



Building a better
working world

Are your customers in the loop?

Using customer insight
to crack the last-mile
distribution challenge.



The better the question. The better the answer.
The better the world works.



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Welcome

EY, Acumen and Frontier Markets (FM) are united in the belief that impact entrepreneurs and their businesses are crucial to achieving the United Nations Sustainable Development Goals.


Fusing the social mission of a nonprofit with the market-driven approach of business, they are critical engines for powering inclusive growth, human dignity and potential, while crafting a different narrative about poverty altogether.

These businesses are already changing the lives of millions by providing better access to essential goods and services, often against a backdrop of massive constraints. Few are more significant than the so-called “last-mile distribution challenge” and, if ways through and around this challenge can be found, then there is no telling what more these innovators might achieve.

With this report, we aim to show how creation of robust feedback loops with customers can make a major contribution. While we don’t claim to have all the answers, we hope that what we share here can push impact investors and entrepreneurs to keep asking the right questions and inspire continued efforts to bring a better quality of life within reach of many more people living at the base of the pyramid (BoP).

**Last-mile
distribution is
a formidable
challenge for impact
entrepreneurs.**



A woman wearing an orange headscarf and a red long-sleeved shirt is smiling. Next to her, a young girl with dark hair in a braid is also smiling. They are standing behind a low wall made of large, rough-hewn reddish-brown stones. To the right, a yellow solar home system is visible, with the brand name 'RAKSHAK' printed on its side. The background shows a brick wall and a dark wooden door.

**FM is on a mission
to redefine last-
mile access to
clean energy.**



At EY, we believe a better working world is one where everyone can contribute to and share in the benefits of economic growth.

With billions of people still living without access to essential goods and services like electricity, clean water and sanitation, that may feel a long way from reality. But the good news is that a new breed of impact investors and entrepreneurs is making it their business to tackle this inequality, driving inclusive growth by innovating better answers to some of society's toughest challenges.

When these businesses work better, the world works better, and it's why Enterprise Growth Services (EGS) exists. A not-for-profit extension of EY's business consulting services, EGS operates at heavily subsidized rates to bring the knowledge, skills and experience of EY global organization within reach of impact

entrepreneurs in low-income countries, sending experienced EY people to work with them to help improve their businesses' resilience, productivity and capacity for sustainable growth.

EY is immensely proud to continue its collaboration with Acumen and be part of its drive to change the way the world tackles poverty by supporting its investees. In supporting FM, we're especially pleased to have had the opportunity to work directly with Acumen's Lean Data team; also to take what we have learned and translate this insight into actionable guidance that can help propel the entire impact entrepreneurship sector forward.



Acumen was founded in 2001 with the mission to change the way the world tackles poverty.

Having witnessed the shortcomings of both top-down aid and unbridled markets, we believe there is a better way – a third way – to address the problems of poverty. We call it patient capital.

Patient capital turns philanthropic dollars into long-term solutions that give each and every individual the agency to change their lives, investing in intrepid entrepreneurs building businesses to serve the poor. It doesn't seek high returns, but rather works to catalyze the growth of early-stage social enterprises providing low-income consumers

with access to energy, education, health care, housing, water and sanitation, and agricultural inputs.

As our portfolio of investments has grown, we have recognized that leadership matters more than structures when it comes to making these solutions work. That is why we are working to cultivate a global community of individuals with the skills, determination and moral imagination to solve the biggest challenges of our time. Through +Acumen, we are democratizing our knowledge and sharing new ideas to move the sector forward.

One of those ideas is Lean Data, our new approach to impact measurement that harnesses the power of technology to give voice to low-income customers.

We want to bring the voice of the customer to scale and make that an industry standard, not just for social enterprises, but organizations everywhere.

We believe, as we did from the start, that ours can be the generation to solve poverty. If we can make impact data as accessible and foundational as financial data is today, we will have the power to supercharge our capacity to solve the world's toughest problems.



At FM, we're tackling the challenge of access to energy, one household at a time.

Since our founding in 2011, we have helped more than 250,000 rural households convert to clean energy systems and improve their quality of life, and we aim to reach 3m households by 2020 through a network of 3,000 entrepreneurs.

In India alone, nearly 80m households – approximately 400m people – don't use grid electricity as their main source of lighting. Almost 90% of them live in rural areas and, out of the 180m rural households in the country, well over 40% still use kerosene as the primary fuel for lighting.

This is not for want of available alternatives, but rather of quality products that effectively meet their needs. That's why, if we are to truly create a "pull market" for clean, off-grid energy, then we have to let the customer's voice be our guide.

