



The Value of Advice:



- (1) Evidence from Agriculture
- (2) Evidence from Small Business

Shawn Cole (HBS)

IPA/CAFRAL/IFMR Conference

July 20, 2016

On-Demand Mobile Information

- **Awaaz Otololo, a mobile-phone based extension service**
- **Key features:**
 - Push calls weekly (5 minutes long)
 - Question and answer service (24 hour response)
 - Forums on various topics
- **Content created by specialized team, based on incoming questions as well as surveys of randomly selected participants**
- **Platform created by Berkeley, Stanford Computer scientists**

Agriculture Motivation

- **Dramatic variation in productivity around the world**
- **(1) Cotton yields in India are 1/3 of those in China**
- **(2) Many “entrepreneurs” running businesses by default, rather than choice**
 - (More generally, management practices vary widely around the world)
- **Can ICT be used to increase productivity?**
 - **Low-cost, easily scalable intervention**

Gujarat Cotton Study

- **1,200 cotton farmers in Gujarat**
 - Randomly selected from all cotton farmers
 - Averages: Age 46, 4 years education, 6 acres land
- **In cooperation with well-known local NGO**
- **Study design:**
 - 400 Control
 - 800 AO service
 - Half supplemented with physical extension
 - Random usage reminders to half of AO sample
- **Usage:**
 - 63% of treatment population called in with a question
 - 54% of total push-call content heard (mean: 120 minutes)
- **Phone and paper-based surveys, low attrition**

Sources of information

- **Treatment farmers more likely to report cell phone as primary source of information for:**
 - Cotton pesticides (16%)
 - Cotton fertilizers (7%)
 - Cotton seeds (10%)
 - Wheat pesticides (0%)
 - Cumin pesticides (4%)
 - Pest identification (37%)
 - Weather (24%)
 - Crop planning (6%)
 - Prices (0%) < Important, as no price info provided

Changes in agricultural practices and knowledge

- Analyze indices of behavior to adjust for multiple outcomes
- Z-score of best practices (control group has mean 0, standard deviation one)
- **Estimates of Effect Size**

Agricultural Practices	Effect	Sig.
All pest management practices	.04	
Cotton pest-management	.08	**
All fertilizer practices	.10	
Cotton fertilizer practices	.11	**
Cotton sowing and input practices	.09	**

