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Social Entrepreneurship and Systems Change
Sproxil

Teaching Case

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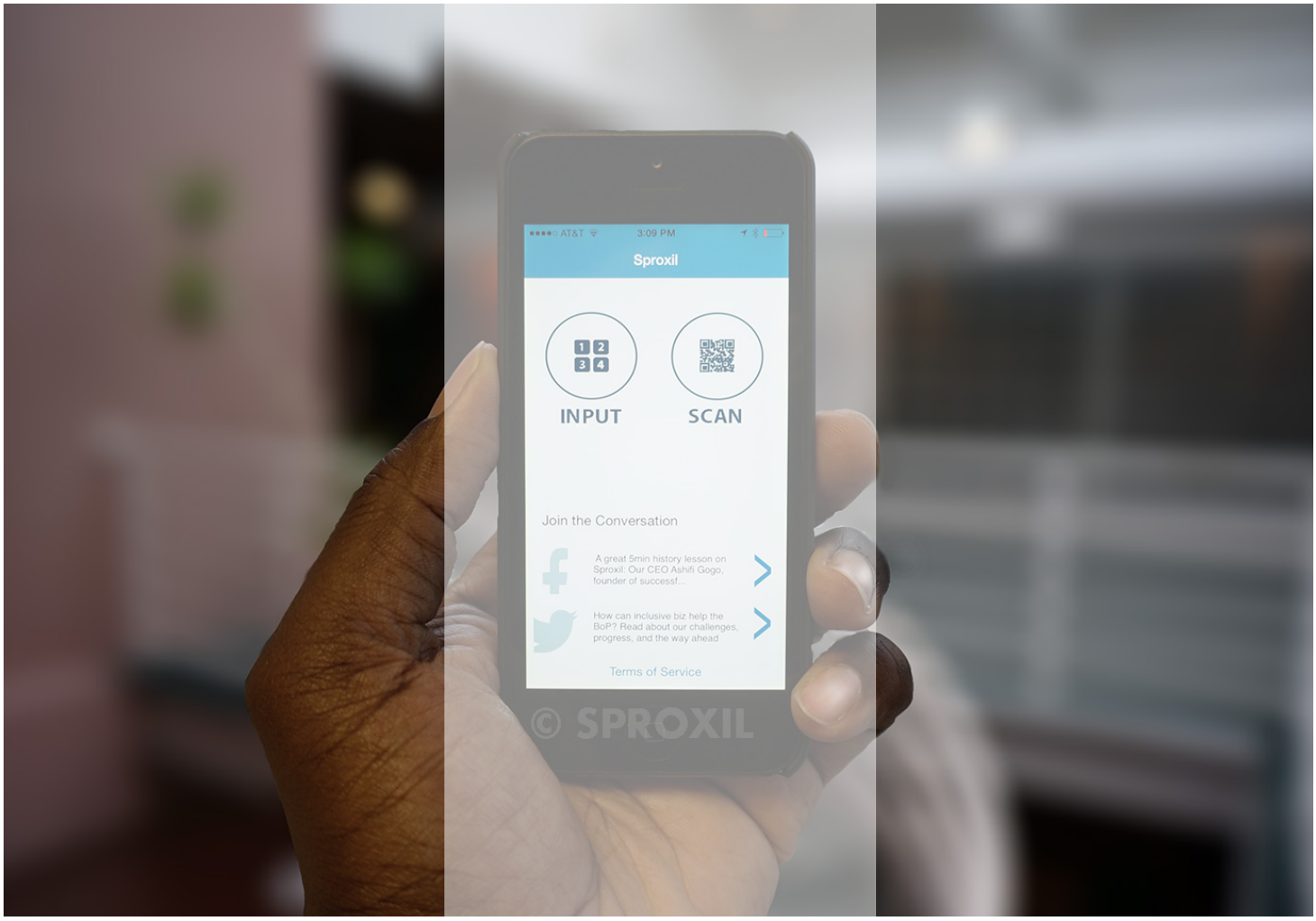

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Introduction

In April 2016, Ashifi Gogo approached the registration desk in the large entrance hall of the Oxford University Saïd Business School Conference Centre to receive his conference badge. As a celebrated social entrepreneur, Gogo was an honoured guest at the Skoll World Forum. However, he still felt out of place at these sorts of events, which gathered preeminent leaders from socially-minded organizations around the world. An engineer and mathematician, Gogo felt more comfortable in the technology and start-up environment of Cambridge, Massachusetts, where his company was headquartered. However, after winning several awards for his company's social mission – including a Clinton Foundation Outstanding Commitment Award & Grant in 2009 and recognition as a Social Entrepreneur of the Year by the Schwab Foundation for Social Entrepreneurship in 2014 – Gogo had fully embraced the dual purpose of his company, creating both social impact and financial profit.

Gogo was the Founder and CEO of Sproxil, Inc., a for-profit company founded in 2009 dedicated to using mobile technology to enable consumers to verify product authenticity at the point of purchase. The Sproxil Defender™ technology was initially developed and used in Nigeria, which had one of the largest counterfeit drug markets in the world. With a unique scratch-off code affixed to packaging and a simple text message, Nigerian consumers could instantly verify whether or not the medicine they were purchasing was legitimate. In 2010, with strong support from global pharmaceutical company, Merck KGaA, Sproxil had worked alongside the Nigerian food and drug regulator (the National Agency for Food and Drug Administration and Control, or NAFDAC), to expand the use of its technology as a national initiative. Consequently, in just two years, Sproxil had grown its service to over a million requests from consumers, providing protection when purchasing some of the most widely counterfeited drugs in the country.

Sproxil then expanded its efforts beyond Nigeria to operate in other African countries, including Ghana, Kenya, Mali and Tanzania, as well as India and Pakistan. Sproxil also expanded its services to multiple industries outside the pharmaceutical industry, and signed on clients in the agro-chemical, consumer products and oil and gas industries. However, these markets proved harder to penetrate and Sproxil faced stiff competition from other companies with similar technologies.

Sproxil's status as a purely for-profit company gave it a unique positioning at global conferences such as the Skoll World Forum, where social entrepreneurs came in all stripes and hues, including nonprofits, governmental organizations and hybrid entities which used both nonprofit and for-profit strategies to achieve social good. In fact, Sproxil itself had its origins in a nonprofit entity, whose mandate was to educate consumers and companies about the dangers of the counterfeit drug market. However, Gogo (and his partner at the time, Bright Simons) discovered early on that selling their solution to pharmaceutical companies as a nonprofit entity posed challenges, since these companies were not set up to purchase from nonprofits. By 2009, when he secured his first major commercial contract with a Merck distributor in Nigeria, Gogo was convinced that a for-profit company would provide the best platform for growth.

However, running a for-profit company with a social mission had its own challenges. In Sproxil's case, the primary challenge was convincing a critical mass of players that counterfeiting was, indeed, an issue worth paying to prevent. Although the dangers of counterfeit drugs were readily apparent, the industry and government were often caught in a paralyzing deadlock as to who should provide the resources to protect consumers. Sproxil's success often relied on identifying the company or government body with the greatest motivation to prevent counterfeiting – such as brand integrity or political pressure – to move the process forward.

The Sproxil team had begun developing a new product offering, which aimed to offer a "carrot" to potential clients in multiple industries, coupling point-of-purchase marketing services alongside product verification. The idea was that companies might be more willing to pay for anti-counterfeit technology if it also offered value-add services and rewards to loyal customers. At the same time, Gogo was considering the strategic decision to move heavily into other industry segments, diversifying away from the pharmaceutical industry, where they were facing heavy competition. The company was in the process of growing its client base in a number of different consumer-facing industries, including agricultural inputs (agrochemicals, fertilizers and seeds), automotive parts and electrical goods.