That's exactly what we're doing, making it easier for customers to provide feedback and creating opportunities to delve deeper into their needs, their use of products and the value they derive from them. And that deep insight is being used to strengthen every aspect of our strategy and operations – from refining our product portfolio and strengthening our relationships with distributors, to using a better understanding of seasonality to reduce inventory and improve capital efficiency.

Finding better ways to capture customer insights, and use them to drive business performance, should be a top priority for any impact investor or entrepreneur looking to scale their impact. We hope this study will shine a valuable light on how it can be done.

**Impact
entrepreneurs
are building
businesses to
meet the needs
of the many, not
just the few.**





Executive summary

You can't manage what you don't know.

While we'd probably all subscribe to that maxim, it's one that rings especially true for organizations seeking to serve the more than four billion low-income people living at the base of the pyramid.

BoP markets have long been heralded for their potential to drive economic growth and social impact on a massive scale by providing millions of poor households with affordable access to essential goods and services, such as safe water, clean energy and improved sanitation.

The fact that we've barely scratched the surface of that potential points to the essential problem: these markets are notoriously hard to reach, with geographic isolation and limited access to information leaving BoP customers disconnected from any business value chain.

This dislocation is the crux of the so-called "last-mile distribution challenge" and, if we're going to conquer it, then finding ways to reliably connect with end customers, and capture and make use of their insights, is surely a vital part of the equation.

That's because – in largely informal economies, where word of mouth is king – the end customer is so much more than that. They're also potentially your sales force, your

design team and your corporate strategy department – your best source of market intelligence on what works and what doesn't out there in the real world.

The collaboration between Acumen, EY and FM stands as proof of the difference that can be achieved when impact entrepreneurs invest time and energy in establishing robust feedback loops with customers, as well as the dealer networks that form an essential part of so many BoP value chains.

If you experiment with technology and create the kind of incentives and experiences that make customers want to engage with you, it's possible to mine a rich seam of valuable customer data. These insights can be used to drive all manner of strategic and operational improvements that can help to build a more robust, productive and sustainable business.

We've learned a great deal from the project – including from the odd failure, as well as successes. In sharing lessons learned from this collaboration, we aim to help accelerate the growth and impact of other social enterprises by offering practical, replicable guidance that can make a valuable contribution toward cracking the last-mile distribution challenge.

Geographic isolation and limited access to information leave BoP customers disconnected from any business value chain.



The challenge remains getting innovative products into the hands of BoP customers.



Background

The difficulty of increasing penetration of reliable, affordable solar products in India provides a perfect example of the last-mile distribution challenge.

Of the 1.1b people around the globe who are still without access to electricity,¹ 244m live in India.² More than 90% of them live in rural areas and are often left to rely on dangerous and expensive kerosene to light their homes.³ Even among those rural households who are connected to the grid, intermittent and unreliable supply means that around 70% of them continue to use kerosene as a backup lighting source.⁴

To put into context just how dangerous kerosene is, consider that the effect of inhaling fumes from just one kerosene lamp is estimated to be equivalent to smoking 40 cigarettes a day.⁵ Consider, too, that the cost of kerosene lighting alone can eat up around 20% of average household expenditure, and research shows that people who stop using kerosene after purchasing a study light for US\$8 can save an average of US\$85 a year.⁶ That's a huge sum for a poor household and it all adds up to a compelling case for switching to solar energy.

Yet, while several companies have created innovative products to provide clean, reliable energy, the challenge remains in getting those products into the hands of BoP customers. On the supply side, poor infrastructure and connectivity makes last-mile distribution particularly costly and challenging for energy enterprises serving low-income households. And on the demand side, despite clear need,

customers can be reluctant to invest in clean energy products because cheap, inefficient options have flooded the market and they lack the means to distinguish the good from the bad.

Founded in 2011 by Ajaita Shah, FM exists to overcome these challenges. In essence, it's a distribution and maintenance business, leveraging a network of dealers and thousands of rural farmer retailers and women to make low-cost, high-quality products accessible to rural BoP customers. Yet, while a successful business, operating in 10,000 villages across Rajasthan, it has not been immune to the difficulties of capturing and utilizing reliable customer data to accelerate its growth and impact.

Low-income customers must make hard choices on the basis of little information and, when your business depends on such marginal buying decisions, understanding their needs and motivations is critical. That's why Acumen engaged EY to join forces with its Lean Data team in helping FM create and sustain reliable, cost-effective feedback loops with its customers and dealer network.

¹“Sustainable Development Goal 7,” Sustainable Development Knowledge Platform, <https://sustainabledevelopment.un.org/sdg7>, accessed 4 May 2017.