- **No measured effect on knowledge**

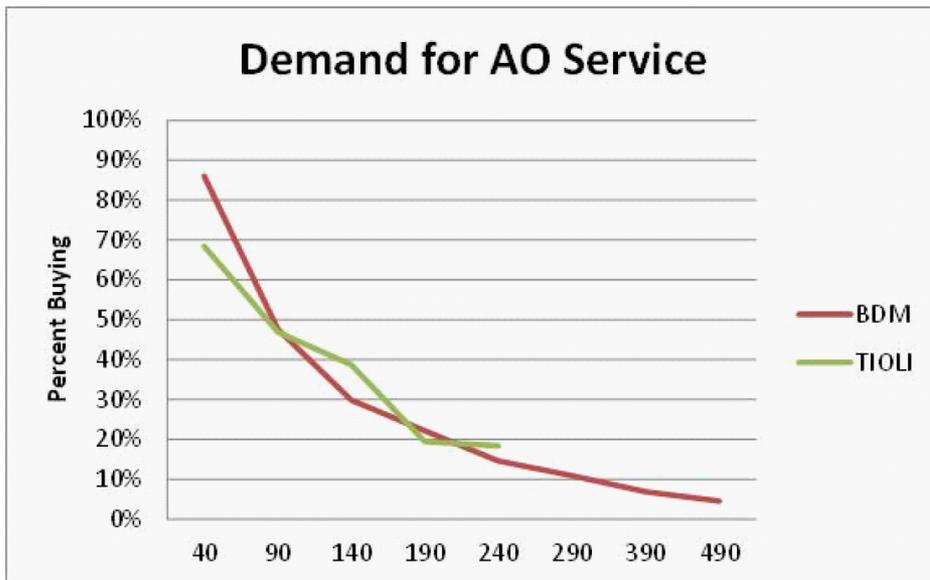
Effect on yield

	<u>Control Mean</u>	<u>Entire Sample Treatment Effect</u>		<u>Reminder Call Sample Treatment Effect</u>	
		<u>Midline</u>	<u>Endline</u>	<u>Midline</u>	<u>Endline</u>
Log Agricultural Profit	11.46	0.09	0.09	0.085	0.168
Cotton Yield (kg/acre)	694	31.5	19.6	59.9 *	44.7
Wheat Yield (kg/acre)	981	-33.7	-32.6	-49.9	-28.3
Cumin Yield (kg/acre)	172	-1.2	48.3 **	0.74	54.3 **

- 10 percent increase in yields ($p < .1$) for cotton yield
- 33 percent increase in yields ($p < .05$) for cumin yield

Willingness to Pay

- Many instances of prices reducing use/demand
- Estimate willingness to pay by randomly varying price



- 80% would pay \$1 for six months
- 20% would pay \$5
- Service might break even

Technology-enabled Business Training for MSMEs

Evidence in Financial Inclusion: New Findings and their Applications
Manila

Shawn Cole, Harvard Business School



Principal Investigators:

Dr Shawn Cole,
Harvard Business School

Dr Antoinette Schoar,
MIT Sloan School of Management

Partners:



Previous research: Inspiration

- **Keep it Simple: Financial Literacy & Rules of Thumb (Drexler, Fischer and Schoar 2009)**
 - ✓ The prior research has shown that SMEs benefit from FLT training. But the design of the training program is crucial in achieving an impact. The authors find no effect using a standard accounting training. However, a simplified, rule-of-thumb training produced significant improvements in business practices and outcomes
- **The Value of Advice: Evidence from Mobile Phone Based Agricultural Extension (Cole and Fernando 2012)**
 - ✓ The research shows that in an agricultural context advice delivered via a phone-based platform significantly improves farm outcomes, such as pesticide usage or shift to higher return cash crops

=> Need for an innovative solution that could combine scalability and customization of advice: Mobile-based on-demand advice platform

Drexler, Fischer and Schoar (2013): Traditional Accounting vs. Rules of Thumb

Traditional Accounting	Rule of Thumb
Produce income statement and profit projection for the business	Keep two “drawers” – one for the business and one for the home
Manage working capital needs	Assign yourself a wage for the month
In-depth cash management	Any “borrowing” from the business has to be paid back in 5 days and vice versa
Accounts receivable management	Only give credit to customers if prior credit purchase has been paid off first
Increase savings and reduce impulse purchases	Physically hide savings in places that are difficult to get to

Improving the financial heuristics training product

Phase 1

- Classroom-based
- Dominican Republic
- MFI: ADOPEM

Phase 2

- Mobile Phone
- India
- MFI: Janalakshmi Financial Services, India

Phase 3

- Mobile Phone
- India & Philippines
- Janalakshmi
- NWTf



Features of the Mobile Platform



Business Training

- Users receive business advices on the phone in their preferred language on a weekly basis.

(Indian languages Hindi, Kannada and Tamil)



Missed call Service

- Users can record their questions, messages and feedback

- Browse through previous messages and answers to their questions.



