Curating Local Knowledge
Experimental Evidence from Small Retailers in Indonesia

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Background

- Micro & Small firms (MSEs) main **source of employment** in the developing world

- In **Indonesia**, MSEs represent 99% of all firms and 94.5% of employment

- Understanding the factors fostering efficiency and growth of MSEs is an important research and policy goal

A Growing Focus on Management

- **Classroom Training**: Field, et al. (2010); Karlan & Valdivia (2011); Bruhn & Zia (2013); Drexler, Fischer & Schoar (2014); McKenzie & Woodruff (2014, 2017); Bulte et al. (2017); Anderson, Chandy & Zia (2018); Lafortune et al. (2018)

- **Consulting**: Bloom, et al. (2013); Karlan et al (2015); Bruhn, Karlan & Schoar (2019)

- **Mobilizing Peer Knowledge**:
  - Brooks et al. (2018) → Local mentors (market information)
  - Cai & Szeidl (2018) → Business meetings
  - Abebe et al. (2019) → Management experience matching

What We Do

- Some facts about business practices in firms:
  - Vast heterogeneity in business practices and performance across similar businesses (de Mel, McKenzie & Woodruff, 2009)
  - Variation in practices accounts for more than 20% of variation in productivity within the same firm in the US (Bloom et al, 2019)

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- Our idea is to make it **central** to the research design:
  - Use variation across businesses to identify business practices associated with successful performance
  - Instead of teaching set courses, provide consulting, or matching; we curate what works from local peers
  - Test different communication channels and their cost-effectiveness

Selecting Local Best Practices

- Detailed qualitative interviews with local business peers:
  - Understand and codify their practices (record-keeping, financial planning, stocking-up, marketing, and joint decision-making)
  - Identify implementation norms and beliefs regarding each practice (e.g. whether they are complicated, necessary, etc.)
  - Document locally relevant tips and rule of thumbs

- Baseline quantitative survey
  - Measure practices and outcomes
  - Quantitative association of business practices with profits and sales

How Do We Share this Knowledge?

- **Handbook**
  - Pure information: Which practices, how to adopt, and why?

  Supplemented with two types of experiential learning:

- **Movie**
  - Psychological and emotional involvement→ social learning is possible through **observing the successful experience of similar others**.
  - Bernard, et al. (2014); La Ferrara et al. (2012); Chong and La Ferrara (2009); Berg and Zia (2013).

- **In-shop Light Assistance**
  - Hands-on involvement → social learning is possible through own **experience, with a small nudge** (Kolb, 1984).

Research Questions

- **Adoption**
  - Do retailers adopt these practices once peer best practices are aggregated and made common knowledge?
  - If so, ...
    - Does the type of experiential involvement matter?

- **Impact**
  - Does firm profitability increase?
  - If so, what are the channels?

Sample

- Listing of 2042 small retail businesses from 29 administrative communities (Kelurahan) in urban Jakarta
- Selection criteria for firm listing:
  - At least $4m^2$ in size
  - At least two different product categories on offer
  - At least 30 meters distance to next business in sample $\rightarrow$ to minimize spillovers
- Random sample of 1301 from the list
- Randomization to treatment arms stratified by
  - Gender
  - Firm space (4-$6m^2$, 6-$10m^2$, 10 and above m^2)
  - Composite score of business practices above or below median
  - Kelurahan

Experimental Design

- Three types of information provision:
  - Handbook with best practices and tips
  - Movie with successful peers
  - Business practice implementation assistance

- Five experimental groups
  1. Handbook only (N=260)
  2. Handbook and invitation to movie screening (N=260)
  3. Handbook and offer of two assistance visits (N=260)
  4. Handbook and both movie and assistance (N=260)
  5. Control (N=261)

Timeline

1. September 2015: Qualitative Interviews

2. January 2016: Listing for Baseline

3. Feb-Apr 2016: Baseline Survey

4. Oct-Nov 2016: Interventions

5. Apr-May 2017: Midline

6. Apr-May 2018: Endline

Typical Retail Shop in the Sample

Typical Retail Shop in the Sample II

Handbook

Handbook Content

Why you should try these best practices in your shop

Evidence from a large-scale study on Jakarta-based retailers

RECORD-KEEPING

Shop owners who keep business records report 28% higher monthly sales and 26% higher monthly profits than those who do not keep business records.

Shop owners who track their customers' debts report 40% higher monthly sales and 36% higher monthly profits than those who do not track their customers' debts.

STOCK-UP SCHEDULING

Shops that maintain stock-up schedules earn 26% more in monthly sales and 25% more in profits than those that do not maintain stock-up schedules of their primary products.

