution channels to reduce costs.

Most social enterprises agree that sales, together with access to finance and distribution are the key issues they face, together with access to finance and talent. Innovation in the value chain will improve the viability of such businesses, drive down prices, raise investor interest and ultimately increase the availability of socially-beneficial products and services to customers in remote locations.

We believe these solutions are emerging – and that they will deliver a step-change in the ability of social enterprises drive inclusive rural growth and materially impact the SDGs.



MOST B2C SOCIAL ENTERPRISES AGREE THAT WHEN SERVING RURAL CUSTOMERS, SALES AND DISTRIBUTION ARE THE KEY ISSUES THEY FACE.

⁵ The purchasing power of rural consumers for quality products, delivered quickly and reliably, is often underrated.

Portfolio overview

SF partners include social enterprises and market enablers that exist to serve last mile customers.



Our current social enterprise and market enabling partners, all in varying stages of incubation and scale-up, each have the potential to impact over 10 million low-income consumer beneficiaries and achieve financial viability within a 10-year timeframe.

SF proactively identifies market opportunities to serve low-income consumers and works with innovative entrepreneurs to solve them. We purposefully seek to take high levels of risk in developing new technologies and new business models and have been involved in the co-creation of many of these enterprises. Once a model has been sufficiently validated we work to leverage

second stage funding for further growth and geographic expansion. Over time we discovered that pioneers require patient, flexible grant funding and extensive business skills support to refine new models and build the capacity for global expansion.

A 'holistic' investment approach

By 2009, several of these pioneers had demonstrated demand for their products and services (lighting, cookstoves), yet each business remained fragile with slow growth across markets. We discovered that significant barriers to purchase and gaps in enabling infrastructure were constraining the adoption of these models. Reflecting on this experience, we realised

that investing solely in B2C enterprises would be unlikely to deliver the level of inclusive growth required to meet the SDGs⁶.

Over time, a series of direct interventions has evolved into something more strategic. We started to prioritise the creation of dedicated 'market-enablers' – intermediary businesses, financiers and industry bodies – that provide the critical infrastructure for early-stage enterprises to thrive. We believe this more holistic view will support the creation of stronger, more inclusive markets that significantly amplify our impact.

B2C ENTERPRISES	HOUSEHOLD SERVICES Solar Lighting: M-KOPA, d.light, Persistent Energy Capital, BBOXX, Greenlight Planet Biomass Cookstoves: Envirofit	Waste to Energy/New Fuels: Sistema.bio, Envirofit PAYG LPG Refrigeration: Sure Chill
B2C ENTERPRISES	ENERGY FOR BUSINESS Agri/Energy and Irrigation: SunCulture	Productive-use Asset Finance: Rent To Own
B2B INTERMEDIARIES	Freight: Logistimo/Tusker	Market Access: Twiga Foods
ENABLERS	Rural Last Mile Distribution: Dharma Life Big Data/Software: Catalyst, Fraym	Human Capital: Shortlist
FINANCE	Working Capital: responsAbility Energy Access Fund Credit Assessment: Lendable	Growth Finance: Aavishkaar Venture Management Services Growth stage debt: GroFin

Access to Energy Portfolio



B2C ENTERPRISES: HOUSEHOLD SERVICES

M-KOPA



Consumer financing of impact products and services

M-KOPA provide low-income consumers with asset financing to purchase energy products. Customers pay a small deposit and make daily instalments using mobile money. Creates a credit history for unbanked.

Year of partnership: **2011**

Region(s): **East Africa**

Stage: **International Expansion**

Total investment secured: **\$177m**

Jobs created: **1,970**

Livelihoods improved: **3,190,000**

CO₂ reduced: **571,590 tonnes**

Persistent Energy Capital



Seed stage investor in PAYG companies in underserved markets

Provides seed financing and hands-on specialised support to PAYG companies in frontier markets in exchange for equity. Support is on tech, operations, legal and financing, in which PEC is an expert.

Year of partnership: **2016**

Region(s): **East, West and Southern Africa**

Stage: **Scaling-up**

Total investment secured: **\$8.7m**

Jobs created: **881**

Livelihoods improved: **435,875**

CO₂ reduced: **11,333 tonnes**

d.light



Solar powered solutions for those without access

Design and manufacture affordable pico solar energy products, including PAYG option. Expanding range to fridges, fans and TVs. Innovative distribution models to reach low-income consumers and businesses.

Year of partnership: **2009**

Region(s): **Global**

Stage: **International Expansion**

Total investment secured: **\$30m**

Jobs created: **2,063**

Livelihoods improved: **49,180,132**

CO₂ reduced: **4,135,880 tonnes**

BBOXX



PAYG energy for off-grid households and businesses

BBOXX is a vertically integrated company that is involved in the design, manufacturing and distribution of solar home systems and larger solar systems for productive and business use, including consumer finance component (PAYG).

Year of partnership: **2017**

Region(s): **Global**

Stage: **International Expansion**

Total investment secured: **\$21.19m**

Early Stage Partner



B2C ENTERPRISES: HOUSEHOLD SERVICES

Greenlight Planet



Solar lanterns/home systems for off-grid homes & businesses

Designs and manufactures affordable solar energy products, including consumer finance component (PAYG). Creates innovative distribution partnerships and direct sales network to reach low-income consumers and businesses.

Year of partnership: **2016**

Region(s): **Global**

Stage: **International Expansion**

Total investment secured: **\$60m***

Jobs created: **65**

Livelihoods improved: **71,670**

CO₂ reduced: **1,433 tonnes**

* During partnership with SF

Sistema.bio



Biogas clean fuel solutions for smallholder farmers

Combines manufacturing, sales, service of high quality bio-digester systems with consumer financing to enable affordable biogas solutions for productive use with over 4,143 units installed to date.

Year of partnership: **2017**

Region(s): **Central and South America, India, East Africa**

Stage: **Pilot**

Total investment secured: **\$6.5m**

Jobs created: **68**

Livelihoods improved: **23,400**

CO₂ reduced: **75,038 tonnes**

Envirofit



Innovative clean cooking solutions

Designs, produces and markets affordable biomass stoves through innovative distribution partnerships. Incubating PAYG LPG (SmartGas) model as well. Reduces emissions, fuel costs and cooking time.

Year of partnership: **2007**

Region(s): **Global**

Stage: **International Expansion**

Total investment secured: **\$49.2m**

Jobs created: **12,229**

Livelihoods improved: **11,175,755**

CO₂ reduced: **6,478,688 tonnes**

Sure Chill



Off-grid and weak grid refrigeration

Combines water with a thermal battery and solar power to store energy for refrigeration. Maintains optimum temperature of 4°C for 10 days+ without power. Sure Chill thermal energy technology used for vaccines is Sure Chill's core business.

Year of partnership: **2016**

Region(s): **Global**

Stage: **Incubation**

Total investment secured: **\$5m**

Product under development



B2B ENTERPRISES: ENERGY FOR BUSINESS

SunCulture



Affordable solar water pumps and PAYG irrigation

SunCulture designs, manufactures, sells, installs and finances low cost solar water pumps and irrigation products. Lowest cost high performance solar pump on the market, RainMaker, which exceeds performance indicators of competitors.

Year of partnership: **2016**

Region(s): **East, West and Southern Africa**

Stage: **Pilot**

Jobs created: **4,828**

Livelihoods improved: **24,138**

CO₂ reduced: **2,072 tonnes**

Rent To Own



Asset finance for rural entrepreneurs

Tech-led, productive-use asset financing in rural, non-mobile money geographies. Providing consumer finance for innovative assets to people living under \$2.50/day, addressing underserved market with product value averaging \$800.

Year of partnership: **2016**

Region(s): **Southern Africa**

Stage: **Scaling-up**

Total investment secured: **\$3.6m**

Jobs created: **737**

Livelihoods improved: **12,375**

B2B INTERMEDIARIES

Tusker



Rural crowd-sourced freight transportation

Enhances access to affordable products in rural frontier markets, to underserved communities, by crowdsourcing rural transporters through a mobile platform, and reducing distribution costs through automated machine learning algorithms.

Year of partnership: **2015**

Region(s): **India, East and Southern Africa**

Stage: **Pilot**

Total investment secured: **\$1.58m**

Jobs created: **53**

Livelihoods improved: **131,466**

CO₂ reduced: **220 tonnes**

Twiga Foods



Improving livelihoods of low-income farmers by providing reliable market access

Twiga provides consistent and reliable market access, connecting smallholder farmers to urban sellers of agricultural produce. Potential to be a one stop B2B rural route to market platform for all products with product value averaging \$800.

Year of partnership: **2017**

Region(s): **East Africa**

Stage: **Pilot**

Total investment secured: **\$11.2m**

Early Stage Partner



ENABLERS

Dharma Life



Last Mile Distribution and Behavioural Change

Built and trained a network of 13,000 rural entrepreneurs. Makes social-impact products accessible and affordable in rural markets. Conducts innovative campaigns and research (impact and return on investment can be tracked in real time) to create market demand.

Year of partnership: **2009**

Region(s): **India**

Stage: **Scaling-up**

Total investment secured: **\$11m**

Jobs created: **32,064**

Livelihoods improved: **9,085,461**

CO₂ reduced: **82,863 tonnes**

Catalyst



Software Intermediary for Social Enterprises

Recommends and integrates critical software applications for scale, at a low cost for SMEs who typically do not have the know-how, resources or budget to do so themselves.

Year of partnership: **2017**

Region(s): **East, West and Southern Africa**

Stage: **Incubation**

Total investment secured: **\$750,000**

Early Stage Partner

Shortlist



Strategic HR service provider for the energy sector

Shortlist is supporting the sector by helping SMEs hire more effectively, using technology to identify candidate skills and attributes through real-time competency based demonstrations rather than traditional CV-based methods.

Year of partnership: **2016**

Region(s): **India, East Africa**

Stage: **Incubation**

Total investment secured: **\$3.2m**

Jobs created: **359**

Livelihoods improved: **42,057**

Fraym



Provides data analysis to aid business decision-making in Africa

The largest database on African households, with socio-economic, demographic and behavioural insights.

Year of partnership: **2018**

Region(s): **East and West Africa**

Stage: **Incubation**

Total investment secured: **n/a**

Early Stage Partner



FINANCE

responsAbility Energy Access Fund

Provision of working capital finance to enterprises in the solar products value chain

Year of partnership: **2013**

Region(s): **Global**

Stage: **International Expansion**

Total investment secured: **\$34m**

Jobs created: **1,398**

Livelihoods improved: **1,618,785**

CO₂ reduced: **231,233 tonnes**

responsAbility

Lendable



Receivables refinancing

Lendable provides off balance sheet finance to alternative finance companies (incl. those financing SHS, agri and mobility enterprises).

Year of partnership: **2015**

Region(s): **East and West Africa**

Stage: **Pilot**

Total investment secured: **\$7.2m**

Jobs created: **1,774**

Livelihoods improved: **39,246**

CO₂ reduced: **3,700 tonnes**

Aavishkaar Venture Management Services



Financial services

Multi-product financial services consultancy and advisory group with a focus on India; expanding into Africa. Supplying capital through Venture Debt, Equity Investing, Microfinance and convening through Impact Events.

Year of partnership: **2016**

Region(s): **India, East Africa**

Stage: **International Expansion**

Total investment secured: **\$25m**

Jobs created: **195,140**

Livelihoods improved: **27,949,677**

CO₂ reduced: **225,026 tonnes**

GroFin



Integrated risk finance and business support to SMEs in emerging markets

A pioneering private development finance institution specialised in financing SBBs across Africa and Middle East in high impact sectors.

Year of partnership: **2004**

Region(s): **West Africa, MENA**

Stage: **International Expansion**

Total investment secured: **\$472m**

Jobs created: **26,853**

Livelihoods improved: **584,880**



Understanding rural value chains

A framework to understand and improve
the viability of product value chains in
rural markets.



Last mile consumers in Africa and Asia have little disposable income and are therefore more sensitive to risk and more demanding of value for money. In our experience, most enterprises who seek to serve these customers, regardless of how great their products or technology, find it hard to establish cost-effective routes to market.

Serving a widely dispersed, low-income and un-informed customer base is difficult, especially when faced with limited infrastructure and distribution partners. In this context, even enterprises with exceptional products and early investor backing can grow to a relatively large size, e.g. generating annual revenues over \$10m a year, without looking likely to break even.

First principles

It took SF many years to appreciate how long first-mover innovators can need to understand customer needs, distributor incentives and achieve unit economics. This was one of the reasons that few of our portfolio companies looked likely to achieve viability or scale in our first five years.

We have since worked extensively with the enterprises and intermediaries in our portfolio to better understand rural supply chains, and test different models and partnerships. Over time we have realised four things:

1.

Achieving unit economics is a pre-requisite for a scalable business. Relying on economies of scale to improve viability rarely works when serving last mile customers. We have seen several partners strive for and achieve rapid growth, urged on by early equity investors, only to find that attracting further capital requires them to downsize and completely revisit their cost structure.

2.

To achieve those unit economics, first-movers need to solve three supply chain challenges simultaneously: they need to build (or find if possible) cost-effective logistics and distribution channels, they need to provide financing options for low-income consumers, and they need to build trust with consumers who cannot afford to make poor choices with their limited income⁷.

3.

Early innovators require significant, patient capital to help prioritise unit economics ahead of further product development and potential expansion. As a result, far more of the funding that we have provided to each B2C partner (mostly patient grant) since 2009 has been directed towards supply chain innovation than product R&D.

4.

Technology is a critical component/enabler to reduce costs and reach viability, but is not a silver bullet. Without addressing business fundamentals (cost focus, supply chain incentives, understanding customer needs, talent management) adoption of new technology can prove an ineffective and costly exercise.

⁷ Accelerating Access to Energy, Shell Foundation, 2014.

Tackling issues such as demand creation, last mile logistics and consumer financing represent a significant sunk cost that most enterprises will struggle to bear alone. First-movers therefore require either mixed-income models (blending donor funding with social investment and commercial capital) or support from organisations that provide public goods such as consumer education campaigns and quality assurance. This type of aligned support has been rare in off-grid energy markets.

