

Managing Early Stage Software Startups

Applying Lean Startup Principles in Practice

Jens Björk

MSc Software Engineering
Chalmers University of Technology

Jens Ljungblad

MSc Software Engineering
Chalmers University of Technology

Jan Bosch

Prof. Software Engineering
Chalmers University of Technology

The past 8 months

- Created and ran a startup
 - 3 business developers
 - 2 software developers
 - Web product for small businesses (B2B)
- "Encubation"
 - Combines **incubation** and **education**
 - Collaboration between Encubator AB and Chalmers School of Entrepreneurship
 - Industry professionals, legal advisors, business coaches, initial funding
 - Opportunity to incorporate after this period

Background

- Startups are popular and growing in numbers
- Many success stories
- Easy to get started
- **Failure rate high**, fewer than 2% of new ideas are successful (Mullins, J., Komisar, R.)

“A startup is a human institution designed to deliver a new product or service under conditions of extreme uncertainty.” (Ries, E)

Research questions & methodology

Design Science Research (DSR) was chosen to investigate the following:

1. What are the typical challenges and problems in terms of finding a product idea worth scaling, in early stage software startups?
2. What solution would serve to mitigate the identified challenges and problems?



Lean Startup
Customer Development
Running Lean
Getting to Plan B
Nail it then scale it
Getting Real
...

Appello
Burt
Destly
Duego
Evisto
Lean Machine
Lets Deal
Saltside
Shpare
...