While Gogo felt that these decisions were critical to maintaining the viability of the company, he had reservations. Would the shift to a broader marketing platform dilute Sproxil's social mission of building world-class technology to engage customers in the fight against fake drugs? And would the expansion to other industry segments distract his team from the core focus of protecting consumers from dangerous counterfeits? Gogo knew that he would not be satisfied just building a profitable company. His personal motivation – and that of his management team and investors – was in harnessing technology to ensure that there was a sizeable reduction in harmful counterfeit activity globally. How could he ensure that his company was able to deliver on this promise – while maintaining profitability?

The Counterfeit Market

The World Economic Forum's Global Agenda Council on Illicit Trade estimated that the world's "shadow economy" was worth USD 650 billion, of which over one-third was attributed to counterfeiting. They also estimated that the cost to the global economy of counterfeiting alone was USD 1.77 trillion in 2015.[1] Not only did counterfeiting pose numerous risks to consumers, it contributed significantly to the criminal and terrorist networks that engaged in illicit trade.

Many industries were affected by counterfeiting, with the common theme that intellectual property (IP) was part of the value of the product worth falsifying. In the trade for illicit goods, the value of IP provided the opportunity for counterfeiters to create price differentials between real and fake goods. Common targets for counterfeiting included luxury goods, spare machine parts and common consumer products, such as pharmaceuticals, cosmetics and food. Counterfeiters targeted both consumers who were aware of the fact that they were buying fake products (and enticed by lower prices), and consumers who were seeking legitimate items but deceived into purchasing fake goods.

Certain industries posed greater dangers to consumers than others. In particular, the counterfeit pharmaceutical market posed significant threats, often ending in tragedy and death. Counterfeit drugs had many definitions and included medicines that were manufactured by legitimate companies but did not meet appropriate quality standards, as well as those that had inactive or even dangerous ingredients. The World Health Organization (WHO) used the acronym SSFFC ("substandard, spurious, falsely labelled, falsified and counterfeit") to refer to counterfeit drugs, and had previously defined a counterfeit drug as:

> A counterfeit medicine is one which is deliberately and fraudulently mislabeled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct ingredients or with the wrong ingredients, without active ingredients, with insufficient (inadequate quantities of ingredient(s) or with fake packaging.[2]

Counterfeits entered the consumer market through numerous channels, including unsuspecting pharmacies, unscrupulous or unlicensed retail outlets, less-regulated markets, and online sales. The issue of counterfeits was made even more complex by the conflation of different types of counterfeits, including those that were legitimate but flouted intellectual property restrictions, and those that are truly fake, including those with less active or harmful ingredients. This conflation, which those cynical to the industry said was encouraged by the pharmaceutical industry itself, did not allow government and international resources to be directed at the life-threatening counterfeits.[3]

In 2013, Interpol estimated that counterfeit drugs caused more than one million deaths annually.[4] Most worryingly, counterfeiters had moved from targeting so-called "lifestyle" drugs, such as pills for weight loss and erectile dysfunction, to targeting life-saving drugs, including those used for treatment of malaria, cardiovascular disease and diabetes. Poor countries were more likely to suffer from these counterfeits, since their burden of disease was higher and regulatory and enforcement systems were less robust than rich countries. Counterfeits also resulted in a lack of trust in the efficacy of drugs, and contributed to higher resistance to medicines by diseases causing high rates of mortality worldwide, such as malaria.[5]

Despite the risks to customers, pharmaceutical companies were not necessarily eager to undertake all measures possible to identify fakes. Broadly, the pharmaceutical industry and government regulators had an interest in keeping the profile of counterfeiting low, since they did not want to raise attention and create public uncertainty about their products. Secondly, "pointing fingers" was problematic, with pharma companies pointing to regulatory companies to identify counterfeiters, and governments and regulators identifying industry regulation as the greater need in resourcing the fight against counterfeits. Finally, pharma companies were reluctant to shoulder the cost of fighting counterfeiting, unless the prevalence was high and targeted to flagship brands which had a significant impact on sales margins, thereby reducing profits.

Other industries where counterfeiting was prevalent faced similar issues. In these industries, the hurdles to convincing companies to join the fight against counterfeiting were different, yet equally difficult to surmount. Some industries were ambivalent, at best, about counterfeiting, as it was hard for them to precisely measure their revenue loss to counterfeiters. In the case of luxury goods, there was evidence to suggest that brands enjoyed benefits from the counterfeit market as consumers who purchased fake items were more likely to aspire to own the real thing.[6] In other industries, companies and regulatory bodies were spurred into action only when real damage was caused.

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1. WEF Global Agenda Council 2015.
2. World Health Organization 2016.
3. Ossola 2015.
4. Southwick 2013.
5. World Health Organization 2010.
6. Gosline 2010.

Some argued that the fight against counterfeiting would be best served by educating and mobilizing consumers themselves, since they had the most to lose, and could incentivize governments and companies to take a harder stance against the issue. Consumers were more likely to be concerned about counterfeiting in cases where products could cause significant impact to their health (as in the case of pharmaceuticals and other types of consumer goods), to their economic well-being (as in the case of agricultural inputs for farmers), or to their social image and physical appearance (as in the case of cosmetics). Furthermore, the argument held, if consumers were empowered with information to discern between legitimate and fake purchases, they could become the key to reducing counterfeiters' profits and putting a dent in the rapid rise of counterfeits worldwide.

Ashifi Gogo

Gogo was Ghanaian by birth, born in Kumasi, in the country's Ashanti region. Gogo's father was a research engineer who worked for the Council for Scientific and Industrial Research (CSIR), a government institution. Earlier in his career, Gogo's father traveled across Ghana, identifying soil samples that could suitably replace expensive foreign materials used for building roads, enabling government contractors to build roads with local materials that would save the country money. Gogo remembers his father's frustration as sub-optimal government policies hindered the ability for his soil engineering innovations to scale. In the same era, Gogo's mother was a serial entrepreneur who founded a for-profit nursery school in Kumasi, which she later sold, and started another, larger school in Accra. Later in his career, Gogo's father led a government initiative to help write more effective government policies, however, the seed that the private sector could accelerate scale had already been sown in Gogo's mind.

In his early years, Gogo's father moved the family to Belgium to finish his doctorate, and Gogo attended a French primary school until he was nine years old. When they moved back to Ghana, Gogo finished his junior high schooling in Kumasi, and then moved to Accra to attend the Presbyterian Boys' Secondary School, where he completed his senior high schooling with a major in physical sciences. Due to a professors' strike at the University of Ghana, Gogo had to wait two years before commencing university. In the interim, influenced by close friends, he took the US college entrance examinations (the SATs) and received scholarship funding to attend school in the United States. In 2001, Gogo started at Whitman College in Walla Walla, Washington where he chose to study mathematics and physics.

While at Whitman, Gogo began work on a series of complex experiments in optics. Working with his professor and summer lab mate, Gogo built a quantum eraser experiment and secured a peer-reviewed publication as an undergraduate student. However, Gogo quickly realized that this highly theoretical work, while intellectually challenging, was not satisfying his desire to make the world work better. Gogo decided that he needed to find a practical application for his work, and was offered a spot at Dartmouth College to do a PhD in Engineering.

