Theory of Change in Program Evaluation

John Floretta
J-PAL South Asia at IFMR

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Presentation Overview

- What is Evaluation
- Introduction to Theory of Change
- Building a Theory of Change in 7 steps
- Linking Theory of Change to M+E
  - Process Evaluation
  - Impact Evaluation
Presentation Overview

- **What is Evaluation**
- Introduction to Theory of Change
- Building a Theory of Change in 7 steps
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  - Process Evaluation
  - Impact Evaluation
What is Evaluation?

Evaluation

Program Evaluation

Impact Evaluation
Program Evaluation
Monitoring and Evaluation

Monitoring

Impact Evaluation

Program Evaluation

Evaluation
Program Evaluation
Components of Program Evaluation

- Needs Assessment
- Program Theory Assessment
- Process Evaluation
- Impact Evaluation
- Cost Effectiveness

- What is the problem?
- How, in theory, does the program fix the problem?
- Does the program work as planned?
- Were its goals achieved?
- The magnitude?
- Given magnitude and cost, how does it compare to alternatives?
How can Impact Evaluation Help Us?

- Surprisingly little hard evidence on what works
- Can do more with given budget with better evidence
- If people knew money was going to programs that worked, could help increase pot for anti-poverty programs
- Instead of asking “do aid/development programs work?” should be asking:
  - Which work best, why and when?
  - How can we scale up what works?
Evaluation should usually be conducted:

A. Externally and independent from the implementers of the program being evaluated
B. Externally and closely integrated with program implementers
C. Internally
D. Don’t know

25% 25% 25% 25%
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Definition

• Theory of change is an on-going **process** of reflection to **explore change and how it happens** – and what that means in a particular context, sector, and/or group of people.

ToC thinking

• Structured way of thinking about change and impact organizations would like to achieve
• Integrated approach to program design, implementation, M+E, and communication
Theory of Change Levels

**Inputs/Program Activities**
- What we do as a part of the program - deliver, teach, offer loans, etc.
- What are the resources used - funds, staff, equipment, curriculum, all materials.

**Outputs**
- Tangible products or services produced as a result of the activities - usually can be counted.

**Intermediate outcomes**
- Short-term behavioral changes that result from the outputs - preventive health habits, usage of tablets.

**Goal**
- Long-term changes that result from outcomes – the result of the program.
ToC: School-Based Malaria Intervention

- **Children adhere to full med regime**
  - **Malaria Intervention**
  - **Reduced Clinical Attacks**
  - **Reduced Asymptomatic Parasitemia**

- **Assumptions**
  - **Increased School Attendance**
  - **Improved Cognition**
  - **Increased Concentration**
  - **Reduced Anemia**

- **Increased Knowledge**
  - **Higher Test Scores**
  - **Test accurately measures knowledge**

- **ICER**
Theory of Change

- Supply-side limits on immunization
- Establish regular camps
  - Parents believe camps are regular
  - Parents bring children to regular camp
    - Camps provide immunizations
    - Increased immunization rates
- Incentives for full course
  - Parents value incentive
- Incentives regularly paid
  - Parents do not value immunization
## Logical Framework

<table>
<thead>
<tr>
<th></th>
<th>Objectives Hierarchy</th>
<th>Indicators</th>
<th>Sources of Verification</th>
<th>Assumptions / Threats</th>
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</thead>
<tbody>
<tr>
<td><strong>Impact (Goal/Overall objective)</strong></td>
<td>Higher income</td>
<td>Spending</td>
<td>Household survey</td>
<td>Business well-run, are profitable, no external shocks</td>
</tr>
<tr>
<td><strong>Outcome (Project Objective)</strong></td>
<td>Households start new businesses; expand existing ones</td>
<td>Purchase of durable goods</td>
<td>Household survey</td>
<td>No problems of self-control, time-inconsistency. HHs can identify good investment opportunities</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Increased MFI borrowing</td>
<td>Number of microloans</td>
<td>Household survey, Administrative data from MFIs</td>
<td>Women have access to branches. No borrowing from informal sources</td>
</tr>
<tr>
<td><strong>Inputs (Activities)</strong></td>
<td>MFI branches are opened</td>
<td>Branches are operating; providing services</td>
<td>Branch visits/surveys</td>
<td>Sufficient technical and human resources, funding</td>
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- What is Evaluation
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- **Building a Theory of Change in 7 steps**
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  - Process Evaluation
  - Impact Evaluation
7 Steps to Building a ToC

1. Situation analysis – Specifying the context
2. Clarify the program goal
3. Design the program/product
4. Map the causal pathway
5. Design SMART indicators
6. Explicate assumptions
7. Convert to Logical Framework
Expansion of Spandana

Where: Slums in Hyderabad, India

What: Microfinance for women

Why: Profit, poverty reduction, empowerment
Step 1: Situation/Context Analysis

What it is:
- Identifying target market segment (beneficiaries)
- Needs, opportunities, barriers to progress
- Map relevant stakeholders
- Analyze broader political and economic context

