

The Role of Digital Financial Services in

ACCELERATING USAID EDUCATION GOALS



USAID
FROM THE AMERICAN PEOPLE



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Introduction

Digital financial services (DFS) have cut costs and increased efficiency and transparency for many government institutions and development programs. Studies also show that DFS¹ (defined in **Box 1**) can improve access to financial services and increase resiliency and consumption for low-income beneficiaries by providing tools to manage expenses, save, plan and make payments without having to sacrifice income or resort to selling assets. The cost efficiency and access that DFS supports is and can be applied in a variety of sectors, such as health, to increase development impact, and can similarly be leveraged to help support education outcomes.

This brief is intended to help USAID practitioners understand how the targeted use of DFS can support programming around USAID's three education strategy goals (see **Box 2**)². DFS can promote greater time and cost efficiencies and transparency for education service delivery within, and outside of, the classroom. The case studies that follow will highlight examples relevant for students, teachers and administrators (see Figure 1). Although DFS will not solve all problems associated with teacher effectiveness, school management or student access, results from nascent interventions featured in this brief show DFS can be an important tool in achieving positive education outcomes. For example, teachers in Liberia reported a significant decrease in class time spent on collecting pay. In Côte d'Ivoire, schools saw increased budgets after digitization of school fee payments and mobile-payments-driven e-learning platform Eneza Foundation has measured improved student knowledge.



BOX 1: Defining Digital Financial Services

Digital financial services (DFS) are banking and payment services (including savings, loans, remittances, bill payments) that are enabled via electronic channels. Services can be accessed using mobile phones, electronic cards (credit, debit, prepaid cards), computers, and other electronic instruments.

Mobile money is a type of DFS. Mobile money enables users to store money in an electronic account associated with their mobile phones' SIM cards and conduct transactions on their accounts using their mobile phones. Users typically deposit and withdraw cash from their mobile money accounts at a mobile money agent.

Agents are key players in the DFS ecosystem. An agent can be a shop keeper, bank, retail store, or other entity authorized to conduct mobile money or bank transactions. By using agents, DFS providers can drastically increase the number of outlets available for customers to conduct financial transactions with greater convenience.

Mobile network operators (MNOs) such as MTN, Airtel, Vodacom, and Orange, are often providers of mobile money services. Depending on local regulations, MNOs either offer these services directly or in partnership with a bank.

1 Grossman J, Nelson PK. (2014) Digital finance for development: a handbook for USAID staff. Washington, DC: U.S. Agency for International Development and FHI 360. Retrieved from: <https://microlinks.org/library/digital-finance-development-handbook-usaid-staff>.

2 USAID. (2011) USAID Education Strategy 2011–2015 (extended to 2017). Retrieved from: https://www.usaid.gov/sites/default/files/documents/1865/USAID_Education_Strategy.pdf.

Because DFS applications in the education sector are relatively new in development practice, we also hope that this brief will motivate additional testing and learning, as well as more rigorous research on the impact of DFS on education outcomes to provide an evidence base for future policy and program development.

BOX 2: USAID Education Strategy Goals

GOAL

1

IMPROVED READING SKILLS FOR **100 MILLION CHILDREN** IN PRIMARY GRADES

GOAL

2

IMPROVED ABILITY OF TERTIARY AND WORKFORCE DEVELOPMENT PROGRAMS TO **GENERATE WORKFORCE SKILLS** RELEVANT TO A COUNTRY'S DEVELOPMENT GOALS

GOAL

3

INCREASED EQUITABLE ACCESS TO EDUCATION IN CRISIS AND CONFLICT ENVIRONMENTS FOR **15 MILLION LEARNERS**



FIGURE 1: Four Ways DFS Can Impact Education Outcomes

**IMPROVE
TEACHER
EFFECTIVENESS**

REDUCE TIME TEACHERS SPEND AWAY FROM CLASSROOMS TO COLLECT PAY

Digital salary and per diem payments save time and expense for teachers, potentially reducing teacher absenteeism and improving teacher satisfaction

**IMPROVE
SCHOOL
MANAGEMENT**

REDUCE LOSS OF FUNDS WITH DIGITAL SCHOOL FEE PAYMENT COLLECTION

Digital payments can:

- Speed up collection and reconciliation of fees so schools have cash flow needed for schools to open/operate
- Improve records for auditing
- Enable real-time view of revenue for planning purposes
- Reduce funds lost to fraud/theft as compared to cash

**IMPROVE
STUDENT
ACCESS**

REDUCE STUDENT DROPOUT, ABSENTEEISM WITH SAVINGS, LOANS, REMITTANCES TO MEET EDUCATION COSTS

Digital savings, loans, remittance products can enable youth to collect funds for expenses related to education

FACILITATE ACCESS TO QUALITY EDUCATION WITH PAY-AS-YOU-GO E-LEARNING

Pay-as-you-go fee structure enabled with digital payments allows low income households to access tools that reinforce classroom lessons by making small incremental payments

**READING
SKILLS**

—

**GRADUATION
RATES**

—

**VOCATIONAL
AND TERTIARY
ENROLLMENT
RATES**



The Connection Between DFS and Education

Access to financial services enables people to invest in business and education, manage risk and weather financial shocks.³ There is need and demand for financial services to pay for education in developing markets.

IN A RECENT SURVEY CONDUCTED BY THE FINANCIAL INCLUSION INSIGHTS PROGRAM:

84% OF RESPONDENTS
IN UGANDA

75% IN
KENYA

46% IN
TANZANIA

20% IN INDIA AND
BANGLADESH



LACKED FUNDS AT SOME POINT
TO PAY SCHOOLING COSTS⁴.

24% OF RESPONDENTS
IN KENYA



20% IN
UGANDA

NAMED PAYING FOR
SCHOOL FEES AS THEIR
MOST IMPORTANT
FINANCIAL GOAL⁵.



According to the 2017 FINDEX, more than

47% OF ADULTS IN
EAST ASIA AND PACIFIC

23% OF ADULTS IN
SUB-SAHARAN AFRICA

REPORTED SAVING
FOR EDUCATION⁶.