Expert advice

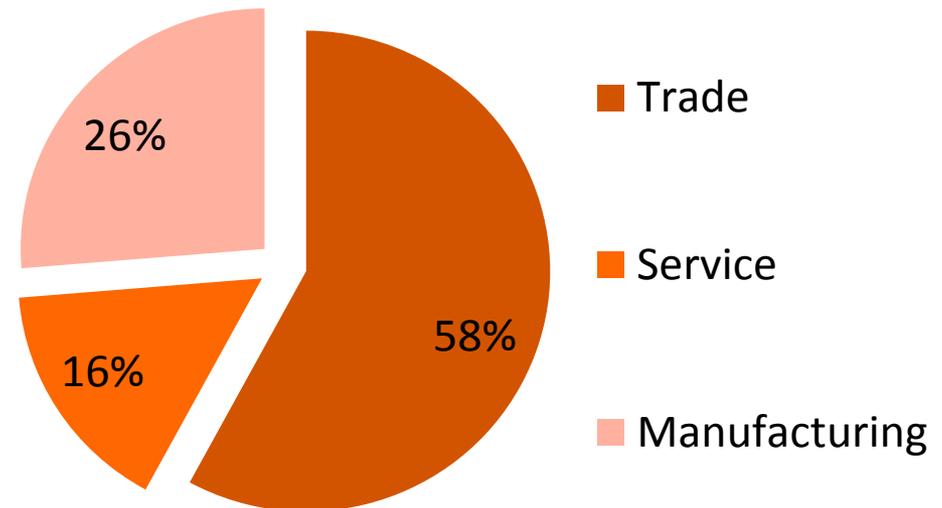
- The questions posted by users were answered by team of business experts

Characteristics of the sample

- 2,400 Janalakshmi Loan Clients (half treatment, half control)



