OPTIX

OPTIMIZING PERFORMANCE THROUGH IMPROVED CROSS(X)-SELL

LOW INCOME HOUSEHOLDS IN THE DEVELOPING WORLD FACE A TRIPLE-THREAT WHEN MANAGING THEIR FINANCIAL WELL-BEING.

Their incomes are not only (i) low but also (ii) irregular and (iii) unpredictable. They therefore need to manage their cash flows more actively than better-off households. This situation tends to mean that the poor generally require a broad array of financial tools – the more diverse the tools, the better.[1]

Optimizing Performance Through Improved Cross(X)-Sell (OPTIX), a special project of Rockefeller Philanthropy Advisors (RPA), funded by MetLife Foundation and managed by Bankable Frontier Associates (BFA), posits that socially-driven financial service providers such as microfinance institutions (MFIs) and cooperatives may be well-suited to provide the breadth of financial options that the poor need.[2] OPTIX Focus Note 1 outlines the theoretical foundations and ambitions of this project while also defining the core concepts of data-driven cross-sell strategies.

WHAT DO WE MEAN BY CROSS-SELL?

For this paper and the project that it introduces, we define cross-sell as clients actively and voluntarily using more than one product at the same institution, over time. By extension, our definition of cross-sell means that an institution is intentional and strategic about offering appropriate suites of products to different client segments, as defined by information including their transactional behavior and their broader financial needs.

---

[1] *These points are extensively made in Collins et al. 2009. Portfolios of the Poor. Princeton, NJ: Princeton University Press.*

[2] *Porteous, D. 2007. "Strong double bottom line banking" Chapter in Rangan, V., Quelch, J., Gustavo, H. and Barton, B. (eds.) Business Solutions for the Global Poor: Creating Social and Economic Value. San Francisco: Jossey- Bass*

CREATING BETTER OPPORTUNITIES FOR LOW INCOME CLIENTS TO USE FORMAL FINANCIAL SERVICES

EFFORTS BY THE WIDE SPECTRUM OF STAKEHOLDERS INTERESTED IN AND COMMITTED TO FINANCIAL INCLUSION – GOVERNMENTS, BANKS, TELECOMMUNICATION COMPANIES, PAYMENT SERVICE PROVIDERS AND FUNDERS, AMONG OTHERS – HAVE MADE GREAT PROGRESS TOWARDS UNIVERSAL FINANCIAL ACCESS.

As the recent Global Findex results show, the number of unbanked adults in the world decreased by 20% between 2011 and 2014, from 2.5 billion to 2.0 billion, due to stakeholders' sustained efforts and alignment of incentives.[3] The Findex figures highlight trends in financial access and "inclusion". However, they do not track how usage among clients of financial institutions, particularly those with lower incomes, can over time lead to improved financial well-being. Moreover, impact-related studies in financial inclusion are overwhelmingly mono-product focused,[4] whereas research has demonstrated that the financial needs of the poor require a portfolio approach.[5] Formal providers often offer a generic product for the low income market, be it a one-size-fits-all microloan or a basic (or no frills) bank account, including the widely offered account that regulators require in countries such as Kenya and India.

THE CHALLENGE – AND OPPORTUNITY – OF CROSS-SELL LIES IN FINANCIAL INSTITUTIONS DESIGNING AND PROMOTING PRODUCT COMBINATIONS THAT MEET THE NEEDS OF THEIR CLIENTS.

Low income households need a suite of diverse and reliable financial services to fit different purposes in their portfolios. The more they can access and use products that are diverse in size, duration, liquidity, volume, price and accessibility, the more they can meet their financial needs. OPTIX is predicated on the hypothesis that institutions able to cross-sell a diverse range of products to their low income clients can improve not only their bottom lines and their clients' likelihood to engage with formal financial services long-term, but also their clients' greater well-being. Research has shown the benefits to institutions, which include increased loyalty and credibility, lower acquisition costs and higher client retention. However, the case for low income clients benefiting from cross-sell is less clear. Exhibit 1A/B illustrates how low income clients may substantially benefit when they broaden their portfolio of products and services at the same institution. OPTIX will test the effects of cross-sell on clients' financial health and general well-being.

