



Digital Finance and Innovations in Financing for Education

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Education can be a powerful factor in breaking the cycle of poverty and providing a brighter future for children. Sending children to school helps the next generation attain the skills needed for a healthy and productive life. Yet poor families around the world struggle with the financial burden of educating their children. The result is a large number of school-age children who are not in school today, and who are on track to join the already large adult population with little formal education on marketable skills.

The Sustainable Development Goals aim to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” To fulfill this goal will require, among other things, action to reduce the financial burden faced by households in sending their children to school.

Can innovations in digital finance play a role? Mobile money has already had a profound impact on the lives of low-income people. In many countries, mobile money has made it easier to move money between family members, to pay bills, to make use of basic savings and credit products, and even to access affordable solar energy services.

In the education sector, mobile payments and digital finance are transforming the way people pay for and secure access to their children’s education. For example, mobile money is making it easier for caretakers to pay school fees and to access and pay for digital learning courses; it helps schools better manage their finances, getting tuition payments on time, keeping records updated, and paying teacher salaries; and it helps governments keep the education system running by effectively paying teacher salaries nationwide. In addition, financial service providers are beginning to offer a range of digital savings and loan products that help families manage the cost of education. Combined, these innovations may play an important role in keeping more children in school and delivering on the Sustainable Development Goal for education.

THE POWER OF EDUCATION

The impact of an educated population goes well beyond the academic knowledge a child learns in school. Schools provide an entry point for social programs that teach children (and their parents) about health, nutrition, family planning, and other life-changing skills. This leads to a range of benefits for households and society:

- *Increased income.* Each additional year of education can lead to a 10 percent increase in wages (up to 20 percent for girls and women) (World Bank 2015).

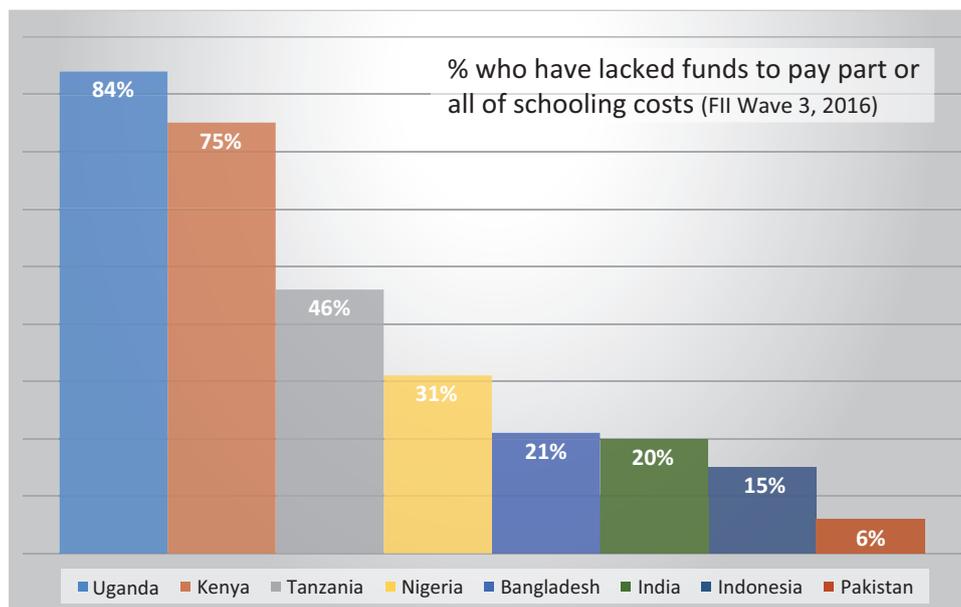
UNESCO estimates that if all students in low-income countries developed basic reading skills in school, 171 million people could be lifted out of poverty, equivalent to a 12 percent reduction in global poverty (UNESCO 2011).

- *Impact on women and their children.* Girls who stay in school are less likely to marry young and are more likely to seek preventive healthcare for themselves and their children, have fewer children, and keep their children in school (Malala Fund 2015).
- *Health benefits.* Vaccinations often take place at school, so families with children in school are more likely to receive vaccinations, preventive healthcare, and support to prevent malnourishment (UNESCO 2011).

