Mobile Money Tipsheet:
Measuring the Benefit of Mobile Money

USAID promotes increased access to and usage of mobile financial services (MFS) in order to deepen financial inclusion, accelerate broad-based economic growth, and instill transparency into funding flows. These tipsheets are intended to assist USAID implementing partners in Bangladesh to more effectively make use of these services.

USAID's Procurement Executive's Bulletin on e-payments highlights their potential to bring about benefits in a number of areas, including cost savings, increased transparency, increased security, reduced corruption, increased financial inclusion, and new market access.

These benefits have already begun to be realized by implementing partners in Bangladesh that have already made the transition to making payments from cash to mobile money. For example, Dnet was able to realize a benefit on investment of more than BDT 2 million (USD$25,000) and the equivalent of almost 20 full-time staff persons time saved annually from increased efficiency. Another implementing partner, WorldFish, is saving more than BDT 1.4 million (USD$18,000) annually in their Aquaculture for Income and Nutrition project since their transition, in addition to saving a total of 600 days of their technical staff's time per year.

This tipsheet provides suggested indicators and a process that can be used by USAID implementing partners and other development practitioners to measure the impact that mobile money is having in their projects and programs. In particular, it focuses on assessing changes in cost, perception, financial inclusion, and programmatic efficiency. It is based on mSTAR's experience working with partners in Bangladesh to quantify the benefit of mobile money (MM) on their projects.

Measurement Framework and Methodology

In order to understand how mobile money is benefiting your project you will need to first understand any costs inefficiencies and perceptions about the use of cash. Once you have made the transition to mobile money, you can perform the same assessments to compare what differences exist. This is best done by looking at the situation from two points of view: that of your project staff responsible for processing and distributing payments (supply side) and that of recipients of mobile money, such as beneficiaries, staff, and vendors (demand side).

This information can be collected from a variety of sources, including financial records, structured surveys, focus group discussions, and key informant interviews with mobile money recipients, program and finance staff, and other relevant stakeholders. The combination of this data will enable you to assess to what extent mobile money payment processes have resulted in: (i) direct and indirect cost and time savings on both the supply and demand sides, (ii) changes in perceptions, (iii) changes in financial inclusion; and (iv) changes in programmatic outcomes as a result of those savings.

The step by step measurement process is described on the following page.

1. Identify relevant indicators

The following indicators are considered as important for measuring benefit as a result of incorporating mobile money within projects. They are divided along the four areas of change mentioned above. Depending on what you are interesting in measuring, not all of them will be relevant or mandatory. It is also worth noting that this list is not exhaustive.

- **Indicators for measuring time and cost savings (all are per payment cycle)**
    - Total number and value of transactions made;
    - Total direct (e.g. fees, transportation, labor) and indirect (e.g. overhead) costs required to process and disburse payments;
    - Total time required to process and disburse payments (including finance and program staff time); and
    - Number of administrative tiers required to process and disburse payments (e.g. if the process involves headquarters finance staff, field office finance staff, and field program staff, that would be three tiers).

- **Indicators for measuring changes in perception (non-financial costs)**

  Non-financial costs are those costs that are not easily quantifiable in terms of dollars but that can impact organizational and staff ability to effectively carry out their work. They can most easily be measured by using a Likert scale to measure perception of the level of concern stemming from each one for both cash and mobile payments. Common non-financial cost indicators include:
    - Perception of security risk for disbursing payments;
    - Perception of transparency of payment disbursement method;
    - Perception of corruption associated with payment disbursement method;
    - Morale of staff associated with processing and disbursing payments; and
    - Reliability of payment disbursement method (e.g. likelihood of delays)

- **Indicators for measuring changes in financial inclusion**
    - % of recipients who have a formal account registered in their name (including bank and MFS accounts);
    - % of recipients who are unbanked (i.e. do not have a bank or MFS account);
    - Frequency of account usage by individual; and
    - Number of different financial services used by individual (e.g. cash out, person-to-person transfer, merchant payments, etc.)

- **Indicators for measuring changes in programmatic outcomes**
    - These indicators come from your project's monitoring and evaluation (M&E) plan and should be selected based on the likelihood of the time and cost savings impacting them. For example, if your switch to mobile money removed field program staff from the payment disbursement process, what, if any, changes on the programmatic outcomes that they are responsible for can be measured?

