{DATA HACK 4FI}

INNOVATION AWARD

Advancing financial inclusion through data innovation

insight2impact

DataHack4FI is an innovation competition bringing together data enthusiasts and financial service providers (FSPs) to promote the use of data-driven decision-making in financial inclusion.

Find out more about the competition at: DataHack4FI.org

Contents

Message from i2i

Celina Lee
i2i lead

As a researcher, few experiences are more gratifying than seeing your research come to life. With this in mind, we started our seven-month #DataHack4FI competition, bringing together young data enthusiasts, innovation hubs, development partners, fintechs and financial service providers (FSPs) to mobilise the data market around financial inclusion.

From the outset, our aim was to connect emerging data scientists with opportunities to apply their skills to the challenge of delivering valuable financial services to the unserved and underserved across the African continent. With more than 100 participants partaking in the final round of the country competitions, greater mentoring and training were offered to build capacity amongst all country finalists, through Masterclass sessions offered by the i2i team and our in-country partners.

The intervention was important, as our research highlighted gaps in skills required on the continent to meet the expected demand for data-driven solutions to real-world challenges.

At the same time, we sought to create communities of innovation through data by bringing together FSPs, development partners, innovation hubs and fintechs, thereby providing a platform to share data challenges and solutions. In this booklet we also showcase these connection and the effects they could have in furthering the goal of financial inclusion in the seven participating countries in Africa (Rwanda, Kenya, Zambia, Ghana, Uganda, Mozambique and Senegal).

It is hard to believe that the country competitions have ended and that the Grand Finale in Kigali, Rwanda, is now upon us.

> **"Our aim was to connect emerging data scientists with the support and opportunities to apply them to the challenge of delivering valuable financial services to the unserved and underserved."**

We look forward to the culmination of these efforts as the winning country teams compete head-to-head in pitching their creative solutions in Kigali.

We congratulate all entries and wish the finalists the best of luck!

Journey to the Final

Nkosi Ncube
Head of i2i's Application Lab

Today marks a major milestone in our journey to build financial inclusion communities around data. The DataHack4FI competitors and participating FSPs have shown us their interest in working together to solve financial inclusion challenges. Now, the seven finalists competing in the DataHack4FI finale in Kigali will battle it out against one another and have the chance to pitch their innovative solutions to investors at the Transform Africa Summit.

It has been exciting to see the DataHack4FI competition evolve over the last seven months from the initial kick-off in Rwanda, to six more countries across sub-Saharan Africa, including Kenya, Zambia, Ghana, Uganda, Mozambique and Senegal.

It kicked off with the first county contest here in Rwanda in November 2016 where the winning team, and the first qualifiers of the grand final in Kigali, Hellojobs, showcased their product, which focuses on using data and technology to match technical capabilities to those seeking to employ those services.

In Zambia, the winning team, Team Binary conceptualised a Facebook-bot that links students with student-friendly insurance products. The Uganda winners, #KillerAnalytics, presented their app, which provides financial management and accounting for small and medium-sized enterprises. In Kenya, Mobiticket aims to digitise the informal transport system in Kenya, enabling vehicle operators to receive cashless payments.

We started off with an aim to promote the use of data in designing and delivering valuable financial services, and the communities that we have grown around this has been beyond our initial expectations.