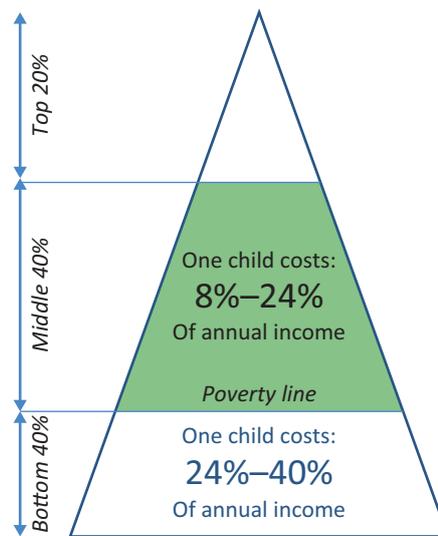
Despite evidence supporting the many benefits of education, globally there are 124 million children between the ages of 6 and 15 who are not in school (UNESCO 2015). While this number was on the decline from 2000 to 2010, there was an increase of 2.4 million from 2010 to 2015, largely due to conflict and forced migration (UNESCO 2015). Over 40 percent of the primary school-aged children currently out of school have never been to school and will likely never have the chance to attend school (UNESCO 2015).

CRITICAL CHALLENGES IN PAYING FOR EDUCATION

Poverty is a major factor contributing to the large number of children not in school. Whether children attend public or private schools, the costs associated with education place a significant burden on low-income families. Even in countries where public schools are free, families are still required to pay for uniforms, books, and supplies, and schools often levy fees to supplement the amount provided by the government. In Kenya, the Financial Diaries project found that the median amount of monthly income spent on education was 11 percent, and this figure increased to 18 percent for rural households (Collins, Cojocar, and Zollmann 2015). Education was typically the biggest expense after food, and a significant source of stress.



Challenges in Paying for Education in Uganda



 Source: Digital Payments for Education in Uganda, BMGF 2014

In Uganda, 53 percent of families report that there are times when their kids are sent home because they are not able to pay school fees (InterMedia 2016). This is not surprising as 38 percent of Ugandans live below the poverty line of US\$456 per year, and the cost of sending a child to school varies from US\$111–184 for primary school to US\$207–600 for secondary school (Vital Wave 2014). For a typical family with three school-aged children, the cost of sending those children to school is well beyond reach.

For those who can afford the cost, the situation is still precarious. Unexpected expenses can require that education funds be used for something else, and children are taken out of school because the family can no longer make tuition payments. While many countries have made progress in making primary school tuition-free or nearly free for families, free secondary school is less common. The resulting increase in cost from primary to secondary also forces many families take their children out of school or elect to pay for only some children (typically boys) to move on to secondary school.

Beyond the cost of education, there are a number of features of school fee payments that make it difficult for low-income families to manage this expense.

1. **Making payments is time consuming and inconvenient.** Paying school fees involves a significant amount of time traveling to and from the school's bank and standing in long lines. A parent could easily spend an entire day or more making a school fee payment, particularly in rural areas that are far from bank branches. This adds up to a lot of time when considering the school year has multiple terms and parents need to repeat the process several times within a term if they are not able to pay in full at the beginning of the term.
2. **The school fee payment schedule makes it difficult for those with irregular income patterns.** While fees are typically required in large, upfront sums at the beginning of the term, incomes are often seasonal or irregular. In Zimbabwe, for example, where more than 60 percent of the population is rural and dependent

on agricultural income, only 10–15 percent of families manage to pay fees on time (Mattern and Tarazi 2015). In turn, schools spend a large amount of time working to collect payments. Without predictable and on-time income from the parents, schools have difficulty covering their expenses.