2. Calculate baseline values for cash

Once you have selected the relevant indicators, you will need to collect your baseline data for cash. Ideally this should be done prior to transitioning to using mobile money. USAID and NetHope's Costing Utility Analysis Tool is a helpful resource for determining the financial (time and cost) and non-financial baselines.

As with any other data collection, it is recommended that you disaggregate relevant data (such as those dealing with financial inclusion) according to factors such as gender, age, location, and occupation, as appropriate. This will help to provide you with a richer understanding of how receiving cash—and eventually mobile money—impacts people differently.

3. Collect periodic data on mobile money usage

After you begin using mobile money to make payments, you will need to document the value of the relevant indicators you have identified. Some indicators, such as number and volume of transactions, you can track on a monthly basis. Others, such as the frequency of account usage by individual, may only be collected on a quarterly or biannual basis.

4. Conduct benefit assessment

After you have fully incorporated and operationalized mobile money into your payment systems, you can begin to look at how mobile money compares against your old cash processes. At this time, you will want to capture data on the number of administrative tiers, total costs, and time involved for processing and disbursing payments using mobile money (both from the point of view of the supply and demand sides), as well as any visible impact on perceptions, financial inclusion, and programmatic outcomes. The assessment method should be determined in such a way so that it can generate the strongest evidence in response to your evaluation questions. As such, it is suggested that you use a combination of surveys, focus group discussions, and key informant interviews with your financial and program staff, and payment recipients based on your selected indicators. It is also helpful to use this opportunity to ask respondents about their perceptions about their experiences with receiving mobile money and using MFS more broadly, including the quality of services, what they like, and what barriers they might be facing. This information can be used to help you further improve your processes.

For a useful example of what such an assessment looks like in practice, refer to the report *The Transition Benefit: From Cash to Mobile Financial Services in the Aponjon Initiative, Bangladesh* based on Dnet's experience transitioning to making mobile payments with support from mSTAR.

5. Calculate benefit

The final step is to calculate how using mobile money for payments compares against cash. The formulas in the table on the following page can help you to determine the benefit based on some of the key indicators mentioned above. For formulas that relate to individual usage, you should also use these based on disaggregated datasets (by gender, occupation, etc.) to see how different groups are impacted.

Formula	Explanation
Formulas to calculate time and cost savings	
$\frac{\text{Difference between total cost for making cash and MM payments (cash} - \text{MM)}}{\textit{Total cost for making payments using cash}} \text{ x } 100$	This formula is used to calculate the percentage of cost that is saved as a result of transitioning to mobile money (MM) payments. Total cost includes both direct and indirect costs associated with making payments.
$\frac{\text{Difference between total time consumed for making cash and MM payments (cash} - \text{MM)}}{\textit{Total time consumed for making payments using cash}} \text{ x } 100$	This formula is used to calculate the percentage of time that is saved as a result of transitioning to MM payments from cash or other means.
$\frac{\text{Total direct and indirect cost savings}}{\textit{Total investment required to transition to MM}}$	This formula tells you what your benefit on investment was from transitioning to making payments via mobile money.
Formula to calculate changes to perceptions (non-financial costs)	
$\frac{\text{Perceived level of concern with cash}}{\textit{Perceived level of concern with MM payments}}$ *Note: This formula should be used for each indicator separately. The numerator and denominator should be the average of all scores collected in that indicator from staff and beneficiaries.*	This formula provides you with a sense of differences in perceptions about concern between cash and MM payments. A result greater than one means concern is higher for cash than MM, and a result less than one means concern for MM is higher than cash for that indicator.
Formula to calculate changes to financial inclusion	
$\frac{\text{No. of MM recipients without a bank account}}{\textit{Total no. of MM recipients}} \text{ x } 100$	This formula provides a basic understanding of the portion recipients whose access to financial services improved as a result of your use of mobile payments. To learn more about all of the different ways to measure financial inclusion, refer to this [World Bank brief].
Formula to calculate changes to programmatic outcomes	
Variable	Generally done by looking at whether the re-investment of time or money saved from the transition contributed to changes in outputs or outcomes. Potential attribution will vary.

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