Trimbia



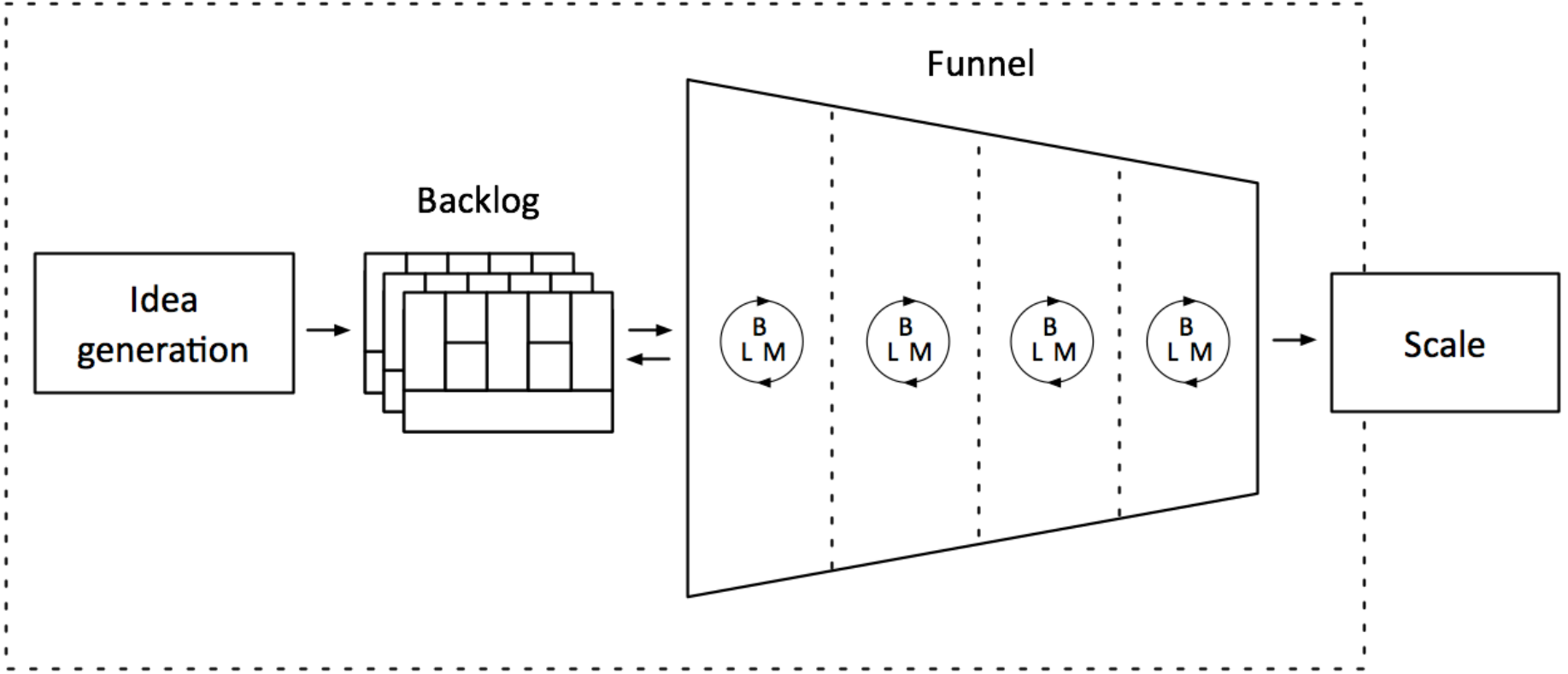
Problem statement

Problem statement

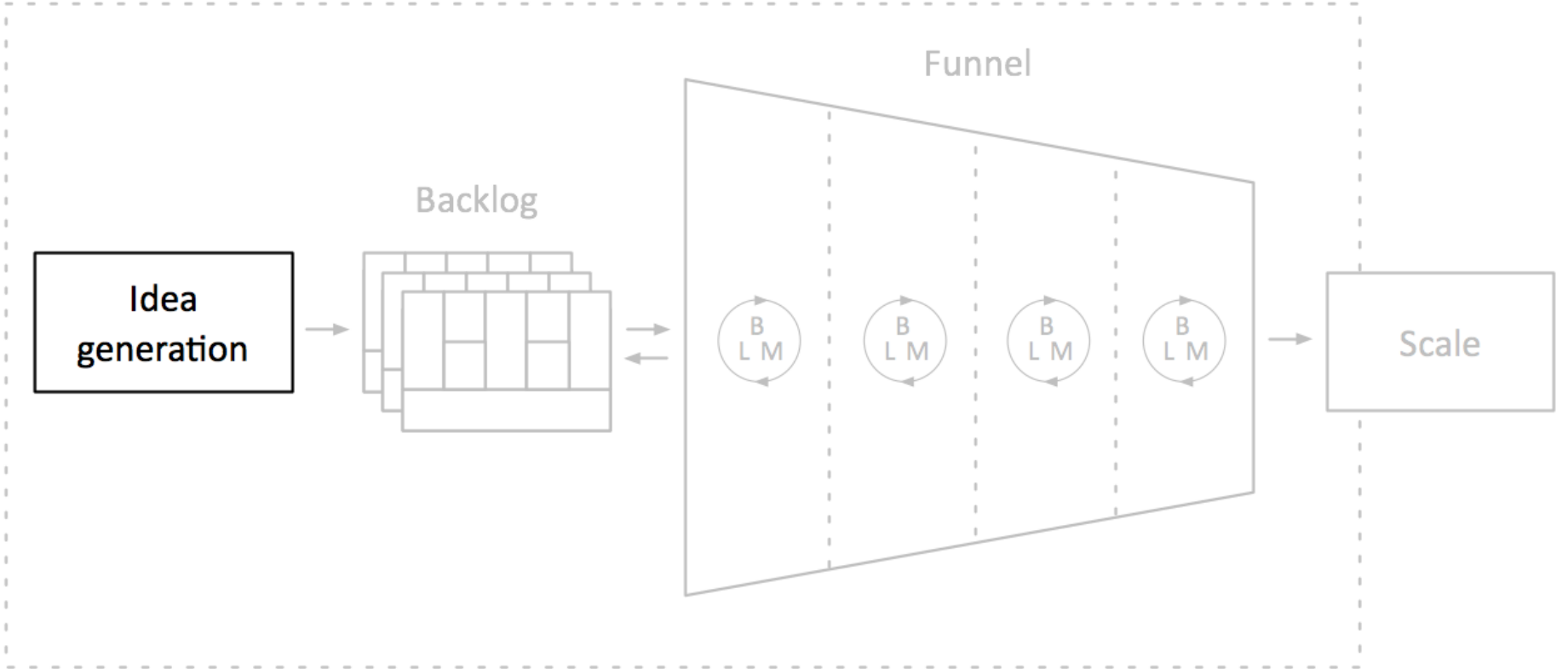
1. Existing processes [...] do not adequately support working on, or investigating, **multiple product ideas in parallel**.
2. Existing processes [...] provide insufficient criteria for when to **move product ideas forward** through process stages.
3. Existing processes [...] give no clear guidance on **when to abandon a product idea**.
4. Existing processes [...] provide insufficient suggestions of **what techniques to use and when**, while validating [...].