3. Many low-income households have **limited access to financial services that could help manage this expense**. The Kenya Financial Diaries shows that families use a wide range of financial instruments to manage the cost of education, including informal savings groups, borrowing from friends and family, and loans from formal or informal sources to help families smooth the payments over a period of time. Informal mechanisms lack flexibility and reliability, and formal financial services are often subject to restrictions that make them impractical or out of reach for poor households. For example, many financial institutions only make school fee loans to existing clients with formal salaries and an established credit history, or they may require collateral. As such, many low-income families participate in savings groups or turn to informal channels like family and friends or moneylenders to borrow for school fees when they fall short.
4. Finally, there are a number of systemic challenges in the education sector stemming from the lack of audit trails for government budgets and expenditures. In Nigeria, for instance, US\$21 million was lost over two years between disbursement at the national level and receipt at the local level (InterMedia 2015). Ongoing decentralization efforts aim to address such challenges, but **lack of transparency and reports of leakage** are widespread and will require significant changes to alleviate the added financial burden that this places on households (Reinikka and Svensson 2001).

EMERGING SOLUTIONS

Innovations in digital finance have the potential to address several challenges in education finance. While digital finance will not solve the many complex reasons that keep many children from attending school or ensuring schools meet a basic standard of academic quality, there are several ways in which digital finance can help families address the challenges they face in paying for education today.

DIGITIZING PAYMENTS IN THE EDUCATION SECTOR

Converting payments in the education sector from cash to mobile money can save time for both parents and schools, and also improve the efficiency and transparency of the payment process as a whole. There are several examples where this is already happening, notably at Bridge International Academies in Kenya, Uganda, and Nigeria, BRAC in Bangladesh, and at public schools throughout Cote d'Ivoire. (See Box 1 for a brief look at how Bridge International Academies handles digital payments.)

For parents, the use of mobile money **saves a significant amount of time** by avoiding lengthy trips to the bank. Instead, they are able to pay whenever it is convenient for them and can even use their mobile wallet to save incrementally for school fees using agents that are usually much closer to home. Mobile money provides schools with improved transparency and record-keeping necessary for such a system to work, and the flexibility it provides to parents makes it practical

BOX 1. Bridge International Academies: Making Payments Digitally

Bridge International Academies, an education provider catering to low-income communities in several countries in sub-Saharan Africa and South Asia, is completely cashless. It collects all fee payments and pays teacher salaries via mobile money. All payments are handled by a central team rather than at the schools themselves. This eliminates the need to handle cash in school locations and allows more focus on teaching. Bridge reports that this has played a significant role in its ability to scale. Just seven years after opening its first academy in Kenya, it now serves 100,000 students in over 500 schools in three countries.

For Bridge, the use of mobile money provides a level of **transparency and controls** that would be difficult to achieve without the digital data trail provided by mobile money. Working closely with a set of payment providers in each of the countries where it operates, Bridge is able to **reconcile payments with student accounts quickly and accurately**. The academy manager at each location has a smart phone and app, provided by Bridge, which provides the manager with the status of each student's payments. Should a family fall behind on payments, the academy manager has the authority to develop a **customized payment plan** with the family that works with its income.

for them to make **many small, incremental payments** throughout the term when necessary.

Digitizing teacher salaries makes it easier for teachers to collect their salaries as the funds are deposited directly into the teachers' mobile money account. Some governments, including in Afghanistan, Liberia, and Madagascar, have experimented with disbursing teacher salaries using mobile money. Many teachers report spending three or more days per month traveling to collect their salaries, and in some cases schools close for a period of time each month so teachers can collect their payment (Mulkeen 2010). Disbursing teacher salaries via mobile money has the potential to save the teachers time and money, and disrupt the tradition of excusing teacher absences or closing schools for the purpose of collecting salaries.

BOX 2. Cote d'Ivoire: Digitizing the Education System

In Cote d'Ivoire, the government initiated a plan in 2011 to digitize school registration fee payments as part of an overarching effort to digitize education data and enrollment. What began as a process to improve recordkeeping and generate better enrollment data evolved to include improvements to the payment process. By 2014, 99 percent of school registrations for universities and secondary schools were paid digitally (GSMA 2015). According to a GSMA case study, paying school fees with mobile money has improved convenience and provides a more secure transaction for families. It also enhanced the transparency and efficiency of the fee collection process, with reports of reduced leakage and over-charging of parents. Secondary schools have actually increased the net amount they collect from parents, thus increasing the overall school budget (GSMA 2015).