During this time, in 2006, Gogo and former high school colleague Bright Simons reconnected and together came up with an idea to use mobile technology to verify the authenticity and origins of an unlikely product: organic produce. The two surmised that consumers would want to know where their food originated and could be encouraged to use a simple text message to verify the labels on organic produce at the point-of-sale. Despite winning several business plan competition awards for their idea, by 2007 it became clear that their idea was not gaining traction with their potential customers – small-scale farmers with very little appetite or capacity to implement a technology solution, and point-of-sale consumers in advanced economies who did not seem interested in verifying their purchases of fresh produce. Gogo and Simons needed to go back to the drawing board with their business plan.

The pair considered other applications for the technology they developed. The experiment with fresh produce made them realize that the products they targeted needed to have immediate implications for consumers. Consumers had to feel a sense of urgency at the point of sale in order to take the extra step of verifying their purchase. Around this time, the issue of counterfeit drugs had started gaining prominence within the WHO, as unfortunate incidents where several consumers died after taking counterfeit products were appearing in the news.[7] Fake drugs had serious repercussions for customers and drug companies had an incentive to identify fakes before they put customers' lives in danger. Furthermore, in developing countries, regulatory bodies were under-resourced and unable to keep up with the counterfeit market. With their technology, Gogo and Simons believed that companies and consumers could act as a new resource for the regulatory process, identifying counterfeits at the pharmacy or market before they made their way into consumers' homes.

7. The Partnership for Safe Medicines 2013.

Product Verification Technology

The increase in the counterfeit drug market had created an interest on the part of regulators to identify better methods for identifying fakes. Verification technology was generally divided into "covert" and "overt" technologies, or those that were invisible or visible to the consumer. Since the late 1980s, when Glaxo pioneered their use, manufacturers seeking to curb counterfeits had used an "overt" method called holograms, or "optical variable image devices" (OVID). These tamper-evident seals were affixed to packaging in the form of labels, seals, hot-stamped patches and blister foils. Holograms were created with techniques that made them difficult to copy, and therefore gave manufacturers a way to identify the authenticity of their own products. However, creating effective holograms required continuous evolution in techniques in order to stay ahead of counterfeiters who attempted to copy them. Holograms were also limited in their effectiveness since the public, including pharmacists and consumers, could not necessarily use them to identify fakes.[8]

Regulators were also interested in improving their ability to identify counterfeits, as well as implement "track and trace" systems that enabled products to be traced back to their source. Regulators and law enforcers were experimenting with "covert" methods of verification which used scanning technologies to read markings and identifiers that were undetectable to the unaided eye. Track and trace systems allowed manufacturers and law enforcement agencies to use both overt and covert methods to identify where a product had been and where it was currently located. This required each product unit to be uniquely identified by a number, hosted in a database, and linked to field tracking services.

The limits to these technologies opened up the market to other solutions. Point-of-sale verification was one of the options for pharmaceutical companies seeking to maintain the integrity of their products. Gogo and Simons' solution was unique in that it engaged the consumer in identifying fakes with mobile technology. The technology itself was relatively simple: a human-readable unique code and/or barcode system was used to assign unique numbers to individual products and the numbers were affixed to packaging with a scratch-off label, similar to the labels used for buying mobile airtime. These numbers were then tracked in a central server. Consumers were encouraged at the point of sale to send a free text message to a phone number that would be identical across all cellular networks in a country. The consumer then received an instant message back verifying whether the drug was real or fake.

By mid-2007, Gogo and Simons had assembled a small team to pursue the pharmaceutical industry with their product verification technology. They identified their primary customers as the pharmaceutical companies, including manufacturers and distributors. The two also decided that consumers and the industry itself would need to be educated on the dangers of the counterfeit drug industry in order to build the market for their product. In 2008, they registered a nonprofit foundation in Ghana named mPedigree. Their plan attracted the attention of the National Collegiate Inventors and Innovators Alliance (NCIIA), and they were given a small grant of about USD 20,000 to begin the project.

Piloting the Technology

Gogo and Simons recognized that the first step was to find a manufacturer willing to pilot their technology. In late 2007, Gogo secured the consent of Amponsah-Efah Pharmaceuticals (EFPAC) to run a small pilot distribution of 3000 units bearing unique codes in two cities of Ghana. Meanwhile, the pair carried through on their intent to pursue educational activities and early in 2008, mPedigree produced a documentary film called "If Symptoms Persist" that profiled the dangers of counterfeit drugs. The EFPAC pilot confirmed critical consumer preferences, especially the need for the text message access code to be free to the consumer to encourage participation, eliminating a potential revenue stream. While the pilot in Ghana was a success, Gogo had begun to realize that they needed to tackle a bigger market if they were to take their technology to scale. Moreover, in his discussions with potential clients, he was beginning to see the limitations in the nonprofit entity that he and Simons had formed: pharmaceutical companies seemed distrusting of nonprofits and were simply not set up to purchase from nonprofits as service providers.

During this time, the Nigerian government was coming to grips with an onslaught of pharmaceutical counterfeiting, which by some estimates had infiltrated up to 70% of the drugs sold in the country.[9] NAFDAC was looking for solutions to its counterfeiting problem, and Gogo secured a meeting with the agency's director general in Accra, Ghana. The meeting proved fruitful and a few months later, Gogo was invited to Lagos to meet with key NAFDAC directors as well as leaders of the three major pharmaceutical trade groups.

8. Lancaster 2008.
9. Christian et al. 2012.

Gogo's traction in Nigeria was exciting, but internally, the team was fracturing. A few months earlier, two members of a larger team being formed, Nathan Sigworth and Taylor Thompson, decided to start a for-profit company with a similar technology and mission called PharmaSecure. At the same time, Gogo and Simons began to have differences in opinion as to how to take the company forward, primarily driven by diverging opinions on whether a for-profit or nonprofit entity would be best suited to create the most impact. In late 2008, Gogo and Simons decided to part ways.

In 2009, upon assessing the changes from the previous twelve months, Gogo decided to create a new brand for the technology, this time with the name Sproxil, after an interesting class on entrepreneurship and law at Dartmouth. Given the emerging commercial potential of the technology and the experience he had gained in trying to sell the technology to the pharma industry, Gogo firmly decided that a for-profit entity would be the best option for his new company. He incorporated as Sproxil, Inc. in Delaware in the United States, and around the same time, registered a private corporation in Nigeria called Sproxil Nigeria Limited.

Gogo was funding his activities with a series of small awards from business plan competition wins. However, he knew that if he wanted to grow the company, he needed to land his first commercial project. Drawing upon his now extensive network in Nigeria, Gogo began to discuss the possibility of rolling out a large pilot project with BIOFEM Pharmaceuticals Ltd., the exclusive distributor of Merck pharmaceuticals in Nigeria. BIOFEM was coping with a sharp reduction in its sales of Glucophage, an important diabetes drug and one of the top-selling Merck drugs in Nigeria. However, massive counterfeiting had resulted in a 75% reduction in revenues from the drug.

Sproxil's first commercial pilot commenced internally in August 2009 with the order of 500,000 labels for BIOFEM. During this time, Gogo also secured the short messaging code "38353" across the top mobile phone operators in the country. Over a trial period of 100 days, running from February to May 2010, Sproxil rolled out its platform and service in three cities – Lagos, Abuja and Port Harcourt. The results were significant: Sproxil handled 22,638 inbound and outbound SMS messages from 6761 unique phone numbers, with a 99.9912% text message reliability response rate. BIOFEM experienced a 10% increase in revenues for Glucophage within just three months.[10]

This project proved the tip of the iceberg. As the issues of counterfeiting in Nigeria had grown, including a tragic incident where over 80 children were killed by a counterfeit teething mixture laced with an industrial solvent[11], NAFDAC's interest in mobile verification technology had gained traction. In late 2009, several companies were invited by NAFDAC to a demonstration day with the aim of building a consortium of technology providers to create a national standard for mobile product verification technology in the country. Three companies were selected, including Sproxil.[12] However, the consortium proved difficult to manage and the three companies soon ran into difficulties, both in financing the project and in determining the roles of each going forward. Sproxil's relationship with BIOFEM and Merck gave a more concrete way forward, and NAFDAC decided to award the mandate to Sproxil.

