



**The Lean Startup
Lean LaunchPad
Journey**

Jerry Engel

June 2013

BizBarcelona 2013

center for
UC Berkeley
executive education

Jerome “Jerry” Engel



- **UC Berkeley**
 - Adjunct Professor, Haas School of Business
 - Founder and Director Emeritus of the Lester Center for Entrepreneurship and Innovation
 - Teach Entrepreneurship, Venture Capital & Private Equity, Technology Commercialization and Innovation in the MBA and Executive Ed
- **Outside of Academe:**
 - **Venture Capital**
 - Monitor Venture Partners, General Partner [Current]
 - Co-founded: Kline Hawkes Capital [1995]
 - **Entrepreneur**
 - Co-Founder: AllBusiness.com, ElectraScan Inc., CardioProfile
 - Angel Investor, Board member: Maxis, Leapfrog, MedAmerica, Adaptive Planning, more...
 - **Big Company Experience**
 - 1980s: Ernst & Young, Managing Partner, Entrepreneurial Services
 - » Clients: Apple, Intel, Genentech, Sun, Autodesk, Fair Isaac, The Learning Company and more..
 - 1970s: KPMG



Leading through Innovation



What is Innovation ?



Innovation at 4:30 min

It's About Intersections...

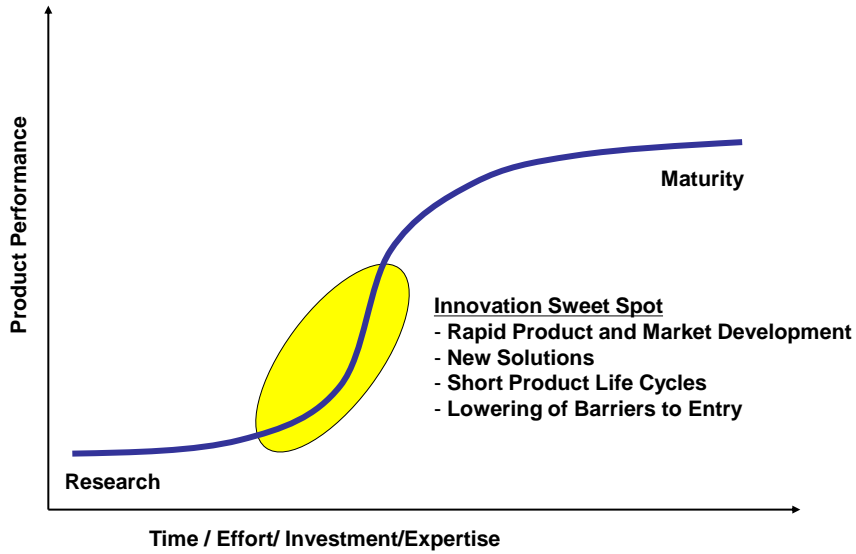


Innovation Inspiration

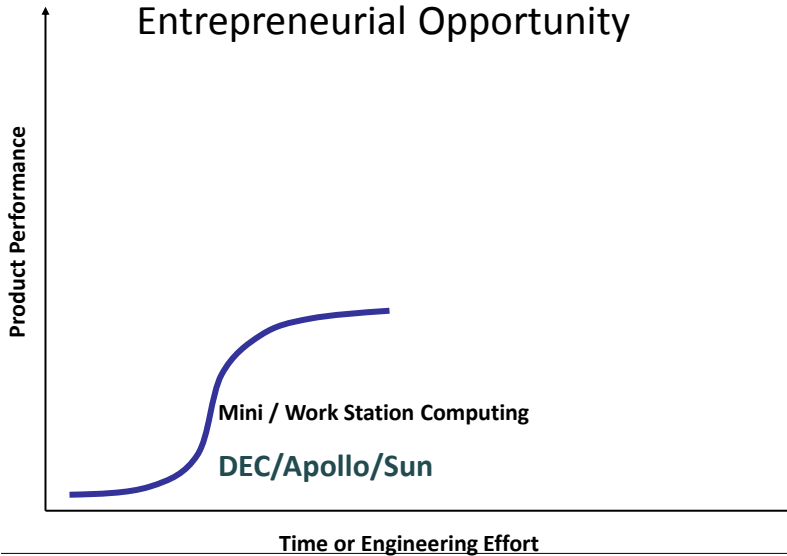
- "Innovation is the **specific tool** of **entrepreneurs**, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a **discipline**, capable **of being learned**, capable of being practiced."
- — Peter Drucker

Technology Innovation

The Technology Life Cycle “S Curve”