Purpose:
- Design the right product, identify markers for success

Map opportunities, risks, broader context
Hyderabad Survey Results

- Monthly expenditure per capita: Rs. 1,006 (USD 22)

- Household debt: Rs. 45,538 (USD 1011)

- Male literacy: 68%

- Female literacy: 54%

- Women working outside the home: 21%
Underlying Issues/Consequences

- Low income, high debt
  - Limited access to formal financial services
  - Unable to smooth income
  - Lack of resources to invest in businesses

- Gender inequality
  - Women do not control resources
  - Limited decision-making power within household
  - Underinvestment in health and education
Step 1: Building a Theory of Change

Situation/Context Analysis: Low income, high debt, gender inequality
Revisiting the Program

- How will the program address the needs put forth in your situation/context analysis?
  - What are the prerequisites to meet the needs?
  - How and why are those requirements currently lacking or failing?
  - How does the program intend to target or circumvent shortcomings?
  - What services will be offered?
Step 2: Setting Program Goals

- Raise income - Increasing investment in business and household assets
- Shift bargaining power within households
- Increase health and education spending
Step 2: Building a Theory of Change

Situation/Context Analysis: Low income, high debt, gender inequality
Step 3: Design the Product

- Spandana - A traditional microcredit program
  - Group liability
  - Loans only to women
  - Weekly or monthly repayment
  - Starting loan is Rs. 10,000 (~USD 250)
  - Interest rate: 12% per year non-declining balance (24% APR)
Weigh Alternative Solutions

- Conditional cash transfers
- Skills development courses
- Literacy programs
- Gender empowerment
Step 3: Building a Theory of Change

- **GOAL**: Raising Income
- **INPUT**: Offer loans to women
- **Situation/Context Analysis**: Low income, high debt, gender inequality

- Step-by-step laying out the theory connecting your product/program to the goal
- Series of if…/then… statements forming results chain
Step 4: Mapping the Causal Pathway

- Step-by-step laying out the theory connecting your product/program to the goal
- Series of if…/then… statements forming results chain
Step 4: Building a Theory of Change

**INPUT**
- Open Spandana branches targeting women

**OUTPUT**
- Women take out loans
- Choose to invest in new or existing businesses

**OUTCOME**
- Businesses are profitable

**GOAL**
- Higher incomes

**Situation/Context Analysis:** Low income, high debt, gender inequality
Step 5: Design Indicators

- Indicators v. levels of results (goal, outcome, output, input)

- Indicators are signals of change, measures of progress
Good Indicators

- Quantitative and qualitative

- Standard of comparison (i.e. baseline v. endline, defining “high-quality,” etc.)

- SMART
  - **S**pecific
  - **M**easurable
  - **A**chievable
  - **R**eliable
  - **T**ime-bound
Step 5: Building a Theory of Change

**Situation/Context Analysis:** Low income, high debt, gender inequality

- **After 6 months, 80% of planned branches opened and operational.**
  - **Open Spandana branches targeting women**

- **After 9 months, 20% of eligible women have taken out a loan at a Spandana branch.**
  - **Women take out loans**

- **After 12 months, 25% of the women who have taken out a loan have invested in a business.**
  - **Choose to invest in new or existing businesses**

- **After 18 months, 50% of the businesses started by women with Spandana loans are profitable.**
  - **Businesses are profitable**

- **After 18 months, 40% of the women who have started businesses with Spandana loans have incomes at least 10% higher.**
  - **Higher incomes**

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**Input:**
- Higher incomes
- Open Spandana branches targeting women
- Women take out loans
- Choose to invest in new or existing businesses
- Businesses are profitable
- Higher incomes

**Output:**
- After 6 months, 80% of planned branches opened and operational.
- After 9 months, 20% of eligible women have taken out a loan at a Spandana branch.
- After 12 months, 25% of the women who have taken out a loan have invested in a business.
- After 18 months, 50% of the businesses started by women with Spandana loans are profitable.
- After 18 months, 40% of the women who have started businesses with Spandana loans have incomes at least 10% higher.
Step 6: Explicate assumptions

Assumptions are the key to unlocking the theory of change thinking.
Step 6: Building a Theory of Change

**Situation/Context Analysis:** Low income, high debt, gender inequality

**Access to business networks**

**OUTPUT**

**INPUT**

**OUTCOME**

**GOALS**

**Step 6: Building a Theory of Change**

**Situation/Context Analysis:** Low income, high debt, gender inequality

- **Open Spandana branches targeting women**
  - Access to a branch
  - Eligible for a loan
  - Apply for a loan

- **Women take out loans**
  - Access to business networks
  - Know which businesses are profitable

- **Choose to invest in new or existing businesses**
  - Women have entrepreneurial skills

- **Businesses are profitable**
  - No external shocks

- **Higher incomes**
  - After 18 months, 40% of the women who have started businesses with Spandana loans have incomes at least 10% higher.

