



Digital connectedness in developing countries and its potential impact on youth financial inclusion

**Research Challenge
Technical Report**

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**THINK FORWARD
INITIATIVE**

DIGITAL CONNECTEDNESS IN DEVELOPING COUNTRIES AND ITS POTENTIAL IMPACT ON YOUTH FINANCIAL INCLUSION *

TECHNICAL REPORT

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Abstract

Given the proliferation of technology, digital finance is booming, in both developed and developing countries. To study its impact on young people in Uganda, we use quantitative and qualitative research methods to investigate the relationship between digital connectedness and digital finance. We aim to highlight the importance, and challenges of the uptake of mobile phones and mobile money services (including digital savings and lending). Our findings show how mobile phones have created new channels of communication and are central to young people's financial lives, supporting both business start-up and employment. This study shows that mobile money services have changed people's perception of financial services (including saving, making payments and taking loans) from one that is based on physical infrastructure and banker relationships to one that is focused on digital transactions and interaction. Although there are limitations to their effective access (i.e. mobile network, battery life, gender constraints) as well as limited use (representing a low volume of overall transactions), young people view mobile money as their primary interface with formal financial services. Findings from this study can be used to help guide youth serving organizations or financial institutions in their design and use of digital finance services to support young people, particularly in developing countries.

Keywords: Digital connectedness, digital finance, financial institutions, mobile phones,
mobile Money

* This report has been prepared by the authors for the Think Forward Initiative.

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1. Introduction

We live in a digital age where information and communication technology are proliferating around the globe. According to a recent report, 3.7 billion people worldwide now use a mobile phone (Unicef, 2018). Young people are often the first to adopt such technologies and serve as good tests for how new technologies will spread (Haledwood & Kenny, 2008). Mobile phones have become an integral part of their lives, being used for a slew of different activities from communication, connecting with others, business, work, income generation, education, online banking to mobile money (Pearson, Mack, & Namanya, 2017). They positively impact daily life experiences (Kalow & Moss, 2018) –creating new business and work opportunities (GSMA, 2018) – however, overuse and addiction can leave people feeling disconnected from reality, increasing levels of anxiety and loneliness (Gao, Li, & Zhu, 2014). Regardless of income, individuals increasingly have access to a phone, even those living in remote localities (Kanza, 2018). This technology has changed the way individuals relate and interact with society including people, companies and institutions. In this research, we investigate how digital finance services via mobile phones have changed how young people interact with financial services in Uganda.

Young people, particularly in Uganda, serve as a compelling research opportunity due to the proliferation of mobile phones and their utility as the primary channel for dealing with financial institutions. Across Sub-Saharan Africa, phones now act as banks for millions of Africans who were not served by traditional financial services. As such,

technology has changed people's perception of financial services (including saving, making payments and taking loans) from one that is based on physical infrastructure and banker relationships to one that is focused on digital transactions and interaction.

Mobile Money services (MM) such as M-Pesa (in Kenya) and MTN Mobile Money (in Uganda) have revolutionised financial inclusion and offer a simple solution wherein individuals; especially the rural poor, who are traditionally and predominantly unbanked, can manage their cash independently and securely, as well as take loans to enhance their business. To use MM services, "mobile phone users need to register with a mobile money agent to deposit their cash, which shows as e-money on the sender's SIM card" (Baganz & Lau, 2017). This money is then available on the user's phone for them to use and can easily be transferred to others via the phone or into cash by visiting an agent banker, for instance a small grocery shop in the community. MM services have also partnered with banks to enable bank-based savings and easy access to short-term loan schemes (such as those offered through MoKash), in addition to payment transactions (Macmillan, Paelo & Paremoer, 2016). The loans help further informal businesses, making trade easier and cost effective. Previous studies have shown MM services to be used for paying: utility bills, fuel, school fees and getting mobile money loans (Bank of Uganda, 2015). In particular, given the inconspicuous nature of MM services, they have been found to positively impact saving culture (Ndiwalana, Morawczynski, & Popov, 2010), allowing people's savings to accumulate

without being stolen, used by other family members or spent on unnecessary items. Interestingly, they are seen as the safer and more secure option to managing finances than even banks (Ky, Rugemintwari, & Sauviat, 2017).

That said, there are differences between Uganda and more developed markets. Access to mobile phones and cost can be a major deterrent to mobile money access and use. Looking at Sub-Saharan Africa, 17 percent of the population does not own a mobile phone. In particular, high costs of airtime and mobile data service has proven to be a major challenge (Ryder, 2014) and poor network coverage a major deterrent to using MM services (Adaba & Ayoung, 2017). In addition, gender related digital constraints play an important role. Access to mobile phones and MM penetration services for women remain lower than men in developing countries, especially in low-income countries (GSMA, 2013). A woman is 21 percent less likely to own a mobile phone than a man. A number of factors including

cultural barriers, low literacy and education, lack of confidence, lack of identification documents and abuse are likely to impact women's access to mobile phones and MM services (GSMA, 2014b). Such power relations between men and women are likely to impact women's use of mobile phones for transformative purposes, as they are less financially independent than men.