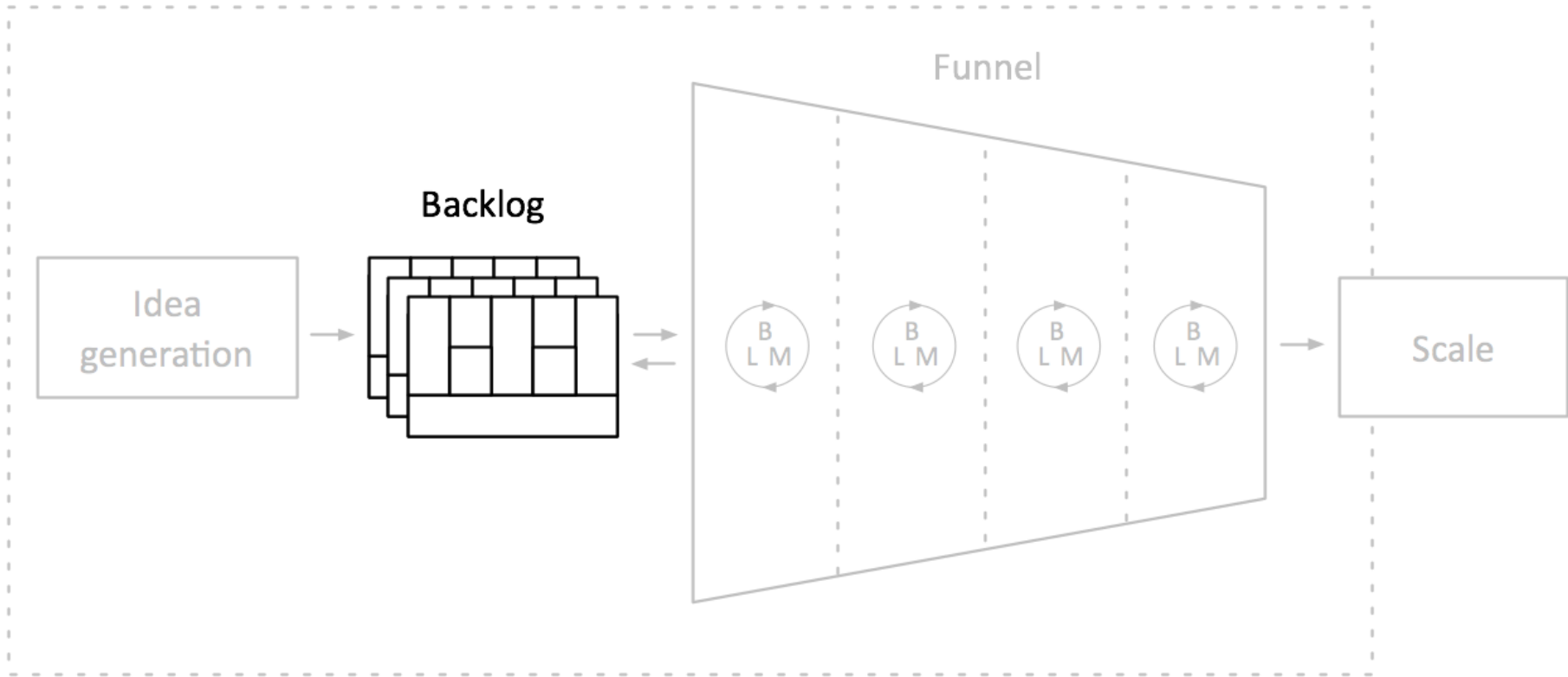
ESSSDM

Early Stage Software Startup
Development Model



ESSSDM





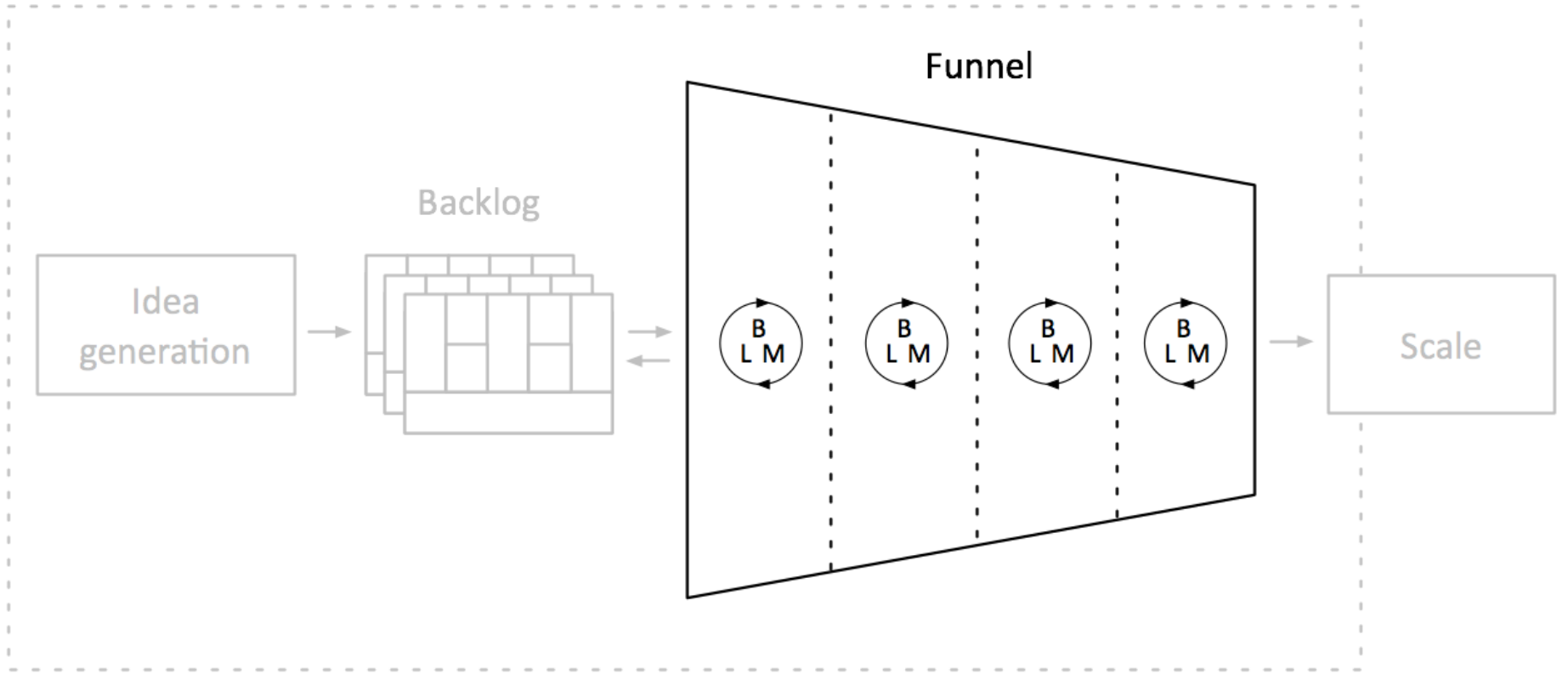