The challenge – and opportunity – of cross-sell lies in financial institutions, particularly those serving low income clients, effectively designing and promoting financially viable product combinations that appropriately meet the needs of their clients. While research has shown institutions' potential benefits of cross-sell, research has also demonstrated that institutions do not always realize the full benefits of the same.[7] We assert that a combination of client research and data analytics conducted on account usage, transaction history, life events and account access points can help institutions deepen and strengthen long-term relationships with clients by ensuring they are meeting clients' needs and contributing to their well-being. Combined with an understanding of institutions' viable product combinations, institutions can successfully serve their clients while ensuring financial sustainability.

[3] *See the Global Findex Database, 2014.*

[4] *See: Banerjee A., Karlan, D., Zinman, J. 2015. "Six Randomized Evaluations of Microcredit," American Economic Journal: Applied Economics 2015, 7(1): 1-21; Augsburg, B., De Haas, R. Harmgart, H., Meghir, C. 2015. "The Impacts of Microcredit: Evidence from Bosnia and Herzegovina." American Economic Journal: Applied Economics 7(1): 183-203; Tarozzi, A., Desai, J., and Johnson, K. 2015. "The Impacts of Microcredit: Evidence from Ethiopia." American Economic Journal: Applied Economics 7(1): 54-89.*

[5] *Collins et al. 2009.*

[6] *See: Boston Consulting Group. 2011. Operational Excellence in Retail Banking; McKinsey & Co. 2010.The Future of Retail Banking; Bain & Co. 2013. Client loyalty in retail banking: Global edition 2013; Bain & Co. 2012. Retail Bank of the Future.*

[7] *Deloitte Center for Financial Services, "Kicking it up a notch: Taking retail bank cross-selling to the next level," 2013*

WE THEREFORE POSIT THAT BOTH LOW INCOME CLIENTS AND INSTITUTIONS CAN BENEFIT FROM CROSS-SELL.

EXHIBIT 1A: *Hypothetical client-level view: Evaluating financial options to manage surplus and deficit income*

