Scaling sanitation businesses in low- and middle-income countries

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Shit flow diagrams visualize urban sanitation challenge

Example: Dhaka, Bangladesh

Source: Peter Hawkins, 2014
Selected pilot projects

- WE Waste Enterprises
- Safisana
- Janicki Bioenergy
- Soil
- x-runner
- Etterkini Municipality
- Brac
- DSK
- iDE
- Loowatt
- Sanergy
DSK attempts to scale sanitation services

Sanitation services

On-site facility

- Safely emptied
- Illegally dumped
- Unsafely emptied
- Left to overflow or abandoned

Scaling process

Fee structure (2000 liters) for covering operational costs
- Commercial enterprises (1400 Taka)
- Domestic residents (1200 Taka)
- Slum dwellers (1000 Taka)

Fee structure:
- Commercial enterprises: 1400 Taka
- Domestic residents: 1200 Taka
- Slum dwellers: 1000 Taka

Graph:
- Year 1: Septic Tank: 200, Pit latrines: 300, Total Number: 400
- Year 2: Septic Tank: 300, Pit latrines: 400, Total Number: 500
- Year 3: Septic Tank: 400, Pit latrines: 500, Total Number: 600
- Year 4: Septic Tank: 500, Pit latrines: 600, Total Number: 700

Source: Peter Hawkins, 2014
Replicate, Grow, and Improve to go beyond the pilot studies

<table>
<thead>
<tr>
<th>Replicate: Create more enterprises around a proven business model</th>
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<tbody>
<tr>
<td>Grow: Expand the enterprise</td>
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<tr>
<td>Improve: Remove barriers for continuous improvements</td>
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Scaling Paradox
Pilot never fails, but also never scales
Replicate, Grow, and Improve to go beyond the pilot studies

**Replicate:** How can we replicate the business model?
- Business model template with a fixed and context-specific part
  - … but context-specific part leads to high modification costs.

  ➤ We need to finance the modification effort for replication externally

**Grow:** How can we grow the business model?
- Fast amortization period and re-investment cycles
  - … but sanitation business models have long-amortization periods

  ➤ We need intermediate finance mechanisms to secure cash flows

**Improve:** How can we improve a business model?
- Improvement involve daily activities and more conceptual activities
  - … but internal resource scarcity makes it difficult to improve

  ➤ We need smart ways of internal learnings
Business model innovations for the scaling process

Hypothesis:
The less (more) complex the business model, the easier the scaling process

Example: Ladepa process

<table>
<thead>
<tr>
<th>Business model dimensions</th>
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<tbody>
<tr>
<td>• Value proposition</td>
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<tr>
<td>• Value capture</td>
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<tr>
<td>• Value creation</td>
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Not reducing, but building complexity in the business model overcomes the scaling paradox

<table>
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<th>Pilot</th>
<th>Scale</th>
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</table>
| **Value proposition** | • Specialized, single offering  
                   | • Targeting similar customers  
                   | • Cost-effective service | • Large scope of services  
                   | • Multiple segments, heterogeneous customers  
                   | • Value-added services |
| **Value capture** | • Bundling grants & donation, service fees, product revenues | • Unbundling financial flow  
                   |                   | • Grants for R&D  
                   | • Pre-finance later revenue streams  
                   | • Impact investments |
| **Value creation** | • Direct sales approach  
                   | • Rely on local suppliers | • Incentivize customers to become sales channels  
                   |                   | • Backward integration of suppliers |
What are the lessons learned?

Lesson 1: Shit Flow Diagram visualize the existing situation, but we need to add the financial perspective to it (*Where does the money go in the sanitation chain?*)

Lesson 2: Overcoming the scaling paradox needs to built better capabilities for replication, growth, and improvements (*How can we better replicate, grow, and improve sanitation businesses?*)

Lesson 3: Overcome the scaling paradox requires capabilities to manage increasingly complex business models (*How can we manage complex sanitation business models?*)