Mobile money services, including those that offer loan services, therefore represent a different type of financial service product, as it is mobile based and not necessarily linked to a financial institution. As young people are increasingly mobile enabled, it serves as a compelling case study about how mobile technologies might interact with the financial lives of young people in the future. Learning to support this new connected generation is vital to the future work of developing relevant and convenient mobile money services in both developed and developing markets.

2. Methodology

By exploring the relationship between digital connectedness and digital finance, Aflatoun International and L-IFT sought to understand the importance, and challenges of the up-take of mobile phones and MM services (including digital savings and lending) in the financial lives of young people.

This report examines the following research questions:

- a) What are the main uses for mobile phones and do mobile phones give young people more access to financial services, to business and work opportunities?
- b) Do mobile phones strengthen young people's social life and impact their subjective well-being?
- c) Why are MM services, including those that offer loan options, only used in certain situations and cash in others?
- d) Are there gender differences in access and use of mobile phones and mobile money?

To answer these questions we conducted a two-part research investigation, that mixed quantitative and qualitative research, focusing on young people, using data from the year 2017.

2.1 Quantitative data: Financial Diary Data

The first part of our research study focused on extracting relevant information from L-IFTs financial data project – across 12 districts in Uganda¹. Data was extracted from 141 participants, aged 18-24. Financial diaries data was extracted from two

batches of 104 young Ugandans who were interviewed every two weeks about all their financial transactions and economic events in their lives during that period. One study continued for 12 months from April 2015 to April 2016 and one study from October 2016 until April 2017.

Financial diary data was appropriate for studying the relationship between financial inclusion and digital access because it gave insight into the fluctuations of finances and complexities in individuals' lives through its repeat interviews over several months (L-IFT, 2018). Respondents are repeatedly asked basic standardized questions about their income, expenditure, savings, loans and other financial topics. They also routinely answer questions related to their lives (digital connectivity, energy use, spending, savings, loan payments) as part of the research. By combining the financial questions with the questions related to mobile/digital technologies, we aim to better explore this relationship.

2.2 Qualitative Data: Focus Group Interviews

The second part of our analysis built upon our findings from the financial diary data and consisted of a sequence of two Focus Group (FG) interviews (see Appendix A) with a total of 14 participants, aged 19-28 (see Appendix D), conducted in June 2018 in Uganda. Using FG interviews was appropriate because it allowed us to quickly collect detailed information about personal and group feelings, perceptions and opinions in a given topic area.

¹Comprising 625 respondents in total with 104 in the 18-24 age group.

However, given the time constraint, we could only conduct a limited number of interviews. A local researcher², who was familiar with the research process and the context of the study, was employed to carry out the FG interviews, in a private location that was easily accessible to the participants – to ensure they felt free to be open and honest. For both groups follow up FG interviews (see Appendix B) were carried out which allowed us to delve deeper into findings that were most interesting from the first round and allowed us to further discuss private and confidential issues, in depth. Digital day interviews were also carried out to provide a more detailed look at how young people in Uganda interacted with technology over 24 hours (see Appendix C). Following transcription, we coded each interview and focus group using qualitative software (Dedoose) and drew three high-level themes from these.

In this research, we attempt to bring together our quantitative and qualitative findings to illustrate the

relationship between mobile access and digital finance as well as some of the drivers of uptake and particular challenges.

In combining our quantitative and qualitative findings we attempt to illustrate the relationship between mobile access and digital finance as well as some of the drivers of uptake and particular challenges related to this new technology.

We revealed three emergent themes: (1) Mobile phones are becoming essential and ubiquitous, especially important for communication but increasingly for access to jobs and a livelihood; (2) Mobile Money services have a high uptake, can be used for a variety of productive purposes but not yet used in high volumes; (3) Young women have different experiences with mobile phones and mobile money due to gender related differences in mobile phone usage and ownership.

²Employed by Aflatoun International but working in Uganda.

3. Results

3.1 Increasing Ubiquity of Mobile Phones

Access to phones is high amongst rural youth in Uganda. Sixty-three percent (65 out of 104) young people in our sample owned a phone. However, only a small proportion of that sample owned a smartphone (15%) versus a feature phone (46%). Phones were used by young people several times a day for multi-purposes. Most often, they were used for making (63%) or receiving calls (60%) with approximately a third sent (28%) or received texts daily (36%). The next most used function was for calculation, used by 20% of respondents daily (see Figure 1).