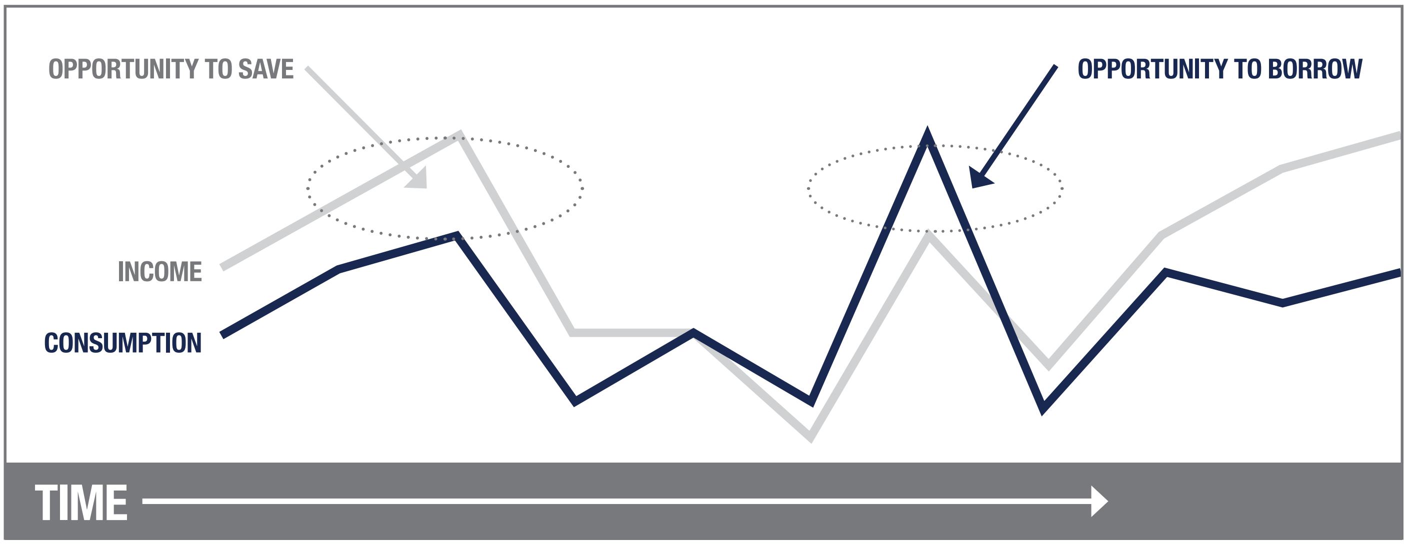


EXHIBIT 1B: *Assumed client benefits*

THE CLIENT HAS TWO OPTIONS...	CONVENIENCE	ACCESS	FINANCIAL COST	RISK DIVERSIFICATION	PREFERABLE TERMS/RATES	ALL PRODUCTS AVAILABLE	RESTRICTIONS
	Number of institutions visited to transact	Distance traveled and time spent to reach institution(s)	Origination and maintenance fees	Protection against client defaulting or institution failing	Lower borrowing rates, higher savings rates	Number of institutions needed to meet diverse needs	Insitution distance or product features (limit “impulse” withdrawls)
1. Multiple products at **ONE** financial institution	✓	✓	✓	✗	✓	✓	✗
2. Individual products at **MANY** financial institutions	✗	✗	✗	✓	✓	✓	✓

Exhibits 1A/B acknowledges that a client could have multiple products at one institution, but also uses products at other institutions.

SUSTAINABLY AND EFFECTIVELY CROSS-SELLING TO LOW INCOME CLIENTS

THE FINANCIAL INCLUSION INDUSTRY NOW ACKNOWLEDGES THE DIFFICULTY IN ACHIEVING THE LARGE SCALE MOBILIZATION OF LOW BALANCE SAVINGS ACCOUNTS ON A PROFITABLE BASIS.

The Gateway Financial Innovations for Savings (GAFIS) project, funded by the Bill & Melinda Gates Foundation, demonstrated that, among large commercial banks, the profit margins of providing a single no frills savings product to low income clients are extremely thin – acquisition and servicing costs are high and usage is low. The providers' business case of profitably serving low income people relies on more targeted and efficient client acquisition methods and selling more than one product to each client. [8] Adding to this "trap" of unprofitability and low usage are branches that are expensive for banks to maintain and inconvenient for clients to use. These dynamics explain to a large extent the high savings account dormancy rates, ranging from 20% to over 90%, which we have seen among banks around the world. The lack of a clear client proposition then dramatically weakens the business case for banks. [9]

Despite commercial banks' lack of business case for serving low income clients on low balance accounts alone, such banks in developing and developed markets alike are increasingly using their scale and resources to target low income clients as new branchless banking methods drive down servicing and transaction costs. As a result, institutions with limited financial and technological resources traditionally focused on low income clients may find themselves competing against big banks with more resources but less understanding of, and positioning to serve, low income clients.

BANKS AROUND THE WORLD HAVE SEEN HIGH SAVINGS ACCOUNT DORMANCY RATES RANGE FROM 20% TO OVER 90%.

OPTIX hypothesizes that these smaller, more specialized and socially-motivated financial institutions such as MFIs and cooperatives may be better suited to provide a suite of product offerings to low income clients than larger financial institutions. Potentially due to these institutions' missions to pursue both financial and social impact, and/or their community orientation and closeness to the low income populations they serve, such institutions are likely to offer numerous products that are relevant to low income clients.