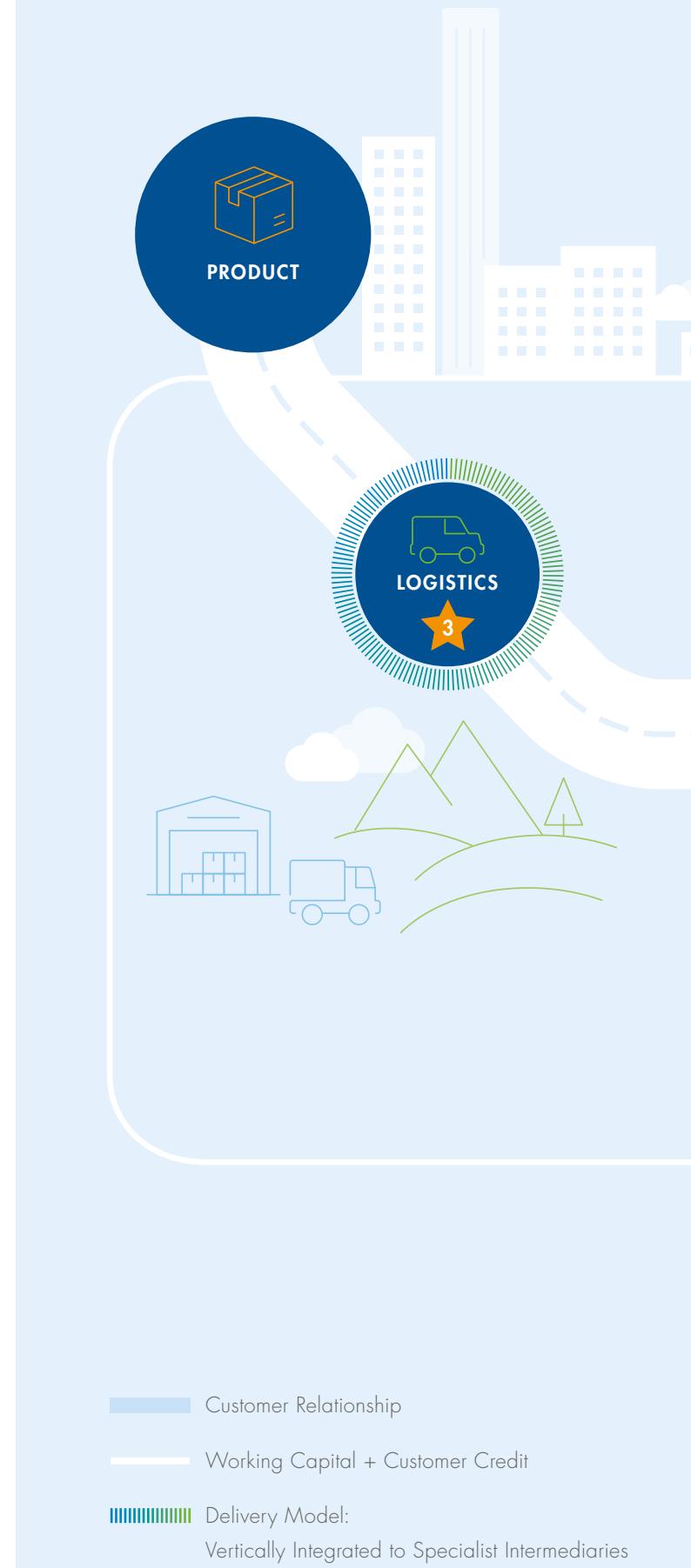
A framework for value chain innovation

Several of our portfolio partners have achieved major breakthroughs in rural distribution and customer traction, with enterprises such as d.light, Envirofit, M-KOPA, Greenlight Planet and Dharma Life now reporting a 'pull' from consumers in many towns and villages for some products.

These partners, often manufacturing internationally and with vastly different offerings, have been able to attract customers in rural Asia and Africa and deliver high-quality products that are accessible, affordable and perceived as low risk. As their ability to serve customers has grown, so too has interest from social investors, development finance institutions, corporate partners and commercial funders.

Set in the context of market need, however, we are some distance from a sales tipping point. With this in mind, this chapter explores common obstacles to, and opportunities for, improved supply chain viability when serving rural customers. We focus in particular on six areas where new technology and business model iteration has the potential to radically improve the profitability of enterprises in rural markets, and hence their ability to scale.

Typical Value Chain for Product Providers Serving Low-Income Customers in Rural Areas.



SIX KEY LESSONS FOR CREATING SUCCESSFUL ENTERPRISES

- 1** Make sure your product is right for your customers
- 4** Invest in sales teams and techniques
- 2** Use specialist intermediaries where possible
- 5** Run product neutral, partnered campaigns
- 3** Make logistics more efficient
- 6** Explore enablers for customer finance and working capital



DELIVERY MODEL

The combination of delivery models used at each stage of the value chain will vary

	VERTICALLY INTEGRATED	SPECIALIST INTERMEDIARIES	2
LOGISTICS	In-house logistics	Logistics Providers	
SALES MODEL	B2C	B2B	
MARKET ACTIVATION	Direct (in-house)	Indirect (outsourced)	
CONSUMER FINANCING	Balance Sheet Financing	Financing Partnerships	
AFTER SALES CARE	In-house Customer Service Centre	Outsourced After Sales Care	

Definitions

1. LOGISTICS

Transportation of goods from port of entry to central warehouse to rural sales points/agents.

Most enterprises are faced with expensive and unreliable transportation options when moving products from their supply points to demand hubs or spokes in rural areas. This results in a high cost-to-serve that significantly inflates the price end-customers pay for products.

2. SALES MODEL

Sales channel to distribute and sell products: B2B and/or B2C.

Early-stage enterprises selling products that are hitherto unknown to consumers tend to establish their own sales teams to build awareness and prove demand. This is a high touch, expensive approach that can be difficult to scale quickly but is nevertheless a critical stage to better understand customer segments and build trust in their brand.

As sectors mature, establishing third party distribution networks becomes more feasible. Partnerships enable broader coverage without having to increase sales force in proportion to unit sales. The more intermediaries, however, the less visibility and contact a manufacturer has with the end customer. As a result, such pioneers often choose a combination of B2C and B2B sales channels as they expand to new geographies.

3. MARKET ACTIVATION

Consumer awareness to foster demand and drive behavioural change.

Asking risk-averse individuals to purchase and regularly use a new product like a clean cookstove or solar water pump is a request for major shift in behaviour, a challenge to traditional approaches to living that have been untouched for over a century. Success requires a high-touch and frequent level of engagement. Most distribution organisations do not have the margin or capacity to absorb this and support from manufacturers (beyond the provision of basic marketing collateral) is rare.

4. CONSUMER FINANCING

Asset financing for consumers through MFIs, PAYG financing or in-house credit.

For most low-income rural consumers, \$30–\$200 for a complex consumer durable is a large and prohibitive investment, regardless of attractive payback periods and potential savings. As a result, the majority of capital going into the off-grid solar sector in recent years is being secured by PAYG energy companies selling solar home systems, rather than enterprises with a cash-based solar product offering.

5. AFTER SALES SERVICE

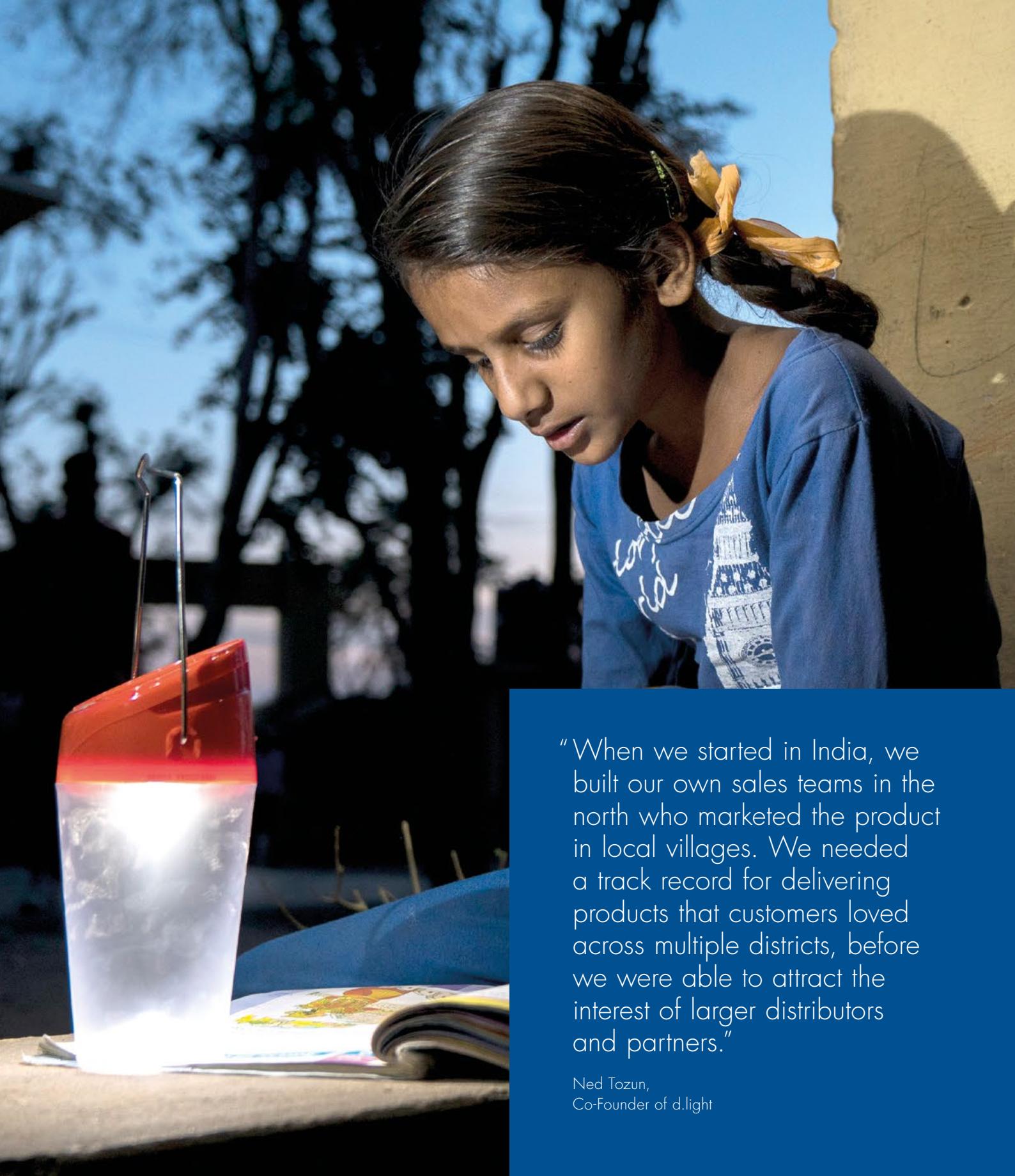
Customer services to resolve technical issues, manage repayment and highlight opportunities.

Organisations in rural areas must assure their customers that they are able to service their post-sale needs in a timely manner. Many of these markets have been tarnished by poor quality products with almost no customer support – sowing distrust among consumers. Organisations that proactively manage after-care sales increase both customer loyalty and the adoption rates of their products.

6. WORKING CAPITAL

Access to working capital for manufacturers, distributors and sales agents.

The lack of working capital available to manufacturers operating in rural areas is now firmly recognised and the subject of increasing donor interest. By contrast, the struggles of downstream distributors to access affordable capital to enable sales of social-impact products is almost entirely overlooked. Investment platforms like SunFunder who provide such finance are few and far between. On a similar note, most sales agents are cash constrained and have insufficient capital to purchase stock. Unlocking inventory finance across the value chain will be critical to the growth of the sector.



"When we started in India, we built our own sales teams in the north who marketed the product in local villages. We needed a track record for delivering products that customers loved across multiple districts, before we were able to attract the interest of larger distributors and partners."

Ned Tozun,
Co-Founder of d.light

Lesson One

The main driver of uptake and long-term value is the customer relationship. Invest accordingly.

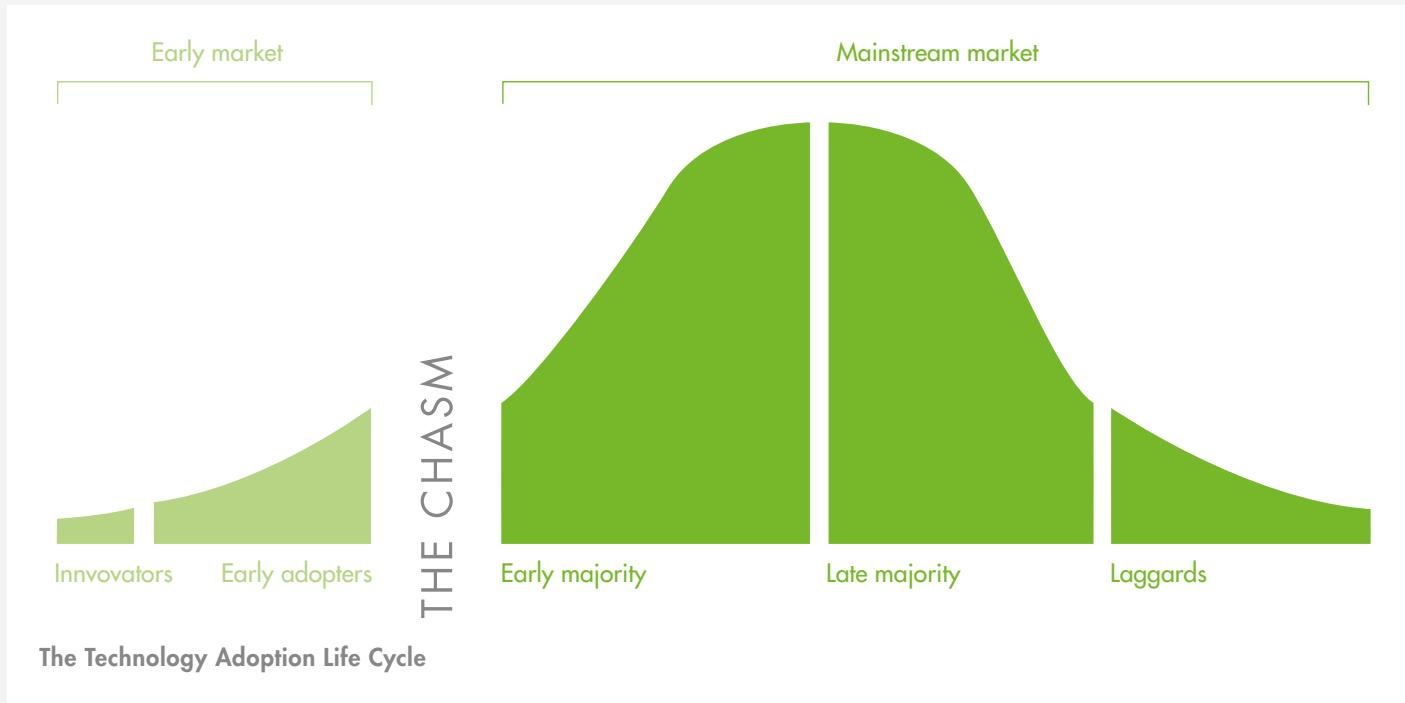
*"There is only one boss:
the customer..."*

*And he can fire everyone
in the company from the
chairman on down, simply
by spending his money
somewhere else."*

Sam Walton,
Founder of Walmart

Companies who sell low-margin FMCGs (fast-moving consumer goods), such as Unilever or Coca-Cola, obsess over quick sales, cost-efficiencies and a strong 'pull' from consumers for their products. Few entrepreneurs or investors in impact business sectors would dispute this – and yet we have found that many of the basic building blocks of customer satisfaction are commonly overlooked.