Digital payments, including mobile and card payments, can **improve beneficiary access to financial services** via transaction points that are more conveniently located than a bank branch. Globally, mobile money services, with 174 million active accounts, are now available in two-thirds

of lower and middle income countries and have contributed to the decline in the number of unbanked individuals in low-income countries.⁷ For example, in Tanzania, for every 1,000 adults, there are 2.2 bank branches, 14.6 ATMs, and 582 registered mobile payment agent outlets.⁸

3 Demircug-Kunt A, Klapper L, Singer D, Oudheusden P. (2015) The Global Findex Database 2014: measuring financial inclusion around the world. Policy Research Working Paper 7255, World Bank, Washington, DC. Retrieved from: <http://documents.worldbank.org/curated/en/187761468179367706/pdf/WPS7255.pdf>.

4 Kaffenberger M, Braniff L. (October 14, 2016) Paying for school: 6 insights for better financial services. In: CGAP blog. Retrieved from: <http://www.cgap.org/blog/paying-school-6-insights-better-financial-services>.

5 Ibid.

6 Demircug-Kunt A, Klapper L, Singer D, Ansar S, Hess J. (2018) The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. World Bank, Washington, DC. Retrieved from: <http://globalindex.worldbank.org/>

7 GSMA. (2016) State of the industry report on mobile money. London: Bill & Melinda Gates Foundation, The MasterCard Foundation, and Omidyar Network. Retrieved from https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money_2016-1.pdf.

8 USAID. (2015a) Mobile financial services market viability tool. Washington, DC: USAID. Retrieved from: <https://solutionscenter.nethope.org/assets/collaterals/marketviabilitytool.pdf>.

MOBILE MONEY IS WORLDWIDE:



174 MILLION
ACTIVE ACCOUNTS
GLOBALLY



AVAILABLE IN
2/3 OF LOWER- &
MIDDLE-INCOME
COUNTRIES

It is not surprising that 19 percent of the population in Tanzania has an account at a financial institution while 32 percent have a mobile money account.⁹

Multiple studies show that digital payments can reduce cost of cash delivery, as well as leakage, to achieve billions in cost savings.¹⁰ Digital payments are increasingly being used by development organizations, host-country governments, and other institutions, to **increase cost efficiency and transparency**. Digital payments can cut down on storage, transportation, and security costs associated with cash handling and reduce travel time and cost for program staff and beneficiaries.

Brazil, for example, reduced transaction costs associated with its social transfer program from 14.7 percent to 2.7 percent after bundling benefits into one electronic payment card.¹¹ Cost savings can similarly be achieved with payment digitization in the education sector for teacher

salaries, fee collection and cash and in-kind transfers for school fees and supplies, promoting sustainability and freeing up funds that can be re-directed toward the achievement of programmatic outcomes.

In fact, to promote the use of digital payments, USAID issued [Procurement Executive's Bulletin](#) (PEB), effective as of August 2014, which states that USAID projects are required to replace cash and checks with electronic payments unless they receive an exemption.¹²

This brief highlights four ways (outlined in Figure 1) education practitioners can leverage the **access, transparency and cost efficiency** that DFS brings to improve the effectiveness of education programs, as well as opportunities to integrate DFS into education programming directed at specific education strategy goals. Also, included at the end of the brief are consolidated lessons learned for addressing challenges associated with implementing DFS.

9 Ibid.

10 Klapper L, Singer D. (2014) The opportunities of digitizing payments. Washington, DC: World Bank. Retrieved from: https://docs.gatesfoundation.org/documents/G20%20Report_Final.pdf.

11 Lindert K, Anja L, Hobbs J, De la Brière B. (2007) The nuts and bolts of Brazil's Bolsa Família Program: Implementing conditional cash transfers in a decentralized context. Social Protection discussion paper 0709. Washington, DC: World Bank. Retrieved from: <http://web.worldbank.org/archive/website01506/WEB/IMAGES/0709.PDF>.

12 USAID. (2014) Procurement Executive's Bulletin No. 2014-06. Retrieved from: https://www.usaid.gov/sites/default/files/peb2014_06.pdf.



Reduce Time Teachers Spend Away From Classrooms to Collect Pay

Teacher absenteeism results in low learning outcomes in many developing countries.¹³ Case study 1.1, demonstrates that digitization of teacher salaries can reduce class time missed by teachers while collecting pay.

Box 3 shows applications of salary digitization across all three USAID education strategy goals, including increasing equitable access to education in crisis and conflict environments. A recent landscape review co-sponsored by a consortium of agencies, including GIZ, USAID, and the mEducation Alliance, examined technology applications for education delivery in conflict and crisis areas.¹⁴ The review highlighted the potential use of mobile money transfers for school fees or teacher payments to enable payments when travel to banks or cash delivery is not possible and incentivize continuity and rebuilding of education systems in crisis and conflict settings. Digitization of salary payments to response workers was crucial for ensuring continuity of care at the height of the Ebola crisis, saving an estimated 2,000 lives in Sierra Leone by eliminating strikes by unpaid response workers and saving almost US\$11 million in security and other costs related to moving cash.¹⁵

13 USAID (2011) op. cit.

14 Dahya N. (2016) Landscape Review: Education in conflict and crisis: How can technology make a difference? Bonn, Germany: GIZ. Retrieved from <http://www.ineesite.org/en/resources/landscape-review-education-in-conflict-and-crisis-how-can-technology-make-a> .

15 Bangura JA. (2016) Saving money, saving lives: A case study on the benefits of digitizing payments to Ebola response workers in Sierra Leone. Better Than Cash Alliance. Retrieved from: <https://www.betterthancash.org/tools-research/case-studies/saving-money-saving-lives-a-case-study-on-the-benefits-of-digitizing-payments-to-ebola-response-workers-in-sierra-leone>.



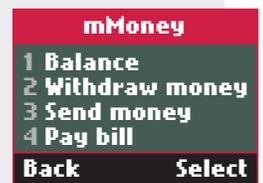
BOX 3: DFS and Reducing Teacher Absenteeism

Programs targeting Goals 1 and 2:

- Reduce time and expense for teachers to collect pay, potentially leading to reduced teacher absenteeism and consequently improved education outcomes.
- Reduce education ministry expenses related to delivering salary payments to teachers, including leakage resulting from corrupt practices.
- As an initial step to gain experience in DFS prior to a larger scale salary digitization effort, digitize per diem payments for teachers attending USAID training workshops to save time and expense for teachers and program finance staff.

Programs targeting Goal 3:

- Enable efficient and transparent compensation of teachers to ensure continuity of education services.