BOX 3. Digital Education Content

With expanding access to the internet and mobile technology, there is growing demand for digital learning content for everything from basic math to corporate finance. Most of the products on the market today aim to enhance the formal education sector, rather than replace it, by delivering educational content that is relevant, convenient, and cost-effective (or free). Companies like Khan Academy, Coursera, and edX have led the way in making free content available to individuals around the world. Others have taken a fee-based approach and are selling digital content either on a subscription or pay-per-use basis. Digital textbook rental (e.g., Kytabu, e-kitabu, EcoSchool), test preparation and tutoring materials (e.g., Eneza Education), and eLearning or SMS courses (e.g., Arifu, EduMe) are all examples.

For those that charge customers, mobile money is an important enabler of the business model and has several benefits. First, businesses may be able to reach a wider, distributed audience because they can collect fees without ever having an in-person interaction. Second, providers can reach lower-income segments as mobile money does not require that the user have access to a bank account or credit card to pay for the service. Third, content can be parsed into small batches and offered at lower cost than paying for an entire textbook or course at one time.

Mobile money providers directly benefit as they **earn revenue for each school payment processed**. Digitized school payments also provide an opportunity for mobile money providers to register new customers and reactivate dormant ones. Though little data are available on whether these indirect benefits have yet to pay off for providers in Cote d'Ivoire, research by BRAC in Bangladesh suggests that within a few months of registering for bKash to pay school fees, families were also using it to send and receive money from relatives (InterMedia 2015). In Cote d'Ivoire, school registration payments still represent a small percentage of the overall mobile money transactions as these payments happen only once at the beginning of the term. As of 2014, school registration payments accounted for just 1 percent of MTN's mobile money transactions, though this number could substantially increase if the government expands this program to primary school and to other types of education payments beyond registration (GSMA 2015).

CHALLENGES IN DIGITIZING SCHOOL FEE PAYMENTS

The cases of Bridge International Academies, BRAC, and Cote d'Ivoire illustrate the benefits of digitized school payments for families, schools, governments, and mobile money providers. But the process of digitizing payments can be long and challenging in some circumstances. While Bridge launched with a completely cashless business model and never had to go through the transition from cash to digital, other schools will need careful **change management** both in terms of technical systems and the cultural adjustment. Schools seeking to digitize payments may face resistance from staff who are accustomed to doing things a certain way and unwilling to change. School fees are notoriously subject to leakage and over-charging in many countries, and the transition to digital may not be well-received by those who benefit from the status quo.

There are also **costs involved with adapting a school's technology and operating processes** to accept digital payments. In many cases, that will include a transition

from manual, pen-and-paper based tracking systems to digitized record-keeping (Church 2015). This may be particularly challenging in locations with limited access to electricity and internet connectivity. For public schools, government leadership, as in the case of Cote d'Ivoire, to manage this transition and associated resources will be critical. Aggregators¹ may also play a role in supporting this transition, by helping schools connect with multiple mobile money and payments providers and building applications to help reconcile payments.

Training is another critical component, as both staff and parents may need careful hand holding if they are not familiar with mobile money. Bridge began in Kenya where mobile money use is common, agents can easily be found in most areas, and parents did not need much guidance on using mobile money to make payments. But with expansion to countries like Uganda, Nigeria, and India, Bridge has had to work with a variety of payment providers, not just mobile money, and has played a much larger role in coaching its families through the payments process. When BRAC piloted school fee payments using mobile money in Bangladesh, it found that the students themselves were the best coaches for their parents. In both cases, careful attention was spent helping families register for the service and guiding them through the payment process until they are comfortable making payments on their own.

DIGITAL FINANCIAL SERVICES FOR HOUSEHOLDS

Digitizing school fee payments can make it easier to get money to the school, but it does not help families come up with the money for education. Several examples of digitally delivered financial services help families manage their income to help meet the expense of educating their children.