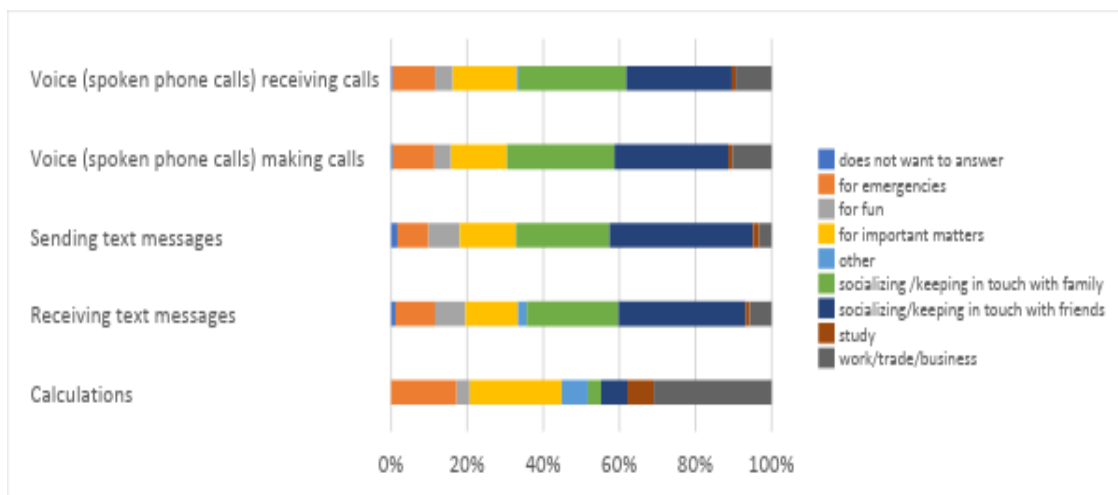
While socializing with friend and family was the most important use of these modes of communication, work or business related functions ranges from four percent of use cases (calculations). Speaking to young people highlights the intensity and importance of mobile phone use – especially for communication, business, navigation, safety, stress-relief, job search and mobile money.

Our qualitative findings show a higher percentage in phone ownership (93%; 13 out of 14 had a phone) and a considerably higher number owned a smartphone (62%; 8 out of 13). The qualitative study also showed a higher increase in usage of social media than in the diaries study, but the sample was a lot smaller (14 vs. 104 participants). Collectively, these findings show a mobile phone as being essential for connecting with others:

“... I can't live without a phone because it's a part of my life. I am doing everything through it...so I can't live without a phone.”

Reasons for owning a phone include that it made life easier for school, travel and general communication. Staying connected and communicating with others was seen as a life necessity. Losing one's phone left people feeling anxious and disconnected from other's lives and the outside world.

Figure 1: Purpose of use for different phone functions



"...instead of carrying heavy books...I could just carry my phone since I had most of the books on my phone...[also] instead of ...[meeting] friend to discuss [schoolwork], we could just discuss via phone. So it helped me a lot... I also have some [friends] outside Uganda but we keep communicating by phone."

" [losing my phone caused me to]...lose friends, lose connections, because...if you are not there on WhatsApp you miss out and by the time you get there they are very far and they will not be there waiting for you."

While generally positive, they are expensive and addictive. One young woman remarked how:

"...people have forgotten about real life and they live life on social media...someone's life on Facebook can be too serious and expensive while in the real life they can only dream of having those things. So it has made people dreamers instead of living their dream."

Although mobile phones were useful young people felt they were expensive to maintain because of high costs of airtime, data and charging:

".....if I didn't have it, I wouldn't be spending the money I spend almost on a daily basis. Like airtime, buying data, charging, sometimes you have to find where to charge it from and they charge you 500 Ush so the money that am spending feels like it's a burden."

This cost may be offset by the increase in smartphone ownership as necessary for the

economic integration amongst young people in Uganda. Phones are increasingly seen as a key component in job searching and entrepreneurial activity for young people. In some instances, phone ownership is a need for finding work and in some instances is a requirement:

"...I realized that I needed opportunities, jobs. So later I realized that the only way I could do that was through having a phone..."

"...I chose to go and buy a smartphone [because] I was working with USAID and.... it was a requirement for the job...and because of the job I couldn't wait and miss my salary."

This is true of entrepreneurial activity as it facilitates easier communication with business clients, particularly in remote locations. Mobile phones allowed individuals to do business without needing to be physically present, saving time and money:

"I stay far away from... where my business is but, I can still use this mobile phone to communicate and ask how things are moving, what is needed. I do everything on the phone when I am not near the business...instead of going there I get information [via my phone]."

As is seen in this section, phone ownership is increasing and its uses are both social and financial. However, although young people in our financial diary data were slower to take up technology than those in our qualitative sample, it was still seen as an important facet in their lives. That being said, our qualitative data showed mobile phone ownership to be an addiction of sorts causing individuals to feel anxious and disconnected from reality. We see that young people are balancing the positive aspects of

connectivity and access with some of the challenges attendant to new technology.

3.2 Mobile Money Perceptions and Use Amongst Ugandan Youth

Two thirds of the young people in our financial diary sample were registered with Mobile Money providers.. The MM service providers that young people registered with were Airtel (17%) and MTN (40%). This quantitative data shows a proliferate and penetration of services within the context while the qualitative data shows the perceived uses and advantages for mobile money.