Problem	Solution	Unique Value Proposition	Unfair advantage	Customer segments
	Key metrics		Channels	
Cost structure			Revenue streams	

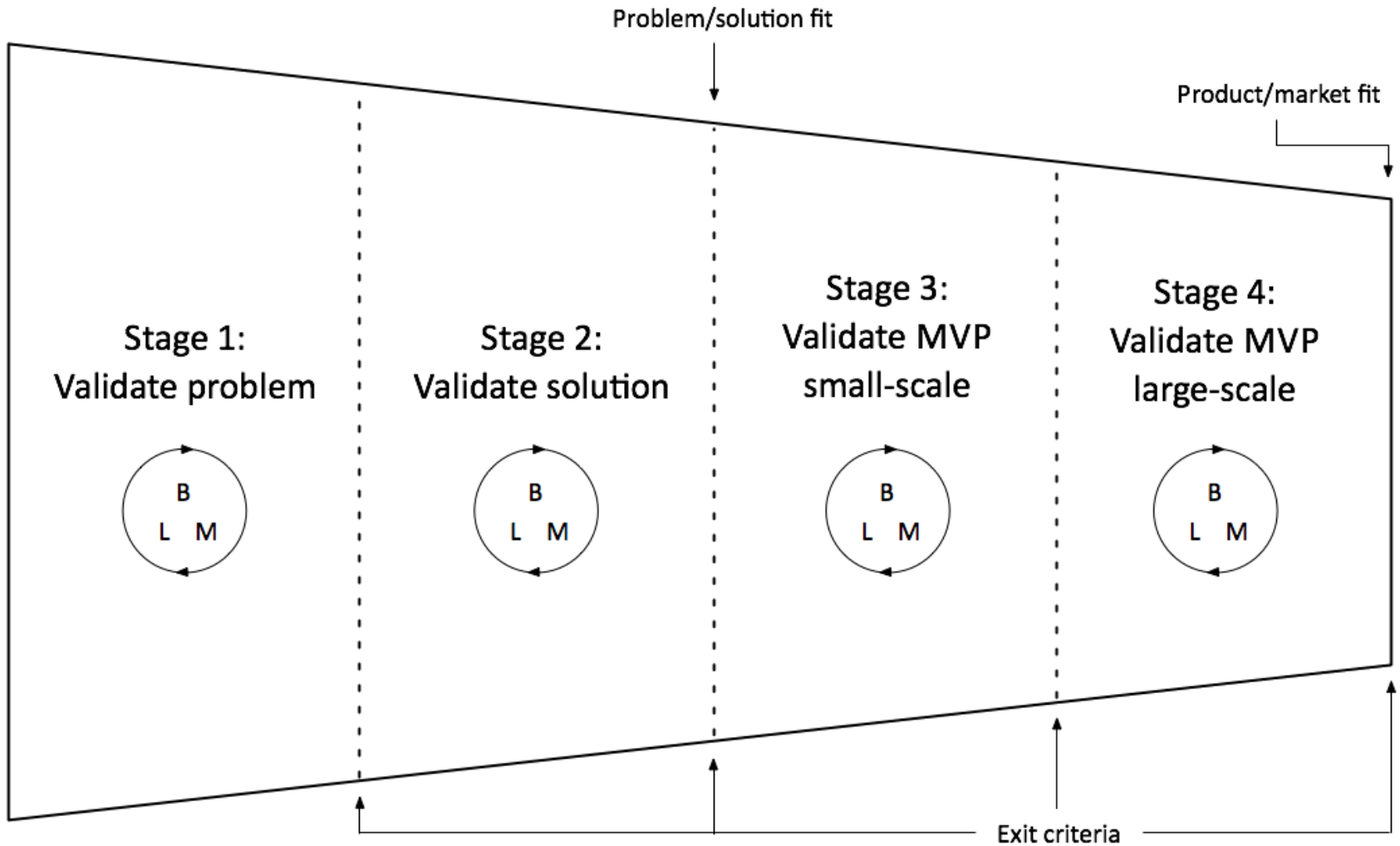
Lean Canvas (Maurya, A)