On 2 February 2010, NAFDAC, Sproxil and BIOFEM launched the NAFDAC Mobile Authentication Service (MAS), which positioned the Sproxil technology as a national standard across the country. It was the first government-led roll-out of a mobile verification technology in the world, and by the end of 2010, Sproxil had responded to 164,689 verification requests from just under 7000 unique phone numbers, resulting in significant commercial interest from multiple Western multinational pharmaceutical companies.

Growing Sproxil

With the success in Nigeria, Sproxil now sought funding to move into other markets. Acumen Fund, a nonprofit impact investment fund headquartered in New York, was impressed with Sproxil's technology and its potential to reduce the dangers of counterfeit drugs in developing countries. In 2011, Acumen invested USD 1.8 million in exchange for an equity stake in the company. Sproxil now had the resources to expand into two of its identified target markets: India and Kenya.

The experience in Nigeria also gave Gogo the opportunity to codify his approach to entering new markets. Most importantly, Gogo realized that Sproxil's success required building consensus and trust among a very diverse group of players, including manufacturers, telecom networks, government regulators, and even foreign donors. Sproxil needed to capitalize on these varied interests to grow its business. Each of the players had different motivations for working with Sproxil:

- **Manufacturers:** Pharmaceutical companies were interested in Sproxil's offering in order to ensure legitimacy of their products, maintain brand integrity, and avoid costly lawsuits. Sproxil's technology also allowed them to retain market share and profitability potentially lost to counterfeiters.

10. Okezie 2014.
11. Polgreen 2009.
12. During this time, Bright Simons had continued to grow mPedigree and they were also selected to participate in the consortium.

- **Telecom Networks:** Mobile phone operators benefited from Sproxil's technology through increased SMS traffic, phone calls to Sproxil's call centers and data bandwidth used to download Sproxil's mobile apps. Operators also gained the ability to promote value-added services to customers, which could ultimately lead to better customer loyalty.

- **Government and Regulatory Bodies:** By reviewing de-referenced aggregated data that Sproxil could generate, government law enforcers and regulatory bodies could identify counterfeit "hotspots" in real time. This information could then be used to make targeted inspections of stores and markets, rather than random sampling, which was costly and had very low success rates.

- **Foreign Donors:** Some of the largest purchasers of pharmaceuticals were foreign donors, such as the United States Agency for International Development (USAID), the Bill and Melinda Gates Foundation and the Clinton Foundation. Sproxil's technology allowed these donors to monitor uptake of the drugs purchased through their donations.

Between 2011 and 2014, Sproxil signed on additional multinational clients, expanded to new industries and gained ISO certification for their business process and information systems – a commendable achievement. Internally, Sproxil had built a robust sales team that could connect with a diverse group of clients and stakeholders, growing from approximately 10 employees in 2011 to nearly 30 employees three years later. As a result of these impressive gains, the company's sales had grown by approximately 16 times since their inception year, and by 2014, Sproxil had placed their barcodes on over 500 million products and processed over 12 million verification requests from customers around the world.[13]

As Gogo explains:

> The drive behind this growth, and the reason we believed that we actually *could* grow this fast, was the potential for equity financing as a for-profit company. It would not have been possible to execute such an aggressive global expansion strategy with grant funding, or at least the odds would not have been as good.

Sales Challenges, New Service Lines

As Sproxil expanded its reach in Nigeria and grew its operations in India, Kenya, Ghana and Pakistan, Gogo began to understand that there were limitations to the growth potential of their technology and product offering. Despite general indicators challenging the ease of doing business in Nigeria, it had proven to be a relatively easy market to enter, with an interested drug manufacturer (Merck), a tightly-held set of industry bodies, and a highly motivated government regulator (NAFDAC). Merck (and distributor BIOFEM)'s willingness to be a "first mover" in the Nigerian market – largely motivated by their crippling loss of market share with Glucophage – had given the local pharma industry a level of comfort with the technology, while NAFDAC's centrally-led leadership paved the way for large-scale adoption of the solution in the country.

However, other countries were not proving as easy to enter. Pharmaceutical companies were likely to underestimate the scope of the problem of counterfeit drugs, or ignore the problem, until faced with a serious situation. Furthermore, counterfeiting was often portrayed as an industry issue, and pharma companies were not necessarily convinced that product integrity issues had direct impact on their brands, and ultimately profits. The companies' willingness to pay for verification technology was minimal, unless they had pressure from industry or government bodies. On the other hand, national regulatory bodies in countries with more decentralized governance (such as India) did not have the same level of clout as NAFDAC. Some country governments and industry bodies even sought to deny the existence of high levels of counterfeiting, since it was seen to reflect poorly on their ability to control the situation. High fragmentation of industry bodies, lower influence from government, and a reluctant private sector all contributed to much slower traction and roll-out in these countries.

Sproxil was also encountering much higher competition in these new countries. PharmaSecure had made an early move into India and had captured a large share of the market before Sproxil entered. mPedigree, which Simons had now converted to a for-profit company, had expanded to four countries and was piloting in four more, after having forged a strong relationship with the global technology company Hewlett-Packard.[14] In such a crowded space, Sproxil needed to find a way to differentiate its product offering, as well as expand the potential market for its technology.

13. Shared Value Initiative 2014.
14. de Lara & Green 2010.

Faced with these significant challenges, Sproxil made two strategic decisions. First, Sproxil decided to develop a complementary product offering to its flagship "Defender" technology. This new product, Sproxil Champion™, enabled manufacturers, distributors and retailers to deploy a point of sale consumer rewards solution that allowed customers to earn points and redeem rewards when they verified their products at the point of sale. Champion built upon Defender, so fraud protection was built into the solution, encouraging both clients and customers to use product verification. Champion also allowed clients to gain insights into purchasing patterns, giving the ability to modify marketing campaigns in real-time, thereby increasing sales and reducing costs.

The second strategic decision was to expand into new industries, namely agriculture and consumer packaged goods. With the help from a team of MBA students at Duke University's Fuqua School of Business, Gogo was able to estimate a total annual sales opportunity of USD 1.9 billion if they pursued these three industries with the Defender and Champion products in the most populous emerging and frontier markets in the world. The consumer packaged goods industry represented by far the largest opportunity, more than three times the size of the pharmaceutical industry. However, consumer packaged goods manufacturers were also wary of signaling to consumers that counterfeiting was an issue, and they were far more interested in the Champion product as a way to embed anti-counterfeit technology in a consumer-facing marketing platform. Gogo strongly believed that Sproxil would need to gain traction in this market if they were to survive as a company.

Although they constituted a departure from the current focus on product verification for the pharmaceutical industry, Gogo considered these two strategic decisions as essential for moving the company forward. As a for-profit entity, Gogo knew that he needed to deliver on his financial obligations to his investors, as well as grow the company into a profitable entity. However, there was the risk of significant trade-offs with these decisions. By expanding the product offering to focus on the marketing angle of Champion, it was likely that less focus would be placed on the development and improvement of Defender. There was also the significant risk that the far larger market potential of the consumer packaged goods market would divert attention from the pharmaceutical industry.