CASE STUDY 1.1

Digitizing teacher salary payments in Liberia to increase time teachers spend in classrooms

For most of Liberia's teachers, collecting pay has long been an expensive and time-consuming task. In 2013, 60 percent of the country's 75 bank branches were in Montserrado County, where the capital Monrovia is located.¹⁶ The lack of banks in rural areas, combined with the fact that Liberia's economy is almost entirely cash based, means that rural teachers spend over 18 percent of their monthly salaries¹⁷ on travel and related costs to collect their salaries from banks. Time spent traveling often forces them to miss valuable class time with their students. Delays in salary disbursement and difficulties in collection also often force teachers desperate for cash to make deals with predatory lenders at high interest rates. In 2015, USAID, via the [Mobile Solutions Technical Assistance and Research \(mSTAR\)](#) program, launched an initiative to support the Government of Liberia (GOL) to scale up mobile money salary payments for teachers nationwide.

Rural teachers in Liberia spend **over 18 percent of their monthly salaries** on travel and related costs to collect salaries from banks.

Systems strengthening: A series of USAID projects prior to mSTAR put into place systems that enabled the digitization of civil salary payments in the Ministry of Education (MOE). The USAID Liberia Teacher Training Program upgraded the human resources (HR) system of the MOE, helped establish a biometric identification system, vetted teacher payee lists to remove ghost workers who had left their posts and issued biometric ID cards to a large portion of Liberia's MOE workforce. The Civil Service Agency (CSA) used the biometric registration system to more easily verify payroll information during the entry of mobile money enrollees into the payment system.

Government buy-in and ownership: Buy-in from high-level government representatives within both the MOE and the CSA was critical. USAID's Governance and Economic Management Support program (GEMS), which preceded mSTAR, conducted an analysis showing that the cost to the GOL of making salary payments via check was almost US\$6 million annually.¹⁸ GEMS also conducted small pilots to demonstrate the viability of salary disbursements via mobile payments.¹⁹ mSTAR continued government engagement and worked closely with champions of the mobile money payment method within the ministries to secure full buy-in and support and establish formal partnerships with a range of agencies, including the CSA, MOE, Ministry of Finance Planning and Development and Central Bank of Liberia.

16 USAID-GEMS. (2013) USAID/Liberia Governance and economic management support (USAID-GEMS) project annual progress report: Fiscal year 2013. Retrieved from http://pdf.usaid.gov/pdf_docs/PA00JM5F.pdf.

17 mSTAR collected these data in a phone survey administered to Ministry of Education staff, including teachers, who have received their first mobile money salary payment.

18 USAID-GEMS. (2013) USAID/Liberia Governance and economic management support (USAID-GEMS) project annual progress report: Fiscal year 2013. Retrieved from http://pdf.usaid.gov/pdf_docs/PA00JM5F.pdf.

19 Ibid.

In addition, mSTAR facilitated a memorandum of understanding for mobile money payments between the government partners and mobile network operator LonestarCell (established by MTN).

Ownership by the GOL is also important for long-term sustainability. MOE and CSA representatives attend mobile money enrollment events within the counties to present and answer staff questions, and coordinate closely with the local MOE staff to ensure attendance and participation at the events. This participation, along with the GOL's promise to pay half of the agent cash-out fees, demonstrates to MOE staff the GOL's commitment to ensuring the payment method is successful. The GOL and LonestarCell coordinate payment dates and locations for salary withdrawals. This has proven to be crucial in mitigating issues such as poor network connectivity and ensuring agents have sufficient cash on hand to enable teachers to withdraw salaries from their mobile money accounts.

Impact on teacher absenteeism: As of April 2018, mSTAR and its GOL partners have enrolled 3,722 MOE staff and teachers across 14 of 15 Liberian counties into the mobile money salary payment option, with plans for continued outreach and expansion. Three hundred and thirty-one MOE teachers and staff who receive their pay through mobile money were surveyed, and reported 54 percent less cost and 93 percent less travel time to collect their salary.²⁰ MOE teachers surveyed reported missing 94 percent less class time (a total of 4,953 hours or 15 hours per teacher) as a result of travel time savings.

Teachers report **missing 94 percent less class time,** or 15 class hours per month per teacher, as a result of reduced travel associated with collecting their pay.

²⁰ mSTAR collected data in a phone survey administered to MOE staff, including teachers, who have received their first mobile money salary payments.

2

Reduce Loss of Funds with Digital School Fee Payment Collection

Enormous time, cost and risk are involved in collecting school-related fee payments for both parents and educational institutions. By helping to tackle this issue, DFS can contribute to implementing efficient and transparent financing and improving governance, a key activity under USAID’s Education Strategy Goal One of boosting reading outcomes. Improving school fee payment collection is also critical to sustainability, which includes building a country’s ability to finance its own education sector. As demonstrated by case study 2.1 on the next page, digitizing school fees can lead to larger budgets being available for schools and schools receiving funds for operations in a more timely manner.

In addition to benefiting schools and administrators, school fee digitization can also benefit parents and students. In Uganda, as in many countries, students and/or their caregivers must travel to bank branches or a designated payment center to deposit school fees, forcing them to incur travel costs and lose income as a result of spending time away from their businesses. Transaction and transportation costs involved with paying school fees can amount to up to 50 percent of the monthly salary of the lowest income rural households.²¹ Caregivers who need to make partial payments incur bank fees and travel costs each time they make a deposit. **Box 4** summarizes how DFS can be used across all three education strategy program areas to improve safety and convenience of school fee transactions, and improve access to education.



BOX 4: DFS and Reducing Loss of Funds

Programs targeting Goals 1, 2, and 3:

- Digitize tuition collection to reduce schools’ vulnerability to theft, increase budgets available to operate and provide quality education services. School fee digitization also enables schools to receive fees earlier, save on administrative time and cost, have quicker access to data for purposes of budget planning, and creates an audit trail for payments.
- Use DFS to reduce time, cost for beneficiaries to make school fee payments in areas where students and caregivers are far from banks or offices where cash payments must be deposited. Reduce risk associated with carrying cash to payment points.
- Use digital platforms to deliver conditional cash transfers tied to school attendance, or apply cash transfers and vouchers directly to school fees for crisis-affected populations.

21 Vital Wave. (2014) Digital payments for education in Uganda. Retrieved from: https://www.microfinancegateway.org/sites/default/files/publication_files/vital_wave_report_on_uganda_education_payments_20141231.pdf.