For example, a consistent error that we and our partners made, particularly in our early years, was in failing to appreciate how customers' core requirements change as a business starts to scale. Even enterprises with strong early sales typically hit a plateau once they run out of higher-earning first-mover customers, requiring a complete shift in their cost structure and distribution models.



Responding to different customer needs as the business grows

Geoffrey Moore⁸, one of the world's foremost marketing experts, categorised the earliest adopters of a new product as customers who are more willing to gamble on new products in search of significant and life-enhancing gains. This explains why some of the most pioneering enterprises in our portfolio saw a major increase in sales upon going to market, to the point where they were serving hundreds of thousands of customers, but then experienced a downturn that compromised their viability once they ran out of risk-tolerant consumers.

Mainstream customers want more than good quality products. They want to see your product and brand everywhere they look. They want evidence of your product working in many homes around them. They need to trust in the business, in the fact that you will be there for the long term and if things go wrong. We have seen this happen in the off-grid sector where, in the absence of widespread

usage, our partners had to offset their customers risk by providing long warranties and credit. Despite promising sales, with over 34 million certified solar lanterns and PAYG solar home systems sold since 2010, it is fair to consider existing customers as 'early adopters' as they represent a fraction of potential demand.

Appealing to mainstream markets will require a connection to far more risk-conscious consumers, members of the so-called 'early majority'. **These customers want effective high-quality products, provided quickly, reliably and at a price that is lower than alternatives.** For energy access, this means beating the cost of heavily-subsidised diesel, kerosene or the expected cost of grid electricity once it arrives. Meeting this need requires a step-change in addressing customers unique pain points, reducing costs, improving brand awareness and developing a deeper ongoing relationship with the customer.

Another implication for businesses serving low-income customers is that early sales are likely to be driven by customers at the higher end of the \$2 to \$10 range. When a business needs to start serving the early majority, entrepreneurs are faced with a direct choice: lower manufacturing, distribution and sales costs significantly, or serve a higher income demographic. Put another way, if unit economics are not addressed early enough, social enterprises will struggle to reach lower income customers.

This requires a far higher level of investment in logistics and service delivery than most people think. Firms have come to understand that, over time, initial products are quickly commoditised. Maintaining customer trust and loyalty is therefore a key differentiator, alongside your ability to keep costs low and the degree to which you can offer customers new services that match their aspirations.

⁸ Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers, Geoffrey Moore, 1991

Key to viable growth

FIVE THINGS OFF-GRID ENTERPRISES MUST GET RIGHT TO ATTRACT MAINSTREAM CUSTOMERS

1. Focus on meeting your customers full range of needs, above product innovation

The majority of the CEOs in SF's portfolio now devote 80% of their time towards building a value chain that satisfies customer requirements for affordability, availability and trust. This is a major turnaround from previous years where the majority of attention, capital and resources went towards product innovation.

"When you offer a product that is 10 times the cost of an existing alternative you need to offer 10 times the value," explains Tim Bauer, co-founder and VP of Sales for Envirofit. "Our understanding of innovation has changed. Instead of being a product company, we have evolved into a company that works across the supply chain to drive increased usage and build trust among customers. Making that leap has led to increased sales and impact."

To maintain this focus, a common trend among SF partners is for product innovation and development activities to be run with ring fenced funding and resources, often with little day-to-day involvement from CEOs until concepts transition to commercially viable products. This allows them to continually innovate and offer new products (TVs, fridges, PAYG LPG) as their customers' incomes grow, without losing focus on supply chain and distribution.

2. Provide excellent after-sales services

The early success of companies such as d.light, M-KOPA, Mobisol or Greenlight Planet demonstrates that effective customer call centres are essential to serve customers remotely,

address their needs proactively and ensure asset repayment.

SF has found this to be equally important for all organisations selling complex products to low-income consumers. In our experience the leading product companies consistently go beyond market activation and consumer financing: they invest heavily in call centres and in software platforms that track customer information and extract consumer insights. Envirofit, for example, experienced a 28% increase in product usage as a result of implementing a call centre in their Honduras operations.

Low-income customers often have irregular income streams that can be predicted and mitigated with the right knowledge. Increased insight also allows for greater visibility of demand, which helps with stock management and availability. This level of understanding and flexibility only comes with a strong after-sales relationship.

3. Build trust by having boots on the ground

B2B sales and distribution models may have successfully worked to attract early adopters, but to move past the 'chasm' organisations need to complement these distribution channels with on-the-ground market activation and product brand awareness. As products get commoditised over time, strong customer interaction will be a pre-requisite for growth.

Physical presence in rural markets matters. M-KOPA's association with a trusted household name in Kenya (Safaricom) allowed them to quickly build credibility

with risk-averse customer segments. Opening rural service centres further enhanced their brand and reinforced the idea that the company was established and trustworthy; that investing up to \$200 with them was a safe bet.

Manufacturers of pricier productive assets, like SunCulture's RainMaker water pumps which retail for over \$500 and offer major long-term savings, are similarly bolstering their on-the-ground presence to enhance trust and provide after care support, enhancing direct sales and by creating small retail 'shops' and service centres that deliver training, agronomy support and maintenance. Sistema.bio similarly invested significantly in their customer service during and post-sales in Kenya and Latin America.

Most rural development work led by social enterprises involves the sale of 'push' products: products that provide immense future value for which demand does not yet exist. We have learned that to convince consumers of value, and to change entrenched behaviours, there is no substitute for a personal relationship. Where a connection is made we have seen dramatic spikes in willingness to pay, sales, usage and subsequently referrals.

4. Shift from manufacturing products to become a trusted 'service' provider

The last 10 years has seen a steep increase in the number of solar companies serving off-grid areas, with cumulative standalone sales of lanterns and solar home systems exceeding \$3.9bn since 2010⁹. Based on an increasing number of entrants coming

into the market, rapidly reducing cost of PV panels and mass manufacturing in China, we believe that hardware will very quickly become commoditised. In response, effective product companies are increasingly shifting from a product focus to a 'service' relationship.

Pioneers like BBOXX and SunCulture have known this for some time. Christopher Baker Brian, CTO and co-founder of BBOXX, states that "instead of selling a 50 watt solar home system with a tablet and six lights, we offer an 'education system' with free internet. Instead of selling a solar water pump, we offer a solution that doubles the yield of a farmers' land." SunCulture do not just offer a solar water pump: they conduct technical assessments to ascertain best placement, type and usage, and they provide ancillary services like water storage tanks and drip irrigation systems.

Likewise, M-KOPA sell a service – not hardware – and believe their comparative advantage lies in distribution and customer relationships. Truly understanding their customers and their corresponding energy usage has led to a major increase in repeat business, with over 30% of M-KOPA customers purchasing another product.

Moreover, the business has proved able to sell difficult products like clean cookstoves very quickly over the phone, sometimes in under 20 minutes. This allows organisations like M-KOPA to sell more expensive assets to existing customers, from TVs to fridges.

"We offer our customers an opportunity to 'upgrade' their life", says Nick Hughes, co-founder of M-KOPA Solar. "To make this a reality, we operate a 24-hour customer care call-line, giving customers peace of mind that they can reach us at any time. The devices themselves are connected using embedded GSM and so we can troubleshoot issues with charging, batteries or payment in real time."

"As a result, customers are willing to upgrade their units: perhaps to take a TV or refinance their solar home unit and use that credit for other products or services such as clean cookstoves, smart phones, water tanks or even school fee loans. These upgrades or 'add-ons' are offered on the basis of the long-term relationship that we forge with every individual customer."

The hard data M-KOPA collects about their customers' behaviour is invaluable for the energy provider and asset financier. The credit profiles they have built allows them to tailor payment plans according to customer needs while reaching a broad and unbanked customer base, with 98% repayment rates.

5. Reducing your customers risk

Customers at the last mile may or may not share the same preferences, tastes and aspirations of their urban counterparts, but they are certainly more risk-averse in nature (unsurprising given they have far lower and less predictable disposable income.)

In Accelerating Access to Energy (2014) we documented the journeys of Envirofit, d.light and M-KOPA, all leading product

manufacturers in their sectors, who discovered the importance of full long-term (2 to 3 year) warranties, cheaper entry-level products that enable customers to build confidence in a company and PAYG financing, all of which reduce a customer's risk exposure.

At a market level, we believe the provision of publicly-managed consumer protection is essential to the continued growth of social-impact markets. This is a common concern among product manufacturers in the off-grid energy sector, as potential customers are put off by poor experiences with counterfeit or sub-standard products that fail to meet promises for performance or durability. As a result, certified-manufacturers and distributors need to work far harder to build credibility – a significant barrier to scale and a major drag on innovation.

In the last two years, there has been progress on quality assurance standards at an industry level – led by the fine work of IFC's Lighting Africa, the Global Off-Grid Lighting Association and CLASP (a non-profit focused on the energy efficiency of appliances). Despite this, the issue remains a concern. Adoption by national governments is slow and, for those that do, adapting to annual changes in international standards is difficult. For enterprises, certification can be a timely process which affects speed to market and hands the advantage to those who are less concerned about meeting internationally-accepted benchmarks for quality.

Lesson Two

The market is ready for specialist intermediaries: it is inefficient for organisations to re-invent the wheel.

The social entrepreneurs who are now serving rural customers at scale had to build whole value chains from scratch. We found that the majority of the support SF provided to first-movers such as d.light or Envirofit, for whom existing routes to market did not exist and demand had not been proven, went towards piloting last mile solutions.

By 2010 it became clear that the idea of every early-stage organisation solving the challenge of last mile distribution alone was a non-starter. SF started to experiment with new intermediary models to explore comparative advantages of specialism and economies of scale in the value chain; organisations that would exist to support the rapid deployment of services for rural communities and help new providers enter the market.

Over time, we have come to believe that all leading manufacturers of household energy products will move away from vertically integrated models – especially PAYG companies.

This could mean a company separating its credit/financing arm, software solutions and distribution into separate businesses that offer services to the market as standalone entities, benefiting from economies of scale and driving profitability. Mobisol and BBOXX, for example, are licensing their PAYG software solutions to enable new entrants in frontier markets to benefit from their technology.

"Several established vertically-integrated companies have brought in third party technology at some point to increase the effectiveness of their distribution operations, while we have seen others offer their technology to other distribution parties to maximise its value. Businesses in this market are starting to specialise," says Dirk Muench, founding partner of Persistent Energy Capital.

"Over the last few years specialist value chain intermediaries have emerged, and companies like PEG Ghana or OoluSolar are proving right now that you can scale without being vertically integrated. In addition, the market has reached a scale that is attractive to the conventional intermediaries who provide access to capital and expertise such as Clermont or Open Capital Advisors."

Vertical disintegration is a natural evolution of maturing markets with numerous players requiring similar services. AT&T spun off its equipment division (Lucent Technologies), GM divested its auto parts division (Delphi) and IBM sold off its data networking division (Global Networks). Continuing as a vertically integrated company can, for some, stand in the way of cost reductions, profitability and scale.

Following a heavy period of trial and iteration, SF has identified at least four areas where intermediaries can help manufacturers to reduce cost-to-serve and increase return (by making products available faster and more reliably).

1. HOLISTIC LAST MILE SERVICE PROVIDERS

Challenge:

Many product manufacturers build B2B partnerships to sell and distribute their product in market. Typically, this means pairing each distributor with MFIs willing to provide consumer finance and grass roots organisations to conduct market activation. Can a single last mile distribution intermediary fulfil every part of the value chain from distribution to after care sales, providing a simple 'one-stop shop' for manufacturers and a more cost-efficient route-to-market?

Our experience:

Following a three-year period during which SF had brokered several difficult partnerships between MFIs and product manufacturers, we came together with entrepreneur Gaurav Mehta to explore the possibility of a holistic service provider for last mile needs. In 2011, Dharma Life was born – an organisation that recruits and trains rural entrepreneurs in India and uses world-class logistics to make social-impact products available to them at affordable prices. Dharma Life partners with these entrepreneurs to conduct innovative campaigns to create demand.

Dharma Life is now profitable in 80% of the districts it operates in and is on track to break even in 2019. Creating such a business in this market is difficult, with few product manufacturers willing to gamble on partnerships in the early days, and SF had to provide significant grant capital and business support to help Dharma Life pivot towards the right model. Today organisations like Dharma Life, Living Goods, and Frontier Markets operate with greater capacity and are able to attract more significant working capital to drive sales. The track-record they are building means they are able to choose vendors, for whom they have delivered material scale.

Product manufacturers are also starting to leverage specialist distribution companies to scale in new countries where they have no established base, especially where they offer end-to-end value chain delivery, access to consumer finance and the ability to cross sell to an existing customer base. PEG Ghana procures products from d.light and Greenlight Planet sell systems through Easy Solar in Sierra Leone: markets where they are unlikely to set up their own physical sales and distribution network.

Growth potential:

Dharma Life currently include Greenlight Planet, Prestige, Singer and Barefoot Power among their clients. The business turned over \$5.5m in 2017 (despite recovering from demonetisation in India). They anticipate breaking even in 2019 and exceeding \$30m in annual revenue by 2020.



2. TRANSPORTATION AND LOGISTICS FOR LAST MILE DELIVERY

Challenge:

Organisations that serve rural consumers are faced with long delivery cycles and unreliable, expensive transportation; due to dispersed demand for low-margin or high-volume products, coupled with poor infrastructure and poor data. This dramatically impedes their ability to scale.

Our experience:

In 2014 SF identified Logistimo, a pioneer in mobile and supply chain technology for rural India, as the ideal partner to co-create an 'on demand' freight transportation service called Tusker. Using a mobile and web technology platform suited for low-resource settings, Tusker enables anybody with a registered vehicle to take on transportation jobs for rural freight. The crowd-sourced service aggregates demand, allocates that demand to an appropriate transporter and tracks the shipment throughout the process.

Now moving from pilot to growth stage, Tusker has completed 71,000 orders and has access to data analytics that have begun to demystify rural transportation, consumer behaviour and pricing. The business provides villages with access to a variety of products usually sold in towns (from agriculture inputs to pharmaceuticals to consumer durables) and are then able to transport agricultural produce from rural areas back into towns. The result is a seamless, cheaper and convenient process for the customer, which at the same time improves the livelihoods and incomes of the transporters.