For-Profit: Pros and Cons

Over the years, Gogo had often been asked to reflect on the choice of Sproxil to become a for-profit company. Building on his experience with founding and running both for-profit and nonprofit entities, Gogo developed a list of the main reasons why he chose a for-profit entity for Sproxil.

These included:

- **Size of the addressable market:** For Sproxil, Gogo believed that the addressable market would have been smaller as a nonprofit entity, due to traditional purchasing and vendor sourcing business processes and expectations at large corporations that produced popular brands that counterfeiters frequently targeted.

- **Client Trust:** In the case of product verification, the pharmaceutical industry trusted for-profits more than nonprofits. At the same time, Gogo believed that government wasn't predisposed to trust a for-profit more or less than a nonprofit.

- **Flexibility and Speed:** For Sproxil, speed was important because the government of Nigeria wanted to move quickly. Being a for-profit company enabled greater access to capital at shorter notice, flexibility, speed and nimbleness, which were critical factors to the stakeholders involved.

Gogo was convinced that being a for-profit company had allowed Sproxil to expand the market for mobile verification technology far faster and with greater impact than they would have been able to achieve as a nonprofit organization. Furthermore, he believed that being a for-profit company gave him greater flexibility to change strategy as necessary to achieve the company's goals. As he described:

> Would Sproxil would have been able to develop other products to create revenue and interest if we had been a nonprofit organization? Probably not. It is possible that investors and customers are more "forgiving" to for-profit companies that change strategic focus than nonprofit organizations. For for-profit companies, the strategic shift is seen as "market expansion" rather than "mission creep." By leaning on established principles for growing young companies rapidly, the for-profit market for anti-counterfeit technology has created a degree of rigor that may not have been present if the market had evolved solely with nonprofit technology providers.[15]

15. Rayner 2016.

However, the experience of growing Sproxil as a for-profit company revealed some of the challenges that for-profit social enterprises face when balancing commercial and social objectives. In the case of mobile verification technology, Gogo believed that the pressure to keep costs low had resulted in less focus and resources for technological improvement:

> The competition in the market has been primarily around price, which has lowered the margins available for accelerated technology development.

As a for-profit company, Sproxil was also necessarily excluded from some grant opportunities, which could provide non-diluting capital and key relationships for partnerships. Furthermore, nonprofits seemed to have lower barriers to securing positive marketing exposure at materially lower costs. It was also more challenging to receive discounted professional services (legal, accounting etc), which could have provided a significant opportunity for Sproxil.

A Balancing Act

As Gogo perused the Skoll agenda, he considered how to approach the conference to answer his strategic concerns. Ultimately, Gogo needed to return to his team in Cambridge with a definitive answer about whether or not to scale up the strategic decisions that they had recently developed. Gogo needed to be able to finalize the company's strategic plan as part of his efforts to raise USD 5 million in Series B funding to ensure that Sproxil could continue to deliver on its goals and grow the company.

In the early years, Sproxil funded its operations through a series of awards and by using its own profits to achieve organic growth. As Sproxil expanded into new markets and product lines, however, they required additional outside investment. Interestingly, the investors that showed interest in Sproxil were not just the commercial investors that Gogo had anticipated, but also grant-makers and "impact investors" who were seeking social impact in return for their investment. Over seven years, Sproxil had raised over USD 5 million, with approximately 10% in grants and 90% in debt and equity.

As a social enterprise, Sproxil had received substantial investment on ideal terms over the last several years. However, this funding also came with strings attached. In the case of grants and impact investments, Sproxil was often required to create detailed monitoring and evaluation reporting on their social impact, which was difficult to do while still maintaining the cost-effectiveness of their product offering and a lean team. Furthermore, grant funders were not used to dealing with commercial companies and they often expected Sproxil to contractually agree to intellectual property and data-sharing terms that were not beneficial to the company commercially. Finally, and perhaps most importantly, impact investors and grant funders were deeply motivated by Sproxil's social mission.

If Sproxil were to expand its portfolio to include marketing technologies, and continue to expand to other consumer industries, would impact investors be satisfied to invest in this journey? More importantly, would expanding the remit of the company to become a wider marketing solution to multiple industries dilute its social mission of protecting consumers from harmful fakes?

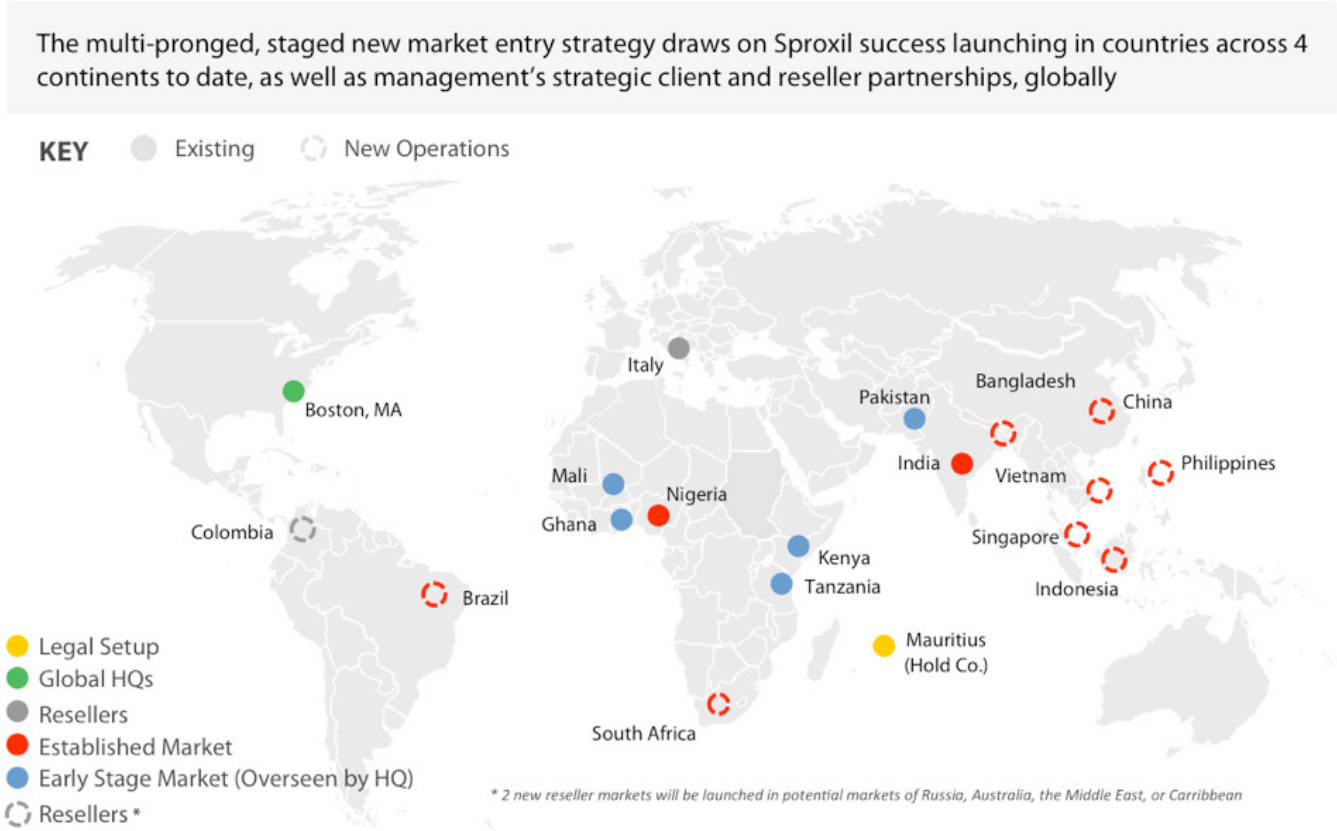
At the heart of these questions was a deeper concern: was Sproxil, with an expanded product offering and customer base, best positioned to have the broader systemic change in protecting global consumers? Gogo was busy exploring the answers to these questions, and he knew that he needed to have answers when he returned to his team in Cambridge later that week.