CASE STUDY 2.1

Digitized fee collection for secondary schools in Côte D'Ivoire

To reduce lost payments, fraud, and armed robbery at cash collection points, the Ministry of National and Technical Education (MENET) started an initiative in 2012 to digitize fee payments for Côte d'Ivoire's 1.5 million secondary school students. The effort to digitize school fee payments was part of a broader MENET effort to digitize student records for the purpose of gathering data on education outcomes and tracking data for policymaking and decision making.²²

Education ministry and partner coordination: MENET collaborated closely with four DFS payment providers, which included online and mobile money providers. An annual centralized marketing campaign funded by the providers raised awareness on how to pay fees via mobile money channels, and was delivered via radio, televised theater sketches, posters, rural traditional storytellers, and Facebook.

Beneficiary and infrastructure challenges: Côte d'Ivoire was able to take advantage of a relatively robust mobile payments infrastructure. In 2011, 52 percent of the population owned at least one active mobile SIM card and mobile penetration was growing steadily. In addition, MENET absorbed transaction fees for students and caregivers who make payments, and agreed on a flat fee per transaction with payment providers. This removed a barrier to usage for those making payments, and ensured a revenue stream for DFS providers. Less technically literate beneficiaries were not comfortable using mobile

money to pay fees, however. In fact, in rural areas, significant transactions are done by the agent or school on behalf of the parents, which decreases transparency and introduces risk of fraud by intermediaries handling cash.²³ Moreover, despite efforts to encourage parents to pay fees earlier, 80 percent of fees are paid in September, putting immense pressure on the mobile operator agents. Digital payment providers try to mitigate this issue with temporary agents or by sending agents to schools to offer cash-in services.

Impact on schools, students, government: Despite these challenges, schools are receiving larger budgets as a result of reduced theft, fraud and lost payments. Moving to mobile payments has also reduced the administrative burdens of managing cash, and sped up the process of collecting funds from students so schools receive funds for operations when they open. In addition, MENET established a student registration database and enabled parents and students to

register and pay school fees via their mobile phone. Students update their contact information yearly when making registration fee payments. The registration database allows student transfers, exchanges and reassignments to be managed in real time, and has become a tool for gathering education statistics for policymaking. For example, statistics collected via the database allowed the government to identify pregnancy as a barrier

Digitization of school fee payments in Côte d'Ivoire resulted in schools receiving larger budgets as a result of reduced theft, fraud and lost payments.

to achieving increased schooling rates among girls. Finally, digital registration and payment bring greater convenience to students and parents who can avoid standing in long lines to make payments.

22 Frydrych J, Scharwatt C, Vontrhon N. (2015) Paying school fees with mobile money in Côte D'Ivoire: A public-private partnership to achieve greater efficiency. London: GSMA. Retrieved from: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/10/2015_GSMA_Paying-school-fees-with-mobile-money-in-Cote-dIvoire.pdf.

23 Interview with Lauren Braniff of CGAP, 2017.

3

Reduce Student Dropout, Absenteeism with Savings, Loans, Remittances to Meet Education Costs

Students need to be present at school to learn. Digital savings, loans, and remittance products may reduce student absenteeism where it is caused by lack of funds available to meet education expenses. Schools fees are a substantial financial burden that prevents access to education for low-income families. Even in countries where primary school education is free, parents may end up paying tuition to make up for budget short-falls and must bear additional expenses such as purchase of uniforms, textbook fees, and exam fees. For example:

- Interviews with households in rural Uganda show that uniforms, food, and supplies represent 30 percent to 35 percent of schooling expenses.²⁴
- A study with over 3,000 households in Uganda found that 81 percent reported children dropping out because of lack of money and 58 percent pointed to financial constraints for not enrolling their child at all.²⁵

School fees are typically due in a lump sum at the beginning of the term, which is problematic given small and variable cash flows of low-income families that need to make payments in increments when cash is available. Families struggle to come up with the money to pay tuition or fees for exams. Students are sent home from school or sometimes held back from moving to the next grade in the case of non-payment, which affects their academic performance and educational attainment.²⁶

Other cultural and economic factors may also affect school payments. Parents wait until the last moment to divert

business income or liquidate an asset to pay school fees because money that is not being used or invested for a return is considered wasted.²⁷ Savings for education may be diverted for emergency expenditures, such as medical expenses. Families often negotiate alternative payment terms with school administrators, but schools send children home when those payment terms are not met. In Kenya, there is a heavy reliance on remittances from family members to help meet school fee payments; children being sent home creates urgency that may help them gather school fee funds from extended family. Kenya Financial Diaries notes that 13 percent to 16 percent of households reported receiving money for school-related expenses.²⁸

Initiatives to develop digital consumer payment and financing products that address education payment challenges related to cash flow are in early conceptual or pilot stages. Given the impact of financial constraints of dropout and absenteeism, however, this is a worthwhile area for further testing and learning. Although applications of DFS in the education sector are nascent, studies show DFS can increase resilience and savings, which can potentially help households meet education expenses. Access to mobile money enables Kenyans to receive remittances more quickly and from a wider social network when hit by a negative shock.²⁹ Driven partly by changes in financial behavior, including increased savings and resilience to shocks, mobile money access also impacts poverty alleviation, particularly among women.³⁰

24 Braniff L, Waldron D, Foye J, Emmott C. (2017) Meeting education finance needs in rural Uganda. In: CGAP blog. Retrieved from: <http://www.cgap.org/blog/meeting-education-needs-rural-uganda>.

25 Mpyangu C, Ochen E, Onyango E, Lubaale Y. (2014) Out of school children study in Uganda. Retrieved from: https://www.unicef.org/uganda/OUT_OF_SCHOOL_CHILDREN_STUDY_REPORT_FINAL_REPORT_2014.pdf.

26 Collins D, Cojocarui L, Zollmann J. (2015) Getting an education in rural Kenya: Findings based on the Kenya Financial Diaries. Zurich, Switzerland: Jacobs Foundation. Retrieved from: <http://fsdkenya.org/publication/getting-an-education-in-rural-kenya-findings-based-on-the-kenya-financial-diaries/>.

27 Ibid.

28 Ibid.

29 Jack W, Suri T. (2013) Risk sharing and transaction costs: Evidence from Kenya's mobile money revolution. *American Economic Review* 204(1):183–223.

