A Mixed-Methods Study of Mobile Users’ Data Usage Practices in South Africa

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Globally, mobile broadband penetration reaches 47% in 2015 and mobile traffic is predicted to increase tenfold by 2019!

Africa has 35 times as many mobile Internet subscriptions per 100 inhabitants vs fixed-line broadband subscriptions

Source: ITU ICT Facts and Figures 2015
You have used all of your 1 GB high speed data monthly data plan and will get slower speeds until your next billing cycle starts.
Research Goals

1. Determine how users manage and control different aspects of mobile data

2. Find design implications for mobile applications and data monitoring tools
Less unlimited data
Less unlimited data

High data costs
Hours of minimum wage work needed to pay for a 500 MB mobile data plan

<table>
<thead>
<tr>
<th>Country</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Indonesia</td>
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</tr>
<tr>
<td>Turkey</td>
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<td>Nigeria</td>
<td>28</td>
</tr>
<tr>
<td>Mexico</td>
<td>42</td>
</tr>
</tbody>
</table>

Data: Jana; ITU; International Labor Organization
blog.jana.com
Research Questions
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Q2: How **knowledgeable** are users about various apps’ data consumption on their mobile phones?
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Q4: What **tools** do users employ to track mobile data usage?
Research Method
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Online Survey
(N = 339)
Research Method

Online Survey (N = 339)

Semi-structured Interviews (N = 43)
Research Method

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MySpeedTest (N = 121)
My Speed Test

GTNoise Tools

Unrated

This app is compatible with all of your devices.
Research Method

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(N = 339)

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MySpeedTest  
(N = 121)
Demographics: Survey + Interview

1. **Age:** 40% between 25-34 years old

2. **Gender:** 81% Male

3. **Split** participants into **low** (119) and **high** income (165)

![Bar chart showing % on mobile and fixed-line for high and low income groups]
Demographics: MySpeedTest

Network Provider:
- Vodacom
- MTN
- Cell C
- Others

Phone Manufacturer:
- Samsung
- HTC
- LG
- Others
Findings

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Mobile data is a high-value asset and costs dictate users’ choice of Internet plans (prepaid vs contract)

Median spend on mobile data per month ($13.5 vs $16.5)
Low-income users ranked mobile data higher than:

- Education
- Health
- Clothing
I cut down on my hair products; I wash my hair once every two weeks to save money for data.

- P21
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84% knew watching a 10 minute video consumed more data than using social media or reading text article for same amount of time.
When it comes to streaming of things from YouTube, stuff like that, I know that takes a lot of data.

-P14
However, they found it hard to interpret invisible consumers, or apps/services that run in the background.
I don’t understand how Facebook Messenger works. I think it’s off and then all of a sudden you just notice the chat comes on.

- P29
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Users purposefully disconnected from the mobile Internet to save data.
I keep my data connection on when I’m chatting or messaging, but when I’m busy, I put it off.

- P10
Because of their knowledge, users avoided using data intensive apps.
My Speed Test

Decreasing order of median daily data usage
My Speed Test: Overall Usage

- YouTube #25
- Skype #27
My Speed Test: Mobile Data

6 of the 10 highest mobile data consuming applications were background services.
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5 of the 10 highest Wi-Fi data consuming applications related to downloads + media storage (also background services)
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My Speed Test: Wi-Fi

Facebook
#6

Twitter
#7

Google+  
#10
Many participants said they disabled automatic updates for applications and the operating system to save on mobile data or deferred them to Wi-Fi.

*MySpeedTest* users use nearly twice as much data on Wi-Fi.
If you do change your settings correctly, your Android phone and tablet will update automatically, and I have noticed that my data sometimes drops.

- P19
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Most users tracked usage by repeatedly viewing their data balances (e.g., before and after a purposeful disconnection).

Only a few participants used third-party tracking tools.
Users desired **greater control** over how much data different applications use.
I want to be able to specify how much data I want a particular app to use in a particular month. So I want my WhatsApp application to be dedicated 20 MB worth of data every month.

- P13
Implications for Design

Costs influence **how** users get online and create **purposeful** disconnection.
Implications for Design

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Reduce costs using ‘**Slim**’ apps
Facebook Launches a 252KB Android app titled 'Facebook Lite'
Implications for Design

Costs influence how users get online and create purposeful disconnection.

Reduce costs using ‘Slim’ apps and Zero-rating.
Implications for Design

- Users employ a variety of strategies to **reduce** data usage
Implications for Design

Users employ a variety of strategies to **reduce** data usage.

Tools to help software developers measure apps’ data usage under various network conditions.
Implications for Design

Users seek **greater control** over data usage
Implications for Design

Users seek **greater control** over data usage.

Options to set “Wi-Fi only” or “mobile-data only” and limit background usage during app installation.
Questions?

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