[8] *See GAFIS Focus Note 3 at www.gafis.net. Gateway Financial Innovations for Savings (GAFIS) was a special project of Rockefeller Philanthropy Advisors, funded by the Bill & Melinda Gates Foundation and managed by BFA. From 2009-2013, GAFIS worked jointly with five leading, non-competing banks: Standard Bank of South Africa, BANSEFI (Mexico), Bancolombia (Colombia), Equity Bank (Kenya) and ICICI Bank (India). GAFIS aimed to assist these banks to leverage the "gateway opportunities" presented by certain existing financial relationships between the banks and a large number of the poor to study institutional viability and client proposition of small savings accounts.*

[9] *See GAFIS Final Report (2013) at www.gafis.net.*

OPTIX PARTNER INSTITUTIONS FACE COMMON CHALLENGES AROUND SUSTAINABLE AND RESPONSIBLE GROWTH IN INCREASINGLY COMPETITIVE MARKETS.

The four participating OPTIX institutions are of the following size and characteristics: they are single market (and are therefore not competitors) retail financial institutions which operate in countries with various regulatory and legal structures that underpin financial service providers serving low income clients. Each market is unique due to differences in financial sector depth and regulations governing microfinance and community banking, yet the institutions face common challenges around sustainable and responsible growth in increasingly competitive markets.

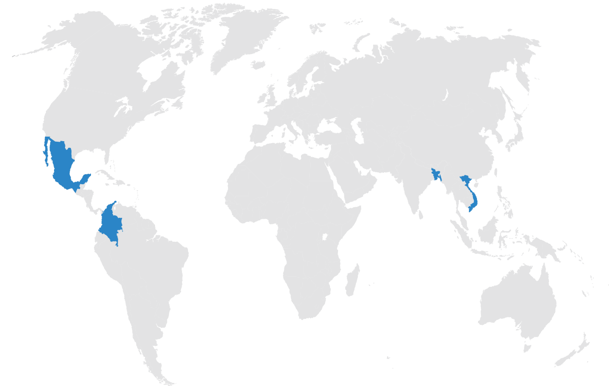


TABLE 1: *Overview of OPTIX partner institutions*

ACREIMEX	Banco wwb	CEP	Sajida Foundation
HEADQUARTERS	**HEADQUARTERS**	**HEADQUARTERS**	**HEADQUARTERS**
 OAXACA, MEXICO	 CALI, COLOMBIA	 HO CHI MINH CITY, VIETNAM	 DHAKA, BANGLADESH
INSTITUTION TYPE	**INSTITUTION TYPE**	**INSTITUTION TYPE**	**INSTITUTION TYPE**
Financial cooperative	Licensed microfinance bank, transformed from NGO MFI	NGO MFI	NGO MFI
PRODUCT TYPE	**PRODUCT TYPE**	**PRODUCT TYPE**	**PRODUCT TYPE**
Savings, loans, term deposits	Savings, loans, term deposits, insurance	Loans, compulsory and voluntary savings	Loans, compulsory and voluntary savings, "microinsurance"[10]

[10] *SAJIDA's microinsurance product is a mutual assistance product provided by SAJIDA, not by a certified insurance company.*