30 Suri T, Jack W. (2016) The long-run poverty and gender impacts of mobile money. *Science*. 354(6317):1288–1292. Retrieved from: http://www.microfinancegateway.org/sites/default/files/publication_files/new_jack_and_suri_paper_1.pdf.



BOX 5: DFS and Reducing Student Dropout Rates and Absenteeism

Ideas for using DFS, including financial literacy training, as a tool to reduce student dropout and absenteeism across all three USAID education strategy goal areas are listed in **Box 5**. Examples of ongoing DFS innovations in the education sector are below.

Education directed remittances: As noted, digital channels can be particularly powerful in mobilizing remittances more quickly and from a wider network. Studies indicate a preference on the part of remittance senders to direct the use of remittances.³¹

Bankable Frontier Associates (BFA) recently tested a “Flexipay” product in Kenya that enables parents and extended networks of family or friends who contribute to educational expenses to make payments via mobile money.³² BFA tested Flexipay at a government day school with approximately 460 active students in an impoverished community. Parents and remittance senders preferred mobile payments over cheaper but less convenient bank deposits, and remittance contributors thought the digital payment service added credibility to parents’ requests. The school also valued mobile bill payments, and opted to continue it after the pilot, because it reduced cash handling and the risk of robbery.

The BFA study estimated that with 9,000 schools in Kenya, payment providers could tap into a potential annual market of over KES 500 million (approximately US\$5 million) per year in school fee transactions. However, there is significant cost involved with selling the platform to individual schools and training schools on how to use the platform and incorporate it into their operations.³³ Government agencies and donors such as USAID can facilitate market entry of private sector players into the education payments space, benefiting schools and students.

Programs targeting Goal 1:

- Facilitate partnerships between public institutions and DFS providers to enable small-scale test and learn, with the goal of identifying scalable models that enable parents to more effectively manage money and save for school fee payments, mobilize remittances, and access education loan products. Start with lower risk saving and remittance products, adding loans as a second stage.
- Use digital payments and vouchers to deliver subsidies for tuition, school supplies, and books.

Programs targeting Goal 2:

- Integrate financial literacy and money management training, combined with access to digital finance products, into life skills and workforce readiness trainings to ensure students develop healthy savings and money management habits when they enter the workforce or begin higher education programs.

Programs targeting Goal 3:

- Use digital payments and vouchers to deliver subsidies for tuition, school supplies and books.

31 Demircuc-Kunt op.cit.

32 BFA. (2017) Engaging social networks for school fees payments: Lessons from an experiment in Kenya. Retrieved from: <https://www.dropbox.com/s/4vxixhomdg6q9io/17-03-20-Flexipay-l-learning-document-BFA.pdf?dl=0>

33 Ibid.

Education loans: Lack of a formal credit history and collateral prevent low-income borrowers from accessing loans, including loans for education. Financial service providers are finding ways to develop credit scores using non-traditional digital data sources in order to assess these borrowers for loans, particularly for primary school education. To date, Opportunity International has issued 58,000 loans in Uganda to both low-cost private education providers looking to expand their schools (with an average loan of US\$10,000) and parents (with an average loan of US\$240), and estimates an unmet demand for loans worth US\$477 million.³⁴ Opportunity is able to use its historical loan repayment data and its expertise in education financing to develop a credit scoring algorithm to enable financial institutions to assess and extend education loans to schools and parents in Uganda. This type of credit scoring is essential to enabling convenient access to credit via digital channels and enabling remote loan assessment. M-Shwari in Kenya, for example, leverages mobile money transaction data to develop credit scores and extend digital credit that customers apply for and receive via their phones.

Another noteworthy example in this space is Fenix International, a pay-as-you-go (PAYG) solar provider that allows customers to repay solar loans over time. Fenix facilitates payments via mobile money, using the installed solar system as collateral and remotely turning off the system in case of non-payment. Fenix is using this infrastructure and repayment history from solar loans to develop credit scores for additional asset financing in Uganda. They are now piloting loans for school fees based on feedback from

34 Byrd, N. (2017) Data science brings education finance to more families. Microfinance Gateway. Retrieved from: <https://www.microfinancegateway.org/library/data-science-brings-education-finance-more-families>.

its largely unbanked customer base, which has demonstrated a large demand for school fee loans.³⁵

Vouchers for education costs: In cases where education programs are targeting extremely low-income populations, such as orphans and vulnerable children, governments may issue vouchers to cover school supplies, books and the cost of uniforms. Digital vouchers are not common in the education sector, but have been used in health programs to facilitate

access to health products and services. Marie Stopes Madagascar issued vouchers to beneficiaries for reproductive health products and integrated mobile payments to improve voucher management. Providers submit vouchers received from beneficiaries via SMS and receive reimbursement via mobile money instead of cash. Reimbursement timelines fell from weeks or months to days, provider motivation and satisfaction increased and financial and administrative efficiency improved.³⁶ A similar mechanism could potentially be used for sourcing and supporting provision of core

and supplemental learning materials and school supplies within education projects.

For example, the iMlango program in Kenya provides economically challenged students who demonstrate poor attendance with semi-conditional digital vouchers that their families can redeem for food, uniforms and other goods at local merchants.³⁷ Early results show improved school attendance among students of families that receive the stipends.³⁸

35 Braniff, L. (n.d.) Digital finance and innovations in financing for education. CGAP Working Paper. Retrieved from: <http://www.cgap.org/sites/default/files/Working-Paper-Digital-Finance-and%20Innovations-in-Financing-for-Education.pdf>.

36 USAID. (2015b) Mobile money for health case study compendium. Bethesda, MD: Abt Associates. Retrieved from: https://www.hfgproject.org/wp-content/uploads/2015/10/HFG-Mobile-Money-Compendium_October-2015.pdf.

37 iMlango. (2017) <https://www.imlango.com/community-support/>.

38 Interview with Adam Smith, CEO, sQUID, lead implementing partner of iMlango, January 2017.

4

Facilitate Access to Quality Education with Pay-As-You-Go e-Learning

E-learning platforms can complement curricula for students in school to improve retention of material and enable rural and out-of-school students to access education services and materials. A growing number of providers offer digital e-learning content via online and mobile phone channels to directly improve reading and other skills. By adding a digital payments component, providers can offer remotely delivered education content and learning tools in a financially self-sustainable way. Digital payments enable students and caregivers to pay for the content in small affordable increments, which we will refer to as “Pay-as-you-go (PAYG) e-learning.”