Young people originally registered for MM because it made receiving and using money for payments and day-to-day activities easier. This was especially true for those who lived far away from home and who needed family support to pay for things. MM also helped reducing overall expenses. One young woman commented how:

"... when I needed money I had to put in transport and come home to get money for school upkeep. But...mummy...registered [me on] mobile money and started putting money for me on mobile money when am at school... I realized that mobile money reduces a number of expenses."

Others mentioned how registering for MM made life simpler and reduced the need for a bank account to handle money related issues:

"Banks are really far from me, so I decided to open up a mobile money account so I can be able to also save even without a bank account"

Similarly, MM was viewed as being more reliable and available, especially in emergency situations:

"...MM works all days including weekends yet the bank assumes on weekends you don't have challenges.... yet with MM you have no such issues. You can get your money at any time...but banks usually rest on weekends"

Mobile money also supported new financial activity, including formal saving and business start-up. Though mobile money does not have many features of a bank account, it was being used as such to save and as a source on business capital.

"Without mobile money I... put my money in a hidden place at home. But with MM I was able to save without withdrawing my money... now I have been able to accumulate a lot of money and I have bought sugar cane to sell again [and I have] hired land for growing sugar cane."

The financial diary data shows a range of different MM uses aligned with the qualitative data. It shows that receiving and sending money are the most common uses followed by saving and payments as less prevalent.

While a substantial number of young people used mobile money services, the volumes of transactions remain relatively low. The financial diaries show that cash based transactions were still the most frequent with 93.45 percent of uses. Mobile money only accounted for 1.44 percent of total transactions while formal financial debit and credit card accounted for even less (0.06% and 0.03%) (see Table 1 for breakdown of other transactions). Young people also tended to use it more for receiving

money/income (2.73% of MM transactions) than for making payments (0.87% of MM).

Table 1: Frequency of payment forms

Payment form	Frequency
Direct cash payment	93.45%
In kind	2.13%
Deposit in the bank	0.94%
Electronic bank transfers	0.00%
Mobile money transfer	1.44%
Debit card	0.06%
Credit card	0.08%
Debit order	0.03%
Other	1.80%
Does not want to answer	0.14%

Cash remains the dominant form of transaction based on its ease of use and its ubiquity in transactions in the local market. Another possible reason for these high cash transactions, as indicated by our qualitative analysis, is that individuals felt they couldn't always rely on the service. This was especially true when the mobile network was down:

"...will continue to use both, we may be using MM and then we have no network yet you have a journey to make, and you have to take the journey at that point in time. So if you have your cash money in your pocket it becomes very easy for you."

While saving and transfer were key uses of MM, availability of loans through other services that partnered with banks was a key reason for young people being drawn to it. Therefore, services, such as MoKash, were preferred over traditional MM services because they allowed young people to

borrow money, which other services did not:

"...it helps in like borrowing, when someone doesn't have enough money in case of an emergency we have WEWOLE (Aritel Money Service), and MoKash (MTN service), so people borrow money and it helps them to cater for their emergencies and pay back later."

Qualitative data detailed some of the challenges of the loan offering (required minimum balances for withdrawal) that made this service, while appealing, challenging for young people. The loan products are also restrictive in terms of how they handle different financial services, limiting their utility.

"...if you want to access a loan...you have to use a lot of withdrawing and sending, then another thing their interest is high, when you go beyond their limit they add you more interest and then when for example if someone sends money on your account they just chop off money immediately."

Mobile money services, had high uptake as a financial service and a clear use case for young people in our sample. They viewed it as preferable and more convenient to a formal bank relationship. Our qualitative research has shown it to promote new financial behaviours around saving and enterprise and the recent services provide loan schemes normally not available for young people. That said, the quantitative data shows that digital transactions are low relative to cash transaction. This may be due to the ease of use of cash in most daily transactions or technical challenges of using mobile money. To conclude, mobile money, especially those around saving, transfer and credit, has a perceived use case for young people but the transaction volume has not kept up with this

promise. Mobile Money functions as a substitute for formal financial services but the market for these financial services still remains small.

3.3 Digital technology related gender differences

Access to mobile phones and MM was lower for women than men (59% of women owned a phone versus 67% of men). There were also differences in mobile phone activity of young men and women, as indicated by figure 3 below. Men used their mobile phones slightly more for communication purposes (via SMS and making and receiving phone calls) than women.

Gender differences in mobile phone activity were also apparent in our qualitative research. Interestingly, women tended to be more socially connected with others via social media platforms and group chats, than men. These online platforms were used as a source of information and advice:

“...women over use phones more than the men most times...even with groups of social media women have more groups than men, ok like me, myself I have like ten of them but there are real groups which post sense ...you start to see those with good advice and those with bad advice...”