USING DATA TO DEVELOP STRATEGIES OF UNDERSTANDING CLIENT BEHAVIOR

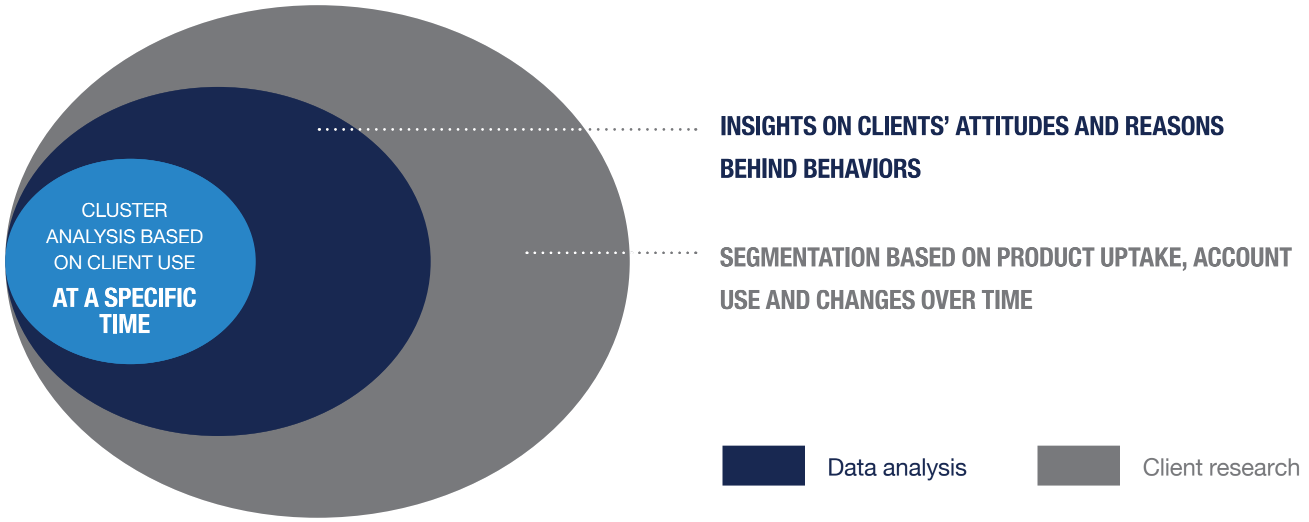
BY MARKETING DIFFERENT PRODUCT COMBINATIONS TO CLIENT SEGMENTS BASED ON THEIR NEEDS, INSTITUTIONS MAY INTENTIONALLY CROSS-SELL TO DIFFERENT CLIENT SEGMENTS DEFINED BY THEIR FINANCIAL NEEDS – E.G., SHORT- OR LONG-TERM SAVINGS, EMERGENCY OR REVOLVING CREDIT – AT A GIVEN POINT IN TIME.

Too often we find that institutions develop products with a perceived rather than actual client need or client type in mind. This can lead to instances of sub-optimal usage by the client, for example due to lack of (perceived) relevance, awareness or understanding, and lead to high dormancy rates and costs for the institution. Offering different product combinations to different client segments does not necessarily require introducing new products; rather, it may require institutions repositioning their current offerings and reevaluating associated internal processes.

This is where analyzing account and transaction data can help. Using representative data from Institution A, an OPTIX partner institution, we identified metrics to create client "clusters" and segment the institution's client portfolio.

Cluster analysis can provide insights into clients' usage of products at one point in time. Clients' varying usage of products highlights the subtle but important distinctions between the different client segments that exist within a given institution's portfolio and allow institutions to create behavior-based client segments. However, cluster analysis does not account for (i) how client behavior changes (or not) over time and (ii) why clients choose to use products the way they do. Exhibit 2 illustrates the layers of segmentation we use. We will explore more comprehensive approaches to examining clients' product uptake and transactional behavior over time – and the reasons for clients' actions – in subsequent Focus Notes.

EXHIBIT 2: *Demonstrating layers of segmentation*



TO DEMONSTRATE THE FIRST LAYER OF EXHIBIT 2, WE USE CLUSTER ANALYSIS TO SEGMENT INSTITUTION A'S CLIENT PORTFOLIO INTO FIVE GROUPS BASED ON THEIR USAGE OF SAVINGS AND LOANS:

cross-sold clients, long-term clients, transactors (savings), transactors (savings & credit) and borrowers. Table 2 summarizes each segment's characteristics and Appendix 1 provides the comparable metrics of product usage, balances and account duration of each segment.