These communities have generated interest from an emerging group of young data enthusiasts to learn from experienced data specialists and technical mentors and from FSPs and fintechs to continue their journey to embrace the power of data, data analytics and alternative sources of data, to unlock new markets for financial services. In forging these connections and collaborations, our end-goal of providing low-income individuals, households and communities with access to financial services that improve their lives, is a little bit closer.
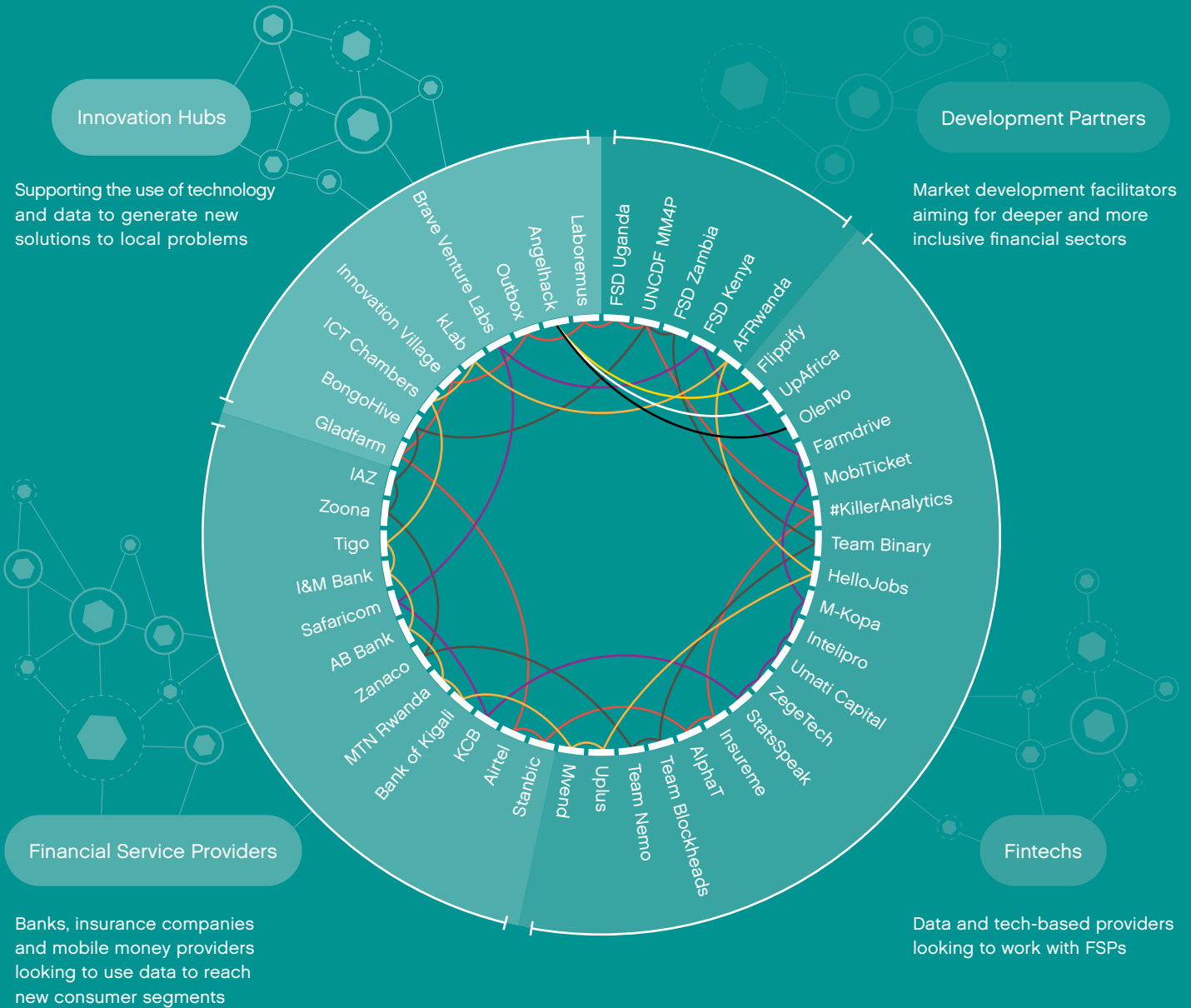
We look forward to working with these communities going forward to continue to innovate and learn about the potential of data in financial inclusion.

It has been an exciting journey, and we congratulate all our entrants and competitors that have showcased their talents and innovative ideas along the way. We would also like to thank our partners and country-level stakeholders who have accompanied us on this journey and to whom we owe the success of the competition series.

Read more about the journey to the final at DataHack4FI.org.