- **After 6 months, 80% of planned branches opened and operational.**

- **After 9 months, 20% of eligible women have taken out a loan at a Spandana branch.**

- **After 12 months, 34% of the women who have taken out a loan have invested in a business.**

- **After 18 months, 50% of the businesses started by women w/ Spandana loans are profitable.**

- **After 18 months, 20% of eligible women have taken out a loan at a Spandana branch.**

- **After 12 months, 34% of the women who have taken out a loan have invested in a business.**

- **After 18 months, 50% of the businesses started by women w/ Spandana loans are profitable.**

- **After 18 months, 40% of the women who have started businesses with Spandana loans have incomes at least 10% higher.**
### Step 7: ToC to Logical Framework

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**Impact evaluation**

**Process evaluation, monitoring**
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Making the program work

PROCESS EVALUATION
Components of Program Evaluation

✓ Needs Assessment

✓ Program Theory Assessment

✓ Process Evaluation

✓ Impact Evaluation

✓ Cost Effectiveness

▪ What is the problem?

▪ How, in theory, does the program fix the problem?

▪ Does the program work as planned?
Process Evaluation *(and monitoring)*

- Are the services being delivered?
- Is the intervention reaching the target population?
- Is the intervention being completed well or efficiently and to the beneficiaries’ satisfaction?
Process Evaluation

- **Supply Side:** *Did Spandana deliver?*
  - Logistics
  - Management

- **Demand Side:** *How did women respond?*
  - Did the assumptions of women’s response hold?
  - Was there behavior change?
Process Evaluation: Demand-side

- Do households borrow more credit from MFIs?
  - 27% of eligible households took-up loans from Spandana or another MFI

- Do households invest in new businesses?
  - 30% of Spandana borrowers reported they used their loan for starting a new business

- Do households expand existing businesses?
  - 22% of Spandana borrowers reported they used their loan to buy assets for an existing business
Process was okay, so….

- What happened to income?
Measuring how well it worked

IMPACT EVALUATION
How Impact differs from Process?

- When we answer a **process question**, we describe what happened.

- When we answer an **impact question**, we need to compare what happened to what would have happened without the program.
Constructing the Counterfactual

- Counterfactual is often constructed by selecting a group not affected by the program.

- Randomized:
  - Use random assignment of the program to create a control group which mimics the counterfactual.

- Non-randomized:
  - Argue that a certain excluded group mimics the counterfactual.
What is Impact?

![Diagram showing the concept of impact with a timeline and primary outcome graph. The intervention is compared to a counterfactual scenario to illustrate the impact.]
Measuring Impact of Spandana

- Primary outcome (impact): did access to credit increase the number and size of businesses (household income)?
How Impact differs from Process?

- When we answer a process question, we need to describe what happened.

- When we answer an impact question, we need to compare what happened to what would have happened without the program.
RANDOMIZED EVALUATION
Randomised Evaluations

Individuals, villages, or districts are *randomly* selected to receive the treatment, while other villages serve as a comparison.

Groups are **Statistically Identical** before the Program

Any Difference at the Endline can be Attributed to the Program

Two groups continue to be identical, except for treatment. Later, compare outcomes (health, test scores) between the two groups. Any differences between the groups can be attributed to the program.
Spandana Sample

- Total Population (All neighborhoods)
- Target Population (120)
  - Not in evaluation (16)
  - Evaluation Sample (104)
    - Random Assignment
      - Control (52)
      - Treatment (52)

Total Population (All neighborhoods): 120
Target Population: 104
Evaluation Sample: 88
**Impact: Primary Outcome**

- Borrowing from MFIs was 27% in treatment, 19% in control

- New business creation increased by 1/3
  - 5.3 new businesses per 100 households in Control, 7.0 in Treatment
  - 1 in 5 additional MFI loans led to a new business that would not have been started otherwise

- Spending on durable goods increased by 1/5
  - Control: Rs 116 per capita per month, Treatment: Rs 140
  - Spending on durables used in a business more than doubled
Impact: Distributional Questions

- Entrepreneurs
  - People with businesses bought more durable goods
  - Those more likely to start a new businesses cut back sharply on temptation goods (alcohol, tea etc.)

- Non-Entrepreneurs
  - Those not likely to start a new business spent more on non-durable goods
    - Could have used the loan to pay off old debt
    - Could have simply used the loan to consume more today
Impact: Secondary Outcomes

- Women’s empowerment
  - Women in treatment areas no more likely to make decisions about household spending, investment or savings

- Health and education
  - No improvement in health or education outcomes
Situation/Context Analysis: Low income, high debt, gender inequality

**GOAL**
- Access to a branch
- Eligible for a loan
- Apply for a loan

**INPUT**
- Open Spandana branches targeting women

**OUTPUT**
- Women take out loans
- Choose to invest in new or existing businesses
- Businesses are profitable

**After 6 months,**
80% of planned branches opened and operational.

**After 9 months,**
- xxx women have taken out a loan at a Spandana branch.

**After 12 months,**
- 50% of the women who have taken out a loan have invested in a business.

**After 18 months,**
- 50% of the businesses started by women w/ Spandana loans are profitable.

**After 18 months,**
- 50% of the women who have started businesses with Spandana loans have incomes at least 10% higher.

**Access to business networks**
- Women have entrepreneurial skills
- No external shocks

**Know which businesses are profitable**