A similar solution exists in Kenya, where Twiga has created a platform to collect and buy agricultural produce (bananas, potatoes and tomatoes) from smallholder farmers in Kenya and sell directly to street vendors in Nairobi, skipping informal wholesale brokers altogether. The swift distribution of produce from smallholder farms to retailers has helped rural farmers to increase income and invest in productive assets. The service now transports 20 tonnes of produce each day, allowing farmers to increase their income by \$50–\$70 per month.

Growth potential:

Tusker now transports a range of products across 11 sectors (including textiles, agricultural inputs and energy products such as Orb energy systems). They are in the process of offering their technology to B2B customers who operate their own fleet or logistics services and forecast an annual revenue of \$6m by 2020.



3. SOFTWARE SYSTEMS

Challenge:

High growth businesses require appropriate systems and software solutions to scale. For companies operating in frontier markets the need for digital technology is magnified by complexity of their business processes. They serve large numbers of low-income customers, process a high number of transactions with a small average transaction size, operate in remote areas, reach their customers through a high number of sales and service agents and have limited financial resources due to their risk profile.

Pioneers have had to hire 'in-house' tech teams and build their own technology given the paucity of off-the-shelf solutions. This technology has become part of their IP; however, it is expensive and inefficient for every organisation to develop their own software applications.

Our experience:

As the market has evolved, businesses operating in rural areas are increasingly reliant on separate software applications for different parts of the value chain. Several good solutions exist, for example Angaza for PAYG control of solar home systems, XERO for accounting, Logistimo for inventory and supply chain management, SuiteCRM for customer relationship management and Zen Desk for call centre management.

Often social enterprises do not know which off-the-shelf solutions are best suited for their business: the applications themselves get better and better, but it is increasingly complicated for a company to run them simultaneously. If information needs to be shared between applications, the required level of integration is often a major challenge. Data stored in silos inhibits effective business decisions.

For example, a company that wants to install a business intelligence application to analyse trends, evaluate performance and visualise operational statistics, requires seamless access to all relevant information within the company. Christopher Baker Brian, CTO of BBOXX, explains: "We are leaving the era of single vendor ERP systems and need to enter an era of enterprise software that allows me to mix and match my tools from five, 10, 20 different applications."

This is not unique to social enterprises as all companies worldwide are moving to 'mix and match' of software solutions. These applications all require ongoing maintenance which most social enterprises are unable to pay for or manage in-house.

In 2017, SF and Persistent Energy Capital co-created a service company called Catalyst to meet this need. Catalyst helps social enterprises and SMEs to select fit-for-purpose digital software applications, configure these into a single database that allows smooth data flows from one application to another, and then provides regular maintenance of the system.

Growth potential:

Catalyst was established in July 2017 and has seven paying customers: they expect to achieve a revenue of \$5m by 2020. Companies such as Logistimo already meet a wide range of needs for organisations such as Tata Steel, UNDP and GAVI who serve the last mile. They forecast annual turnover in the region of \$20m per year by 2020.



4. SALES TRAINING

Challenge:

Enterprises with a direct sales model typically hire ex-FMCG or ex-Telco sales staff, given their ubiquity in most marketplaces and their supposed correlated skill sets. By contrast, we have found that selling complex social-impact products requires a different style that draws a customer's attention to a problem that is not front of mind. Field staff with this skill set are **very** difficult to find, presenting both a training issue and a recruitment issue for social enterprises.

Our experience:

Organisations like M-KOPA, Greenlight Planet, Fenix International and BBOXX in East Africa have started to use a dedicated training organisation, Shortlist Training (formerly Spire Education, which was acquired by Shortlist in 2017), that trains their sales force in basic selling skills and related leadership skills. By leveraging economies of scale, Shortlist Training can deliver focused high-quality training at a cheaper cost than if organisations were to develop their own content, hire their own trainers and deliver such training to their staff.

Shortlist Training has helped customers create specific internal training programmes like M-KOPA University to good effect. Anthropower in India is a similar enabler that provides technical solar training and has developed mobile-based tools to optimise solar solutions for clients.

For recruitment, Shortlist helps growing companies source and screen talent in India and East Africa. Unlike the plethora of other recruiters operating in emerging markets, Shortlist uses technology to assess candidates for their competencies and attributes of potential, rather than relying on CVs to identify candidates. Since launching in 2015, Shortlist has helped over 170 organisations across multiple sectors hire more effectively, with a success rate that is three times higher than the industry average.

Growth potential:

Specialist training organisations such as Shortlist Training in Kenya, and Anthropower in India, provide high-quality courses to build essential functional or technical skills, and already have a wide range of clients in the off-grid energy space. Based on current growth rates, Anthropower aims to turn over more than \$20m within the next five years.

Shortlist has hired high performing sales professionals for dozens of organisations in India and East Africa, including M-KOPA, Envirofit, Husk Power, Fourth Partner Energy, SunCulture, Sistema.bio, Logistimo and many others. They have placed junior field sales staff as well as sales directors and are expanding their geographic presence in 2018 in other regions in Africa.





TUSKER'S MOBILE-ENABLED TECHNOLOGY PLATFORM ENABLES ANYBODY WITH A REGISTERED VEHICLE TO TRANSPORT RURAL FREIGHT TO HOUSEHOLD AND BUSINESS CLIENTS

Moving past early scepticism

The majority of the capital in the social investment sector has gone to vertically-integrated product companies. Accelerating impact requires investment in specialist intermediaries that bring significant efficiencies and economies of scale, enabling new organisations entering into this space scale quickly.

We believe that B2B intermediaries have not only emerged in off-grid but are proving to be financially-attractive high-growth companies in their own right.

Most of the aforementioned organisations expect to breakeven in the next three years and already have meaningful revenues from paying customers. We expect other ancillary services to emerge in the near future such as dedicated service providers for data analytics and marketing.

They will be essential to the viable growth of social enterprises serving rural markets – and hence the return that manufacturers can offer to their investors.

Key criteria for effective distribution partnerships

Meeting your customers-holistic needs, as outlined in this chapter, can be expensive to achieve in-house. In reality, most effective organisations manage parts of the value chain themselves and parts through others. PayPal founder, Peter Thiel, author of Zero to One, highlights that "most businesses get zero distribution channels to work: poor sales rather than bad product is the most common cause of failure. If you can get just one distribution channel to work, you have a great business. If you try for several but don't nail one, you are finished."

In our efforts to support partners to develop and integrate distribution partnerships, we have seen potentially great collaborators fail because of mismatched expectations. Too often incumbents expect simply to ship product, relying on their B2B partner

to fulfil all the parts of the value chain irrespective of whether they have the capacity and or appetite to do so, or squeezing margins as soon as demand starts to pick up.

In recent years we have seen specialist last mile distribution intermediaries emerge (for example Dharma Life, Frontier Markets and Living Goods) who fulfil the majority of value chain needs. However, the majority of B2B partners with substantial distribution networks have little inclination to also educate customers, provide financing and manage after care sales.

Establishing these partnerships is difficult and requires both product vendors and distributors to align objectives, incentives and associated risks.

WHAT TO LOOK FOR IN A DISTRIBUTOR	WHAT TO LOOK FOR IN A PRODUCT MANUFACTURER
<ul style="list-style-type: none"> ✓ Large reach and network within the same target customer segment 	<ul style="list-style-type: none"> ✓ Good understanding of the market from a consumer perspective – with the product being built on what consumers actually want
<ul style="list-style-type: none"> ✓ Trusted and reputable brand 	<ul style="list-style-type: none"> ✓ A channel strategy that is clearly articulated and held true to avoid overlap and cannibalisation
<ul style="list-style-type: none"> ✓ Experience in selling similar complex products – selling FMCG does not mean you can sell a cookstove, sewing machine or solar water pump 	<ul style="list-style-type: none"> ✓ Good understanding of how complex the product is to sell vs the margins on offer. Appropriate margin split for the associated risk and effort
<ul style="list-style-type: none"> ✓ Healthy financials, access to capital and willingness to invest into the business 	<ul style="list-style-type: none"> ✓ Offer appropriate credit terms that enables you to manage your working capital cycle
<ul style="list-style-type: none"> ✓ Dedicated resource that would be allocated to the product category 	<ul style="list-style-type: none"> ✓ Offers some level of marketing support and collateral to help sell their product
<ul style="list-style-type: none"> ✓ Commitment to building the product brand and conducting marketing activities 	<ul style="list-style-type: none"> ✓ Defined service level agreement with clear expectations (i.e. warrantee and guarantees) outlined in the event of faulty products



Lesson Three

Existing logistics operations can be far more efficient. Major gains can be made through improved management discipline and the use of new software to reduce information asymmetry.

New joiners to our team are regularly surprised by the hefty premiums that rural consumers are willing to pay for products that they hold in high esteem, such as TVs, motorcycles or soft drinks. In 2016, Accenture¹⁰ estimated that the monthly per capita expenditure in rural India rose 19.2% between 2009 and 2012, surpassing urban consumption growth by two percentage points.

Consumer affordability is not always the key constraint for a business serving rural consumers. Very often there is significant slack in the supply chain that means organisations serving the last mile cannot meet existing demand. Most organisations do not fully appreciate this and as a result under-invest in supply chain efficiency. For instance, we work with some social enterprises operating in rural areas that have less than 40% accuracy in their ability to forecast demand. This means they experience regular stock outs and lose sales opportunities, or they have redundant working capital stuck in their supply chain.

For the majority of SF partners, we have noted that supply chain management was, and continues to be, an area of rich potential for efficiency gains that have a significant impact on unit economics and reliability. Unit profitability at a town, district and national level receives surprisingly little attention from entrepreneurs, donors and even investors. We see many companies whose models look very attractive from afar, but once we deep dive into unit-level profitability the numbers simply do not add up. This has become an ever growing priority for us over recent years.



What is the right supply chain for your product?

Marshall Fisher, a leading supply chain researcher and professor at Wharton, explains in his paper, 'What is the right supply chain for your product', that there are two types of products: functional and innovative. Supply chains for innovative products need to be agile and responsive whereas functional supply chains need to be efficient.

The supply chain for innovative products must respond quickly to unpredictable demand in order to minimise stock outs. Organisations need to reduce the lag time between sales and delivery so there is little room for a customer to change their mind, requiring suppliers who pride themselves on speed, flexibility and quality (beyond cost). On the other hand, supply chains for functional

products need to serve predictable demand at the lowest possible cost: minimising inventory and selecting suppliers based on cost and quality. Most social enterprises start out with an 'innovative' product; but as the market grows and their target audience becomes more familiar with the product category and demand becomes more predictable they fail to transition their approach to supply chain management. This means they could be optimising for a very expensive, responsive supply chain which is simply not required.

This is not a problem unique to social enterprises but for all organisations selling a product. Marshall Fisher states that poor coordination among supply chain partners costs the US food industry \$30bn annually.

Tackling information asymmetry improves unit economics

A common impediment to profitability is the lack of transparency of demand and supply in rural markets. Information flows in an incomplete, untimely manner and is poorly utilised and aggregated by management at different points in the supply chain.

SF partners have tried a wide variety of tools to tackle this problem, from the rudimentary (such as WhatsApp) to more sophisticated systems (like SAP) that are typically inadequate for fast growing SMEs in rural markets. Most of these tools are not fit-for-purpose for organisations operating in low-resourced environments, particularly as the teams interfacing with customers are often not digitally literate, lack stock management discipline and have limited access to mobile connectivity. As a result, obtaining regular data for effective demand forecasting is extremely hard.

A more effective way of selecting and integrating technology and changing behaviours of users across the supply chain is essential. One social enterprise that seeks to change this picture is Logistimo, an organisation based in Bangalore, India. Logistimo's software provides real-time visibility into stock supply and demand across the value chain: reducing the lead-time required for decision-making and allowing managers at each distribution node to coordinate more effectively to optimise stock.

Logistimo provide simplified platforms for operational staff to contribute and utilise data in a format that they understand. One such platform enables the delivery of over 400 million vaccines to 90 million children in India each year – with 14,000 users transacting multiple times each day. Similar deployments in Myanmar, Zambia, Indonesia, Uganda and Mozambique are starting to scale.

"Technology affords certain structural transformations, such as decentralisation and reducing hierarchies within the supply chain, which can either improve competitiveness or reduce costs through lower inventory holdings and transport efficiencies," said Anup Akkihal, CEO of Logistimo. "If vendors and distributors share their data and use the same platform, technology can also enable vendor-managed inventory, buyback pricing or revenue sharing – making for more effective business models."

By way of example, the business was able to help Karuna Trust, a healthcare charity operating in Karnataka, India, manage the inventory and distribution of vaccines and health products in 21 health centres in remote villages. Using Logistimo's mobile-friendly logistics management system, Karuna Trust has increased stock availability by 99%, a remarkable proof-of-concept.

You cannot automate astute decision-making

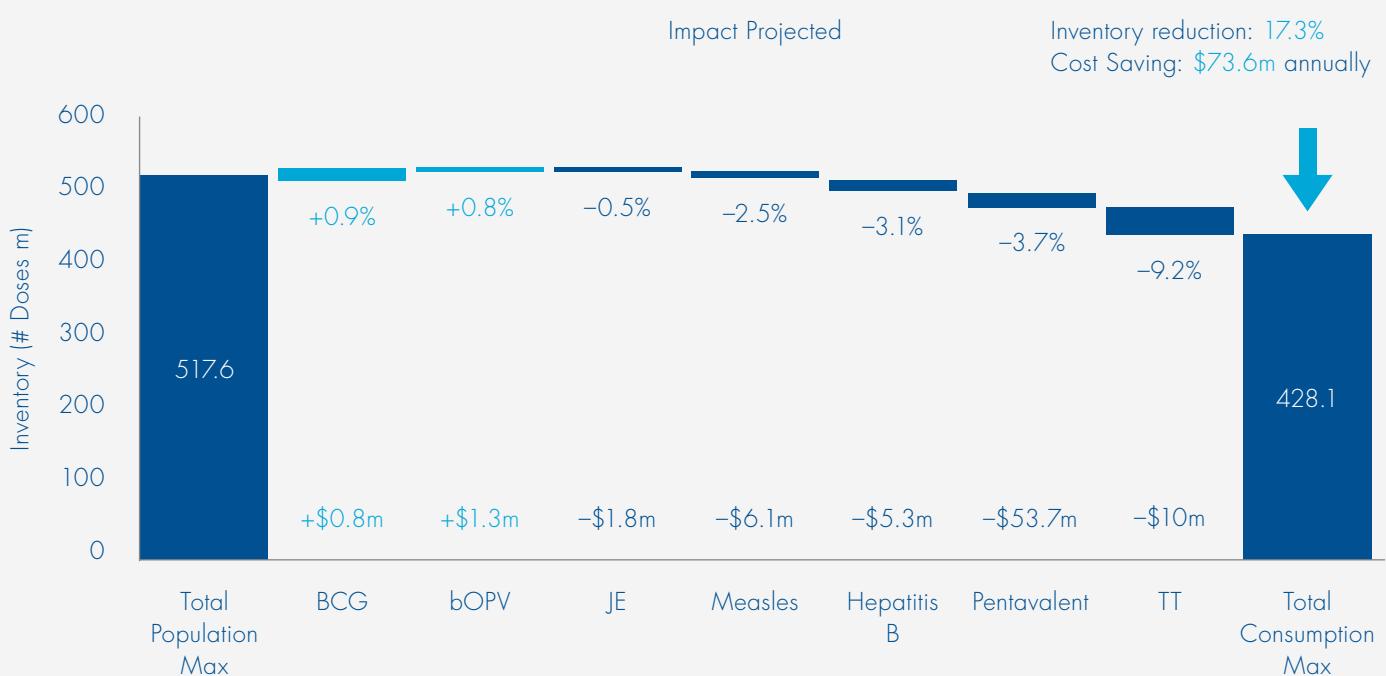
A common misperception is that reducing information asymmetry leads to improved decision making. We have found that while this reduces bias, it does not fix supply chains in itself. The right environment needs to be created to enable the people within the nodes of the supply chain to act upon the data in a timely manner.