TABLE 2: *Institution A segments by cluster analysis*

NAME OF SEGMENT	CROSS-SOLD CLIENTS	LONG-TERM CLIENTS	TRANSACTORS (SAVINGS)	TRANSACTORS (SAVINGS & CREDIT)	BORROWERS
PERCENTAGE OF PORTFOLIO	18%	29%	16%	18%	19%
LOANS					
NUMBER OF LOANS		2ND HIGHEST		HIGHEST	
TERM LENGTH		HIGHEST			
NUMBER OF TRANSACTIONS	LOWEST			HIGHEST	
LOAN OUTSTANDING BALANCE	2ND HIGHEST				HIGHEST
AMOUNT REPAID EVERY 30 DAYS	HIGHEST				
SAVINGS					
NUMBER OF SAVINGS ACCOUNTS	HIGHEST				LOWEST
NUMBER OF ACTIVE DAYS		HIGHEST			
SAVINGS BALANCE	HIGHEST				
NUMBER OF WITHDRAWALS PER MONTH			HIGHEST		
AMOUNT WITHDRAWN PER MONTH	HIGHEST				
NUMBER OF DEPOSITS PER MONTH				HIGHEST	
AMOUNT DEPOSITED PER MONTH	HIGHEST				

THE SEGMENTS' BEHAVIORAL PATTERNS

at one point in time provide insights into which strategies to test with each segment through further analysis of time series data from the OPTIX institution and through client research.

CROSS-SOLD CLIENTS (18%)

The cross-sold group includes clients who display the greatest engagement in both credit and savings products. The group's data show high outstanding loan balances, the highest repayment amounts per month, the highest number of savings accounts, the highest savings balances and the highest number of deposits and withdrawals on a per month basis, compared to the other segments. This group also has the lowest frequency of loan repayments per month, showing that members of this group prefer to make their payments monthly rather than weekly. Since Institution A has been successful in capturing the excess liquidity of this group and fulfilling their sizeable credit needs, this group might provide valuable information to Institution A about how to cross-sell effectively to more clients.

LONG-TERM CLIENTS (29%)

The largest segment of Institution A, Long-Term Clients earn their name based on the periods of time that they have had at least one active loan and at least one active savings account. The group consists of clients that have had an active loan for 851 days on average and an active savings account for 1,012 days on average, both significantly longer than any other segment. The savings balance is much lower than the portfolio average, as is the amount of funds flowing through deposits and withdrawals. It therefore seems that clients who have been with Institution A for a long time are not fully using the available savings products, which presents an opportunity for Institution A to improve how it meets long-term clients' savings needs.

TRANSACTORS (SAVERS) (15%)

Clients in this group share the characteristic of high account transaction frequency, withdrawing on average 2.8 times per month compared to a portfolio average of 1.3 times per month. The amount of deposits and withdrawals are both approximately US$462.53, but the savings balance is a much lower US$273.15. While using savings accounts as transactional accounts serves a clear need of the clients, the combination of a low balance and high transaction account makes this segment costly for Institution A to serve. Both the client and Institution A may benefit from exploring options to retain some of the funds that flow through these accounts by marketing and/or offering longer term savings options to these clients.

TRANSACTORS (SAVINGS & CREDIT) (18%)

Transactors take out 3.8 loans on average, compared to the portfolio average of 2.2. They repay their loans twice as often as any other segment. A similar high frequency behavior is observed in the number of deposits they make (3.8 per month), the highest among the five groups. In contrast, this group withdraws less than once per month. Yet, the average amount of deposits and withdrawals are very similar, around US$307.70 per month. These clients save small amounts over time and withdraw relatively infrequently, painting a picture of a group whose cash flows are frequent and allow them to service loans and make deposits regularly. The frequent borrowing may also suggest volatile cash flows and that some of these clients end up requiring bridge loans to cover short-term liquidity needs.

