Lean Startup in Large Organizations
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October 3, 2017
Research Objective

To determine how to effectively apply lean start-up methods in large companies to transformational and disruptive innovations.
What is lean start-up?
Traditional View of Lean Startup
Lean Start-Up

Business Model

Very early customer/user visits

Agile Development

Minimum Viable Prototype
Transformational and disruptive innovation?

Sustaining Innovations

Crest Complete Multi-Benefit

Crest Whitening Expressions

Crest Complete Multi-Benefit
Transformational Innovations
Disruptive Innovations
Our Hypothesis

Sustaining (Incremental)

Transformational and Disruptive

Need to follow a learning strategy
Research Methodology

Study the actual process how large companies are using at adopting lean startup methodology to manage transformational innovation
What we found
What we found

Sustaining (Incremental)  Transformational and Disruptive

Companies were using various elements of lean startup across the complete spectrum
Examples
Lean applied in incremental innovations
MVP Concept

When to Use MVP

> Iterative prototypes which collect the maximum amount of validated learning about an application with the least effort.

> Be weary of creating any kind of process

> Understand the question that the MVP is attempting to answer

> Understand brand and IP risks
Radial Vs Axial Flux Technology

Traditional Radial Flux

Axial Flux Concept
LOOK – it is shorter, we can just bolt your fan to a stub shaft!

– Regal – Isn’t this GREAT!

– Customer – Yawn – I guess that is OK? Can it be shorter?
The Voice of Customer Journey

Frustrated Defeated Engineers

> IT IS IMPOSSIBLE TO SATISFY THESE CUSTOMERS!!

> Don't they understand that I have made it as short as possible?

> I NEED room for a motor and a drive!

> I wonder what the customer **DIDN’T SAY??**

> Well they never said it was TOO BIG AROUND right?
MVPs at Work

> Gen 1
  - Virtual MVP
  - Conventional
  - Mediocre feedback

> Gen 2
  - MVP’s at customer
  - Orbital
  - Excited customers!

> Gen 3
  - Virtual MVP
  - Consolidated drive
  - Addressed service
  - Conduit entry issue

> Gen 4
  - MVP in test
  - Prototyping
  - Addresses mfg
  - Increased flexibility

> Learning quickly and moving forward
> Using virtual MVP’s when possible
The Voice of Customer Journey

MVP – Lessons Learned

> Never give up on an impossible request
> Never self impose constraints on your design
> Keep working until you have excited customers both internal and external
> Take failures as suggestions and move on
> Be extremely fast and careful about IP when involving customers this early
> HAVE FUN!!
Customer Value

Induction Motor, Fan and VFD – 10hp (>200 Pounds)

Regal Axial Flux Motor, Fan and Integrated Drive – 10hp (~50 Pounds)
Lean Tools

IRI May Annual
• MVP
• Business Model Up-Front
• Partnering with Competitive Start-ups
• Business Experiment
• Technical Experiments
• Incubation

Most business had MVP with a few with incubation and business model innovation
Lean applied in transformational innovations
Business Model Innovation Process

- Innovation Platforms (Focus)
- Customer-centered Innovation (Discover)
- Business Experiments (Capture)
- Incubation (De-Risk)
- Acceleration (Grow)

Technology

Strategic Question
Customer Value Proposition
Profit Formula
Launch Plan
Business Model Innovation Process

Design Methods
- Observational research (on site insight)
- Prototyping
- Iteration
Business Model Innovation Process

Business Model Development
- Archetypes
- Stochastic modeling
- Wide Lens
- Business experiments
Business Model Innovation Process

Lean Startup
- In market learning
- Minimum Viable Prototypes (MVP)
- Disciplined trials
Business Model Innovation at Goodyear

1. Generate business model options
2. Identify assumptions for each option generated
3. Prioritize risks via stochastic modeling
4. De-risk through business experiments
5. Select business model & organize for incubation
6. Learn in market (profitability, scalability)

DEMONSTRATE CUSTOMER VALUE CREATION


Reduced risk
High uncertainty
4. De-risk through business experiments

Business experiments at Goodyear

- Willingness to pay
- Value creation
- Technology & human behavior
- Technology in use
- Partner support levels
- Supply chain
- Operational costs
- Channel effectiveness / efficiency
Business experiments should ....