In the case of Karuna Trust, many supervisors and district level health officials did not have the time to digest consumer data reports and SMS notifications of inventory issues were not actioned promptly. Logistimo created a virtual bulletin board: a dynamic HTML page on a web browser that continuously streams abnormal events such as stock outs and excess stock and user inactivity at different nodes.

Messages (both positive and critical) were streamed to all members of the network through their phones and on large screens in appropriate office spaces, creating social pressure to take action. District supervisors began proactively assessing the likelihood of stocks outs and including supply chain status updates in monthly planning meetings in primary health care centres.

Logistimo has been able to improve the government of India's ability to forecast and procure vaccines by an average of 49%. In a country where the national budget for the Universal Immunisation Programme is roughly \$700m, this tiny frictionless change is poised to save the nation an estimated \$74m annually in produce procurement, handling, wastage and unnecessary cold chain storage capacity.

Logistimo has improved the government of India's ability to forecast and procure vaccines by an average of 49%. Once scaled, inventory will reduce by 17.3% thereby saving \$73.6m annually.



Improving rural logistics is a major growth area

Effective supply chain management is critical for the viability of businesses who seek to scale, yet most enterprises are not managing this area of their business effectively. Based on Logistimo's data and our own experience working with over 100 social enterprises, we believe that investing in a well-managed, transparent supply chain can add an additional 20% of value compared with a standard social enterprise serving rural consumers today.

More responsive value chains mean products are more available to rural consumers, which affects sales, willingness to pay and referrals – and reduces the intensity of sales and marketing efforts. For a \$50m turnover company, this represents an additional \$10m in annual revenue.¹¹

Driving supply chain efficiency is a major need for all our partners, regardless of stage, sector or geography and, although few investors are interested in B2B supply

chain intermediaries, we believe innovation in this area will be essential for rural markets to grow sustainably. This will therefore be a continued area of focus for SF for the near future.

¹¹ This technology is only effective when people have the discipline and incentives to make informed decisions based on the system's recommendations. The United Nations Development Programme manages the network of supervisors on whom the system is dependent.

Lesson Four

Sales techniques and management will need to improve substantially to appeal to mainstream, lower-income customers.

This chapter is co-authored with the Whitten & Roy Partnership – a sales consulting firm that transforms sales, management, and leadership for social enterprises.

Many of our partners deliver impressive results in terms of impact, sales and revenue earned, yet often these are achieved despite sub-optimal performance against key sales indicators such as sales per agent, churn rate and percentage of 'high-performing' agents.

Inefficient sales functions continue to confound all organisations working to serve rural demand and remain a concern even for market-leaders. When we surveyed our portfolio (60 pioneering enterprises and intermediaries) they ranked the issue as the third hardest challenge they face (after 'access to finance' and 'human resources').

"Conditions on the ground demand exquisite attention in all areas of the business. But what is often overlooked – even neglected – is the last yard of the last mile: the three-foot piece of real estate in which the sales transaction takes place", say Scott Roy and Roy Whitten, two leading sales consultants specialising in emerging markets. "Social enterprise leaders often fail to develop robust sales strategies to recruit, train and manage a sales force – and this failure severely limits their desired impact."

Whitten and Roy speak from deep experience having worked in multiple sectors including agriculture, energy, water, sanitation, education and health,

and with a range of organisations from NGOs to commercial businesses in over 20 countries. They count Barefoot Power, Dharma Life, Kickstart, M-KOPA, Off Grid Electric, One Acre Fund, Sistema.bio, SparkMeter and Sanergy as clients, among many others.

Over the last two years, the Whitten and Roy Partnership (WRP) has provided low-cost support to our portfolio – partnering with us to help entrepreneurs implement world-class sales techniques and salesforce management practices that increase traction with low-income consumers. This level of change takes time to embed and results often dip before improving as a result.

This chapter highlights nine key findings of this work.¹²

1. HIRE ATTITUDE, NOT EXPERIENCE

Companies looking for people ‘with sales experience,’ often find it’s **the wrong** experience. The majority of sales people available in rural areas have only sold fast moving consumer goods, which require an aggressive, quicker ‘pitch’ that rarely leads to behaviour change. Disruptive products require a more consultative selling style whereby sellers discuss problems and then skilfully lead customers towards life-changing decisions.

Bad selling habits and ethics are often deeply engrained, and WRP clients have often found greater success by hiring eager, talented learners and then training them to sell well. They look for certain traits and experiences suggesting a predisposition towards sales, e.g. small business owners (risk takers), community opinion leaders (confidence), community organisers (people-oriented) or teachers (socially-minded and authoritative).

Referrals from business owners, NGO workers and village elders are typically more effective than passive recruiting methods such as radio announcements, ads or posters and handbills which bring in the masses but few good prospects. This active recruiting methodology requires more effort, but it pays off in higher productivity and lower turnover.

2. TRAIN YOUR SALESPeOPLE WISELY AND WELL

Almost every organisation WRP worked with has claimed to train their salespeople, but on closer examination they found it was product and process training being delivered, not sales training. When they did find evidence of sales training, it was nearly always of the ‘tips, tricks, and scripts’ variety – delivered quickly via PowerPoint, with reservations related to over-investing in the wrong people. Perversely this virtually guarantees high turnover, a culture of desperation, and the development of bad habits, which are very difficult to dislodge.

More holistic sales training is required. WRP uses the below formula for analytics and training design: Results = Attitude + Competence + Execution®.

- Attitude training to recognise the emotional ups and downs that happen on the job, and return quickly to a state of mind that generates their most effective behaviour
- Competence training focuses on the art and science of selling: how to approach prospects, probe for customer problems and impact, relate demonstrable benefits to the problems, close the sale, and remove blockers as they arise
- Execution training teaches the practical strategy required to succeed: territory and prospect management, tracking and analysing input data, using time effectively etc.

They have found that **months** of careful follow up is needed to make the new learning stick and that field managers need to be equally skilled in modern sales methodology to cement new habits.

As enterprises mature, creating internal bespoke sales academies can provide a solid foundation for continued success, in some instances reducing attrition by over 40%.

¹² Whitten and Roy's full findings are available in a white paper entitled 'Building a Sales Force Fit to Travel the Last Mile' (2017), which is posted in the learning section of SF's website.



1. Hire attitude, not experience
2. Train your salespeople wisely and well
3. Train your managers to build your sales team
4. Use a problem-led sales approach
5. Manage a tight territory plan
6. Count the right numbers
7. Use technology wisely
8. Pay a good commission
9. Right-size the span of control

credit: G Goodwin

3. TRAIN YOUR MANAGERS TO BUILD YOUR SALES TEAM

Your sales team is only as good as your sales management. Good quality sales managers are hard to find, so you'll need to train them too.

One thing WRP has found is a tendency to 'promote' the best salespeople into management, which in fact is rarely a good choice. Great salespeople are often good because they tend to be individualistic, whereas managers must set aside ego and take pride in helping others win. They need to praise the top performers, encourage and take care of people when they falter, and nurture brand new salespeople to facilitate their growth into productive salespeople – all of which require patience.

The sales manager needs to be effective at helping people recover from setbacks and disappointments found in selling, of which there are plenty. Above all, they need to manage in a way that salespeople want to do the things they need to do to be successful.

Regardless of their CV or previous experience, don't assume your sales manager knows how to do the job well. Stick close to new managers and train them to your standards.

4. USE A PROBLEM-LED SALES APPROACH

Having worked with many of our partners, WRP quickly concluded that salespeople were spending nowhere near enough time discussing their clients' problems before presenting their 'pitch' for a solution – in their view the single greatest sales **competence** mistake.

This becomes more stark as a company moves beyond selling to 'innovators' and 'early adopters', during which stages sales often appear promising, and starts to engage the 'early majority'. Here selling tends to become more difficult, slow down and even stall because the buyers are more cautious and conservative – they wait for others to act and need lots of proof to buy. Early-stage companies often can't quite figure out why or what to do about stalled sales except throw more people at it.

A product **pitch** succeeds when you're selling to innovators and early adopters, not because you are selling well, but because you're dealing with the most eager buyers. However, as you penetrate beyond these early buyers, a pitching approach begins to show its weakness; the prospects to whom you are selling require a deeper conversation about their problems – and the cost of their problems – not your products. WRP has generally started to engage with SF partners around this time, when sales past the early adopters started to plateau as the selling technique had not changed to penetrate the early and late majority consumers.

Helping customers better identify their real problems and discuss potential solutions is a problem-led approach to sales. It is well suited to products that require behaviour change and can serve to reduce the need for awareness campaigns.

One client in the smallholder agriculture sector in East Africa was plagued by low sales of its innovative organic fertiliser. The problem, they thought, was that farmers needed to see the proof of concept before they would buy in quantity. However, once the sellers learned a problem-led sales approach, they discovered that farmers were willing to buy without proof. The result was over 300% growth in sales in the four months after the shift in selling method.

5. MANAGE A TIGHT TERRITORY PLAN

Salespeople tend to move too fast through their assigned territory. They are always on the hunt for 'good' territory and buyers. This phenomenon causes salespeople to drive many unnecessary miles and wander far afield to chase sales. They will capture the 'low-hanging fruit' – people who are easy buyers – but it is a waste of time and money, and it costs them having even **more** customers.

They never create the buying momentum that is right in front of them. They fail to ask for permission to approach, use names, ask for referrals, and gather testimonials from the people who have bought from them – all of which stimulate the local market and drive sales volume and density.

Train and manage your sales force to stay in one area and work systematically to see everyone who is a prospect. Consider mixing group selling and door-to-door, which, when combined, provide a highly effective penetration strategy. WRP's research shows that this systematic, saturation approach generates enormous benefits to the salesperson and the company:

- Buyers are more confident to buy because others nearby have bought
- Referrals work because of the network that is created within a tight geographical area
- Callbacks to interested prospects are executed because it is convenient to do so
- Your brand becomes recognised because of the team's daily visibility in the area
- Costs are reduced, travel time is reduced, and time in front of prospects is increased
- Human wear and tear is reduced because people stay close to home

Once the territory is worked, **rework** it to pick up new sales from prior prospects. Only when a territory is truly saturated should you either add another territory or a second product line.

6. COUNT THE RIGHT NUMBERS

Sales results are of paramount importance, but companies and managers are often clumsy in how they communicate with sales teams about targets and results. Teams often report feeling 'harassed' by sales managers during conversations about how much they sold today and how much they are going to sell tomorrow. This actually interferes with performance by generating too much pressure to perform, which in turn fuels turnover.

Instead, management needs salespeople to track and report on the right input numbers that lead to sales – for example, number of **qualified** pitches or the number of leads generated by an event – and tie it to sales outputs. They can then use this information to analyse what is happening so that course corrections can be made and coaching is effective.

7. USE TECHNOLOGY WISELY

WRP found that many of their clients were successfully scaling up their forces thanks to integrated IT systems and front end sales applications, without which organisations managing 10,000+ sales agents would struggle. At the same time, they cautioned that technology can have unintended consequences that needs to be managed.

One client installed a sales app that registered leads from a call centre and fed them to the field force. Unfortunately, it caused the sales force to run around chasing leads which resulted in extreme time inefficiencies. While these leads generated some sales, the selling benefits of tight territory management were destroyed. The result was poor territory penetration, undisciplined salespeople, and results that were significantly less than what they should have been. The problem was that the technology was not integrated into best field practices and ended up disrupting effective selling habits.

If you introduce technology, realise there are downsides that must be planned and accounted for, including user acceptance and the difficulties encountered when you straddle the old and new systems. Have a well-thought-out introduction to the system and a robust plan for completing its installation.

Above all, remember that technology is no substitute for wise management. While the benefits of instant information, real time reports and automation are helpful, be wary of drifting towards replacing human contact with machines. No application will ever replace the bond that exists between people, especially sales managers and their sales teams.

8. PAY A GOOD COMMISSION

The measure of sales people's success, – and the company's – is based upon how many sales are made. Compensation ranges from 100% variable to 100% salary, or a mixture of both.

Overwhelmingly, organisations in the developing world underpay their salespeople. Companies worry about how much is too much and how little is too little, and almost always err on the low side. The result is that low variable earnings lead to dissatisfaction, discouragement and high probability of turnover.

We encourage companies to err on the high side, but do so with the variable component. If you pay people a salary, make it enough to keep the rent paid and the lights on, then give them an opportunity to earn the lifestyle they want through variable income. If you do offer a salary, manage the individual closely to assure that they are holding up their part of the agreement and are developing into a worthy employee.



9. RIGHT-SIZE THE SPAN OF CONTROL

Large teams are hard to manage for one person. We often find up to 30 salespeople reporting to one manager. The result is that salespeople are mostly on their own – if they make it, great; if not, they'll be replaced quickly. Group management is the only alternative and it is highly ineffective.

If a business is serious about sales performance – building a great sales force and eventually scaling – they must invest in the team by providing the best management possible. This includes training managers to be highly skilled at providing coaching to boost performance.

For new managers, start off with three to four direct reports. If they perform well, advance the number to five to seven. If they become really good at what they do, increase direct reports up to 10. Managers who manage 10 people well deserve the chance to move into the management of managers.



credit: G Goodwin

YOUR SALES TEAM
IS ONLY AS GOOD
AS YOUR SALES
MANAGEMENT.
STICK CLOSE TO
NEW MANAGERS
AND TRAIN THEM TO
YOUR STANDARDS

Lesson Five

Consumer education campaigns for social-impact products will only result in sales if they are product-neutral, run in partnership with enterprises and implemented by local organisations that have credibility with last mile customers.