Figure 2: Gender differences in phone activity

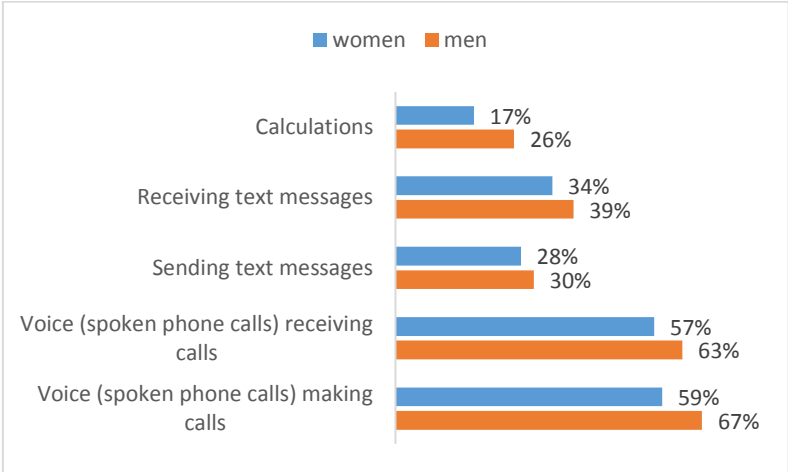
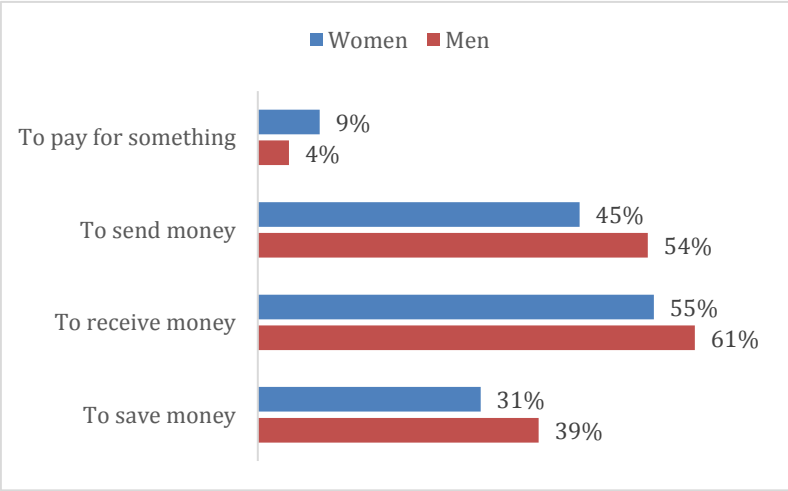


Figure 3: Gender differences in MM uses



Men and women also used MM services (including MoKash) differently with more women using these channels to pay for bills than men (see figure 4). The figure below also shows that more men send (54%), receive (61%) and save (39%) money than women (45%, 55%, 31%, respectively).

That said, there are more barriers to women using phones and mobile money. Men wanted to control women's access and use of mobile phones. One young woman commented how:

"...men deny women access to phones and using mobile money... for example he may be so strict he forwards all your calls, and hears all you are saying, men track phones. There is a limited time you're supposed to speak like not beyond 10 pm..."

This mistrust led to physical violence in some cases, with men beating women for not completing their task or for cheating:

"...if you have a boyfriend who is really good in slapping or fighting I don't know how many slaps you can get in a day I don't know. You can be cooking food or may be preparing tea in the morning...and someone calls...and then the guy starts a quarrel.

In the qualitative research, women were seen as using MM more for receiving and saving money. Women tried to save any small amount they received, even those who were not working:

"The experience with mobile money is different because I believe women save any little amount they get, most men will save only large amounts, women save slowly, women mostly receive money ... men in most cases deposit and send..."

Gender dynamics within Uganda make women's uptake of mobile phones and mobile money more challenging. That said, there are different use cases particularly around payment, which seem to be more appealing to women. Saving is also perceived to be more consistent and in smaller volumes from women. Mobile money providers therefore need to ensure that women have access and can provide targeted services that meet their needs.

3.4 Digital day

On the next page (see Table 2), we share "digital days" of two young people who own mobile phones in Uganda. It provides a glimpse of how young people use technology over a 24-hour period.

Table 2: Digital days of two young people in Uganda

NAME: CLAIRE	Aged 22, Occupation: Teacher Smartphone user
MORNING	I wake up at 6:00 AM and call my friends to wake them. I pray with them every morning. When I don't have airtime I just text them telling them to wake up and pray. Sometimes, I wake up and watch the news or if I slept with the intention of sending money or receiving money I do that.
AFTERNOON	After work, at around 5:45pm, there is a television drama on so I come back home and watch it. I then do the housework and watch the news.
EVENING	I start my computer and chat with my friends using my laptop, twitter, WhatsApp and Facebook. If I don't have data I used my mum's tablet for Facebook.
SLEEP	Before going to bed I use either my laptop or phone. I always post something on Facebook - wishing everyone a goodnight and in the WhatsApp group chat for family members. I also call family members
NAME: DANIEL	Aged 29, Occupation: Farmer Smartphone user
MORNING	When I wake up I first use my phone to check for missed calls to see who called me when I was asleep. I enquire the reason for their call. This is important to me, as it could be a customer calling to ask if, for example, I have tomatoes to sell.
AFTERNOON	I listen to radio stations because right now we are in the football season and I do not want to miss a match. I also wait to receive calls or messages.
EVENING	I remain in the garden digging while talking on the phone. One hand holds the phone and the other remains weeding.
SLEEP	I use the phone because of the radio, when I finish listening I switch it off. I also receive calls and then set an alarm on my phone. I don't use my phone to call or receive calls after 10 pm.