Assignment questions:

- Should Sproxil expand its product offering to include Champion? Why or why not?
- Should Sproxil continue to expand its target market to include other industries? Why or why not?
- What are the challenges and opportunities for for-profit companies seeking to create systems change?

Appendices

Appendix 1: Sproxil's Global Reach (2016)

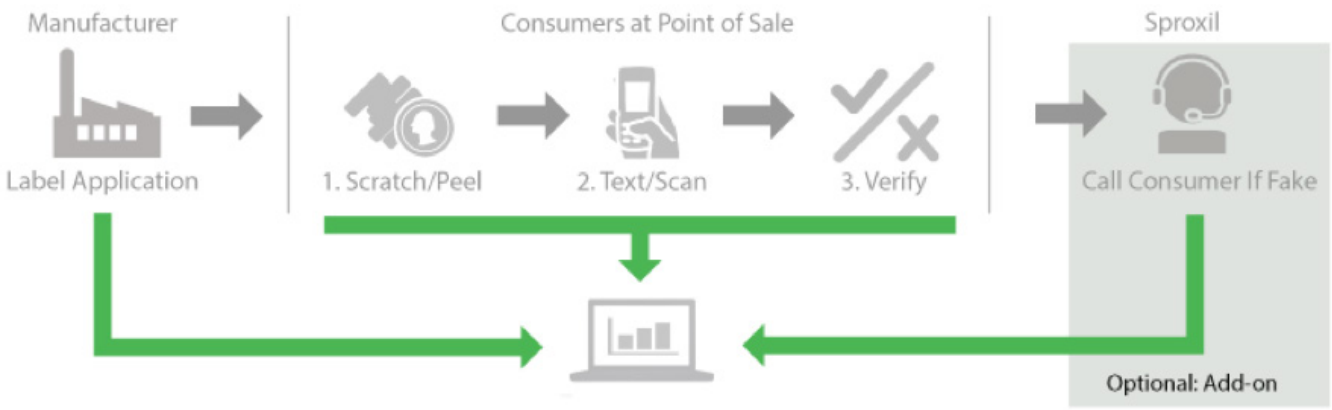


Appendix 2: Sproxil's Product Offering (2016)

Overview of Sproxil Defender:

Sproxil Defender™

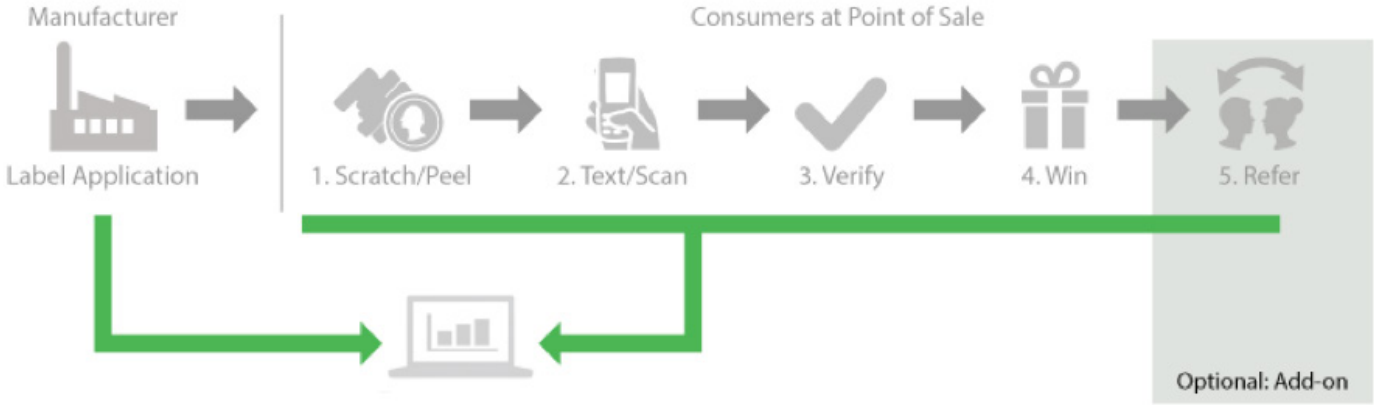
A point-of-sale product verification solution, empowers consumers to use their own mobile phone to instantly identify genuine products in the marketplace and grow the trust they have in their favorite brands.



Overview of Sproxil Champion:

Sproxil Champion™

A flexible point-of-sale consumer rewards solution with built-in fraud protection that empowers brands to offer consumers convenient opportunities to earn and redeem gratifying rewards from the brands they desire. Also available as a bespoke solution for distributors to help brands ensure distributors receive genuine products and earn rewards for their trust.



SPROXIL®

SPROXIL DEFENDER: PRODUCT MENU

		Included	Bespoke
Unique Codes & Labels	Receive unique code files or printed labels with unique codes	✓	
Anti-Counterfeiting Application	Connect directly with consumers to locate suspicious products	✓	
	Integrate with World Customs Organization		✓
	Customize verification response to find stolen products		✓
Equipment Consulting Services	Receive label applicator purchasing advice		✓
Communication	**Secure Transaction Channels for Product Verification**		
	Use our app for smartphones	✓	
	Verify by text message: local short code where present	✓	
	Verify by text message: global number usable in over 100 countries		✓
	Verify by voice in local language using call center	✓	
	Verify through our website	✓	
	Verify with our missed call service		✓
	Verify with our Interactive Voice Response (IVR) or Unstructured Supplementary Service Data (USSD) service		✓
	Flexible Call Center		
	Receive calls in multiple languages	✓	
	Make outbound calls to consumers		✓
	Forward calls from consumers to your experts		✓
	Fast Online Portals		
	Visualize data	✓	
	Receive unique codes securely	✓	
	View call center activity	✓	
	Activate unique codes before products arrive at retailer	✓	
	Other		
	Broadcast alerts via text message and mobile app		✓
	Receive periodic email reports with verification activity		✓
Client Support Services	Receive expert training for your staff and representatives	✓	
	Marketing Services		
	Receive checklist for successful marketing launch campaign		✓

SPROXIL®

SPROXIL CHAMPION: PRODUCT MENU

		Included	Bespoke
Unique Codes & Labels	Receive unique code files or printed labels with unique codes	✓	
Reward Programs	**Reward Genuine Purchases (Select One)**		
	Receive automatic cell phone talk time credit (airtime), or	✓	
	Accumulate points to redeem prizes, or	✓	
	Win physical prizes instantly, or	✓	
	Automatically enter a raffle, or	✓	
	Peer-referral		✓
Fraud Protection	Limit entries to consumers who make genuine purchases and detect fraud attempts in real-time	✓	
Equipment Consulting Services	Receive label applicator purchasing advice		✓
Communication	**Secure Transaction Channels for Boosting Loyalty**		
	Verify by text message: local short code where present	✓	
	Verify by text message: global number usable in over 100 countries		✓
	Verify by voice in local language using call center, app for smartphones or website	✓	
	Verify with our missed call, Interactive Voice Response (IVR) or Unstructured Supplementary Service Data (USSD) services		✓
	Flexible Call Center		
	Receive calls in multiple languages	✓	
	Make outbound calls to consumers		✓
	Forward calls from consumers to your experts		✓
	Fast Online Portals		
	Visualize data	✓	
	Receive unique codes securely	✓	
	View call center activity	✓	
	Activate unique codes before products arrive at retailer	✓	
	Other		
	Broadcast alerts via text message and mobile app		✓
	Receive periodic email reports with transaction activity		✓
Client Support Services	Receive expert training for your staff and representatives	✓	
	Marketing Services		
	Receive checklist for successful marketing launch		✓

Appendix 3: Management Biographies (2016)

Ashifi Gogo
Founder, CEO

Gogo founded Sproxil® in 2009 and currently serves as the company›s Chief Executive Officer. Under his leadership, Sproxil developed its award-winning Sproxil Defender™ technology that has been used over 35 million times by consumers in five countries to verify the authenticity of their products and earn instant rewards for their loyalty.