Major shifts in attitudes and behaviour will be needed if products targeting social outcomes are to become a common feature in households across the world. As discussed earlier in this report, new and largely unknown products represent a high risk for consumers who have little disposable income. Cooking habits and farming techniques, for example, are born from decades-old traditions that require significant persuasion to move away from.

In rural communities, limited opportunities to access information compounds this problem. In western Kenya, where several solar home system providers operate, a survey of 1,000 people living in low-income areas showed that 60% of people learn about solar options through word of mouth – with TV and radio representing only 12% and 19% respectively.

Need for awareness raising campaigns

Market activation is critical to increase the adoption of social-impact products – but most enterprises lack the resources to conduct this on their own. For our partners, selling household durables like stoves and solar systems, it can take up to four visits to an individual customer before you close a sale. Conversion rates between 10% and 20% are considered excellent in both India and East Africa.

This leads to exceptionally high customer acquisition costs. Typical retail margins range between 8% and 25%, making it unaffordable to undertake effective behavioural change campaigns. Distributors typically take a large part of the value chain risk but are seldom offered marketing support from their manufacturers (beyond brand collateral).

Since 2008, SF has tried running our own product-agnostic social marketing campaigns, for example to raise awareness of clean cooking solutions in India¹³. These comprised a range of activities from village engagement (demonstrations, street theatre and interactive games) to advertising (TV, radio and bill boards) to partnerships (MFIs, government health workers and local community groups). We have also helped many of our enterprise partners to participate in market activation exercises run by national governments, international donors and NGOs.

The cost of these pilots has been high, with customer acquisition rates varying greatly. Most government or donor-led campaigns effectively stimulated awareness and familiarity with social causes and opportunities – but impact on sales was relatively limited.

Improving the effectiveness of customer education campaigns

SF partners have had a mixed experience interacting with behaviour change campaigns run by governments and NGOs (designed to help people better understand opportunities for improved health, education or income and take defined action in response). More often than not, they have not found these activities have led to any sustained growth in sales and consumer demand.

Collating their feedback, and learning from our own efforts in India, we believe there are three clear opportunities to improve campaign effectiveness. Our collective view is that these are critical to drive uptake, reduce acquisition costs and increase customer loyalty, usage and repeat purchases.

1. CAMPAIGNS NEED TO BE PRODUCT NEUTRAL AND OFFER CREDIBLE ADVICE TO CONSUMERS ON HOW THEIR NEEDS CAN BE MET BY ASSURED PROVIDERS

Despite common recognition that behavioural change and market activation is critical, few enterprises have sufficient margin to absorb this cost and are not in a good position to provide quality assurance to consumers. SF has also found that foundations, donors or public agencies are hesitant to fund behavioural change campaigns given the poor visibility they have on the impact that can be achieved.

The more effective of the campaigns SF has participated in have set a high standard for the products they endorse but were totally agnostic on provider. This gives consumers the confidence that there were no vested commercial interests at play. The controlled trials we ran as part of our own Room to Breathe campaign to promote clean cookstoves in Karnataka, India, showed the importance of carefully researching the nuances in customer values and aspirations in different locations, even between neighbouring towns, and appealing to these needs rather than simply advertising generic health benefits (which we continue to see in the market).

2. EXECUTE THROUGH LOCAL INTERMEDIARIES THAT COMBINE MARKET ACTIVATION FOR SOCIAL-IMPACT PRODUCTS WITH LAST MILE LOGISTICS AND DISTRIBUTION

Most awareness-raising campaigns do not include distributors in the design stage of the campaign – often leading to a disconnect between their activities and stock availability, field agents or provisions for consumer finance. Where distributors have been a part of the process you typically see successful results, as was the case with the Kenyan malaria campaign run by Population Services International and DFID which resulted in the sale of 19 million mosquito nets between 2001 and 2010. (In this period malaria admissions to hospitals in sentinel districts halved between 1999 and 2006 while under-5 mortality decreased by 36%.¹⁴)

Last mile distribution specialists have a deep understanding of their customer base and are often better placed to design and execute the campaigns through their own network on the ground, as they know the scope of the value chain in that geography.

Most can do this cheaper than campaign agencies and can ensure there is follow through across the supply chain. With the advent of technology and mobile applications, we are now in a position where such campaigns can be tracked in real-time and their impact can be measured in terms of awareness, conversions and sales. This leads to donors funding organisations that can prove their impact, and the possibility of implementers earning income from donors and governments based on actual results (externalising the costs of customer education).

In the last year, SF has started working with non-profits in Uganda, Rwanda, Ethiopia and Nigeria to design consumer awareness campaigns that are publicly assured, implemented by local retailers and distributors, and funded based on results. We will report fully on the results from these activities in coming months.

¹³ Social Marketing in India, Shell Foundation, 2013

¹⁴ Statistics from the National Social Marketing Centre's PSI Showcase www.nsmc.com

3. MORE ATTENTION TO THE BASICS IS REQUIRED FOR EFFECTIVE 'SOCIAL MARKETING'

MARKETING BASICS	SF OBSERVATIONS
Segmentation	Manufacturers and distributors are often seduced by the broader applicability of their social-impact products leading them to chase all segments equally rather than targeting consumers (factoring the differing desires and value required by different genders, income groups and cultures) and building traction sequentially.
Timing	Knowing when to approach a customer and how to make best use of their limited time is a frequently missing skill. Knowing which month to target a customer improves the odds of converting a lead into a sale. For example, approaching a farmer just after they sell their harvest/produce to market.
Remarkable message	Talking about the health benefits of cookstoves to a consumer who only cares about economic savings, will lose you a potential sale. We still continue to see enterprises employing branding and marketing value propositions that fail to appeal to the greatest personal drivers of their most likely consumers.
Reciprocation	Providing additional value to the customer beyond the product itself is important to buy in trust and establish credibility. This includes free warranties, guarantees, special discounts, competition prizes, entertainment or the personal interest taken by sales agents.
Repetition	Changing behaviours takes time and requires multiple touch points. Success requires a long-term and multi-channel marketing plan, using a blend of activities and messages.
Supporting infrastructure/ services	Effective market activation requires infrastructure to ensure sales agents are quickly on hand to close a sale and the provision of consumer finance (either in house or through a partnership with a MFI). We frequently see brand building activities happen in areas where products will not be available for many weeks.
M&E	Understanding the impact of marketing activations enables organisations to course correct swiftly and direct capital towards activities with highest return. Too many organisations still lack visibility of the impact of their varied market activation efforts on sales.



Example: Dharma Life Technology platform for market activation

Dharma Life provides integrated social marketing, distribution, sales and M&E services to its clients: which now include social enterprises, FCMG corporates, NGOs, multilaterals and a range of other development actors. They target improved awareness of social issues, product recognition, behaviour change (e.g. handwashing) and sales.

The business has created a new technology platform to enable real-time monitoring and analysis of its multiple campaigns and engagements, creating a transparent and auditable process centred on impact delivery. By providing clarity on results, organisations can compare the cost-efficiency of different marketing channels, approaches and delivery partners and Dharma Life is able to price accordingly.

This assessment of consumer behaviour (Dharma Life provides names and numbers of people who purchase, telephone numbers of lead customers, sales figures and marketing efficiency data) gives enterprises and potential donor funders confidence that their capital is well spent.

Dharma Life's platform is user-friendly. Clients log on to the digital platform select the geography, demographics, population and desired impact, as well as the village entrepreneur who will lead the marketing activities (based on past performance and ratings), type of campaign and time-period. They then get a quote from Dharma Life on the cost to execute.

The funder is able to track performance and impact in real-time throughout the duration of the campaign. This package enables organisations like Dharma Life to externalise the cost of market activation and secure 'results-based' finance from a range of organisations who prioritise the impact they can deliver.

Dharma Life has used this tool for a user acceptance trial for a new Tier 4 clean cookstove in a study supported by the World Bank among 500 consumers, and to drive adoption of induction cookstoves in Gujarat and Uttar Pradesh as a means to deliver major health and economic benefits to households. The business ran a cooking competition, 'Dharma Chef', across 150 villages in two districts of Gujarat – reaching over 10,000 people – taking the chance to educate consumers about the dangers of indoor air pollution.





credit: Comms for Development

Lesson Six

Serving lower-income customer groups and expanding to frontier markets will require new enablers to increase PAYG adoption and provide working capital to last mile distributors.

This chapter is co-authored with the Consultative Group to Assist the Poor (CGAP) – a global partnership of more than 30 leading organisations that seek to advance financial inclusion.

Our thanks to Daniel Waldron and Alexander Sotiriou for contributing their expertise to this report.

The aim was to empower women as decision-makers and help them see induction stoves as a high-quality aspirational product that inferred high social status and met their cooking needs. Encompassing locally-led street theatre, door-to-door campaigning, roti and pizza making competitions, the campaign resulted in a five-fold boost in sales.

Access to Consumer Financing

Low-income consumers are usually cash-poor, with cash flows that depend on external factors such as weather and harvest cycles. These consumers are unable to make single large payments and require financing assistance. This is a particular challenge faced by distributors of durable goods and means that distribution also needs to be combined with financing options. Without this, most last mile distribution models to serve low-income consumers will struggle to scale and achieve profitability.

What is Pay-As-You-Go technology?

Smart assets that can communicate with a server using GSM or other wireless protocols are increasingly common in low-income markets. Connectivity can enable a device to be remotely disabled in case of non-payment. Coupled with consumer finance, this creates a pay-as-you-go (PAYG) structure where asset usage is tied to loan repayments, incentivising willingness to pay and providing added security for the lender. Moreover, the ability to re-collateralise an asset after it has been paid for is a powerful tool to facilitate follow-on loans.



PAYG asset financing has opened up a scalable pathway for low-income consumers to afford essential assets – however it would be wrong to assume this model is suitable for the mass market and to reach lower income consumers without substantial further innovation.

Despite its potential as an enabler of consumer credit, **remote lockout** is not ideal for certain types of assets (e.g. biomass cookstoves), and is not a substitute for credit scoring and deposit screening. Lockout may also be problematic on loans for income-generating assets: companies such as Tugende, Sistema.bio and SunCulture have wrestled with when to lock their devices, since this may increase the likelihood of default.

Last mile customers are likely to be unbanked (i.e. to not have access to an account, whether at a financial institution or elsewhere) and thus consumer finance operations have had to become creative in the ways they evaluate and mitigate risk. Many organisations use **an upfront deposit** to function as a strong screening tool. By forcing customers to purchase equity upfront, lenders: (a) establish that the borrower has sufficient financial resources to make payments; and (b)

ensure that borrowers will be motivated to do so. Consider that a recent Hystra report showed that when one PAYG solar company significantly decreased their deposit size, the share of ‘late payers’ more than doubled, from 15% to 33%.¹⁵

However even relatively small deposits may still be too expensive. In a recent McKinsey study, over 80% of consumers surveyed in Kenya stated that they cannot afford the \$15-\$30 deposit fee of a mid-range solar home system. Allowing poorer customers to make pre-payments for their deposit can expand access while maintaining the screening function (see Box 1). Providers such as PEG Africa also risk-price their deposits, allowing borrowers meeting certain criteria to pay less upfront.

Alternatively, consumers can prove their ability to pay off systems by starting off with a smaller asset and leveraging that data as credit history to graduate to a higher value asset. For example, once EasySolar customers in Sierra Leone have fully paid off the much smaller ~\$20 and short-term loan over approximately 4-5 months, they can graduate to a larger system.

BOX 1: DIGITAL LAYAWAY

Shell Foundation and Vodafone are co-creating a dedicated digital energy wallet (run off Vodafone’s M-Pesa) in which Vodafone customers can receive discounts when they save towards a down payment for a certified energy product. Effectively an incentivised digital layaway scheme, this is an example of where corporations and foundations can play a role to accelerate the number of people who have access to energy.

Laura Crow from Vodafone states that “De-risking the project with Shell Foundation grant capital has certainly been critical for Vodafone given the outcome and success of the project is unknown and a significant amount of design changes will need to take place to enable a pilot.”



¹⁵ Reaching Scale in Access to Energy: Lessons from Practitioners, Hystra, 2017

Consumer finance entails providing a finished product at the point of sale, only to be paid back over time. **As a significant amount of commercial and local capital is required to scale consumer finance operations, the instinctive desire of most entrepreneurs is to manage those operations in-house. This brings a unique set of challenges to a business:**

- Requires an entire new set of competencies (credit assessment, portfolio management, customer engagement)
- Capital-intensive, with long payback cycles when the business should be growing. Giving customers one to five years to pay off solar home systems requires finding affordable debt to finance receivables, preferably in local currency. The combination of new business models and unbanked customers yields high risk premiums and collateral requirements
- Necessitates discipline and transparency in evaluating riskiness of financial assets (e.g. receivables/loans/leases)
- Consumer finance must be integrated seamlessly with all aspects of a company. For example, sales agent bonuses ought to account for both sales quantity and portfolio quality; they should be motivated to prepare customers to easily repay their loans

There are a variety of options for overcoming these obstacles:

1. Outsource financing to an existing financial institution with the necessary competencies and balance sheet to manage a consumer finance operation. In India, every customer who buys a financed solar home system from Simpa Networks receives a loan directly from RBL Bank, and the two entities co-manage the customer relationship (see Box 2).
2. Securitise receivables via the creation of a special purpose vehicle (SPV). This takes long-term receivables off the provider's balance sheet, allowing them to turn a smaller profit quickly, while investors receive passed-through payments for the life of the loan. There are some issues to adopting this approach: high transaction costs, lack of secondary market or debt servicers. Yet this is a proven strategy that has already been deployed by companies like Lendable, which helped securitise the receivables of solar and motorcycle lenders in East Africa.
3. Develop a captive in-house financing arm. Leading PAYG companies do this with dedicated teams who have painfully built up deep expertise in credit assessment, management and customer engagement. Their cost of funds remains high, which is why CGAP proposed licensed deposit-taking as a means of mobilising low-cost funds while providing additional customer value.¹⁶

BOX 2: PAYG BANK

It is inefficient for new organisations, whose comparative advantages are in product design, manufacturing or distribution, to manage credit in-house. SF believes there is a role for a third party intermediary who can solely focus on issuing and managing consumer credit. Product manufacturers and distributors would still maintain the customer contact and relationship, but would outsource the back-end credit structure and management process to this 'PAYG Bank'. Such a bank would be uniquely able to support consumer finance, and could mobilise low-cost deposits from across a range of customer segments.

Scaling off-grid energy solutions will require long-term, affordable debt to finance the instalment sale (or lease) of solar home systems.

According to Persistent Energy Capital, an early stage off-grid energy investor, the industry could need \$2-3bn in debt at a global level by 2020. Further complicating matters, loans to customers are made in local currency whereas capital is typically raised in USD, exposing PAYG companies to large currency fluctuations.