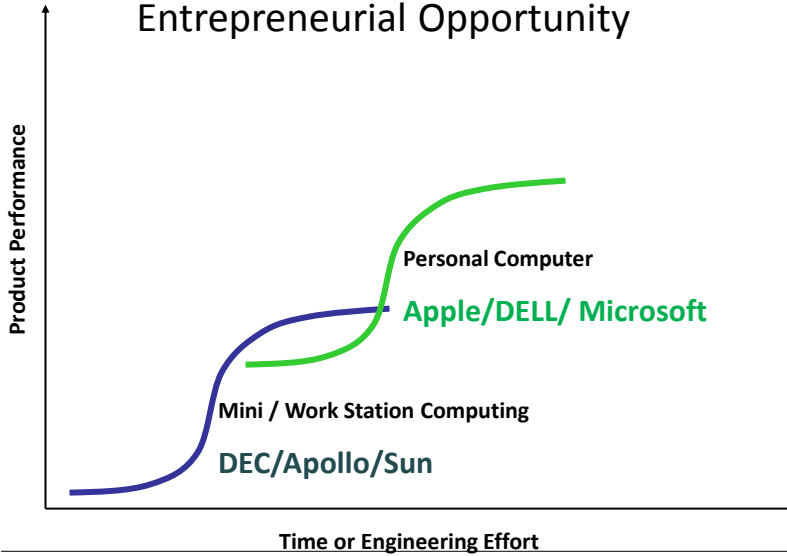


The Technology S Curve and Entrepreneurial Opportunity



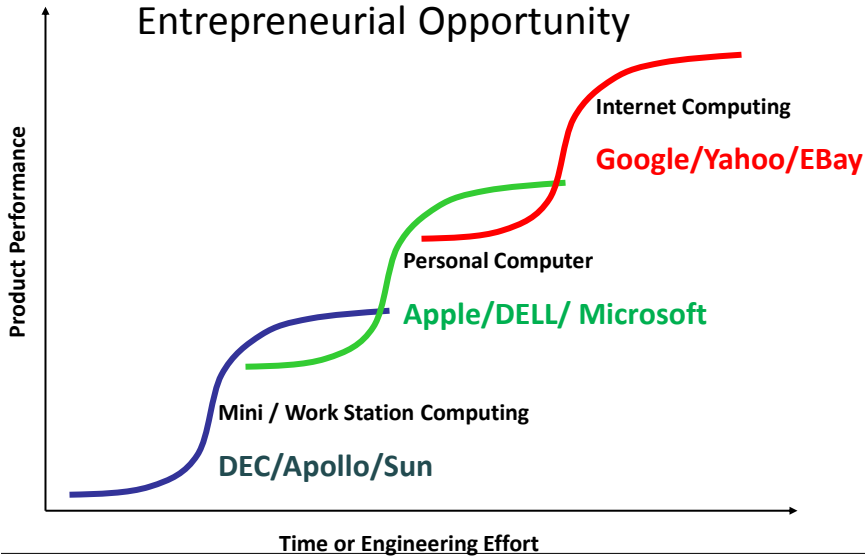
Adapted from: Clayton M. Christensen, "Exploring the Limits of the Technology S-Curve. Part I: Component Technologies," *Production and Operations Management* 1, no. 4 (Fall 1992): 340. Reprinted by permission.

The Technology S Curve and Entrepreneurial Opportunity



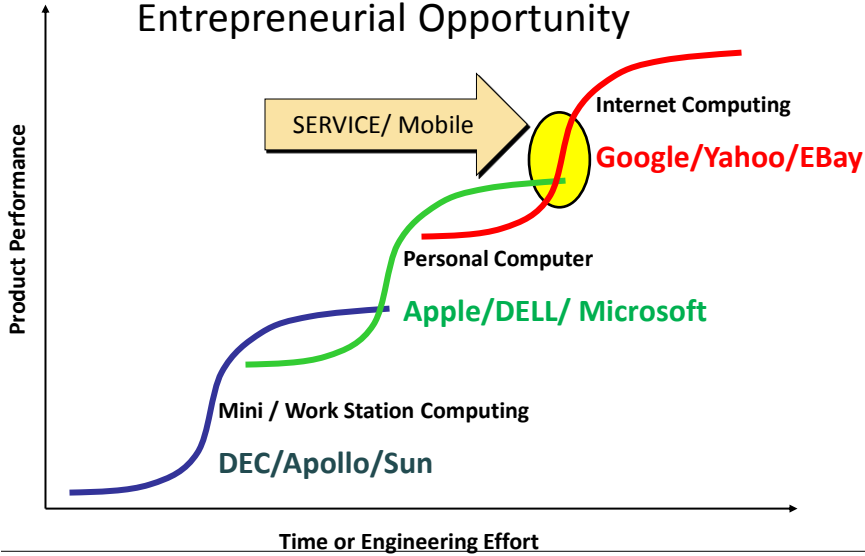
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The Technology S Curve and Entrepreneurial Opportunity