In 2015, Gogo was named to *Fortune*'s 40 under 40 list. He was awarded the Social Entrepreneur of the Year award in 2014 by the Schwab Foundation. In 2013, Sproxil was named the world's most innovative company in health care by Fast Company, and #7 most innovative worldwide, beating 99 of the *Fortune* 100 companies.

Gogo served on the World Economic Forum's Global Agenda Council on Social Innovation and on the Meta-Council on the Illicit Economy. He holds a US Patent, earned a Ph.D. from Dartmouth College and a B.A. from Whitman College. He is Dartmouth's first-ever Ph.D. Innovation Fellow and teaches a course in New Business Ventures Technology Management at Columbia University.

Chinedum Chijioke
Managing Director, West Africa

Chijioke is the Managing Director of Sproxil's operations in West Africa. Prior to joining Sproxil, he served as the Chief Executive Officer (CEO) of CFS West Africa Limited, a customer service advisory firm in Victoria Island, Lagos. He has valuable experience spanning strategy development and restructuring for financial services companies and conglomerates, tax advisory, e-payments, business incubation and consulting.

Before his appointment as the MD/CEO of CFS West Africa, he was the Deputy Head, Business Advisory in Nextzon Business Services Limited, a Management Consulting firm in Lagos, Nigeria focused on strategy development, business restructuring and incubation. Chijioke started his career in Arthur Andersen, now KPMG Nigeria, where he worked on tax advisory and compliance projects for various companies. He has a first degree in Microbiology from University of Port Harcourt, Rivers State and an International MBA from IE Business School, Madrid, Spain. He is an alumnus of New York Institute of Finance, New York and a member of the Institute of Directors, Nigeria.

Anand Mehta
Managing Director, South Asia & Middle East

Based out of India, Mehta is responsible for overseeing Sproxil's strategy, operations and growth for South Asia & Middle East. He specializes in heading business unit operations covering general management, strategic planning, sales and marketing, HR and BPO operations.

Two decades ago, Mehta started his career with D-Link with diverse portfolios for brands like D-Link, Gigabyte, CISCO & Brocade. Next with SNSL Ltd., he took the Digilink & Digisol brands to the second Rank. After serving as VP Marketing at Schneider Electric, he took up independent consulting for start-ups like Motoring Ahead (CEO) and Think as Consumer. Mehta helped accelerate their growth as an external Chief Growth Officer and Chief Marketing Officer for a Taiwanese IT Hardware Giant, the only Indian public listed advertising and public relations firm, a hospitality sector company, a software services company, an automobile servicing firm and multiple new age technology start-ups.

Mehta has an Engineering Degree and an MBA in Marketing. He has vast knowledge of the automotive industry and is an avid contributor to multiple automotive industry forums.

Gregory Lavoie
Global Finance Director

Lavoie is the Global Finance Director at Sproxil. He is directly responsible for all accounting and finance functions at Sproxil's global headquarters and oversees a global finance team for Sproxil's subsidiaries around the world.

Prior to joining Sproxil, Lavoie worked in public accounting, auditing a diverse set of public and private companies of varying sizes and across a number of industries. He is a Certified Public Accountant and holds a Master in Professional Accounting from The University of Texas at Austin and a Bachelor of Arts in Financial Economics and Political Science from the University of Rochester.

Jennifer Campos
Director of Service Innovation

Campos is the Director of Service Innovation at Sproxil. She has a wide range of responsibilities, spanning operations, product and project management, and client relationship management. She also oversees global service delivery strategy and quality management across multiple offices worldwide. Campos currently serves as the interim country manager for Sproxil East Africa in Kenya.

Campos has a deep and diverse background in global operations. She previously created custom corporate workforce development programmes and served as a legislative aide. Her operations background includes experience in the education industry in Honduras, and the nautical hospitality industry in Maine, USA. Campos received her Bachelor's in Government from Colby College and her M.Ed. from Plymouth State University and is an advanced Spanish speaker.

Appendix 4: Major Sproxil Sources of Funding To-Date

DATE	NAME OF FUNDER	ASSET CLASS	APPROX. AMOUNT
2009	Carnegie Mellon University McGinnis Business Plan	Grant/Award	USD 1 000
2009	Rice Business Plan Competition	Grant/Award	USD 450
2009	Princeton Entrepreneurs' Network of Boston Business Plan Competition	Grant/Award	USD 500
2009	Forum NOKIA	Grant/Award	USD 10 000
2009	National Collegiate Inventors and Innovators Alliance (NCIIA)	Grant/Award	USD 20 000
2009	IEEE GOLD Humanitarian Fellowship	Grant/Award	USD 1 000
2009	Global Social Venture Competition	Grant/Award	USD 10 000
2009	Clinton Global Initiative Outstanding Commitment Award	Grant/Award	USD 10 000
2010	USAID/Western Union in Africa Disapora Marketplace	Grant/Award	USD 100 000
2010	Accelerate Michigan Innovation Competition	Grant/Award	USD 10 000
2011	Merck Innovation Award	Grant/Award	EUR 10 000
2011	Acumen Fund	Equity	USD 1 800 000
2012	Acumen Fund	Convertible Debt	USD 500 000
2013	Deutsche Bank	Debt	USD 2 400 000
2015	HDIF	Grant/Award	GBP 142 786
2015	Interface Health Excellence (IHX) Challenge	Grant/Award	USD 13 700
2016	ICRISAT	Grant/Award	USD 152 830

Appendix 5: Sproxil's Market Analysis

Sproxil's total addressable market analysis for top three target industries in large emerging markets.