Shops that stock up daily rather than weekly earn 48% more in monthly sales and 37% more in monthly profits.

Handbook Content II

A step-by-step guide to record-keeping

Step 1: Separating household and business finances

The best way to start keeping records is by establishing a clear separation between your personal and business finances. We do not mean this in the strictest sense of keeping your business cash away from your personal life completely, rather we advise you to not lose sight of your cash flow.

The most convenient and effective way to separate your personal and business finances is by **physically separating the funds into two different cash boxes, purses, or drawers**. **Label them clearly;** use one compartment for business purposes and another for personal.

Use only your business compartment to follow this handbook from this point forward. Make sure that money in your business compartment is used only for business purposes. Be meticulous about it - this is the first step to get your finances organized!

There is an activity at the end of this section that requires an additional compartment. If you have one more cash box, purse, or drawer available, please reserve it for this activity (record-keeping, extra step).

Movie with Successful Peers

9 Sep 2016

Implementation Assistance for Business Practices

Summary Statistics

	Control	HB only	HB & MOV	HB & HELP	HB & MOV & HELP
	N = 261	N = 260	N = 260	N = 260	N = 260
Firm Owner Characteristics					
Gender (Male=1)	0.28	0.3	0.29	0.3	0.28
Age	45.22	45.27	45.28	45.16	45.38
Education (Years)	9.1	9.52	9.36	9.42	9.55
Risk Preference (0 - 10 "Perfectly Risk-Seeking")	3.74	3.76	3.88	3.6	3.68
Time Preference (0 - 10 "Perfect Patience")	5.19	5.07	5.21	5.25	5.2
Firm Characteristics					
Firm Age (Years)	12.76	13.77	14.03	13.98	13.47
Family Member Is Business Partner	0.56	0.6	0.63	0.59	0.62
Total Number of Workers	2.03	2.05	1.9	1.99	2.04
Business Has Tax ID	0.2	0.21	0.2	0.15	0.18
Total Sales Last Month (USD PPP)	4454.37	4730.64	4840.55	4761.4	5139
Total Profits Last Month (USD PPP)	889.58	961.1	926.78	825.25	934.66
Applied for Bus Loan in Last 12 Months	0.2	0.17	0.15	0.22	0.17
Obtained Bus Loan in Last 12 Months	0.18	0.15	0.14	0.18	0.14
Business Practices					
Management Practices Aggregate Score	0.37	0.36	0.37	0.35	0.37
Marketing Subscore	0.23	0.23	0.25	0.23	0.24
Stocking-up Subscore	0.45	0.47	0.47	0.47	0.46
Record-keeping Subscore	0.33	0.28	0.3	0.29	0.3
Financial-planning Subscore	0.51	0.47	0.47	0.43	0.47

- Test of Joint Orthoganality from Multinomial Logit (P-value): 0.857

Movie: Take Up and Assessment

	(1)	(2)
	HB & MOV	**HB & MOV & HELP**
	(A)	**(B)**
	N=260	*N=260*
Attendance		
Business Owner or Partner Attended Film Screening	0.52	0.49
Evaluation (1-4 Scale):		
Has Learned Something New	3.34	3.21
Feels Inspired	3.31	3.30
Feels Hopeful	3.60	3.42
Feels Bored	0.83	0.97

Assistance: Take Up and Assessment

	(1)	(2)
	HB & HELP	**HB & MOV, & HELP**
	(A)	**(B)**
	N=260	*N=260*
Attendance		
Business Owner or Partner Attended 1st Session	0.77	0.78
Business Owner or Partner Attended 2nd Session	0.68	0.68
Evaluation (1-4 Scale)		
Has Learned Something New	2.88	2.89
Feels Inspired	2.76	2.83
Feels Hopeful	2.88	2.97
Feels Bored	0.59	0.43

