



INNOVATION AWARD

Advancing financial inclusion through data innovation

Mobiticket: A window into the activity of informal public transport sectors

Winner of DataHack4FI Season 1

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The informal public transport sector is the backbone of many developing countries' transport systems and economies. Without it, millions of people would not be able to move around within or between cities. Despite the critical nature of the sector, its financials and operations are generally not visible.

In Kenya, as in many other emerging economies, the informal public transport sector is predominantly cash based; and this affects the three primary stakeholders in the sector in different ways:

- *Commuters* face uncertainty and inconvenience when they try to book inter-city and intra-city public transport. They are subjected to sudden and unpredictable price changes, and it is a major inconvenience (and additional cost) for them to travel to bus terminal offices to book tickets before their planned travel.
- *Vehicle owners* find it difficult to keep track of their cash flow, and the lack of digital record-keeping hinders their ability to identify profitable and productive routes.
- *Crews* (drivers and conductors) do not have the benefits of formal employment, such as proof of income and security of tenure.

Digitisation of bookings and fare collection is a step towards overcoming some of these problems. In this case study, we look at a company that is doing exactly that. It is opening a window into the previously unseen informal economic activity to bring visibility into this sector.

About the company

Mobiticket is a start-up based in Nairobi. It focuses on digitising the informal public transport sector across developing countries. The company started in Kenya in August 2016, and it has plans to expand across East Africa and into Asia this year (2018).

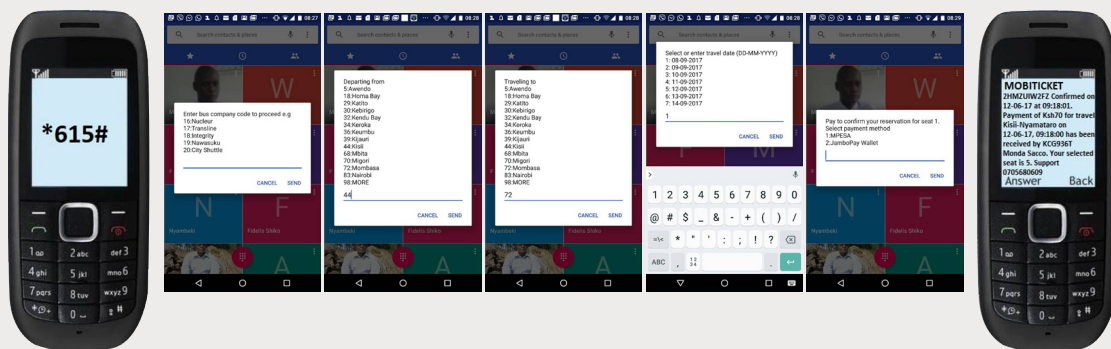
Mobiticket has partnered with both intercity and intracity public transport companies. To date, it has partnerships with five transportation companies and covers most parts of Western Kenya and Nairobi – both the city centre and surrounding areas. By the end of 2017, Mobiticket was processing over 1,000 ticket purchases per day. Since the launch, it has had a total of more than 70,000 ticket purchases through its platform, with 50,000 unique commuters.

About the product

An easy-to-use reservation and payment mechanism for informal public transport.

Using the robust, available-anywhere (no internet required), USSD-based interface, individuals can reserve seats and pay bus fares. They can access the USSD menu by dialling *615# in Kenya. Through the platform, they can view bus departure schedules and seat availability, select their preferred seat(s) and pay for their ticket(s). Previously, commuters had to travel to bus reservation offices to book their tickets. The Mobiticket process saves those commuters both time and money. Payments are processed via mobile wallets, powered by JamboPay in Kenya. A preview of Mobiticket's USSD client journey is shown in Box 1 below.

Box 1: User interface of Mobiticket's USSD platform



Source: Author's own

A wealth of data collected. For each ticket booked through Mobiticket, the following data points are collected: commuter contact details, ticket type, price and travel time. This data is aggregated per crew and vehicle owner and can be analysed to reveal ticket-type preferences, high and low-demand flow patterns through the transport network, as well as overall and comparative route productivity. A sample JSON file (an open-standard file format) generated per ticket purchase is shown in Box 2 below.

Box 2: Sample JSON document generated per transaction on platform

```
{
  "journey": "Kisii-Nyamataro - 101",
  "travel_date": "13-11-17",
  "travel_time": "01:27:03",
  "passenger_name": "-----",
  "phone_number": "-----",
  "amount": "7",
  "payment_method": "mobile money",
  "ticket_number": "OQUFQNPURL",
  "payment_receipt": "LJQ0VC5NUY",
  "seat_number": "1",
  "id_number": "-----",
  "company": "KCG936T Monda Sacco",
  "reg_number": "KCG936T",
  "type": "Intracity"
}
```

Source: Author's own

A solution that benefits all stakeholders in the sector. Many market players have attempted to digitise informal public transport in Kenya without success. Mobiticket has worked hard to avert this fate by ensuring that the product benefits all stakeholders in the sector:

- *Commuters* save time and money when reserving and purchasing tickets through the USSD cashless platform.
- *Vehicle owners* can track their vehicle and route productivity and profitability through daily performance reports.
- *Crews* have employment and income records.

How can this product lead to improved access to financial services?

Overcoming documentation barriers to formal financial services. The reports generated for the crews can be used as proof of income, which is an essential requirement by financial services providers for opening accounts and applying for loans.

Potential to expand access to credit and insurance based on collected data. The data generated is bringing visibility into informal economic activity in the transport sector by creating digital-payment trails for Mobiticket's passengers and crews. These digital-payment trails can be used to unlock access to microinsurance and credit. Mobiticket is currently in talks with an inclusive insurance provider to bundle daily accident cover within the passenger's ticket price to cover the passenger for 24 hours following their trip. Mobiticket is also in talks with digital credit providers to link its transactional data into the credit providers' credit-scoring systems to allow its passengers and crews to access digital credit due to the new visibility created on their economic activity.

“ The data generated is bringing visibility into informal economic activity in the transport sector by creating digital-payment trails for Mobiticket's passengers and crews. These digital-payment trails can be used to unlock access to microinsurance and credit. ”

Examples of DataHack4FI's impact

Mindset shift

"Before the data hack, we were looking at ourselves as a ticketing company. But now we are looking at ourselves as a data company – our core business is on data within the transport sector. [The competition] really changed the way we look at everything. Without the data hack, I don't think we would be having these kinds of conversations with our partners and other stakeholders. It has opened up a lot of opportunities for us."

– Nickson Nyakambi, CEO and founder

Data use

"We gained insights on what we should focus on and where we should put our energy. We now understand where we can get the highest returns through analysing the data we are collecting."

– Nickson Nyakambi, CEO and founder

Relationships

"I think the biggest thing we were lacking before the data hack is access to the networks that help you to think outside the box. Access to networks that help you develop in the data space and open new opportunities."

– Nickson Nyakambi, CEO and founder

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