BORROWERS (19%)

Borrowers have both high loan and low savings balances. The group's large average loan balance of US$3,601.00 is twice as much as the next group. In contrast, both the number of savings accounts and the amounts saved are the smallest among the five groups. It is tempting to consider this group as potential savers, since they can generate cash flows that could be diverted into a savings account once the loan is repaid, or even before. On the other hand, these could also be the community's "net borrowers" who are capable of mobilizing funds but make the decision not to maintain savings accounts at Institution A. Careful client research may help to determine if this group holds a latent desire for savings products with Institution A, or are simply saving their money elsewhere.

As one way of segmenting clients, the cluster analysis highlights certain client behaviors that may point to new or untapped opportunities. For example, the cluster analysis suggests that Institution A could better meet Long-Term Clients' savings needs. Having identified a specific group of clients that the institution can target, Institution A would benefit from understanding from clients (i) how they currently save and (ii) how they might shift their savings to Institution A. If the opportunity exists for Institution A to obtain a greater share of Long-Term Clients' wallets, however, it would also want to understand the positive or negative financial implications of gathering additional savings from a segment.

Similar to the Long-Term Clients' situation, combining data analytics with client research and business case analysis help answer difficult and complicated questions such as:

WHAT WOULD IT TAKE FOR "NET BORROWER" CLIENTS to replace loans with savings after an intermediate period of funds build-up, or to shift funds to start saving at Institution A?

WHAT TYPES OF "NET SAVERS" could benefit from a loan that supplements available funds in the event that savings amounts are not sufficient for planned or unplanned contingencies?

WHY AND HOW WOULD CLIENTS who save and borrow adopt technological solutions that would reduce the institution's costs and create data that signals clients readiness to access more sophisticated financial products?

These questions are examples of what can help us begin to identify the realities of clients' financial lives and gain an understanding of the financial possibilities available through cross-sell.

MEASURING AND MONITORING CROSS-SELL FOR LOW INCOME CLIENTS

LOW INCOME CLIENT-CENTRIC FINANCIAL INSTITUTIONS, SUCH AS THE OPTIX PARTNER INSTITUTIONS, ENVISION CONTRIBUTING TO THEIR CLIENTS' ECONOMIC DEVELOPMENT AND GREATER WELL-BEING THROUGH PROVIDING A SUITE OF FINANCIAL SERVICES THAT BEST MEET THEIR CLIENTS' NEEDS.

This project intends to look beyond financial access and usage alone and track the broader financial health and general well-being of cross-sold clients.

OPTIX will focus on improving effective cross-sell strategies for the four partner institutions. Through the project, the institutions and supporting organizations such as RPA and MetLife Foundation will identify cross-sell opportunities by determining client needs, assessing financial viability of product combinations and analyzing data.

The hypothesized financial and social benefits of cross-sell will be measured throughout the project through four broad categories of indicators:

1. *Client reports of their financial health and confidence and ability to cover emergencies, life events and lump sum expenditures (e.g., health issues, holidays, funerals, school fees) and meet other financial goals;*
2. *Clients' loyalty and satisfaction – measuring their likelihood of recommending the financial institution to family and friends;*
3. *Clients' product usage – monitoring savings balances and other transactional activity with the OPTIX institutions; and*
4. *OPTIX institutions' financial sustainability of cross-sell promotions, client retention and percentage of clients' wallet share.*

The OPTIX institutions and project partners will use these four types of indicators to assess and monitor both institution and client-specific impact over time to determine the real benefits of cross-sell.

TOWARD A VISION OF EFFECTIVE AND MUTUALLY BENEFICIAL CROSS-SELL

OPTIX WILL BE SUCCESSFUL IF PARTICIPATING INSTITUTIONS USE ENHANCED CLIENT UNDERSTANDING TO DEVELOP AND EXECUTE STRATEGIES TO DEEPEN THEIR CROSS-SELL PROPOSITIONS, AND CLIENTS SHOW DEMONSTRABLE FINANCIAL OR WELFARE BENEFITS FROM USING MORE THAN ONE PRODUCT ACTIVELY WITH ONE INSTITUTION.