Distribution of participants by Industry types

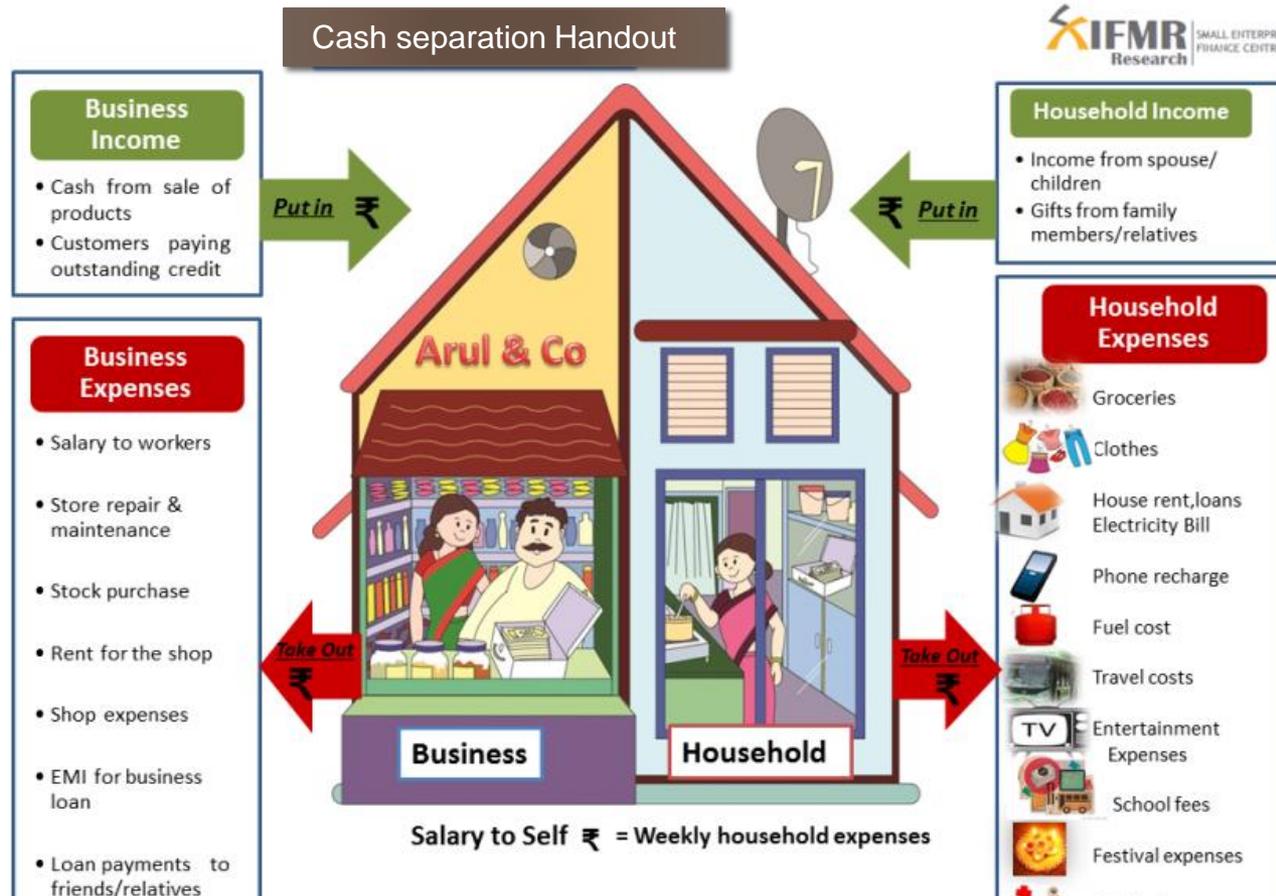


- Loan size ranges from Rs. 50,000 to Rs.2,00,000 (750\$ to 3000\$))

Modules covered in Phase 2



Face to Face on Boarding



- Step 1: Enumerators introduce users to the three steps of cash separation
- Step 2: Handover - Cash Separation visual aid
- Step 3: Demo of the mobile platform

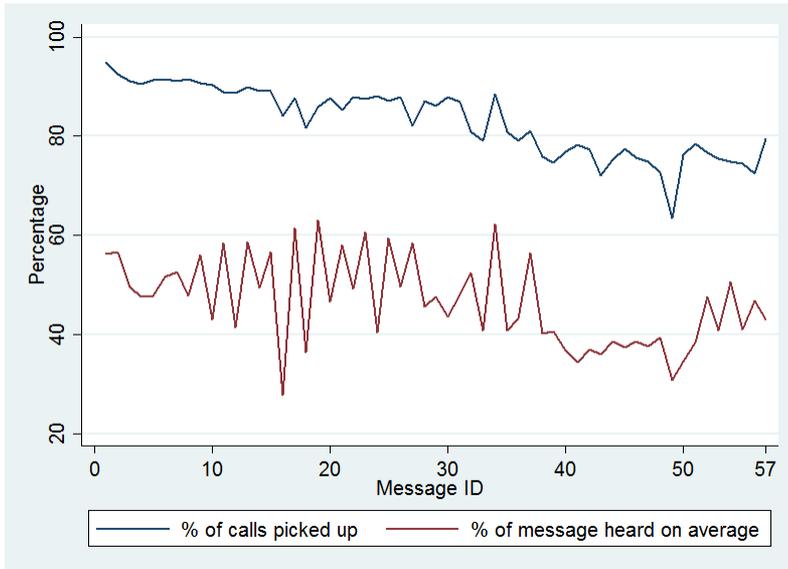
Sample Rules of Thumb Mobile Messages

“ Keep your Business cash and Household cash in two different locations. For example keep two drawers one for the business cash and other one for the household cash “

