

The logo for Sproxil, featuring the word "SPROXIL" in white, bold, uppercase letters inside a red rectangular box with a white border and a small white dot at the bottom right corner.

SPROXIL

Assessment and Vision



Prepared for Sproxil Board of Directors (GHD 15.965)

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Agenda



What is Sproxil and what do they do?

How does Sproxil create and capture value?

What are the challenges to Sproxil's current operations?

What are next steps should Sproxil consider?

The Need:

- Legitimate manufacturers lose close to \$500 billion due to counterfeit products - \$75 billion of that loss is caused by fake drugs.
- WHO estimates 30-40% of drugs are counterfeit in developing countries
- Counterfeit drugs also pose significant public health risks

The Solution:

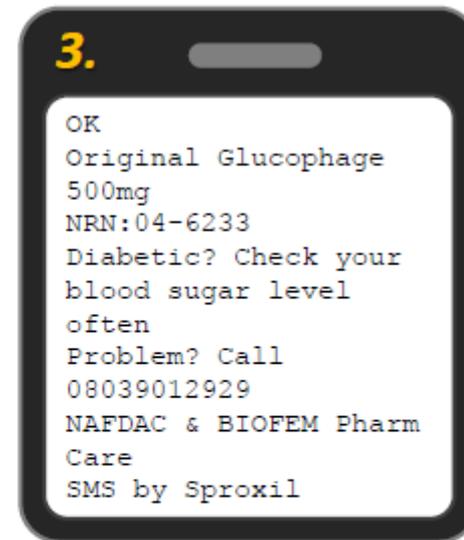
- Sproxil is a privately-backed social enterprise with a scalable mobile solution to:
 - Minimize the presence of counterfeit drugs in emerging markets
 - Provide pharmaceutical companies with market intelligence about their customers

Anti-Counterfeiting Product

- **Technology platform enables point-of-purchase drug verification via mobile (SMS) at retail outlets prior to payment***



2. *PIN is sent encrypted to cloud computing servers*
One-time Use PIN



*Get response right
at the point of sale.*

*Service is free to consumers, current revenue comes from pharmaceutical companies hoping to guarantee more genuine product sales and discourage counterfeiting of their products

Anti-Counterfeiting Product Value

Overview

Product Value

Challenges

Proposed Plan

- **Simple and elegant solution to a complex problem**
 - Cultural considerations
 - Leverages existing infrastructure
 - Telecommunications
 - Pharma drug distribution chains
- **Successfully completed a technological POC in Nigeria**
 - Total 2-way SMS messages: 11,318
 - Technological Reliability: 99.9912%

Benefits

Patient

- Improve knowledge of product safety
- Reduce adverse events

Pharma

- Drive counterfeit drugs out of market
- Recover sales lost to counterfeit

Gov't

- Lower cost of securing drug supply
- Identify counterfeit drugs hotspots

But what is the specific impact?

Market Intelligence Product Value



In five years I do not want to be talking to you about counterfeit drugs – I want to talk to you about our data*