Box 6 lists applications for PAYG across all three education strategy goals, including supporting USAID’s goal of providing equitable access to education in crisis and conflict environments. The two case studies (4.1 and 4.2) highlight the ability of e-learning to deliver education services to students remotely. Eneza Foundation (featured in Case Study 4.2) is testing their platform free of charge with refugee populations in Kenya.



BOX 6: DFS and Accessing Quality Education through Pay-As-You-Go (PAYG) e-Learning

Programs targeting Goal 1:

- Partner with pay-as-you-go e-learning platforms to provide in-school and out-of-school youth with reading materials and tutorials to improve reading skills.
- Partner with pay-as-you-go e-learning providers to improve teacher effectiveness with data on student progress and guidance on how to shape their lessons to be more effective.

Programs targeting Goal 2:

- Partner with pay-as-you-go e-learning providers to extend vocational training content, particularly for out-of-school or disadvantaged youth.
- Explore integrating mobile payments into current education technology initiatives using e-learning platforms to make provision of services financially sustainable.

Programs targeting Goal 3:

- Partner with pay-as-you-go e-learning providers to extend education access in areas where traditional education systems are disrupted.

CASE STUDY 4.1

M-Shule provides an e-learning platform to supplement traditional primary school education in Kenya

M-Shule is a personalized, mobile learning management platform for primary school students in Kenya. The key feature of this platform is to provide tailored learning tools and insights that are coordinated with formal education systems. M-Shule launched the platform in 2017 with more than 400 learners from 15 schools in Nairobi.³⁹ Schools register on M-Shule's platform and provide a school code to parents. During registration, parents use the school code to register multiple students and remit payment via mobile phone. M-Shule offers individual subscriptions to parents in low-income areas for less than US \$1 per month per student, as well as tiered plans for schools.⁴⁰

After completing free SMS-based baseline examinations, students received personalized mini-lessons in English and mathematics via SMS. The lessons are designed to complement classroom learning and are based on the Kenyan national curriculum. The platform tailors the order in which the content is delivered, the amount of time spent on the mini-lessons and the level of difficulty of the tests for each student based on their performance as they progress through the lessons.⁴¹ Students' progress is uploaded on the school dashboard in real time, allowing teachers and school directors to provide additional support to struggling.⁴²

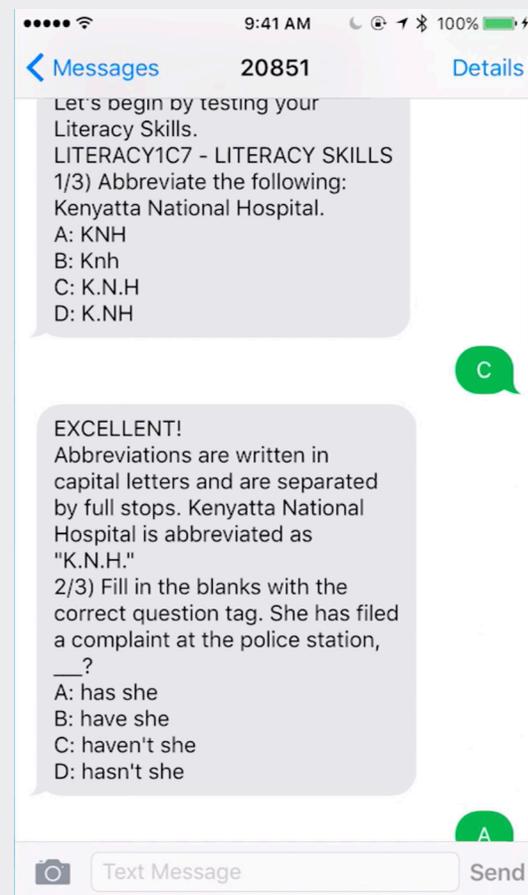
M-Shule plans to complete an impact analysis by the end of 2017. To scale, M-Shule plans to partner with school associations and use school referrals to prepare for a launch across Kenya.⁴³

CASE STUDY 4.2

Eneza Foundation provides e-learning to primary and secondary school students, out of school students, and rural students in Kenya

Kenyan-based start-up Eneza Foundation is one of the fastest growing mobile education applications in Africa. In 2012 Eneza partnered with Safaricom, a local MNO, to launch "Shupavu 291" for Kenyan primary and secondary school students (refer to **Figure 2**).

FIGURE 2: Eneza "Shupavu 291" Mobile Education Platform



Source: https://www.youtube.com/watch?time_continue=30&v=hmcm-keY_kU

39 Interview with Claire Mongeau, CEO M-Shule, 2018.

40 Mongeau, C. Personal email, 2018

41 M-Shule. (2017) M-Shule 2017-2018 Timeline & Plan. Retrieved from: https://www.freafrica.org/theme/default/upload/project_document/

42 Ibid.

43 Ibid.

The service can be accessed via web or any type of mobile phone using Safaricom. Shupavu 291 is an SMS study tool that enables subscribers to access Kenyan National Curriculum-aligned lessons, assessments, an “Ask-A-Teacher” service and Wikipedia. The Ask-A-Teacher feature enables students to ask questions to a team of Eneza Foundation teachers on any area of the curriculum via SMS and receive a response via SMS in 15 to 30 minutes. From January 2014 to June 2016, Eneza received more than 300,000 questions via Ask-A-Teacher.⁴⁴ Eneza Foundation and Safaricom in Kenya also provide teacher development courses and basic business courses for adult learners.

Sign-up process and cost:

Students, teachers and schools can subscribe via dialing *291# and following instructions received via SMS.⁴⁵ Students can select their education level and a topic from the curriculum, receive and read mini lessons, respond to quizzes, and ask and access Ask-A-Teacher and Wikipedia by SMS. Weekly subscription costs of KES 10 (less than USD \$0.10) can be paid using M-PESA or airtime for those who do not have mobile money or are not comfortable using it.⁴⁶

Reach: Per a GSMA study published in January 2017, Shupavu 291 in Kenya had 300,000 monthly active users and since the launch of Eneza Foundation, more than 130 million messages and 14 million quiz questions have been completed by the subscribers.⁴⁷ Seventy percent of users are from rural areas.⁴⁸

In 2015, Eneza began efforts to distribute their product free of charge to 1,000 users from the four Dadaab Refugee camps with plans to launch a campus in the camp complex via the Xavier Project.⁴⁹

Impact on learning outcomes: In 2014, Eneza Foundation released an impact study based on 90 seventh grade students in the treatment group and 63 in the control group.⁵⁰ During the study, students participated in mock Kenya Certificate of Primary Education (KCPE) exams. Those students who used Shupavu 291 demonstrated 22.7 percent growth in their exam scores, and one of the schools was able to increase its ranking from ninth of 15 schools to second of 15 schools.