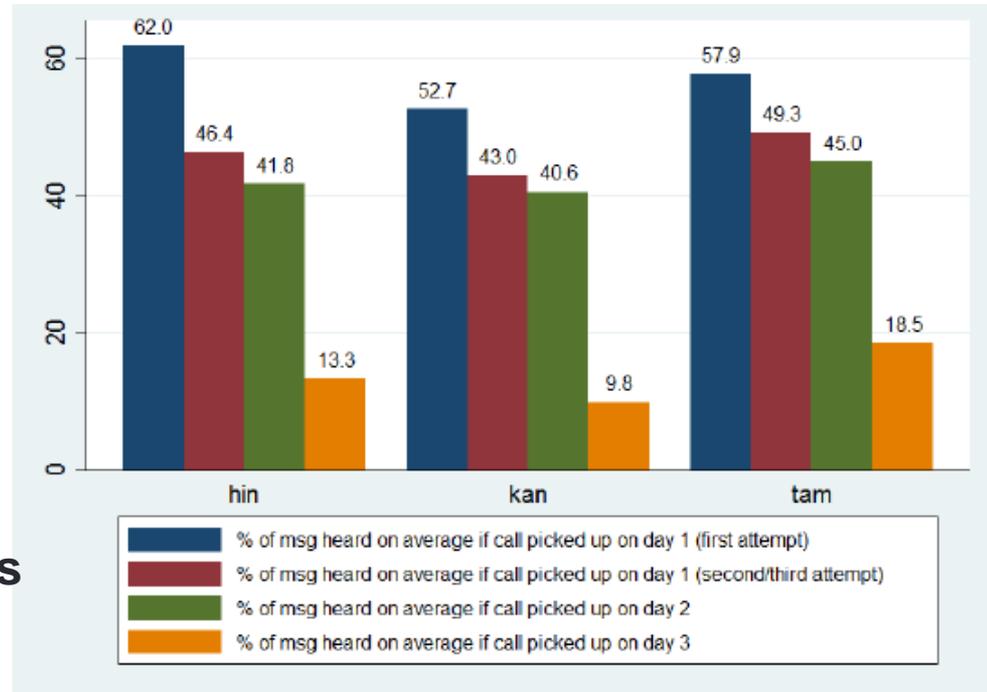


“ Now that you have two places for the cash, the second step is the following: You need to know how much money gets into the household drawer? For this, at the beginning of each week take a fixed amount of money for the weekly house hold expenses from your business drawer and put it into the household drawer. This is like paying you a salary from the business every week.”