²Electricity access in Developing Asia, WEO 2016 Electricity access database, International Energy Agency, 2016. (accessed via www.worldenergyoutlook.org, 4 May 2017)

³Power for all, World Bank Group, 2015.

⁴ibid.

⁵“Solar offers poor Africans alternative to dirty kerosene,” *Financial Times*, 17 January 2014.

⁶ibid.

Know your customers

Reaching customers at the base of the pyramid inevitably involves innovation and co-creation with a variety of allies.

It might mean making use of limited existing channels and infrastructure for distribution, forging partnerships with well-established microfinance institutions or nongovernmental organizations, tapping into networks of village leaders and entrepreneurs, or a combination of all these things.

And once you've reached those customers, you need to keep them, to build an enduring relationship with your brand, and to tap into the insights they can offer on what they value and what you can build a sustainable business around.

Especially if customer information is being recorded manually, every link in the chain multiplies the risk of human error, meaning that even the most basic details – e.g., name, contact details, products bought and place of purchase – can prove hard to capture accurately.

At the outset of our collaboration, FM held reliable data for approximately 5%-10% of its customer base – a consequence of relying on dealer networks to manually record and send on customer information, with no real incentive to do so. That figure now stands at more than 40%, with a goal to reach more than 60% by 2018. How might other impact entrepreneurs achieve these sorts of gains?

Insight 1 – Be prepared to experiment with technology

Thanks to the ubiquity of cell phones and technologies like interactive voice response (IVR), impact entrepreneurs and investors can quickly and inexpensively gather meaningful data directly from end customers. Moreover, data can be collected in ways that are fun and informative (see Insight 2), and provide the information impact entrepreneurs need to optimize their businesses.

Like any tool, though, technology is only as effective as the way it is used. It is not a silver bullet. But used with rigor and creativity, it can open up new channels to cost-effectively ask questions at the core of social impact measurement. The trick is to be lean and adaptive in piloting different methods and to learn fast from the results.

Use of IVR during the FM project provides a case in point. It was selected as a low-cost way to survey customers – one that can be particularly effective in rural communities where literacy levels may be low, as it means there are no questions to read or answers to write. However, limited experimentation led to relatively poor results and this has spurred further research, which shows there is a science to getting it right.

Besides the questions themselves, multiple variables can impact response rates, including use of SMS priming messages and incentives to take part,⁷ choice of voice and language (i.e., male, female, different dialects and accents), and time of day a call is received by the customer. By using extensive A/B testing,⁸ organizations can isolate which particular combination of variables is likely to yield the best result – a technique that Acumen's Lean Data team has proven can improve response rates by more than 30%.

Insight 2 – Make it fun and informative to engage with you

Beyond simple incentives, such as a free gift or entry into a lottery draw, using a quiz format can also introduce an element of fun to IVR calls and make it more rewarding for customers to take part. We all like to prove how much we know and that's what makes quizzes proven winners at getting people to stay on the line and share their information.

Even simple true or false questions – in relation to particular product features and benefits, for example – can provide an opportunity for impact entrepreneurs not only to reinforce what's different and special about their products and services, but also for customers to uncover potentially new and unexpected uses for them.

Insight 3 – Motivate your customers to connect with you directly

With IVR largely unsuccessful in FM's case, this necessitated creation of alternative means to encourage customers to contact the business directly – one that, again, would preferably serve to reinforce important brand attributes.

For FM, the answer lay in their warranties and guarantee – respectively offering between six months and one year of free repairs if a product develops a fault, and free replacement within two years of purchase. These are important differentiators in a market saturated with low quality products, and the combination of more prominent messaging and a toll-free number to activate warranties is almost entirely responsible for the almost 40% increase in customer data held by FM.

This shows the value of looking beyond IVR, especially if you're dealing with more complex subject matter. While IVR is effective for sending messages that don't require complicated responses, if concepts are more complicated to explain, or for customers to understand, then they'll likely prefer the option to speak with a real person.

While the effectiveness of warranty activation as an incentive may be specific to FM, the principle behind it – of finding and leveraging a key point of difference for your brand – is one that any impact entrepreneur can follow.

⁷ Alerting customers in advance can reduce the risk of contact being perceived as a spam call. An SMS primer may also be used to affirm that the call is free to the customer and to communicate incentives for them to stay on the line and take part, such as a free gift or entry into a lottery.

⁸ Also referred to as split testing, this involves splitting your sample so that defined groups of customers receive different variants of the call (e.g., male voice vs. female voice). Split your sample into enough segments – so that you're only changing one variable at a time – and, in each case, you can determine which variant (if any) produces the higher response rate.