• Be out in the real world – *with* the market (not quite *in* the market)

• Have a SMART learning plan:
  
  – **Not SMART**: Interview consumers in a shopping mall to understand if they will buy
  
  – **SMART**: In the next **90 days**, we will “sell” our offering to **6%** of overall shopping mall traffic at a price point of **$12 per user**

• Be cheap – keep the learning ahead of the spending

• Be fast

• Shed light on key unknowns
Key Messages

• Successful innovation starts with the **customer**
• Customers may lead you to businesses that don’t match your **business model**
• To deliver new business models requires new practices, often working with **new ecosystem partners**
• Doing so effectively requires learning through **disciplined experiments**
• Conducting the experiments requires managing the relationship to the **performance engine**
Lean applied in transformational innovations
Opportunity Selection

- New Technology
- Adjacency

New

Existing

Market
+ 100 MM opportunity
The Problem: Projects would get into NPD through “Innovation Theatre”

As a medical device all products need to go through Stage Gate so regulatory hurdles can be met.

Fund efforts (maybe $2-3 million) to evaluate the “death blows” and demonstrating feasibility.

Identify 3-5 Market and/or Technical “Death Blows”
## I-Corps Training

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I-Corp
I-Corp

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<th>Revenue Stream</th>
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<td>Direct Sales to Institutions as Performance Customers</td>
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<tr>
<td>Cost of Product</td>
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<td>Sale of services</td>
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Training

10 teams meet once/per week for 8 weeks
(Full time commitment for R&D and marketing during the 8 weeks. Visit 100 customers.)
Key Areas

Does not change

Filled Out – but simplistically
Prototyping and Intellectual Property

- Prototyping is typically not done during this initial stage to avoid intellectual property issues
  - During the interview process they continue to advise the customer that they are NOT looking for a solution
  - Sometimes they will bring competitors products to aid the discussion.
  - In some cases they will use provisional patents

- They typically will NOT file a patent until the product is complete
Traditional Lean Start-Up

- Organizational Structure
  - Integrated vs. Separated vs. Ambidextrous

- Senior Management
Most large companies do not use the correct organizational structure for managing transformational innovations.
**Integrated**

- **SBU Senior Management (CoreCo)**
  - Existing Business
    - Mfg
    - Sales
    - R&D
  - Emerging Business

**Separated**

- **NewCo Senior Management**
  - Emerging Business
    - Mfg
    - Sales
    - R&D
  - Executive Sponsor
    - SBU Senior Management (CoreCo)
    - Existing Business
      - Mfg
      - Sales
      - R&D

**Ambidextrous**

- **SBU Senior Management (CoreCo)**
  - Emerging Business
    - Mfg
    - Sales
    - R&D
  - Existing Business
    - Mfg
    - Sales
    - R&D
Ambidextrous organizations are **90% more effective** in developing transformational innovations than either integrated or separated.

Tushman Video: https://www.youtube.com/watch?v=lrTxzjffHw
O’Reilly Video: https://www.youtube.com/watch?v=K0PKrECNSVE
Conditions for an Ambidextrous Organization

- Strategic synergy between the existing and emerging business units
- Senior team that owns both the exiting and emerging business units
- Separate organizational architectures (i.e. business models, structures, incentives, metrics and cultures) between the existing and emerging business units
- Ability of senior leadership to tolerate and resolve tensions between the two units

Conclusions

- Lean Start-Up is a powerful new learning process for developing transformational innovations
  - Majority of companies are implementing parts across the company
  - Organizational structure and senior management commitment to transformational innovation is probably still the most critical success factor