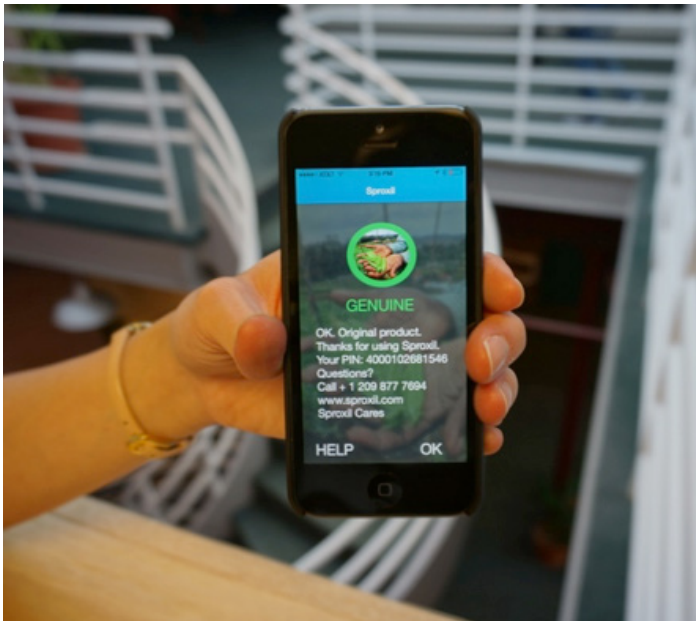
Country	New or Existing Subsidiary	Population (millions)	Sproxil Annual Sales Potential in Industry (USD)			Sproxil Annual Sales at 100% Market Share in Only 3 Named Industries	Annual # Consumer Transactions (millions)	Average # of times per year consumer
			Pharma	Agro	Consumer Packaged Goods			
China	New Subsidiary	1,357	$ 97,500,000	$ 15,214,684	$ 487,500,000	$ 600,214,684	4,001	2.9x
India	Existing Subsidiary	1252	$ 33,476,923	$ 10,051,282	$ 303,589,744	$ 347,117,949	2,820	2.3x
Indonesia	New Subsidiary	249	$ 43,333,333	$ 4,600,000	$ 108,000,000	$ 155,933,333	780	3.1x
Brazil	New Subsidiary	200	$ 58,800,000	$ 9,200,000	$ 180,000,000	$ 248,000,000	3,200	16x
Pakistan	Existing Subsidiary	182	$ 53,074,495	$ 2,777,778	$ 48,321,759	$ 104,174,032	250	1.4x
Nigeria^	Existing Subsidiary	173	$ 13,500,000	$ 3,500,000	$ 39,975,000	$ 56,975,000	380	2.2x
Bangladesh*	New Subsidiary	156	$ 20,665,236	$ 3,156,069	$ 32,666,667	$ 56,487,972	772	5x
Philippines	New Subsidiary	98	$ 40,000,000	$ 2,534,583	$ 29,969,366	$ 72,503,949	363	3.7x
Vietnam*	New Subsidiary	89	$ 30,000,000	$ 5,180,000	$ 26,700,000	$ 61,880,000	335	3.8x
South Africa	New Subsidiary	52	$ 27,215,190	$ 3,409,091	$ 69,523,810	$ 100,148,090	491	9.4x
Tanzania*^	Existing Subsidiary	49	$ 10,173,077	$ 2,884,615	$ 23,635,577	$ 36,693,269	41	0.8x
Colombia*	Reseller/ New Subsidiary	47	$ 26,850,000	$ 3,081,294	$ 22,222,222	$ 52,153,516	82	1.7x
Kenya	Existing Subsidiary	44	$ 10,173,077	$ 2,884,615	$ 23,635,577	$ 36,693,269	76	1.7x
Ghana	Existing Subsidiary	25	$ 1,319,261	$ 517,150	$ 2,749,462	$ 4,585,874	35	1.4x
Mali*^	Existing Subsidiary	15	$ 791,557	$ 310,290	$ 1,649,677	$ 2,751,524	21	1.4x
Total		3,988	$ 466,872,149	$ 69,301,452	$ 1,400,138,861	$ 1,936,312,462	13,647	

* Countries with limited data have been prorated against countries with more data and similar geographic or population metrics. In some caes, haircuts have been applied to increase conservatism.

^ Grant funding secured to cover initial country setup costs

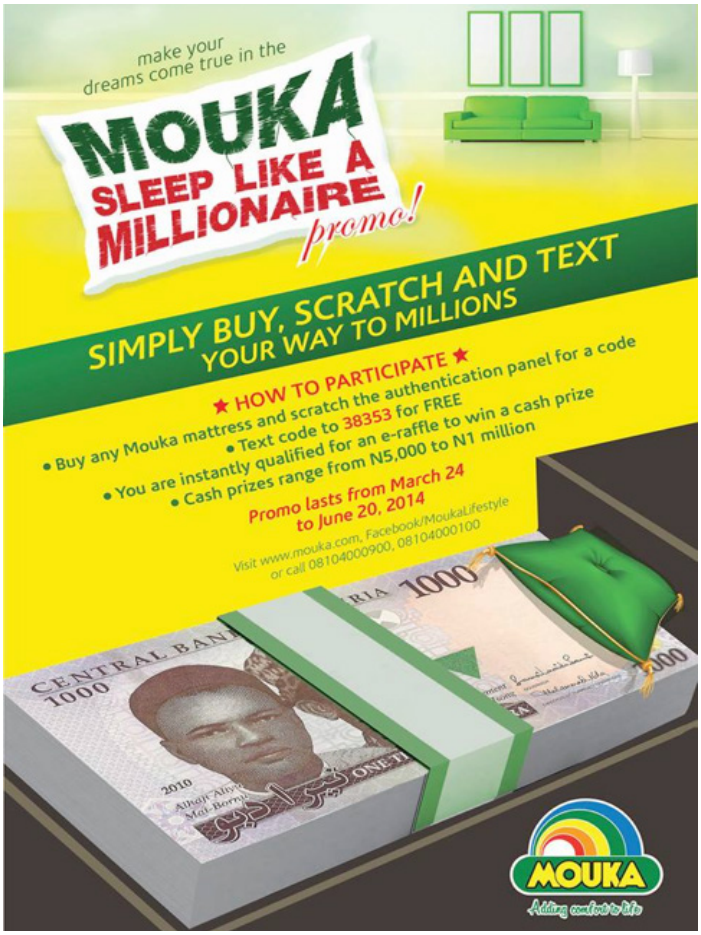
Appendix 6: Images

Consumers verifying at point of sale

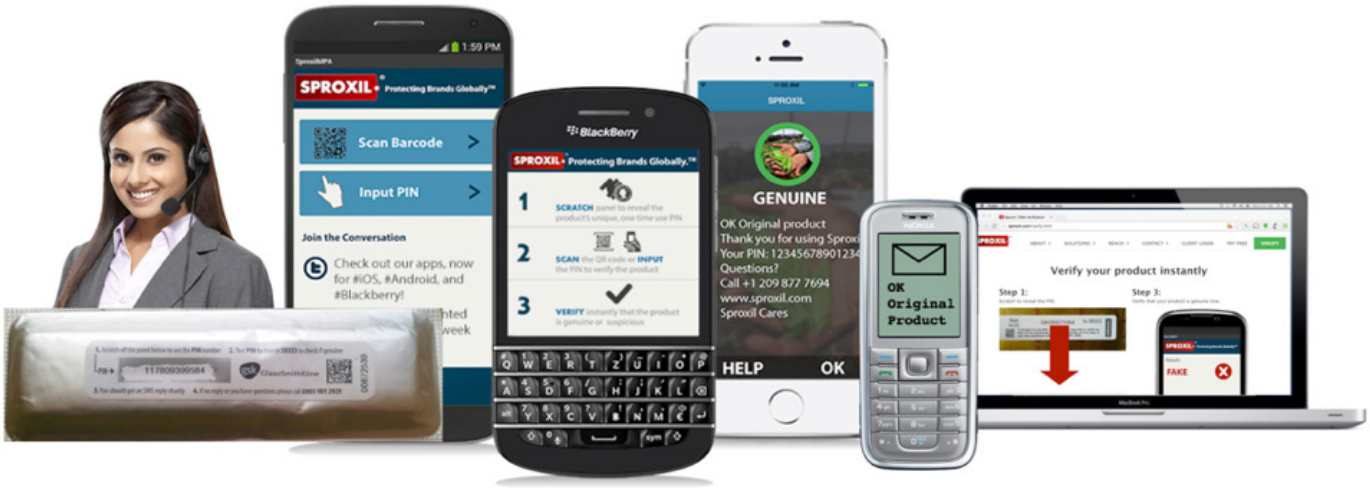


Consumer-facing posters showcasing Sproxil Defender

Consumer-facing posters showcasing Sproxil Champion



Sproxil's diverse range of product verification channels



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