In Sub-Saharan Africa the sum total of deposits with MFIs is roughly \$5bn in local currencies. CGAP and PEC have explored several scenarios for off-grid energy PAYG companies and MFIs to integrate their models, i.e. making local currency deposits from MFI clients available to fund the working capital needs of solar home system enterprises. To put this in context, \$5bn would be sufficient to finance consumer loans for 33 million solar home systems worth \$150 apiece, benefiting more than 150 million people.

The prize here is local lending as it completely avoids exposure to foreign exchange markets. Our view is that despite the challenges encountered to-date, better use of MFIs in PAYG Solar still represents a significant opportunity for expanding local consumer currency and consumer finance. We believe there is a differentiated role for foundations such as ours to underwrite pilots for these types of solutions so that energy enterprises can truly scale and materially shift the needle on energy access and sustainable growth in rural villages. It would be difficult for any one organisation to execute and co-ordinate with multiple MFIs, so we believe there is a role for a small consortium of risk tolerant players to pilot this concept with one or multiple MFIs, so we believe there is a limited amount of local currency deposits. This would provide sufficient proof to bring other MFIs on board and influence them to leverage local currency deposits to fund the working capital needs of PAYG companies.



¹⁶ Access to Energy and Finance: An integrated approach to Capture High-Growth Opportunities in Africa, CGAP and PEC, 2016.

Existing options for consumer financing in non-mobile money markets

In markets where mobile money is not prevalent and/or where the asset in question does not have the capacity to have a remote lock off (i.e. a biomass cookstove) a number of viable options exist to provide consumer financing. Managing these at scale currently requires significant manual management which carries strong potential for innovation.

1. MFIs

MFIs have the knowledge and experience (and often the deposits) to run a consumer finance operation. They are accustomed to working with low-income customers, and possess trusted networks with large member bases. In India alone there are 37 million MFI customers with a similar profile to that which many social-impact product companies are targeting, only 10% of whom have received a loan for an energy access product. On the other hand, MFIs are typically slow-moving, risk averse and reluctant to develop new underwriting methods for consumer finance. They are not in the position to fulfil parts of the distribution value chain, nor are they accustomed to loan repayments being contingent upon product performance, as is the case with much consumer finance. Lastly, most MFIs will be unused to consumer finance's looser underwriting and collateral standards.

Any collaboration between a product company and MFI will take time, patience and serious commitment. Those manufacturers and distributors (like d.light and Dharma Life) who have successfully worked through MFIs, have found that such partnerships work best when the MFIs structure the loan product and leave sales, distribution, marketing and after-care sales to the manufacturers and distributors. They also attach importance to aligning roles and responsibilities with senior management and loan officers beyond core operations. To successfully scale these partnerships, manufacturers and distributors have to have the agility to expand operations in line with demand (as the reach of national MFIs may extend beyond the enterprise's sales and distribution activities.)

In many markets MFIs offer the quickest path to finance, and with the right de-risking and structure they can assist their customers in accessing energy products. Consumers need freedom to purchase the energy product of their choice and digital solutions that decouple financing from products will enable that freedom.



2. CREDIT MARKETPLACE

In some markets MFIs may not prove to be a viable option. Sistema.bio struggled to find a MFI in Mexico that had the capacity to lend \$400 for a biodigester at a reasonable interest rate to its farmer base, and instead became the first social enterprise to partner with the non-profit credit marketplace, Kiva. This partnership enables Sistema.bio to receive 0% interest capital to fund the installation of biodigesters for clients who cannot pay the full price upfront. Clients pay a down payment and repay the rest in an average of eight monthly instalments.

SF believes such platforms (digitally managed) are an under-tapped resource that can be scalable in non-mobile money markets.

3. MANUAL PROCESSES FOR PAYG ASSETS

PAYG asset financing in non-mobile money markets can be a viable option, with organisations like Greenlight Planet testing scratch cards or energy credits with mobile network operators. Under this model, customers pay cash to an agent (often a telecoms agent) appointed by the PAYG solar company to vend prepaid energy credits in the form of unique 8–12 digit numeric codes that are later entered into the solar product. Azuri Technologies have used scratch cards and Simpa Networks have used pre-paid energy credits through agents in India.

This method typically leverages the existing mobile air time agents' networks, and removes the complexity and risk of collecting cash by agents who are not used to doing so. Other organisations have manually collected cash from their customers – however this is very difficult to scale.

Access to distributor financing

Even if we solve the consumer finance challenge, distributors and their sales agents cannot sell those products to consumers unless they have access to affordable working capital. Few financial solutions for early-stage social enterprises target inventory finance – and fewer support downstream distributors. New solutions are urgently needed.

"For enterprises that already sell thousands of products each month, the single largest barrier to scale is the lack of affordable debt available to them."

Accelerating Access to Energy, SF, 2014.

It is a source of some frustration that, three years on, the absence of affordable working capital and longer-term debt remains the greatest challenge faced by SMEs who serve rural customers.

A few market leaders in the off-grid energy sector have been able to attract commercial debt, typically PAYG solar enterprises that are well capitalised with sufficient equity investment. The majority of organisations, by contrast, are not as well capitalised and lack the track record and collateral that commercial financial institutions seek. For

lenders, sourcing high quality borrowers in markets with limited market intelligence on creditworthiness and benchmarked financial performance is time consuming and expensive, leading to greater risk premiums that make debt inaccessible.

Existing mechanisms are scarce and costly; or affordable but extremely slow to deploy funding. Without using expensive equity to meet short-term working capital needs, few options exist in the market.

Pioneer product companies in the off-grid energy space will need to work through downstream distributors with on-the-ground operations, local knowledge and strong customer relationships in order to meet the needs of nearly two billion people. These distributors will not usually be fast-growing equity-backed businesses – and may not generate the same types of revenues as the product manufacturers. They will however be financially viable organisations like Envirofit, Greenlight Planet, d.light, Ominovoltaic, SunCulture and many more rely on such distribution partnerships, and each distributor will need access to working capital to make this work.

Shell Foundation interviewed 13 investors who provide working capital to social enterprises. Most provided some form of working capital to organisations that had raised equity, had strong management teams, required a ticket size of more than \$500,000 and could provide some sort of collateral or guarantee.

Only one investor, SunFunder, stated they can provide \$100,000 or lower working capital loans, the average ticket size for many downstream distributors. This challenge, which also exists in markets where business models and demand have been proven and derisked, becomes even more acute in frontier markets.

Organisations fulfilling the need of low-income consumers in markets like Burkina Faso, Senegal and Cote d'Ivoire will find it particularly challenging, despite the fact that they will play a critical role to scale the sector in these markets.

We see three areas with the potential to significantly improve distributor finance:

1. INVOICE DISCOUNTING

There are early indications that ‘invoice discounting’ could prove to be an effective (but expensive) way for downstream distributors to access working capital. Umati, a Kenyan invoice discounting company, provides working capital to agricultural processors and their suppliers. The company provides funding to the processors’ suppliers based on the outstanding invoices that are due, and then collects the money from the processor once their customers have paid up (plus a fee). This arrangement benefits both the supplier who receives the finance as well as the processor who has more flexibility in cash management. Most of the processors that Umati finances do not have an effective supply chain management system. Umati’s integrated technology platform automates the invoice management process with web-based software to enter and manage invoices. Much like downstream distributors of social-impact products, agriculture supply chain companies have severe shortages in working capital, but limited access to finance opportunities.

2. DEDICATED FINANCIAL VEHICLES FOR DOWNSTREAM DISTRIBUTORS

Providing working capital lower down the supply chain. This will require data and technology to enable organisations to reduce transaction costs when providing working capital loans of less than \$500,000. We see potential for a financial vehicle (either specific to downstream distributors or at least one that caters for downstream distributors) to leverage available data – or proxies for data sources by intermediaries such as CreditEnable – to assess distributor credit worthiness, as opposed to relying on traditional and highly expensive due diligence processes that are not economical at small ticket sizes. Until significant scale is reached, such a financial vehicle will most likely require blended finance to achieve financial viability, due to low ticket sizes.

3. WORKING CAPITAL FOR RETAILERS

Retailers, sales agents and village-level entrepreneurs who sell social-impact products on behalf of the downstream distributors, need access to working capital to sell beyond a few units a week or month. Most of these agents and rural entrepreneurs are unbanked and face the same challenges as the low-income consumers they exist to serve when trying to access finance.

Dharma Life has 13,000 village entrepreneurs who need access to working capital. In partnership with the London Business School and Oliver Wyman (the global management consulting firm), business is developing an alternative credit assessment for both entrepreneurs and end-consumers that combines psychometric testing, social referencing and proxies for risk-taking and income. The tool assesses whether an entrepreneur is likely to be a good entrepreneur and then recommends how much working capital to provide. Dharma Life aim to first use this to underwrite lending for MFIs to entrepreneurs and consumers, and over time to build out its own financing arm.

A shared challenge

Access to working capital for retailers and rural entrepreneurs is not only a critical part of the value chain for social enterprises **but for anyone wanting to sell products in emerging markets**. Following a pilot in Kenya, Mastercard and Unilever are expanding a digital lending initiative designed to help micro-entrepreneurs in developing countries get credit. The initiative provides a micro-credit eligibility recommendation to Kenya Commercial Bank (KCB), by combining the distribution data from Unilever and analysis by Mastercard on how much inventory a store has bought from Unilever over time. If a store consistently shows weekly purchases of \$50 from Unilever they can qualify for an interest-free credit line from KCB of \$120 to stock their inventory, provided through a secure Mastercard digital payment solution. This is a great example of corporates leveraging their comparative advantages to develop a disruptive and scalable solution to the distributor challenge.

Dharma Life Case Study

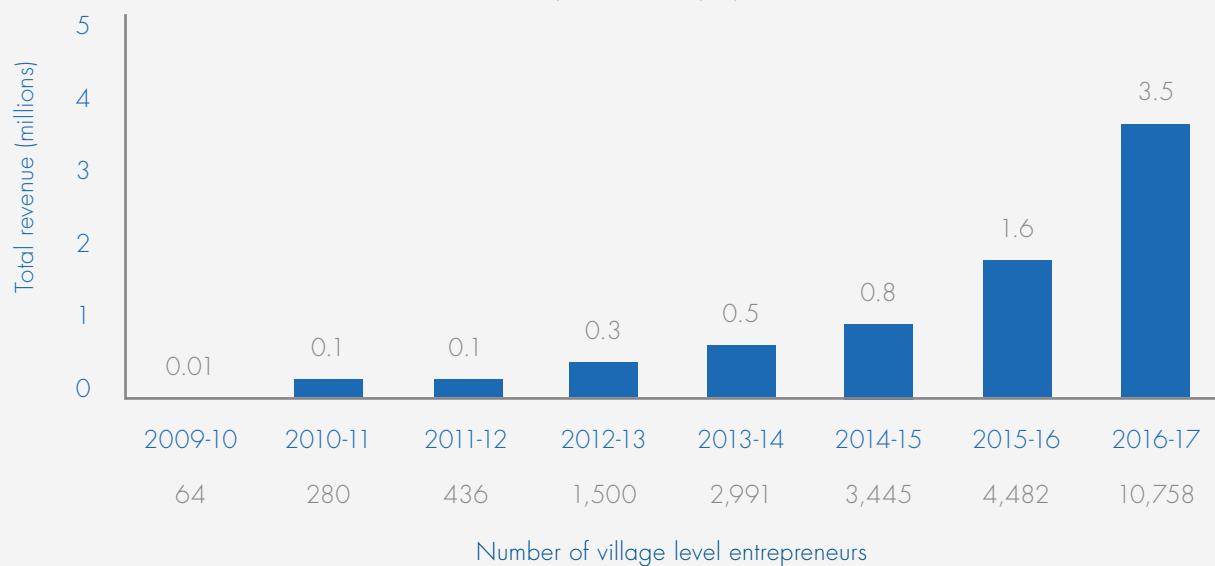
Applying these lessons to achieve unit economics.

Last mile distribution is a complex challenge. For Dharma Life, achieving a business model that is on path to financial viability has required patient support to iterate around its initial business model and build the right team, technology and supply chain for scale.

The business now earns income from three principle sources:

1. the sale of social-impact products through village level entrepreneurs,
2. execution of social marketing and behavioural change campaigns, and
3. delivery of research projects.

Dharma Life has now achieved district level profitability in 80% of its districts, and forecasts that this will rise to 100% by 2019. This gives it easy access to eight million consumers in rural India, with whom they are fast building credibility. Here we apply the lessons presented in this report to assess the key turning points in the business' journey to scale.



LESSON 1: INVEST IN ITS CUSTOMER RELATIONSHIPS

Dharma Life started out selling one category of products (solar lanterns) from multiple providers. By investing heavily in its network of rural entrepreneurs, and helping them to build trust with local communities, they have been able to build demand for a far broader range of expensive, yet livelihood-enhancing products, which has been critical to the sustainability of their model.

They now sell a wide variety of goods – a mix of high and low margin goods and one-off and frequent purchase types – including mobile phones, sewing machines, water purifiers, nutritional products and female sanitation products.

With training and resources, Dharma Life's network of 13,000 village entrepreneurs are seen as local change makers and experts on a range of social issues. This means that Dharma Life can help customers maximise the impact of each product by using it correctly, and connect social enterprises with people who truly understand the aspirations and income patterns of their communities.

LESSON 2: THE NEED FOR SPECIALIST INTERMEDIARIES

Dharma Life has become the partner of choice for manufacturers of social-impact products, as well as donors, NGOs and public agencies who are interested in scaling access to essential products in rural areas. Organisations like Tata Trusts, Google, Unilever, GIZ, World Bank, Singer, Samsung and Omnivoltaic believe that Dharma Life can deliver these activities faster and more cost-effectively than available alternatives.

Managing the day-to-day operations and supply chain logistics of such a vast network is both difficult and high risk, and it would be inefficient for each of these organisations to do this themselves. By demonstrating its value as a specialist intermediary, Dharma Life has gradually attracted a wide range of partnerships that have accelerated its path to break even.

LESSON 3: EFFICIENCY GAINS FROM IMPROVED LOGISTICS AND DISTRIBUTION

Dharma Life has a dedicated supply chain team who manage end-to-end logistics and distribution, and built in-house technology to provide full visibility of the supply chain, enabling the team to manage inventory at every node.