4. Discussion

Mobile phones are deeply integrated, and an important facet of young people's lives being used from morning to night for a variety of purposes, as evident through our digital day interviews. They are an essential and ubiquitous item.

4.1 Mobile phones are becoming essential and ubiquitous, especially important for communication but increasingly for livelihood

Our financial diary data showed a large proportion of young people to own a phone (basic or smartphone). Our qualitative findings, which were collected a year later, showed smartphone ownership to have become particularly pervasive amongst young people. The permeation of cheap Internet-enabled smartphones, in the market, might account for this (Twaha, 2017). Mobile phones were found to positively impact young people's lives for - education, jobs, business, digital finance and communication. In some cases they even created new business and work opportunities, consistent with previous findings wherein phone ownership positively impacted life experiences (GSMA, 2018) and subjective well-being (Kalow & Moss, 2018). However, also in line with previous studies (GSMA, 2018), poor network, short battery life, difficulty in charging and cost of airtime were found to impede mobile phone access and use. Addiction associated with mobile phone use is also a pervasive theme in the literature (Gao, et al. 2014) and might account for the intensity with which young people used phones in our qualitative sample.

4.2 Mobile Money services have a high uptake and were used for productive purposes but not yet in high volumes

Our financial diary data showed that two thirds of financial diary participants had registered for MM services. These services were used for saving, spending, making payments and receiving money/income. However, our qualitative research highlighted MM registration to be much more popular amongst youth and be mostly used for saving purposes. MM services made were said to make accumulating and handling money a lot easier, especially when young people were unable to open a bank account or travel to reach one. This corroborates findings wherein such services enhance saving culture through their accessibility (Ndiwalan, et al., 2010). Interestingly, our qualitative findings showed certain MM services which allowed young people to gain access to loans- to be considerably more popular than MM services that did not offer loan options. Young people felt it not only allowed them to access money, when they had limited funds or in emergency situations, but could also be used for saving and payment transactions. However, often times - and consistent with existing literature (Ryder, 2014) - such loan schemes were also a cause for frustration. Our data showed their conditions for access to be quite constraining and, their repayment and interest rates too high. Mobile networks and operators should work in tandem with financial institutions (i.e. banks) to create more feasible solutions wherein individuals gain access to better loan schemes.

Generally MM services were found to be the more popular, safer and securer option than other saving forms (i.e. at home, bank or saving group). In particular, young people mentioned how money via MM services was easily recoverable, if phone was lost or stolen, than via banks or saving and loan groups. This corroborates studies wherein MM services have been shown to be more reliable than other financial systems (Ky, et al., 2017; Ryder, 2014) and has important implications for financial institutions, such as banks that want to cater to the new digitally connected generation.

Interestingly, although MM services were seen to be an integral part of young people's lives, the frequency of digital transactions was very small in comparison to transactions completed in cash form. Studies have shown that it isn't always plausible to use MM services, especially when the mobile network is down as money cannot be sent or received (Adaba & Ayoung, 2017), which might account for the very low number of MM transactions observed in our financial diary data. In such instances, as corroborated by our qualitative finding, a combination of cash and MM transactions was popular. Creating solutions wherein MM services can be accessed without network is imperative to increasing ease and frequency of digital transactions.

4.3 Women have different experiences with mobile phones and mobile money due to gender related differences in mobile phone usage and ownership

Gender and technology studies have shown that men and women use digital technology differently (Gillwald, Milek, & Stork, 2010). Our financial diary data showed men to use their mobile phones more for sending SMS and making and receiving phone calls than women. However – and consistent with previous studies (Gillwald, et al, 2010), - our

qualitative data showed women's use of mobile phones to be along the same vein i.e. for social connectivity purposes. Collectively our data shows media platforms as being important for communication and information/ guidance on personal issues e.g. health, relationship. Our qualitative analysis showed men's use of MM services to be more pervasive than women's. Consistent with existing studies (GSMA, 2014a), men used it to receive money/income and send money while women used it for a variety of purposes but mainly to save and, at times, make payments.

More men, in our financial diary data, were found to own a phone than women. Low literacy and education, lack of confidence and lack of identification documents and abuse (GSMA, 2014c), might account for gender differences in ownership. However, our qualitative findings showed abuse - in the form of control and violence - to be the dominant factor impeding women's mobile phone access and use. Consistent with previous studies, the power dynamics between men and women were found to negatively impact mobile phone access and use, with men limiting or withholding access and use (Madanda, 2010). Additionally, our qualitative findings showed mobile phones to create mistrust between partners, creating tension and leading to violence in the household. Such gender based abuse and violence as a result of digital technology, is a common theme in existing literature (Madanda, 2010) and needs to be addressed to enable women to use technology for transformative purposes.