Some findings from the study

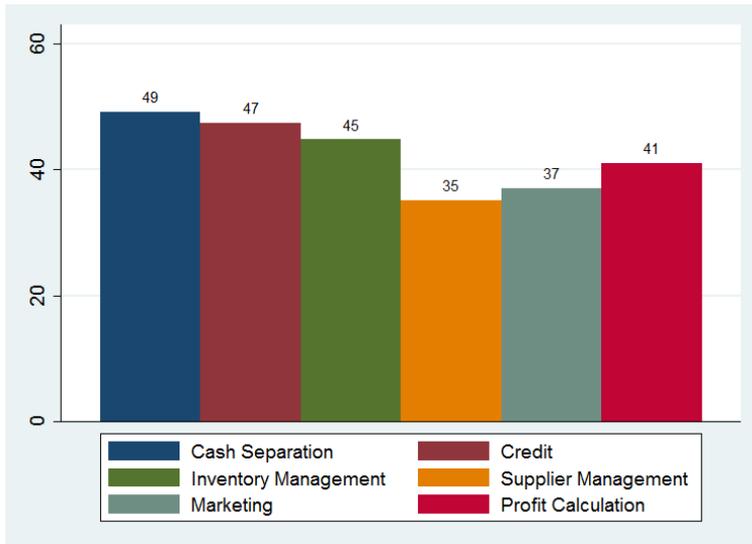


Call Pickup vs Listenership

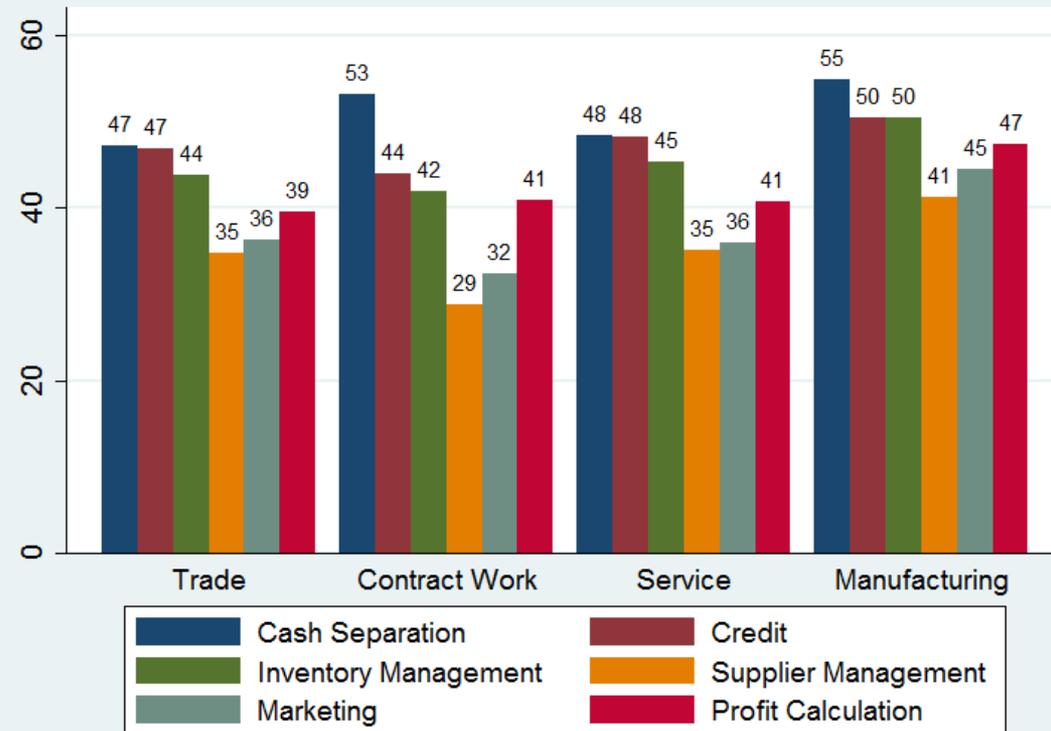


Call pickup attempts vs Listenership

Some findings from the study



Listening pattern by different training modules



Listening pattern across industry types and training modules

Effect of Training on Business Practices

Table: Summary Statistics on Business Practices at Baseline

Variable	Baseline Level		p-value of t-test
	Control	Treatment	
Withdraw cash from business for personal use	0.85	0.87	0.167
Withdraw cash in an irregular manner (whenever respondent needs)	0.531	0.535	0.858
Don't have a specific place to store revenue	0.029	0.031	0.79
Maintain business records	0.449	0.478	0.16
Sell goods on credit	0.55	0.559	0.671

Table: Summary Statistics on Business Practices at Endline

Variable	Endline Level			
	Control	Treatment	p-value of t-test	Engaged
Withdraw cash from business for personal use	0.81	0.79	0.2878	0.77
Withdraw cash in an irregular manner (whenever she needs)	0.60	0.58	0.3246	0.62
Don't have a specific place to store revenue	0.04	0.05	0.4462	0.05
Maintain business records	0.50	0.50	0.7271	0.53
Sell goods on credit	0.48	0.44	0.0975*	0.44
Number of new customers attracted during the last two months	2.06	2.157	0.0222**	2.159
Got a better agreement from supplier upon renegotiating	0.35	0.38	0.1677	0.36

Impact Evaluation

- No effect on profits, sales

Key takeaways to partners

Scalability

- Easy to operate
- Less human resources required
- Voice messages delivered to multiple customers at the same time (preferred time)

Personalization

- Content can be fine tuned based on the target group
- Timely feedback and suggestions

Cost effectiveness

- Cost of sending voice call vs visiting clients or conducting classroom based trainings
- Effective monitoring and tracking

Other Benefits

- Client engagement
- Provide timely information
- Other follow-ups / reminders

Version 2.0

- Enhanced technology platform
- Larger sample size
- Entirely revamped curriculum
- Tighter industry focus: retail only
- Professional voice actors
- Implementation in India and Philippines