A close-up, low-angle shot of a person's hand and forearm in the foreground, reaching towards the left. The background is a dense field of tall, thin grass or reeds, heavily blurred to create a sense of depth. A bright yellow rectangular box is positioned in the upper right corner, containing white text.

**Used with rigor
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Use customer insights to make better decisions

So, you have reliable information about your customers.

You know who they are and where they live. You know what they purchased, when and from whom. You've established a direct communication channel and can follow up to gain further information about their experience of your brand – how well your product or service is performing, how and how often they use it, and whether they would recommend it to others. How are you going to take advantage of that insight to increase your market penetration and grow your impact?

Insight 4 – Refine your strategy and operations

A huge awakening for FM was that 70% of its customers turned out to be women. Coupled with detailed analysis of sales data – providing a much clearer understanding of what is selling best and when – this kind of insight provides the perfect opportunity to review and rationalize product portfolios, lower inventory costs and prioritize sales and marketing efforts.

In FM's case, it has led to significant revisions to its product range, investing more in products that appeal to its primarily female customer base (such as clean cook stoves) and streamlining the rest of the portfolio. This way, it can put greater effort and resources behind its biggest sellers and generate an acceptable level of profit to be ploughed back into further expansion of the business and its impact.

Analysis has also revealed the effect of seasonality of purchasing behavior – for example the volume of long-range flashlights being bought by farmers during agricultural seasons to scare animals away from crops – which has helped the business in improving its sales forecasting and stock management.

In fact, deeper exploration into the full extent of seasonality – not only farming seasons, but also monsoon season, wedding season and the impact of major holidays and festivals – has led FM to the important realization that it doesn't need to be selling all of its products all of the time to be successful. It actually operates much more efficiently, effectively and profitably when it focuses on providing the right customers with the right products at the right time.

Insight 5 – Turn your customers into sales agents

Customers don't have to be just customers. With word-of-mouth referrals being so vital in rural markets, they may also be your best sales people.

Aftersales services calls, conducted one month after warranty activation, revealed to FM that almost 80% of customers were recommending products to four or more people. Keen to reward customers for this loyalty, and to further encourage word-of-mouth sales, the business

has been piloting a new referral program as a result, which entitles customers to free gifts or credit in return for recommendations that result in new business.

With an increased focus on its primarily female customer base, FM has also collaborated with NGOs and government agencies to tap into the existing network of self-help groups (SHGs) in Rajasthan – women-run alliances that provide access to funds and technical assistance to help women in local villages to start their own businesses.

Recruited from those SHGs, FM has built a network of women sales agents known as “Saral Jeevan Sahelis” (Easy Life Friends), who earn an average of US\$35 a month from marketing products, educating potential users, signing up customers and providing a first point of contact for follow-up and repairs.

Deeply embedded within local communities – and representative of the very women they are selling to – this growing network has contributed to consumer knowledge of the availability and benefits of high-quality solar lighting. Sales jumped from 25% to 60% and accounted for 30% of all sales over the past 18 months. Based on these results, FM plans to expand the Saral Jeevan Sahelis network from 1,000 women to 20,000 by 2020.

Insight 6 – Let your customers prove your impact

Customers are also the ultimate source of information on whether social outcomes are improving as a result of an enterprise's products or services. What outcomes do they value most – in the case of solar, perhaps reduced household expenditure on energy or the increase in the number of hours available for adults to work or for children to study? And to what extent are products and services helping them achieve those prized outcomes?

Acumen's Lean Data team works to gather exactly this kind of data, not only from FM customers, but also those of 10 other investees across its clean energy portfolio. Across a series of in-depth interviews, the team first seeks to understand how customers previously accessed energy and the associated costs. Then, three months later, it follows up with the same customers to hear about their experiences with investees' products or services to evaluate the impact they have had.

Data from FM's solar lighting customers reveal, for example, that 38% live below the poverty line of US\$3.10 per person per day (2011 prices). The majority work in agriculture and use their products on their farms and in their homes. And, as well as having cumulatively saved these families an estimated US\$5.4m in energy-related expenditure,

those products have afforded them an estimated 65% more hours of better quality light to live, work and study. Naturally, such data – and the personal stories behind them – provide great evidence to share with potential customers and encourage more of them to join the ranks of Saral Jeevan Sahelis.

With a free online Lean Data course on +Acumen already available, and Acumen set to share the detailed question sets that underpin such impact measurement exercises, other impact entrepreneurs and investors will have access to a valuable toolkit from which to develop their own approaches.

Treat distributors as extensions of your business

Building and maintaining a resilient value chain is a key success factor for any business.