Since digitising its supply chain, moving to a hub-and-spoke distribution model and ensuring that the team can respond quickly to move inventory to areas where demand is high, Dharma Life has reduced stock outs, lowered costs and steadily improved delivery time to sales points.



credit: Comms for Development

LESSON 4: IMPROVED SALES PERFORMANCE

Dharma Life has spent a significant amount of time optimising its sales model, which is core to its business and part of its USP. The organisation recruits village entrepreneurs based on four profiles that they feel are well suited to their products and services. Entrepreneurs are screened using psychometrics and social references, appropriately trained and then given a portfolio of products that matches their skills and ability to influence on specific causes. This tailored method has proven much more effective than generic recruitment and generic sales, and has led to positive spikes in entrepreneur activity rates, retention and sales.

It has also developed its own system to manage the performance of its sales force, which goes beyond sales volumes to track activity and engagement levels of entrepreneurs, as well as peer recognition, allowing management to ensure staff are delivering value and take action where individuals are ineffective. (In response to this data, Dharma Life recently reduced the number of entrepreneurs per sales manager by 20%, and saw a corresponding 20% improvement in activity levels.) Given how expensive it is to run a sales force at this scale, this level of performance management to improve productivity and achieve unit economics.

LESSON 5: EFFECTIVE MARKET ACTIVATION

Having established credibility with customers, Dharma Life began running product-neutral behaviour change campaigns on behalf of public agencies, non-profits and groups of social enterprises. It reports that districts which overlay behavioural change activities on top of MFI partnerships and a mixed product basket achieve district level profitability within less than 12 months of launching.

In 2017, the business launched a new product offering B2B clients a real-time analysis of activities and impact (across multiple campaigns, engagements and districts). These clients are then able to choose between different marketing channels, approaches and delivery partners based on these results. This has led to organisations like Google and Tata Trusts, who understand the value of Dharma Life's network, commissioning them to educate and train rural women on digital literacy.

As their reputation has grown, Dharma Life has also been able to generate revenue by conducting research for organisations like the World Bank who want to better understand rural customer segments – which has added 15% to Dharma Life's net income.

LESSON 6: INCREASING FINANCE FOR CONSUMERS AND WORKING CAPITAL FOR LAST MILE RETAILERS

Improving the affordability of its products is Dharma Life's greatest challenge. The business has forged partnerships with a large number of MFIs and community finance institutions who now represent one of their largest sales channels. To make this work, Dharma Life had to learn how best to support the sales process: ensuring stock is available at the right times, taking full accountability for building demand, and managing the product before and after a sale.

Providing working capital for village entrepreneurs is another major financial hurdle. As a means to leverage further funding, the organisation is developing an alternative credit assessment tool (with Oliver Wyman and London Business School) that leverages psychometric testing, social referencing and alternative customer data to better assess entrepreneur and customer credit risk.

Over time Dharma Life envisages developing its own financing arm to provide working capital to entrepreneurs finance to customers, a major step that is nevertheless in keeping with the importance of this finance to the scalability of the business.

Technology enablers

The adoption of appropriate technology has been critical to Dharma Life's success, though these transitions have often required major investment and patience from investors.

When SF started working with Dharma Life the organisation was managing 400 village level entrepreneurs using an excel spreadsheet and managing its end-to-end supply chain manually. Using complex systems like SAP or basic platforms like WhatsApp to collect sales information was found to be of limited value for a fast-growing business with a rapidly evolving model.

Accordingly, Dharma Life has set-up its own technology team and built in-house solutions for credit scoring, social marketing and direct order delivery.

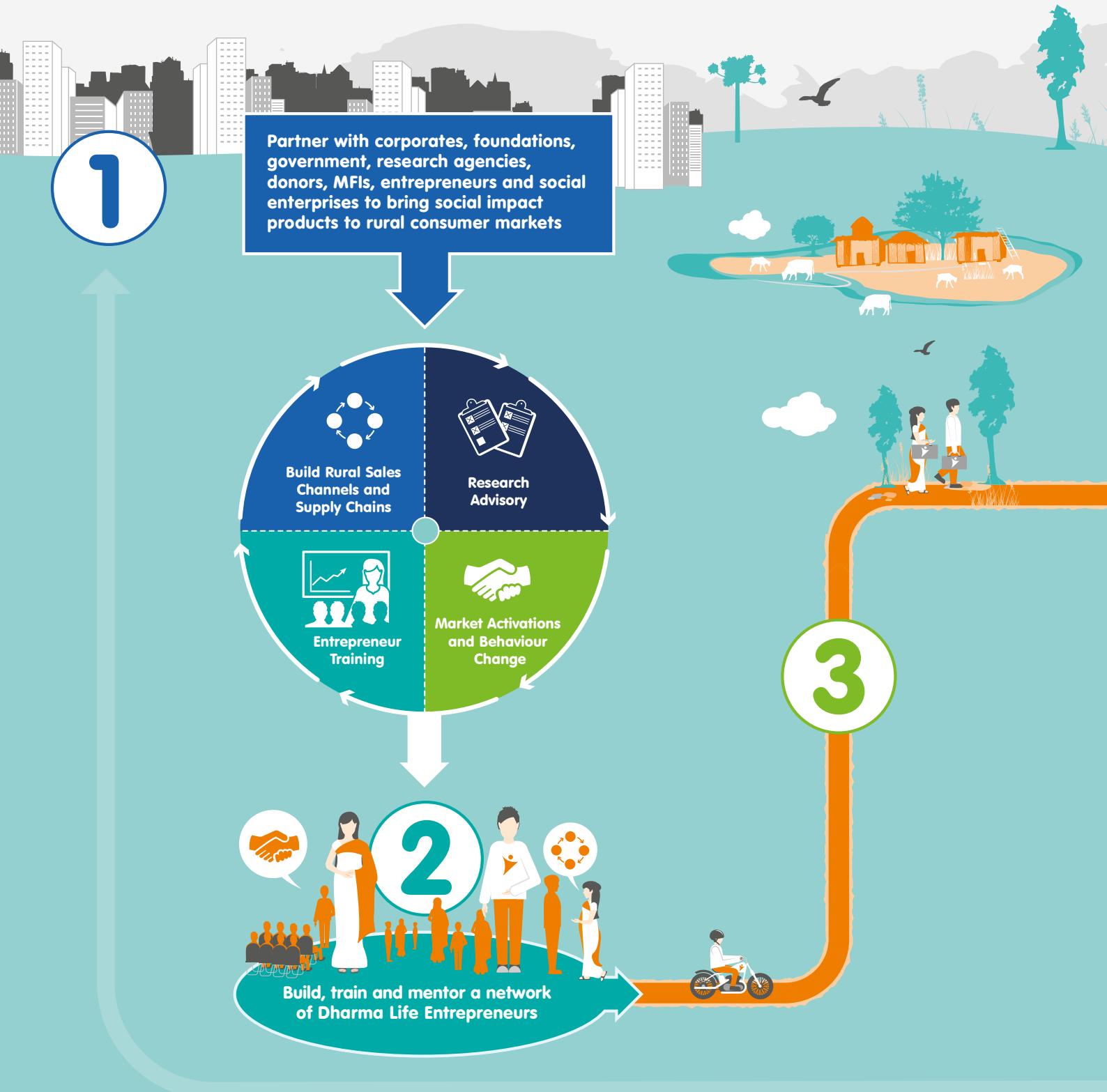
This step was essential in order to maintain agility in the field and has become a core differentiator of the business.

Fit-for-purpose technology enables Dharma Life to manage 13,000 entrepreneurs and deliver campaigns with full cost transparency and real-time visibility of effectiveness.

Dharma Life's impact to date:

	Social cause	Direct impact	To date	Indirect impact	UN SDGs
Rural consumers	Overall outreach	Rural consumers reached	9.6M	Improved communities	
DLEs	Livelihood consumers	Sewing machines sold Mobile phones sold Bicycles sold	22,682 83,517 5,874	Job opportunities and livelihoods	
	Education	Women trained in digital literacy Children reached with literacy campaigns	5.1M+ 764,000	Income opportunities	
	Water, health, hygiene and sanitation	Female hygiene packs sold Water purifiers sold	30,217+ 8,168	Health and hygiene awareness	
	Indoor air pollution	Clean cooking devices sold	32,806	Carbon emissions and health	
	Access to clean energy	Solar lighting solutions sold	135,594	Carbon emissions, income opportunities	
	Nutrition	Sachets of fortified health drink sold	2.7M+	Children health awareness	
	Livelihood DLEs	Livelihoods created Women entrepreneurs Income generated	13,000+ 8,000+ \$695K	Communities, gender, livelihood	

Dharma Life's business model



credit: Communications for Development

Generate health and livelihood impact



H

Health & Hygiene



E

Access to clean Energy



A

Access to safe drinking water



L

Lifestyle



I

Indoor air pollution



N

Nutrition

PRODUCT DEMONSTRATION

Direct Sales to Customers

Market activation to create rural demand for products

Raising Awareness in Communities

Conduct market research and gain customer insights for product development for third parties

4



Conclusion

At the start of this report we asked if it was possible to improve the economics of social enterprises serving last mile customers... to the point where they can secure sufficient investment to serve billions, not millions, of people living on less than \$10 a day?

Having shared the findings from our efforts to build effective rural value chains for off-grid energy products, we hope you share our cautious optimism that the answer to this question is 'yes'.



By harnessing the approaches outlined in these pages, leading off-grid energy businesses are now serving millions of rural customers across Asia and Africa. They are profitable and attracting commercial capital to support their rapid growth. Outliers in their sectors, we believe that beyond the strength of their management teams and a relentless focus on cost and value, tackling the value chain challenges systemically and simultaneously has been crucial to their success.

Another reason for optimism is the high level of demand experienced by the intermediaries such as Dharma Life, Logistimo and Twiga – who will have all achieved unit economics and project viability within the next two years. We believe these enablers will be essential to amplify the impact of social innovators serving the last mile and reduce the timeframe required for second and third generation social enterprises to establish operations.

Nuances in this story clearly exist: viability does not mean profitability (these businesses may still choose to deliver negative EBITDA as they search for the right balance of expansion, R&D investment and return to investors). Similarly, there is considerable scope for each of these partners to find efficiencies and further value in every part of the value chain: none of our partners would lay claim to having cracked the last mile distribution challenge.

Achieving a viable market for social-impact products and services is not a given

While the ingredients appear to be in place for rapid growth of impact sectors, our optimism is tempered by the size of the continued challenges confronting social enterprises with the potential to materially contribute towards the SDGs.

For example, to take just one of these global goals, the Catalyst research referenced earlier in this report finds that 100 million households in Africa will still not have access to modern affordable energy by 2030. Aggressive expansion of national grids, off-grid utilities and solar home system (SHS) businesses will be needed to achieve SDG7. In such a scenario, the SHS sector alone would need to serve 40% of energy demand – more than double the projected growth rate of this sector.

Catalyst estimate that such a feat would require at least \$33bn of private capital, leveraged by \$1bn of grant funding and \$4bn in public finance to serve the poorest households. With 85% of off-grid customers living in rural areas, the majority of this finance needs to go towards establishing cost-effective rural value chains for new and existing enterprises.

This level of capital represents a major step-change in the current funding available to social enterprises serving low-income customers, and we believe this can only be leveraged through the targeted deployment of grant finance to support value chain innovation.

Catalysing these new approaches requires patience, significant risk capital and extensive business support: by way of example, our partners often pivot their business models 5+ times before an investable and effective solution emerges.

Foundations operating in the social investment sector can deliver material social and environmental impact at scale by providing support to high risk, high potential last mile innovators in six key areas:

1. Support pioneers of social-impact sectors to build their distribution capacity, and find more effective ways to market and sell to last mile customers. Leveraging private capital will depend on both unit profitability and scale of operations to demonstrate that these are sustainable and investable businesses.
2. Support pioneering B2B enablers to demonstrate that they can reduce costs for social enterprises to build long-standing relationships with rural consumers. Innovation in last mile distribution is the only way that existing entrepreneurs can achieve the unit profitability and size of customer base needed to attract investors.
3. Support further supply chain innovation and expansion of ancillary services for social enterprises, particularly to facilitate the advance of social-impact markets beyond East Africa (investing directly or through specialists like Persistent Energy Capital who are building the capacity of distributors such as Solarworks, Rensource and Heya! in West Africa).
4. Work with public agencies and donors to facilitate results-based finance schemes that allow B2B enablers to monetise the impact that they are able to deliver – thereby improving their ability to offer market-rate returns to investors – and build capacity for effective consumer education and quality assurance.
5. Participate in new ‘blended finance’ vehicles designed to provide consumer finance and working capital to downstream distributors and retailers (providing a layer of grant or social investment to improve returns to mainstream investors and lower risk, in exchange for outsized impact.)
6. Facilitate the entry of larger corporates (beyond traditional FMCG companies like Unilever) to develop new products for the last mile customers. Many corporates are trying to reach and influence low-income consumers. We have found there can be great synergies with national or global corporates who are trying to further penetrate rural locations and social enterprises who have operational capacity on the ground. Corporates like Unilever, Vodafone, Mars and Johnson & Johnson are starting to work much closer with impact enterprises who are closer to new customers and are seeing the impact on their bottom line. Some corporates like Total and Engie are making direct investments towards energy enterprises serving rural consumers in Africa.

While promising, there are still only a handful of corporates who are actively engaging in rural markets (beyond small pilots). Foundations can support corporates to work with social enterprises whilst they prove out new business ideas – provided senior management set clear parameters for supporting initiatives to scale once they show promise.

We believe that urgent investment and innovation in last mile solutions will be a major catalyst for the commercialisation and ongoing competitiveness of impact enterprises, and the expansion and replication of these markets.

More and more organisations from large corporates to social enterprises are interested in serving rural consumers in emerging markets – but most do not have the resources, capacity and know-how to build a sufficient value chain to serve those customers and/or find the right product-market fit.

Our experience suggests that few foundations or social investors are willing to support supply chain innovation or B2B intermediaries (DOB Equity, Mulago Foundation and Elevar Equity, Acumen, Elea Foundation are exceptions in our sector), instead being drawn to enterprises with exciting technology that offers a more direct impact on people's lives (e.g. PAYG energy assets).

There are a number of existing specialist intermediaries that now have a proven business model, strong management teams and are growing year-on-year – and some have gone on to raise Series A and B rounds. Not only are these businesses investable in their own right, their very existence and success will help other businesses' viability further up the value chain.

Next steps for Shell Foundation

SF will continue to work on the opportunities explored in this report in the hope that these may lift the heavy burden that social businesses face in today's market. Innovation in sales and marketing strategy, customer management, logistics technology and consumer and distributor financing will, we think, have a marked effect on the cost to serve rural customers, the price they are willing to pay, their usage of impact products and their readiness to try others.

Our belief is that this will provide a boost to profitability sufficient to trigger the surge in investment required to make high-quality, affordable social-impact products available to the majority of last mile consumers – as a means to spur rural economic growth, achieve many of the Sustainable Development Goals (i.e. beyond access to energy) and improve the prospects for people in the poorest corners of the world.

Notes