The Backlog

Prioritization

1. Customers care about the problem [...]
2. Team cares about the problem [...]
3. Market potential [...]
4. Domain knowledge within the team [...]
5. Team experiences the problem [...]
6. Customer ease of reach [...]
7. Analogs/antilogos [...]
8. Clearness of the UVP [...]
9. Frequency of problem occurrence [...]





Each stage has **risks, techniques** and **exit criteria**

Stage 1: Validate Problem

Investigate and validate the underlying problems that customers want solved.

- What is the problem?
- Who has the problem?
- Is the problem big enough?

Stage 1: Validate Problem

Exit criteria

1. After having talked to ~30 potential customers, >50% must give strong positive indications when pitched the problem:
 - a. Wants the problem solved
 - b. Willing to pay for a solution
 - c. Willing to participate in solution testing
2. Being able to describe a promising customer segment (+ rationale)
3. Being able to describe how potential customers currently solve the problem

Stage 2: Validate Solution

Define a solution that solves the problems that customers want solved.

- What features are needed for the MVP?
- Who is the early adopter?
- How much is the solution worth to customers?

Stage 3: Validate MVP small-scale

Build an MVP and test it on a small portion of early adopters.

- Does the MVP deliver in terms of UVP?
- How to reach early adopters?
- Are customers paying for the MVP?

Stage 4: Validate MVP large-scale

Further validate the MVP on a larger portion (not possible to meet them all in person) of early adopters.

- Has the MVP reached product/market fit?
- Is there a sustainable path to early adopters/customers?
- Is the business model working?

Evaluation

Evaluation

Design goals & evaluation criteria

Design goals:

1. Support working on multiple ideas in parallel
2. Provide clear guidance on moving ideas forward
3. Provide clear guidance on when to abandon ideas
4. Provide clear guidance on what techniques to use and when, while validating ideas

Evaluation criteria:

- Consensus of project team
- Consensus of industry professionals (4 companies)

Conclusions

1. **Support working on multiple ideas in parallel**
 - a. Team: Always something to work on when collecting data, good momentum, shared assets
 - b. Professionals: Identifies with it (graded it 4.4/5)
2. **Provide clear guidance on moving ideas forward**
 - a. Team: Good momentum in team, independent work, checklist, unambiguous criteria
 - b. Professionals: Good, but use with commons sense (graded it 4.6/5)

Conclusions & future work

Conclusions

- ESSSDM partly validated through project instantiation
- ESSSDM resonates with industry professionals
- ESSSDM takes time to validate (this version serves as a foundation)

Future work

- Fully evaluate the process
- Test on more startups

That's it

Questions?