This is especially so for those operating at the base of the pyramid, for whom last-mile distributors are the everyday face of the business and chief custodians of the brand experience.

Is a distributor willing to give product demonstrations in and around their location, for example? Would they let a potential customer take a product home and test it before they buy? Would they be prepared to offer customers credit when making a purchase? And are they willing and able to provide efficient aftersales service and repair?

All these things, and more, can have a profound effect on customers' trust in your brand and your ability to build new and repeat business. That's why it pays to view distributors as an extension of your core operations, rather than simply vendors of your products. That may sound obvious, but what does it mean in practice?

Insight 7 – Be selective

If distributors are an extension of your business, then it means applying the same strategic rigor to selecting them as you would to setting up your own retail operation. A key objective of our collaboration was to help FM become more strategic in dealer selection, and this led to development of a set of qualification criteria that prospective dealers and agents need to be able to satisfy.

These expectations of all FM dealers include things like dedicated shelves for FM products, abiding by credit terms, committing to quick servicing and maintenance of products via the nearest service hub and to

running regular marketing events. Assessment feeds a scorecard that the business can use not only to inform dealer selection, but also evaluate ongoing performance.

Insight 8 – Create shared value

How these sorts of expectations are framed is as important as setting them. It's not about "policing" distributors and terminating relationships with those that underperform. It's about identifying areas for improvement and creating the foundations for a shared and mutually beneficial approach for building their capacity and capabilities.

In FM's case, an important marker of this shared value approach is their new VIP dealer program. Based around a balanced scorecard – incorporating average annual billing, customer satisfaction scores and execution of marketing schemes – dealers are ranked as silver, gold or platinum and can earn a variety of benefits including margin incentives, better credit terms, and enhanced brand and marketing support.

A further symbol is that FM no longer has sales teams. These teams have been recast as "dealer managers," their role being to guide and support their dealers up the ladder toward platinum status. With their own incentives to get their dealers to the top of the tree, this ties their success and the success of their dealers together, and working in tandem to build markets has seen FM's dealer network grow substantially from around 800 retail outlets to more than 2,000.

It pays to view distributors as an extension of your core operations, rather than simply vendors of your products.



Conclusions

Last-mile distribution is undoubtedly difficult and complex, but the challenges are not insurmountable.

It starts with the ability to collate accurate data on customers and their purchases, and this is certainly possible if organizations are smart about their use of technology, as well as creating other means and incentives to establish direct contact with customers.

Used wisely, insights derived from that data empower impact entrepreneurs to make all manner of improvements that can increase the market penetration of their businesses. Reliable data on best-selling products allows you to rationalize your product portfolio and put more resources behind those that are truly driving performance. Deeper understanding of seasonal demand allows you to forecast, budget and manage inventory more effectively. And, perhaps most

importantly of all, knowing which customers are recommending your products to others offers the opportunity to grow your sales and reputation through word-of-mouth referrals.

Where impact entrepreneurs rely on making use of limited existing channels and infrastructure for distribution, relatively simple actions can likewise make a big difference to the performance of these dealer and agent networks. By treating last-mile distributors as an extension of the business, and adopting shared value approaches that encourage collaboration in improving performance, impact entrepreneurs can build deeper and more prosperous relationships with these vital links in the value chain.

Customer insight is vital to cracking the last-mile distribution challenge.



About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

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About Acumen

Acumen is changing the way the world tackles poverty by investing in companies, leaders and ideas. We invest patient capital in businesses whose products and services are enabling the poor to transform their lives. Founded by Jacqueline Novogratz in 2001, Acumen has invested more than \$108 million in nearly 100 companies across Africa, Latin America, Southeast Asia and the United States. We are also developing a global community of emerging leaders with the knowledge, skills and determination to create a more inclusive world. In 2015, Acumen was named one of Fast Company's Top 10 Most Innovative Not-for-Profit Companies. Learn more at www.acumen.org and on Twitter @Acumen.

About Frontier Markets

At FM, we believe that each and every household deserves access to goods and services that enhance their health, wealth and productivity, and make their lives easy. We are a for-profit business with a social mission: to redefine last-mile access to clean energy, eradicating deadly killers like kerosene and ensuring a more energy-equitable future for one million rural households across India by 2020. Our brand is based on customer trust – unless rural households can rely on us for dedicated service, education and continued local presence, they will go back to using dangerous forms of energy. We promise to provide high-quality products, educate the masses about solar, create local access to these solutions, provide on the spot aftersales service and stay in constant touch with our end customers. We believe that true customer service is the key to satisfaction, and FM will always put the customer first. Learn more at www.frontiermkts.com

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