5. Conclusion

Although our findings are exploratory in nature, we document several key outcomes:

1. Ugandan youth increasingly use mobile phones for digital financial services such as receiving, sending and saving money, following a descending order.
2. Mobile phones positively impact young people's lives for - education, jobs, business, digital finance and communication. In some cases, they even create new business and work opportunities, positively impacting life experiences and subjective well-being of young people.
3. Mobile Money services such as MTN Mobile Money (in Uganda) have revolutionised financial inclusion and are perceived as easy to use in terms of managing money independently and securely. These services are an innovative solution for especially rural poor, who are traditionally and predominantly unbanked.
4. While saving and transfer are key uses of MM, services such as MoKash are increasingly popular among the youth because they allow young people to borrow money. This is especially interesting, because traditional banks avoid the provision of loans to young adults.
5. Certain realities of mobile phone access and use (i.e. high costs of maintaining mobile phone activity, poor battery life, poor network, and gender constraints) can impede their effective access and use.
6. Gender related differences in mobile phone usage and ownership should be taken into account when designing strategies to ensure equal financial inclusion of both women and men.

Future avenues of research are imperative, especially to explore the depth and breadth of mobile connectivity and digital finance in other contexts. One such avenue would be to explore research according to other age groups to see if there are any age related differences in mobile phone and MM service access and use. Also, increasing the number of interviews would increase generalizability of findings to other localities and countries. That being said, taking account of our current findings is imperative, especially for financial institutions - such as banks - and youth serving organizations interested in dealing with the new *connected generation* in both developed and developing world contexts. These findings are likely to also apply to those living in low-income environments in Europe.

Using transformational technology, such as mobile phones, for financial services has the capability to create societal change and benefit the global population especially those hardest to reach. Findings from this study can be used to help guide decision making in the use of technology for digital finance inclusion.

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7. Appendices

Research question: What are young people's (18-24) relationship with their mobile phone and with mobile money?

Introduction:

Thank you for coming.

It is important to know that you can withdraw from this conversation at any point. The answers that you provide will be anonymous and your names will not be used anywhere.

We want to demonstrate how young Ugandans are using their phones and mobile money. We look at the following 2 issues:

- People's relationships with their phones: phone use, benefits (what does it add to their lives?), and the challenges
- People's relationships with mobile money: what do they use mobile money for, what are the benefits and the challenges

Your answers will help to create more clarity around these topics.

1. Phone

questions: Why did you register for mobile money? (what event triggered you to register: open question)

What are you now using mobile money for? (their reasons for starting to use mobile money may be different from the reason to continue to use it: open question)

What are the main advantages?

What are the main challenges?

- Verify if they're using any of these options?
 - **As a tool for payments:**
 - Paying things in a shop
 - Paying bills
 - Receiving money /sending money to individuals
 - Individuals close by
 - Individuals from far away?
 - Are other forms of payments more (in)convenient? And why?
 - Why is cash still being used? What are the advantages?

- **As a savings tool:**

Key question: What are the main benefits of having a phone? (open question)

- Verify if respondents are referring to the following options:
 - For business
 - For social purposes
 - For security reasons?
 - Both?
- On a day, if you lose your phone, what is missing on that day?

Key question: what are the main challenges of having a phone? (open question)

- Verify if they're referring to any of these answers:
 - Costs/ perceived costs
 - Sustainability of phones:
 - They break, need maintenance
 - Charging the battery is a problem
- Verify if they're referring to mobile money

2. Mobile money

Intro questions:

- Are you registered for mobile money?
- Do you use mobile money?
- When did you use mobile money for the last time?

Key

- Do you use it for saving? (the assumption is that they don't, looking at the quantitative statistics)
- Why don't many people use it for saving?
 - How much to people trust mobile money?
 - Other reasons?
- Are other forms of saving more convenient? And why?
 - Savings groups?
 - Saving at home?
 - Saving in a bank?
- Compared to Mo-Kash, how reliable do you feel mobile money is?

Final questions:

- *Does mobile money provide you with any business opportunities that haven't been mentioned yet?*
- *What would it take for you to switch to using mobile money only (stop using cash)?*
- *Why do you use mobile money and cash alongside each other?*

Thank you!

Annex

Thank you for filling in the following questions before we start:

- Age:
- Years of education so far:
- Do you have a mobile phone? Yes/ no
- Do you have a smart phone? Yes/no

B – Follow up focus group interview questions

Introduction:

Thank you – again - for coming back!

I want to stress again that it is important to know that you can withdraw from this conversation at any point. The answers that you provide will be anonymous and your names will not be used anywhere.

To remember you about the key questions that we have: We want to demonstrate how young Ugandans are using their phones and mobile money. We look at the following 2 issues:

- People's relationships with their phones: phone use, benefits (what does it add to their lives?), and the challenges
- People's relationships with mobile money: what do they use mobile money for, what are the benefits and the challenges

Your answers will help to create more clarity around these topics.