Impact on Business Practices
Aggregate Scores

	Record Keeping (1)	Planning (2)	Stocking-up (3)	Marketing (4)	Joint Decision-making (5)
Assigned Handbook	0.025	0.027	-0.007	-0.011	0.011
	(0.209)	(0.273)	(0.694)	(0.694)	(0.694)
Assigned Handbook & Movie	0.057***	0.043	0.038	0.040	0.040
	(0.009)	(0.107)	(0.117)	(0.166)	(0.217)
Assigned Handbook & Assistance	0.065***	0.034	0.011	0.039	0.037
	(0.004)	(0.166)	(0.664)	(0.166)	(0.239)
Assigned All Three	0.054***	0.068***	0.053**	0.061**	0.059*
	(0.009)	(0.009)	(0.020)	(0.032)	(0.094)
R-squared	0.204	0.192	0.187	0.150	0.120
Sample Size	2205	2204	2205	2205	2205
Dependent Variable Mean of Control	0.196	0.402	0.471	0.250	0.269
Dependent Variable SD of Control	0.252	0.310	0.270	0.320	0.420
F-tests (p-value):					
Book = Book & Mov	0.069	0.487	0.014	0.028	0.300
Book = Book & Assistance	0.025	0.754	0.304	0.030	0.348
Book = All Three	0.096	0.073	0.001	0.002	0.082

- Multiple hypothesis testing corrected p-values in parentheses
- "All Three" improvement of 28 % in record-keeping, 17 % in planning, 11 % in stocking, 24 % in marketing and 22 % in joint decision making.

Business Profits

	Profits last month (win 5%) (1)	Profits last month (IHS) (2)
Assigned Handbook	-91.307	-0.067
	(78.400)	(0.088)
Assigned Handbook & Movie	110.378	0.055
	(86.841)	(0.092)
Assigned Handbook & Assistance	310.455***	0.261***
	(89.488)	(0.096)
Assigned All Three	191.088**	0.199**
	(84.662)	(0.094)
R-squared	0.179	0.211
Sample Size	2172	2172
Dependent Variable Mean in Control Group	894.544	6.817
Dependent Variable SD in Control Group	1127.783	1.348
F-tests (p-value):		
Book = Book & Mov	0.020	0.167
Book = Book & Assistance	0.000	0.000
Book = All Three	0.001	0.003

- Profits increase by 35% (about 0.28 sd.) - ITT.

Business Sales

	ITT Sales last month (win 5%) (1)	TOT Sales last month (win 5% (2)
Assigned Handbook	-396.976	-417.198
	(314.252)	-417.198
Assigned Handbook & Movie	335.489	601.221
	(337.881)	(606.634)
Assigned Handbook & Assistance	836.755**	1031.692**
	(372.924)	(457.015)
Assigned All Three	807.462**	1558.326**
	(358.384)	(696.317)
R-squared	0.492	0.483
Sample Size	2197	2197
Dependent Variable Mean in Control Group	4998.923	4998.923
Dependent Variable SD in Control Group	5623.257	5623.257
F-tests (p-value):		
Book = Book & Mov	0.020	0.047
Book = Book & Assistance	0.000	0.000
Book = All Three	0.000	0.001

- Sales increase by 16% (about 0.15 sd.) - ITT

Other Outcomes

- **No significant** impacts on:

  - Business expenses

  - Size of the shop

  - Number of employees

  - Number of customers

  - Business credit

Efficiency Gains?

1. Unpacking impacts on practices shows improvements in efficiency practices:

   - Adjust stocks based on product profitability
   - Negotiate lower prices with suppliers
   - Consult with former customers
   - Offer discounts
   - Make joint decisions
   - Review financial performance to identify channels of improvement
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3. Causal-mediation analysis shows that the most important drivers of impact on sales and profits are stocking up and marketing practices.

$\rightarrow$ Efficiency gains

Knowledge or Aspirations?

- Our interventions could have increased business performance and practice adoption through an increase in business aspirations rather than (or on top of) business knowledge.

- We directly measure business aspirations at baseline, midline, and endline for all shop owners in the sample.

- We elicit short (one year) and long-term (ideal) aspirations on various business dimensions:
    - sales
    - shop size
    - number of customers
    - number of employees

- No treatment effects on aspirations

→ Knowledge

Business Stealing?

Do treated businesses improve performance at the expense of the control group?

- Shops in Control group **do not decrease** their sales and profits from baseline to endline. They remain the same.

- Shops in Control group that are closer to the treated shops **do not suffer bigger losses in sales and profits** than those who are further away.

$\rightarrow$ No evidence for business stealing

Cost-Effectiveness

- **Low cost** per firm:
  - Cost Handbook alone: USD 100
  - Cost Handbook & Movie: USD 125
  - Cost Handbook & Assistance: USD 125
  - Cost Handbook & Assistance & Movie: USD 150

- **High Benefits**
  - Up to USD 330 per month in profits.
  - Adoption of top practices by retailers.

- Research Design **scalable and replicable** in other settings.

Takeaways

- Curating local knowledge has value for business growth

- Knowledge alone does not have an impact but needs additional help or nudges

- These "add-ons" are inexpensive and scalable, making this type of intervention very attractive for policy