Looking forward: Eneza Foundation has launched pilot programs in Tanzania, Ghana and Zimbabwe. In 2016, Eneza introduced Shupavu 291 in Ghana in partnership with MTN. As of April 2017,

Shupavu 291 had 63,824 active users in Ghana.⁵¹ In Tanzania, Eneza launched SMS Makini in partnership with Tigo mobile network and Shule Direct, an education agency that delivers user-centered education content via available ICT.⁵² SMS Makini is an educational platform that provides learning content for Tanzanian secondary school students and teachers. In Zimbabwe, Eneza is working with Southern African telco partner Econet Wireless group to launch the Ruzivo digital learning platform for students in that country.

70 percent of Eneza users
are from rural areas and
30 percent are out of school.

44 Kibet, M. (2016) Interactive learning on mobile technology: Ask-a-teacher. Kenya: Eneza Education. Retrieved from: <http://enezaeducation.com/interactive-learning-on-mobile-technology-ask-a-teacher/>.

45 Eneza Foundation. (June 2017) Eneza adds 1 million users in 6 months. Retrieved from: <http://enezaeducation.com/eneza-adds-1-million-users-in-6-months/>

46 Ajadi S, Bayen M. (January 2017) Building synergies: How mobile operators and start-ups can partner for impact in emerging markets. London: GSMA. Retrieved from: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Building-Synergies_How-Mobile-Operators-and-Start-ups-Can-Partner-for-Impact-in-Emerging-Markets.pdf.

47 Ibid.

48 Ibid.

49 Eneza Foundation (2017) *op. cit.*

50 Eneza Foundation (2014) Impact study of Eneza's student SMS tool. Retrieved from: <http://enezaeducation.com/impact/>

51 Eneza Foundation (2017) *op. cit.*

52 Tigo. (March 2016) Tigo launches online SMS learning platform for secondary schools. Retrieved from: <https://tigo.co.tz/news/167-tigo-launches-online-sms-learning-platform-for-secondary-schools>

LESSONS LEARNED FOR FUTURE IMPLEMENTATION

Summarized below are lessons learned from the case studies to guide the planning of DFS inputs to education programs.

1. Ensure there is a strong value proposition for all relevant players in the education value chain.

DFS implementations in the education sector require partnerships between private sector players and public institutions, including MNOs, banks, and government ministries. There must be a strong value proposition for all parties involved to ensure initiatives are successful (see **Box 7**).

2. Secure buy-in from national government to increase impact and sustainability.

This is particularly important for larger scale initiatives such as the digitization of salary payments in Liberia and digitization of school fee payments in Côte d'Ivoire. Ministries of education can play a key role in bringing together the many stakeholders, including other government agencies (such as ministries that oversee financial and technological portfolios), and private sector players such as banks and MNOs. In instances where there may be other leading sectors (such as health) and other government agencies advancing use of DFS, ministries of education can also explore building upon these activities to help meet the needs of their sector. Demonstrating a strong value proposition to national governments via cost-benefit analyses and smaller scale pilots may help USAID projects gain buy-in. Government buy-in also frequently paves a sustainability path through the ownership of DFS activities by relevant ministries.

3. Implement digital payments in tandem with broader education system strengthening initiatives. A review of case studies shows that DFS is particularly powerful when implemented with systems strengthening initiatives to improve HR systems, student registration databases,

and systems for collection of education statistics.

Ideally, all business processes, from registration and identification of the payee to delivery of funds, should be part of the transition from cash to digital. If back-end processes still require manual approvals and signatures, payment delays will continue to occur. Other education processes that can be digitalized include:

- Entering and updating student/teacher registration and payroll systems so that updates are reflected in real time
- Integrating digital payment platforms with accounting systems, where possible, to automate reconciliation
- Setting up unique identification systems for students, teachers and schools to eliminate ghost accounts and track transfers and progression of students within the school system
- Cleaning up and digitalizing back-end databases and set up list management systems to remove duplicates

4. Offer training and support to on-board beneficiaries.

Although mobile payments improve convenience and lower expenses for teachers who receive salaries, or students who make payments, customers in most markets lack familiarity with and trust in conducting financial transactions via mobile or other digital channels. There are a number of challenges that customers face, particularly connectivity disruptions, literacy issues that make it difficult to read text alerts and navigate mobile money menus, and potential fraud at agent outlets if customers are unfamiliar with the process or transaction fees.



BOX 7: Summary of Potential DFS Benefits for Education Value Chain Players

Education ministries/other government agencies:

- cost savings
- ability to report improvements in education outcomes, teacher attendance

Schools/administrators:

- increased security
- increased budgets as a result of reduced costs associated with fee collection and reduced theft and fraud
- less time spent on reconciliation improved cash flow and budget management as a result of being able to receive payments earlier and in full
- improved access to budgets for planning purposes

DFS providers:

- increased transaction revenue
- increased market share

Teachers:

- reduced expense for collection of pay
- speedy receipt of pay

Students/caregivers:

- saved time and expense to make education payments
- ability to make small payments aligned with their cash flows
- ability to more easily collect payments from remittance senders
- ability to use education payments to build credit history for future loans
- ability to access education loans if needed, ability to access education via e-learning platforms

Ongoing support channels help customers understand mobile money transactions, transaction fees, where to seek customer assistance, and how to protect themselves against fraud. There will also be a need to provide concurrent cash payment options while customers are on-boarded. As highlighted in the Liberia and Côte d'Ivoire case studies, transaction fee subsidies may also serve to motivate teachers or students to use mobile payments in environments where digital payments are new and not fully trusted.