Introduction

Are there any additions on what you have reported to me on Monday? Are there new insights - things you have thought about?

If no answers, break up the question into:

- Anything related to your phone?
- When it's broken, how urgent is it to replace it?
- Mobile money

Key question: What is the first reason /what made them decide to go for smart phones instead of a normal phone?

- And is it worth the money?
- Is having a smart phone paying off?
- How is a smart phone disruptive?
- Probe: addictive to use, causes family disaccord, violence, theft, and tension due to social media?

Key question: What would make your digital life better than it is now?

- Probe for more than 'it should be better and the network should be better'

Key question: Gender question – do men have different experiences from women in regards to mobile phones? Other types of access to their phone (is it shared or their own)? To mobile money? Other benefits from using phones/mobile money?

- Probe for gender constraints: i.e. Do women feel they struggle more in having access and using a mobile phone/mobile money than men? Do men limit women's use of mobile phones? Does it cause disaccord or tension in relationships between men and women?

Key question: What is the added value of saving via mobile money vs savings groups or other ways of saving?

Key question: What are the challenges of using MoKash?

- Probe for saving and loan scheme difficulties and why don't appreciate using MoKash
Andrew mentioned he wanted to ask a follow up question about Mo-Kash and one other form?

Thank you!

Annex

Thank you for filling in the following questions before we start:

- Age:
- Sex:
- Years of education so far:
- Occupation:
- Do you have a mobile phone? Yes/ no
- Do you have a smart phone? Yes/no
- Is your mobile phone yours or is it shared?

C – Digital day questions

We are going to discuss how you use digital information technology at different stages of your daily life i.e. from the time you wake up to when you sleep and possibly beyond!

Digital Technology is:

Examples of digital technology are: Mobile phone, TV, radio, Desktop Computer, tablet, laptop, MP3, etc

Digital day

What sort of digital technology device do you use the most throughout the day?

- **After waking up**
 - What is the first digital technology device you use after you wake up?
Probe: (Mobile phone for an alarm, MP3 player, television, radio, laptop, computer, other)?
 - Where do you use it?
 - What do you use it for?
Probe in general
Probe: about mobile money
 - Whose technology is it (who does it belong to)?
Probe: Your own or another?
 - What do you get from using them? How do you feel using them?
Probe: Utility, emotional, social?

- **(Depending on context): At School/At work: before lunch**
 - What about mid- morning: while you are at work, at or before lunch
 - Where are you?
 - What do you use it for? (probe in general but also about mobile money): which apps (do you use?), which programmes do you listen to?
 - What do you get from using them? How do you feel using them? Utility, emotional, social? How do you feel after using them?
- **What about lunch time?**
 - Where are you?
 - What do you use it for? (probe in general but also about mobile money): which apps, MP3 player programmes do you listen to?
 - What do you get from using them? How do you feel using them? Utility, emotional, social? How do you feel after using them?
- **After Lunch/Afternoon? Before you leave school/work, before you leave to go home:**
 - Which technologies do you use – phone (what kind?), radio, television, laptop, tablet, MP3 player, computer,
 - Where are you?
 - What do you use it for? (probe in general but also about mobile money): which apps, programmes do you listen to
 - What do you get from using them? Utility, emotional, social? How do you feel after using them?
- **Evening**
 - Which technologies do you use – phone (what kind?), radio, television, laptop, tablet, computer,
 - Where are you? (outside the house, living room, bedroom?)
 - What do you use it for? (probe in general but also about mobile money): which apps, MP3 player, programmes do you listen to?
 - What do you get from using them? How do you feel using them? Utility, emotional, social? How do you feel after using them?
 - At night before going to bed
- **As you go to bed – what’s the last technology you use before you sleep?**
 - Phone, radio, television, laptop, tablet, computer,
 - What do you use it for? (probe in general but also about mobile money): which apps, programmes do you listen to?
 - What do you get from using them? Utility, emotional, social? How do you feel after using them?
- **During the sleep/at different episodes of sleep - Do you still use digital information technology or are there specific times in the night you use digital information technology?**
 - Phone, radio, television, laptop, tablet, computer,
 - When is it normally?
 - What does it normally entail?
 - What do you use it for (probe in general but also about mobile money): which apps, programmes do you listen to?
 - What do you get from using them? Utility, emotional, social? How do you feel after using them?

General questions

- Do you know about MM?
- Do you use mobile money?
- Do you know about MoKash or any other like-minded service?
- Do you use MoKash/Wewole? What are your thoughts on it?
- How do you charge your device? Do you have difficulties in charging your device?
- Does using your digital technology make you happy? If so – why is that? If not- why is that?

D – Details of focus group participants

	Researcher Group	Non-researcher Group	All participants
Total number of participants	7	7	14
Number of males	3	3	6
Number of Females	4	4	8
Average age	X	X	X
Age range	24-29	19-28	19-29
Own phone	6	7	13
No phone	1	0	1
Own a smartphone	4	4	8
Own a basic phone	3	3	6

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