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Mobile Financial Services in Kenya, Uganda and Tanzania:

Downstream Prediction for Lasting Economic Retention

Project DoPLER, Phase I Report

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**Contents:**

I. Abstract 2

II. Introduction 2

III. Background 3

IV. Related Work 3

V. Data Sources 3

VI. Methodology and Models 4

VII. Findings 4

VIII. Conclusions/Recommendations 4

IX. Proposed Next Steps 5

X. Acknowledgements 5

XI. References 5

XII. Appendix 5

# Abstract

In this pilot study, we seek to use existing data sets to better understand long-term retention of mobile financial services in Uganda, Tanzania and Kenya.

Using statistical modeling techniques we identify those parameters which might serve as predictors to labeled response variables to identify longitudinal retention and usage of services such as payments and loans on mobile devices.

The goal of the study is a directional framework to enable mobile network operators (MNOs) and non-government organizations (NGOs) to better deliver financial inclusion in these markets.

# Introduction

To date, much work has been done to understand the pathway between awareness and sign-up of digital financial services (DFS) in East Africa. This is referred to herein as “upstream” adoption.

Despite this research on the upstream process, from initial adoption to active usage, there is a dearth of understanding on longer term retention—herein referred to as “downstream”; activity beyond the initial 90 day of active usage.

In this work we seek to understand the relative effects of on- and off-phone values, a mixture of continuous, categorical and nominal variables.

Some examples [from RFP, move to methodologies section eventually]

**On-phone:**

* Transaction types
* Usage volume
* Usage value
* Number of unique agents (sender or receiver)
* Regularity of transaction
* Frequency of transaction

**Off-phone:**

* Gender
* Age
* Location
* Employment Status
* Wealth
* Non-mobile Financial service usage

With broader goal of financial inclusion of the currently unbanked populations, the study seeks to offer suggestions (though not quantified recommendations) on how to drive uptake of financial service offerings and products in these geographies.

# Background

The project lies in the broader context of the Financial Services for the Poor (FSP) group at the Gates Foundation, and more narrowly, within the broader multi-year effort of the FSP group to deliver the FSP portal—a clearing house of tools and research to better enable practitioners and researchers involved in financial services and financial inclusion projects in East Africa, including the MNOs themselves.

# Related Work

In the course of developing this pilot project, conversations were held with a broad consortium of stakeholders in the for- and non-profit space.

Specifcally, the Financial Inclusion Index (FII), funded by the Gates Foundation and administered by Intermedia plays a key role in shaping the scope and background of this work.

Additionally, work by CGAP and the World Bank provide the foundational elements of our analyses. Specifically, the Financial Inclusion Index (FINDEX) study, administered by Gallup as a part of a broader, global survey on financial inclusion serves to contextualize many of the findings herein.

The DataLab at University of Washington[[1]](#footnote-1) has worked deeply to understand the impact of mobile technologies in emerging markets and this study draws from prior work including Dr. Joshua Blumenstock’s work on mobile money.[[2]](#footnote-2)

An advisor to this project, Dr. Matthew Jackson’s work at Stanford’s Department of Economics provides a basis for the understanding of networks in the community, and the effect on adoption and retention.[[3]](#footnote-3)

[additional citations required- pull from 50+ in data sources spreadsheet, thanks to Karen Fung/Stanford, World Bank, CGAP]

# Data Sources

The FII study provides the most useful prior data available to assess financial inclusions within our geographies of interest.

For this study, we made contact with Intermedia and gained access to Phases one through three (2012-2014) of the annual longitudinal study.

Additionally the World Bank FINDEX study provides global, by-country measurement of key inclusion factors.

Gallup administers the study, a battery of questions within a larger global survey on financial services, and which also contains key demographic measures required for pairing/matching in our methodology.

[QUESTION: Will we be able to gain access to these questions? (i.e. prior gates licensing arrangement?)]

# Methodology and Models

[Notes: per call w/D. Gutelius (advisor) and A. Ahuja (modeler) will use data from outside countries for two purposes: 1) make progress on effective modeling approaches, which can be later applied to primary data collected in these three geographies.

2) compare in-geography (Kenya, Tanzania, Uganda) measures against broad-stroke retention metrics (i.e. 30-day vs. 12-month population differences). Compare to global measures. Will leverage previously published roll-ups here (i.e. FINDEX PDF report) to reduce duplicate work.]

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# Findings

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# Conclusions/Recommendations

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# Proposed Next Steps

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# Acknowledgements

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# References

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# Appendix

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1. http://datalab.ischool.uw.edu/ [↑](#footnote-ref-1)
2. http://www.jblumenstock.com/ [↑](#footnote-ref-2)
3. https://web.stanford.edu/~jacksonm/ [↑](#footnote-ref-3)