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Creating Connections

Innovation Hubs

Supporting the use of technology and data to generate new solutions to local problems

Development Partners

Market development facilitators aiming for deeper and more inclusive financial sectors

Financial Service Providers

Banks, insurance companies and mobile money providers looking to use data to reach new consumer segments

Fintechs

Data and tech-based providers looking to work with FSPs

Labels around the circle (clockwise from top):

Laboremus · FSD Uganda · UNCDF MM4P · FSD Zambia · FSD Kenya · AFRwanda · Flippify · UpAfrica · Olenvo · Farmdrive · MobiTicket · #KillerAnalytics · Team Binary · HelloJobs · M-Kopa · Intelipro · Umati Capital · ZegeTech · StatsSpeak · Insureme · AlphaT · Team Blockheads · Team Nemo · Uplus · Mvend · Stanbic · Airtel · KCB · Bank of Kigali · MTN Rwanda · Zanaco · AB Bank · Safaricom · I&M Bank · Tigo · Zoona · IAZ · Gladfarm · BongoHive · ICT Chambers · Innovation Village · kLab · Brave Venture Labs · Outbox · Angelhack

Senegal 01

Ghana 03

Rwanda 37

Uganda 29

Kenya 20

Zambia 27

Mozambique 09

126
Participants

Meet the i2i Team

Nkosi Ncube
Head of i2i's Application Lab

Nkosi heads up i2i's Applications Lab and has been a driving force behind the i2i DataHack4FI competition. He is passionate about nurturing innovation for increased usage of financial services and encouraging collaboration among innovative minds, FSPs, development partners and the mobile telecommunications industry, to facilitate poverty reduction in Africa.

Dumisani Dube
i2i's DataHack4FI lead

Dumisani is a research associate, working within i2i's Applications Lab, and is responsible for leading the i2i DataHack4FI innovation competition. He has a passion for helping organisations realise and embrace the value of data analytics and alternative sources of data in informing strategic decisions and gaining new insights.

Mari-Lise du Preez
i2i's partnerships manager

Mari-Lise is responsible for managing i2i's partner relationships and has driven the communications activities for the DataHack4FI competition series. Her interests lie in optimising networking and partnership opportunities for practical use and in the social aspects of learning and innovation.

Manoj Chiba
i2i's data science specialist

Manoj acts as i2i's part-time data science specialist, running the Data Science MasterClass and Virtual DataHack4FI competition. His expertise, earned in senior management positions and as principal consultant for ATBM Advisory, and his passion for data and its intersecting technology, drive his philosophy for evidence-based decision-making.

Meet the Judges

Camilla Swart
*Ecosystem manager,
Rise Africa*

Camilla is Rise Africa's ecosystem manager, helping to identify fintech entrepreneurs and building the ecosystem around financial services, technology and entrepreneurship. Rise Africa, created by Barclays, is a physical and digital community that provides fintech start-ups and businesses with the connections and resources to create ground-breaking businesses.

Ekow Duker
*Chief doer,
Ixio Analytics*

Ekow's primary role as chief doer for Ixio Analytics is business development, key account management and growing the Ixio Analytics' franchise. Ekow has extensive c-suite experience in strategy consulting and private equity investing and has a deep commercial understanding of several industries. He is passionate about data and getting things done.

Dr. Patrick McSharry
*Professor, Carnegie
Mellon University
Director, African Centre
of Excellence in Data Science*

Patrick is at Carnegie Mellon University Africa and leads the African Centre of Excellence in Data Science. He is a fellow of the Royal Statistical Society and a senior member of the IEEE. His research focuses on big data, forecasting, machine learning, predictive analytics and the analysis of human behaviour.

Dianne Karusisi
*CEO,
Bank of Kigali*

Diane serves as CEO at the Bank of Kigali. She is a Rwandese statistician, economist, bank executive and academic that has extensive experience in managing private and public sector institutions. She previously headed the Strategy and Policy Unit in Office of the President and prior to that was Director-General of the National Institute of Statistics of Rwanda (NISR).