- 1. Facilitating smaller, more frequent payments.** School fees are typically due in full at the beginning of a school term, but it can be challenging to make a single payment if the schedule does not correspond with a family's income pattern. Once fees are digitized, it becomes easier for parents and schools alike to implement arrangements that allow for incremental payments.

Bridge International Academies recently put in place a system in Kenya whereby each academy manager has the ability to work with parents to determine a fee schedule that they can adhere to. Parents make payments according to the agreed schedule, and children are allowed to remain in school provided that the parents stick to their commitment. Parents can also prepay for the following term in small increments when they have the money available. Similarly, at BRAC in Bangladesh, a pilot found that a number of parents began using mobile money to prepay for the next term when the option became available. Parents trusted the payment channel and effectively used their student's account as a savings account for education. This flexibility can pay off for schools as many parents are better able to pay the full amount when payments are spaced out over a longer period of time.

¹ For example, IT Consortium (ITC), a technology company in Ghana specializing in payments and student information systems, works with about 200 schools to help manage enrollment information, academic data and process parents' tuition payments, which are a main source of funding for schools in Ghana. With FIBR, ITC is developing an app for school administrators that would give parents more financing options when they are unable to pay school fees at the start of each term." Source: <http://www.fibrproject.org/partners>

- 2. Savings and Credit Products to Help Manage the Cost of Education.** The popularity of digital savings and credit products like M-Shwari in Kenya demonstrate the demand for fast, flexible, and affordable financial services that help people better manage their liquidity. Innovations in mobile money and digital credit have increased the accessibility of such tools to previously unbanked populations, and when applied toward education, could positively impact the ability of families to keep children in school on a more consistent basis.

Econet in Zimbabwe is planning to test a new commitment savings product for education (Mattern and Tarazi 2015). Families determine their savings goal upfront and make regular contributions using EcoCash, Econet's mobile money product. Customers receive motivational messages and regular updates about their progress toward that goal. When the payment is due at the beginning of the term, the funds are directly debited from the savings account and credited to the student's account at the school. If a family manages to save only a portion of the goal but meets a certain threshold, they become eligible for a short-term loan toward the balance. Such products help families develop a plan to pay for education and provide a safety net should their savings fall short, all from the convenience of their phone.

- 3. Remittances and Crowdfunding.** Education is a massive expense for poor households and many families simply do not have enough money to pay for their children's education. Funds from relatives, friends, or even strangers can help make up the budget shortfall, and digital finance is making that process easier. Products like M-Changa in Kenya help Kenyans raise money for a variety of purposes, including education. An individual uses their phone to post a goal and solicits contributions, which can be made from anywhere in the world online or using mobile money. Amret in Cambodia is piloting two innovative digital products: the first is a domestic digital remittance product that allows family members to easily transfer money via a shared account, and the second is a goal-based savings account. When the joint account and the goal-based accounts are linked, all members can contribute to an established goal and have transparency on the progress toward that goal. The aim is to motivate individuals to keep contributing until the goal is met (Mattern and Tarazi 2015). While these are general purpose solutions, education is a frequent use case of these products.

Research in the Philippines has demonstrated that when recipients identify a purpose for remittances, such as education, migrants were 4.6 percent more likely to send funds and sent 15 percent more funds (De Arcangelis et al. 2015). Digitizing remittance products provides transparency and security to senders and recipients alike, and can help families increase their education budget, in a low-cost and transparent manner.

There is no doubt that mobile money has the potential to disrupt many aspects of the education sector, from the way governments manage their budgets and disbursements to the way schools collect and track funds. These have the potential not only to improve efficiency and transparency within the sector, but also to contribute toward affordability. If less funds are lost along the way, governments could reduce the financial burden placed on families. And if families have access to the financial tools needed to help manage the cost of education, fewer children will be taken out of school for lack of funds. For this potential to be realized and the Sustainable

Development Goals for education fulfilled, however, governments, mobile money providers, Fintech companies, schools, families, and financial service providers will need to join forces. Working together, the future can look brighter for millions of children around the world.

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