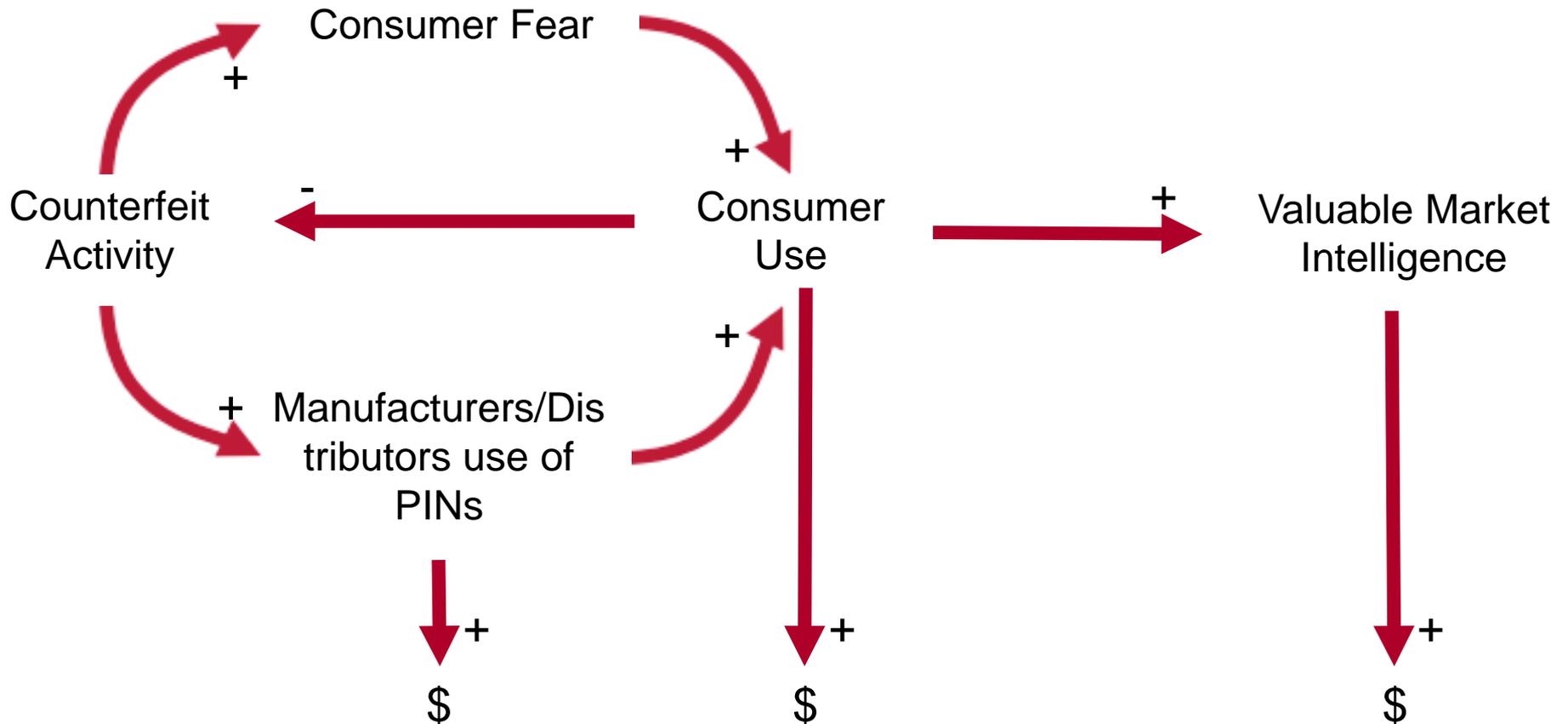
- Dr. Ashifi Gogo, Sproxil CEO, Talk at MIT Sloan, Oct 27, 2010

	Current Value	Future Value
Pharma	<ul style="list-style-type: none">• Differentiation from competitors• Measures marketing effectiveness	<ul style="list-style-type: none">• Identifies underperforming regions• Offers direct channel to verified patients
National Governments	<ul style="list-style-type: none">• Serves public safety, law enforcement via detection	<ul style="list-style-type: none">• Granular understanding of nation's formulary
NGOs	<ul style="list-style-type: none">• Pharmaco-census to focus efforts	<ul style="list-style-type: none">• Tracks use of intervention, behavior change

*Information about location of counterfeit and genuine product sales will be aggregated based on cell phone location at time of text to provide stronger geographic, market, and enforcement data

Market Intelligence Product Value

Sproxil's value in any consumer market relies on the persistent presence of counterfeits



Challenges: Focus and Scalability

Measurement of success and impact not just operational metrics

Scope of activities given size of company (12 people)

- Geographies: Africa (Nigeria), India, US
- Products: Pharmaceutical prescription drugs (n=1), but...
 - Commitments to Clinton Global Initiative for Insecticidal Nets
 - Ambitions to pursue HIV, Malarial, CDs, DVDs?!