Meet the Finalists

#KillerAnalytics
Winners of DataHack4FI Uganda

Meet #KillerAnalytics:

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Problem statement: SMEs in Uganda, as in most other sub-Saharan countries, account for approximately 90% of the private sector, over 80% of manufactured output and 18% of GDP. And yet, these SMEs have no access to formal financial services such as credit, insurance, savings and transfers. Data shows that SMEs use money lenders and mobile money transfers as their primary financial services which do not provide sufficient support to help them thrive. SMEs do not keep full financial records but do keep transactional data (sales, expenses and purchases) which does not allow for proper analysis and credit rating.

#KillerAnalytics' solution: Smart Credit is a business intelligence and analytics engine that processes SME data to build full financial reports and accurate SME profiles to identify financing and other service gaps to design tailored solutions based on their specific business scenarios. The solution leverages data from MYAccounts™, a low-cost mobile-based tool that allows SMEs to record their basic transactions (sales, expenses, purchases, inventory, etc.) in a simple, easy-to-use way. It generates full financial reports for the SME automatically. The solution is mobile money integrated to ensure that transactions are done using mobile money to provide a trail to authenticate financial statements that are generated for the SME.

Mobiticket

Winners of DataHack4FI Kenya

Meet Mobiticket:

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Problem statement: There is a lot of unrecorded big-data in the African transport industry, due to the informal private transportation system, which is crippling productivity across African cities. Nairobi alone loses at least Ksh.47 billion annually due to ineffective bus ticketing, unstructured terms of service and poor pay for crew, forcing them to pilfer.

Mobiticket's solution: Mobiticket powers public service vehicle operators to receive cashless fare payments through mobile phones, leading to structured remuneration for bus crews following their measurable and realistic productivity. Better and structured collection from vehicles means shorter return-on-investment for investors in the sector. More people will therefore be likely to invest in the transport sector, which will result in increased employment.

Team MobiTicket already collects data from transactions on Kenya's public service buses known locally as 'matatus'. Using accessible USSD mobile phone technology, their innovation allows passengers to get a digital receipt and a record of their ticket transaction. The bus drivers and conductors also get the benefits of this digital footprint and the SACCOs that own both the buses and the licences can see where the money is flowing to and from. In their first 13 weeks of operation with just three SACCOS and 100 matatu crews, the team has already logged data for 28,000 transactions.

Binary

Winners of DataHack4FI Zambia

Meet Binary:

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Problem statement: In 2013, Zambia had 19 private universities registered and none of them provides an insurance policy to protect student's property. Today only 3% of Zambians are insured out of a population of 15 million people.

Binary's solution: Binary has developed a Facebook-bot that provides information on student-friendly insurance and available products. The team plans to work with insurance firms to develop better insurance products for students, based on data collected from the bot, which the Binary team has named Bimo. The premise behind the team's idea is to use readily available tools, such as bots and social media to improve financial inclusion. Binary's mobile application solution provides insurance service options for students and will act as a bridge between the insurance providers and students. Students can have the option of paying insurance premiums using PayPal and mobile money. Insurance companies are the customer, and students are the users.

Hellojobs

Winners of DataHack4FI Rwanda

Meet Hellojobs:

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Dominique Savio Dukuzumuremyi

Gael Shema

Problem statement: According to statistics from the Workforce Development Authority (WDA) in Rwanda, there are up to 365 Technical Vocational Education and Training (TVET) centres which are each able to train over 100 skilled technicians per year. And yet, consumers who are looking for skilled and reliable tradesmen, such as plumbers, are forced to contact friends for recommendations, which takes time. Employers thus have no ways to identify skilled handymen. Moreover, there is no efficient way for handymen to keep track of their employment records, and financial institutions don't readily provide financial services when these handymen do not have any payroll records.