5. Work with government agencies and payment providers to expand the presence of agents.

Understanding the capacity of agents in the targeted areas is important to establish during the very first phases of rollout. If mobile money or bank agents do not have sufficient cash on hand to allow teachers to withdraw their salaries, or if agents are not well-trained to provide customer service, it will be important to build extra resources for agent support into the project. Often, USAID can work with its development partners to negotiate with the private sector to increase agent network support in certain geographic locations, and/or work with third-party companies skilled in agent management to provide additional support. Accounting for the agent network is critical because agents are the face of mobile money for customers, and a negative customer experience can turn entire communities off from mobile money.

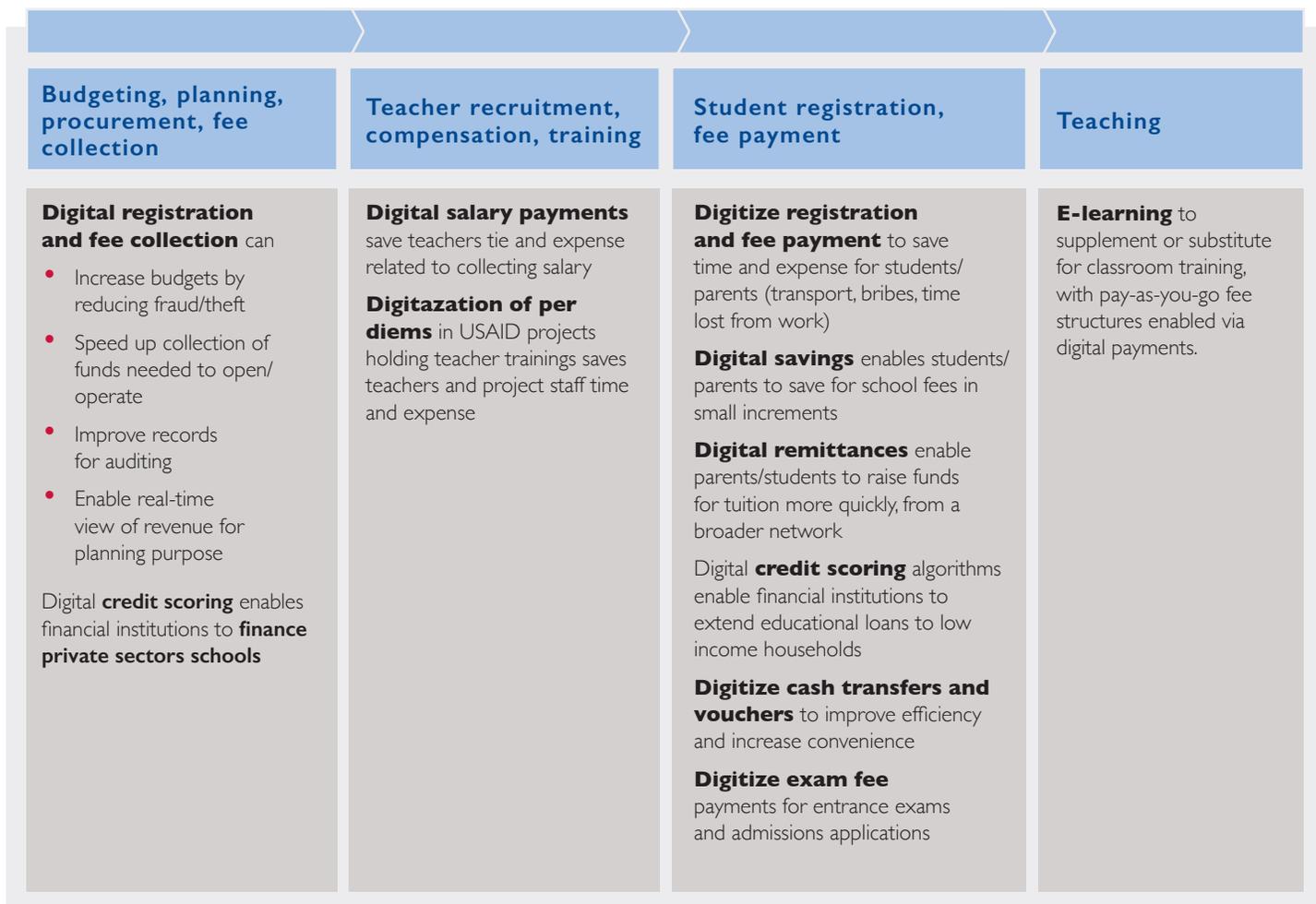
6. Integrate a research component to measure education outcomes where possible. Having an evidence base that connects the use of DFS to education outcomes in addition to positive education systems strengthening impacts would help policymakers and educators determine how and when to integrate DFS into education programming. For example, do schools that use digitized fee payments see improvements in reading and other education outcomes in addition to school budgets? Does the availability of education loans lead to improved graduation rates or development of workforce skills?

CONCLUSION

As summarized in **Figure 3**, there are opportunities to use digital financial services at almost every point in the education value chain to improve efficiency of program delivery and achieve improved education outcomes under all three USAID education strategy goals. Case studies and examples reviewed in this brief indicate the potential to drive education outcomes with DFS by addressing underlying barriers such as teacher and student absenteeism or inefficiencies in financial management. Some initiatives will require partnerships with education ministries that may take time to build and implement.

Other interventions allow for more near-term opportunities to test and learn on a smaller scale that can potentially be implemented in a few months, however, such as digitizing per diem payments for trainings delivered via USAID projects or partnering with PAYG e-learning providers and DFS providers to test their services in a few schools or districts.

FIGURE 3: Potential DFS Applications in the Education Delivery Value Chain





BOX 8: Resources

Box 8 provides resources for USAID practitioners to help them determine how to leverage DFS in their programs.

Early results from case studies highlighted in this document indicate a need for more active integration of digital financial services into education delivery. Looking forward, there is untapped potential for use of DFS in the education sector. More testing and learning as well as rigorous documentation on the impact of DFS on education outcomes in future projects can inform the use of DFS to drive forward USAID's education strategy goals.

- USAID has developed an [e-Payments Toolkit](#) and a [Market Viability Tool](#) to guide development practitioners in assessing whether DFS is viable in their market and implementing digital payments in their programs.
- The Consultative Group to Assist the Poor (CGAP), the United Nations Capital Development Fund (UNCDF) and the Better than Cash Alliance (BTCA) are USAID partners that also have resources available online and often have a presence in countries to support implementers as they plan for new DFS interventions.
- USAID Education Office in E3 and USAID's Digital Finance Team (<http://finance.digitaldevelopment.org>)





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