Scaling to interact with multiple pharma and telecom companies

- Time consuming to secure telecom contracts with fragmentation
- Pharma buy-in requires rapid growth in patient demand for verification (two-sided platform)

Consistent and growth revenue stream following pilot results

- Use patterns will change over time
 - Individual fatigue/complacency
 - Lack of counterfeits



Securing capital

Challenges: Capturing Value from Data



Creating value with market intelligence products

- Market intelligence revenues may be more limited than anticipated
 - Market may potentially support \$1,800 - \$3,600 per year for an annual subscription of monthly sales updates (for example)
 - May be possible to cross-sell to distributors and retailers for inventory management systems
 - Obviously limited by how many would be that sophisticated

Incentives needed for all stakeholders to drive value of market intelligence products

- Two-sided platform increases in value to two distinct consumer groups (pharma, patients) with greater participation
- Rapid, scalable growth in patient adoption requires government or CBO partnership

Proposed Plan

Sproxil has had a technically successful (and public!) birth, but now how to deliver measureable value?

- 1. Make one franchise work first**
 - Determine product line to focus on and build a strong model that can be strengthened, enhanced and perhaps licensed
- 2. Determine level of resources to support key activities related to focused efforts**
- 3. Focus on developing partnerships to drive patient-level demand and increase the number of retail outlets participating in the program**
- 4. Design system of metrics that can be integrated into partnerships to collect desired impact data**

Appendix



Sources

Sproxil Website

- BIOFEM case study
- NAFDAC MAS Proof of Concept Findings

Interviews

- Dan Schwartz, SDI Health
- Stephan Gauldie, Decision Resources

Articles

- UNDP: Pfizer, Vodafone, Sproxil and WaterHealth International Commit to Fight Poverty, The Financial, 09/22/2010
- Top Counterfeit Drugs Report, FiercePharma Manufacturing, 08/16/2010
- Sproxil, Inc. Announces Commitment to Action at Clinton Global Initiative, Biotechnology Europe
- Wikipedia: GDP by Country

Market Intelligence Reports Valuation Explanation

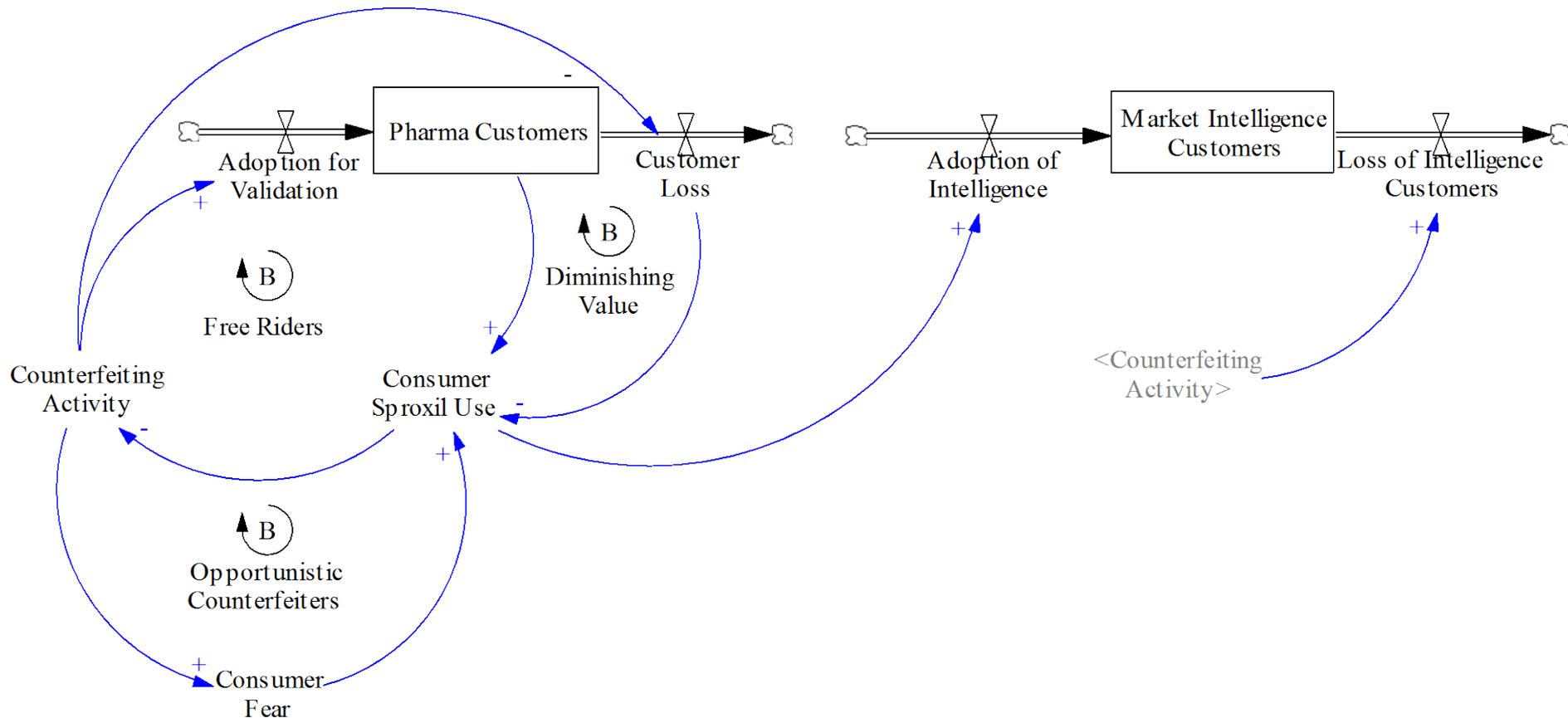
We normalized the value of SDI Health's PDDA, a \$100k/year prescription audit database that summarizes the US's \$275+ BN drug market, to the drug markets of six African countries—Botswana, Kenya, Nigeria, South Africa, Tanzania and Zimbabwe.