Over the next three years OPTIX institutions will use an "end to end" process of combining data analytics with business case analysis and client research. We envision this yielding insights into how data-driven decision making can improve the client experience, promote clients' usage of products and services and illustrate the sustainability to the institution of doing so.

On the client side, data analytics on clients' transactional and balance behavior will inform targeted qualitative and quantitative research around clients' behavior with the institutions and with other financial instruments (both formal and informal) to understand clients' perceived value of the institutions. Specifically, with this client research we want to answer questions such as:

How can the institutions improve the ways they serve their clients? Who are loyal clients and promoters and why? With what other formal and informal products are the institutions competing for the clients' business? Why do clients use the products they do? Why do clients tend to diversify their portfolios and use different instruments at different institutions?

OPTIX acknowledges that cross-sell may not be appropriate for certain client segments in certain circumstances. For example, a segment of depositors may not need or want to also borrow from the institution. Or, certain clients who do not sufficiently trust an institution may prefer to diversify their portfolios by only maintaining one product per institution. By asking the above questions, we aim to understand why certain clients do choose to have multiple products at the same institution and identify what other types of clients might also be amenable to the cross-sell proposition.

On the institutional side, OPTIX will test the business case of cross-sold client segments, as well as the drivers and strategies that can improve the business case of cross-sell. This will inform an understanding of what different combinations of products and usage patterns are (and are not) profitable to the institution, and in what scenarios these might change. For example, some institutions might be able to lower their transaction costs by using less capital intensive alternative delivery channels. In analyzing the profitability and additional value of each cross-sold client segment to ensure a financially sustainable cross-sell strategy for the institution, the end goal is to be able to answer questions such as:

What is the profitability of different segments? How do retaining clients and leveraging client loyalty save an institution acquisition costs?

OPTIX seeks to highlight and share valuable lessons in pursuit of developing an understanding of cross-sell benefits for low income clients and institutions, and will disseminate learnings throughout the project lifecycle.

---

[10] *SAJIDA's microinsurance product is a mutual assistance product provided by SAJIDA, not by a certified insurance company.*

APPENDIX 1: *Cluster analysis of transaction, savings and loan behavior at Institution A*

NAME OF SEGMENT	PORTFOLIO AVERAGE	CROSS-SOLD CLIENTS	LONG-TERM CLIENTS	TRANSACTORS (SAVINGS)	TRANSACTORS (SAVINGS & CREDIT)	BORROWERS
PERCENTAGE OF PORTFOLIO	100%	18%	29%	16%	18%	19%
LOANS						
NUMBER OF LOANS	2.2	1.9	2.2	1.7	3.8	1.3
TERM LENGTH	621	456	851	573	472	611
NUMBER OF TRANSACTIONS	2.5	1.5	1.8	2.6	5.1	2.2
LOAN OUTSTANDING BALANCE (USD)	1,762	2,371	1,201	1,289	618	3,595
AMOUNT REPAID EVERY 30 DAYS (USD)	163	294	91	102	183	179
SAVINGS						
NUMBER OF SAVINGS ACCOUNTS	3.8	7.3	3.3	3.6	3.1	2.3
NUMBER OF ACTIVE DAYS	751	622	1,012	631	584	736
SAVINGS BALANCE (USD)	539	2,048	188	273	238	149
NUMBER OF WITHDRAWALS PER MONTH	1.3	0.9	0.9	2.8	0.8	1.5
AMOUNT WITHDRAWN PER MONTH (USD)	553	1,615	169	464	315	431
NUMBER OF DEPOSITS PER MONTH	2.8	2.3	2.4	3.2	3.8	2.4
AMOUNT DEPOSITED PER MONTH (USD)	568	1,676	171	476	323	437

Note: Characteristics that differentiate groups are highlighted in shades of blue. Period of analysis is 36 months.