## Enhanced Cellphone-based Multi-level Marketing for Microfinance (Milestone 4 - Sustainability)

IIII 10

## Business Model

|  | Payback | APR |
| :---: | :---: | :---: |
| m0 | $45 \%$ | $60 \%$ |
| m1 | $65 \%$ | $40 \%$ |
| m2 | $75 \%$ | $35 \%$ |
| m3+ | $89 \%$ | $15 \%$ |

- Returning borrowers have much higher payback rate. When people borrow more than 3 times, their payback is similar to loans with collateral, while about half of the first time borrower cannot payback their loans at all
- MFI makes money from loan to returning borrower and subsidize the first time borrowers
- Attract new borrowers to have more returning borrowers.


## MLM and MicroFinancing



- The return of loan satisfies normal distribution
- The more data you have, the small the std dev

$$
\sigma_{\text {mean }}=\frac{\sigma}{\sqrt{N}}
$$

- The cut off point is the minimum return that MFI wants to have to be profitable, if the original one is $2 \sigma$, it means that $97.73 \%$ of customer will payback your loan. When you have 100 times of more data, the cutoff point became 20 $\sigma$, which increase the total payback rate significantly, almost everybody will payback the loan. So, you want to reach out to more customers
- MLM is an ideal solution


## Faster Growth with MLM

Number of Loans per month with or without MLM


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## Faster Growth with MLM

Profit per month with or without MLM


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## Keys for Sustainability

- When you have more data, you can do a better profiling for loan approval, and you will have a better estimation of the payback rate with lower variance. Then, you can lower the interest rates associated with the loan, which will further increase the payback rate. Meanwhile, by reaching out to more people, you significantly increase the N , and lower your overall risks.

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