Annual drug sales by African country were provided by several Frost & Sullivan Research Reports:

- Mobile Money Transfer Services in East Africa released December 2009
- Transforming South Africa's Healthcare System released September 2009
- The Pharmaceutical Industry in Botswana released September 2009
- Overview of the Healthcare Industry in Nigeria released May 2009
- A Recovering Zimbabwe: Where the Opportunities Lie in Pharmaceuticals released July 2010
- Strategic Analysis of the Pharmaceutical Industry in Kenya released Dec 2008

Market Intelligence Product Value

- **Sproxil's value relies on persistent presence of counterfeits**



Explaining Value 1 – Two-Sided Platform

- **Two-sided platform links distinct consumers: patients & pharmaceuticals**
- **Network increases in value to both with increased participation**
- **More effective pharmacovigilance effort in driving out counterfeits**
- **Key challenge: Triggering acceptance on both sides of platform**
 - Incentives for patients: Verification delivers immediate value to consumer (safety, efficacy, value) at no cost
 - Incentives for pharmaceutical companies: Network of retail checkpoints enabled by SMS technology creates decentralized, real-time system for collecting market intelligence
 - Incentives for government: Lower cost option to target counterfeit drugs across network, improving public health, safety
- **Strong relationship with government, enforcement agencies required to bring value of market intelligence to fruition**

Explaining Value 2 – Market Intelligence

- **Shared value of market intelligence drives relationship between pharmaceuticals and government**
 - To pharmaceutical companies
 - Improves patient outcomes and safety
 - May improve patient adherence, with possibility of outbound messaging through SMS
 - Enables drug companies to recapture market share from counterfeits
 - Allows drug companies to track and identify new marketing opportunities in largely untapped markets
 - To government and health foundations
 - Improves patient outcomes and safety at lower cost than alternatives (chemical tests)
 - Increases investment from pharmaceutical companies in country
 - Creates unique infrastructure for data collection, drug enforcement, and public health messaging at low cost

Explaining Value 3 - Critique

- **Organic growth in two-sided platforms typically very slow**
- **Structure, stakeholders not in place to maximize growth**
- **Sproxil must target a diverse set of channel intermediaries to grow network**
 - Retail outlets may require assistance, training, marketing collateral to implement program (need sales force to support retailers?)
 - Driving patient demand; the larger challenge is likely getting patients to fill and re-fill their prescription. Making sure it's the right drug is important but secondary
- **Sproxil should not necessarily take on all these functions itself; perhaps concentrate on relationship with drug companies and incent other players to handle other channel relationships**