Hellojobs' solution: HelloJob, from Manwyi Ltd, connects technical workers to people looking for contractors and skilled tradespeople. From the Hellojob's platform, TVETs, Integrated Polytechnic Regional Centre (IPRC) academy staff and individuals will be able to post their professional profiles. Customers seeking the best technician for their job can then view and hire the highest-rated professional. This online marketplace takes the hassle out of finding someone to fix your problems and connects handymen to those in need of their skills. It also provides a facility to rate and recommend the listed tradespeople to others and builds trust in the industry. Accessible to workers either via SMS and USSD in Kinyarwanda, or online in English, this 'sharing economy' solution creates a digital track record for both workers and employers, as well as a financial footprint that may one day lead to credit scores.

UpAfrica

Winners of DataHack4FI Senegal

Meet UpAfrica:

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Problem statement: Cereal banks are community-led grain distribution projects created to ensure food security. They store grain after harvests. Farmers are then able to loan grain when food is scarce during what is known as the 'lean season'.

Farmers currently store grain in a collective rural warehouse, which is useful when an agricultural campaign is closer to its end and there are insufficient business opportunities for farmers to sell their products. But storing the grain results in limited financial capital for the farmer. Farmers often have to borrow money from family and friends to buy the needed agricultural inputs.

UpAfrica's solution: Upfrica will expand the services offered by rural Cereal Banks through a partnership with FSPs to reinforce financial inclusion, by creating a national virtual cereal bank.

Cereal Bank agents will issue an 'm-warehouse receipt' providing information regarding the quality, quantity and monetary value of the deposit made by the producer.

This receipt will serve as a guarantee for FSPs, which will enable farmers across the country to access loans from the Cereal Banks. The receipt will represent a percentage of the monetary value of the deposit based on market prices.

As a partner the FSP will be in charge of obtaining for the farmer, the most profitable price on international markets of goods, trading an amount of the Farmers deposit, when allowed by the Government.

This model, as a pilot, would lead to the establishment of a national virtual cereal store.

13

Flippify

Winners of DataHack4FI Ghana

Meet Flippify:

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Problem statement: Youth and young professionals across Africa lack access to financial products that suit their risks and lifestyle.

Flippify's solution: Flippify is a mobile application that capitalises on big data and machine learning to deliver tailored financial products that suit the risks, appetite and lifestyle of young people and professionals in Africa. It uses data available on users' mobile devices, social media and on the internet to design a risk model which is used in designing savings and insurances products for their target market.

To access the services, a user downloads and installs the flippify app on their phone and then flippify does the computation and suggests a customised product for the user. The user subscribes by then choosing a product, the monthly contribution and duration. Flippify makes automated monthly deductions from the user's mobile wallet or payment card.

Users can choose, customise and manage multiple products directly from the app. Flippify makes money when a user subscribes for a product and also from the transaction fees.

Olenvo

Winners of DataHack4FI Mozambique

Meet Olenvo:

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Problem statement: In Mozambique, people residing in rural areas tend to be more financially excluded than those living in the urban areas and do not have access to formal financial services. The state cannot account for workers in the informal sector who do not utilise formal financial services like banks; as such they subsequently lose a lot of money by not collecting taxes.

Olenvo's solution: Olenvo will create and manage savings groups using low-cost technologies (such as SMS and USSD), as well as helping its members make transactions using such eletronic currencies as m-kesh, m-peso and e-mola. The solution will be independent of the mobile operator, helping resolve security issues identified in the savings groups.

Olenvo will also create a financial education and information portal that links FSPs to the broader population. The portal would enable FSPs to produce content that can be used to educate the population, such content will be delivered to users through various mediums, namely SMS, USSD and via a Mobile application.

Our Partners

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MOBILE MONEY FOR THE POOR

LABO REM US*

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INSURERS ASSOCIATION OF ZAMBIA

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angelhack

FSD Kenya
Financial Sector Deepening

fsdZambia
Expanding Financial Inclusion

fsduganda
Financial Sector Deepening

kLab

ICT CHAMBER

BongoHive

AFR
ACCESS TO FINANCE RWANDA

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