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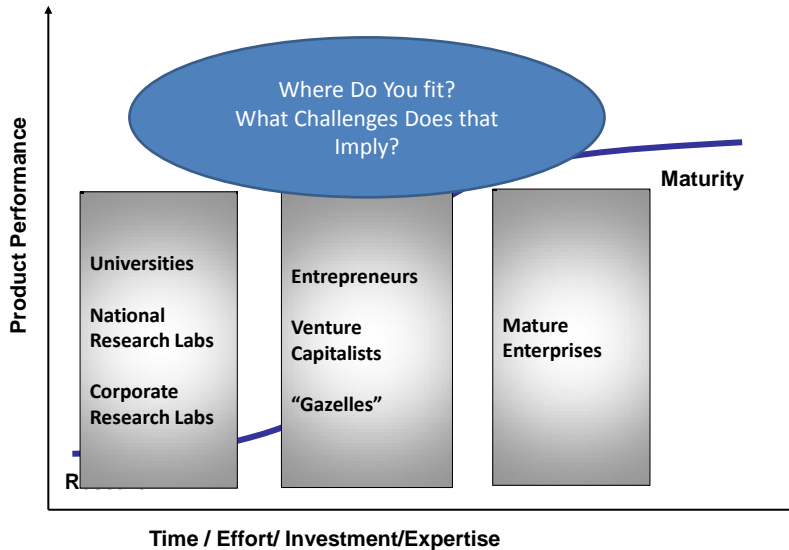
The Technology S Curve and Entrepreneurial Opportunity



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Technology Innovation



The Technology Life Cycle "S Curve"



Entrepreneurship Bridges the Gap

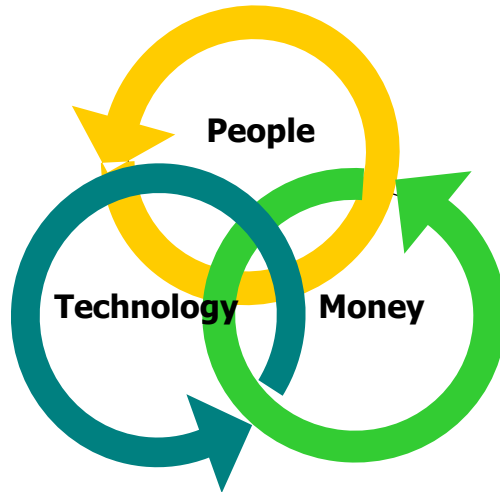


Entrepreneurial Process

- **Identify**
 - Need
 - Solution
 - 'Unfair Advantage' *Opportunity*
- **Acquire**
 - Technology rights
 - People
 - Money *Resources*

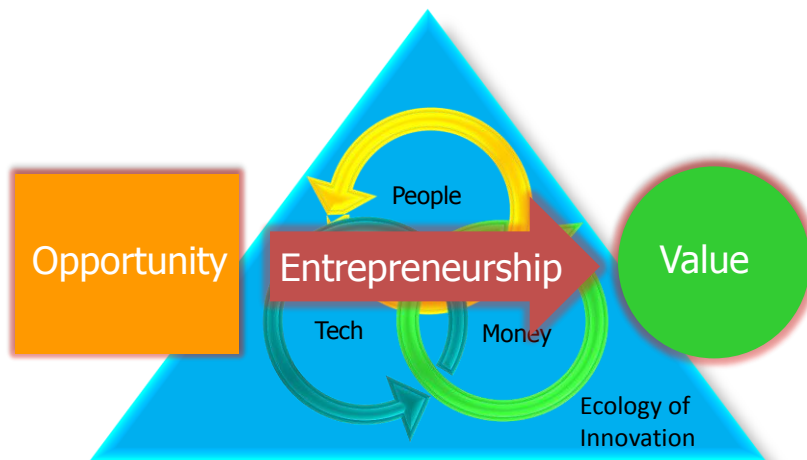
The Entrepreneur's Task....

- Key Resources
 - Technology
 - Money
 - People



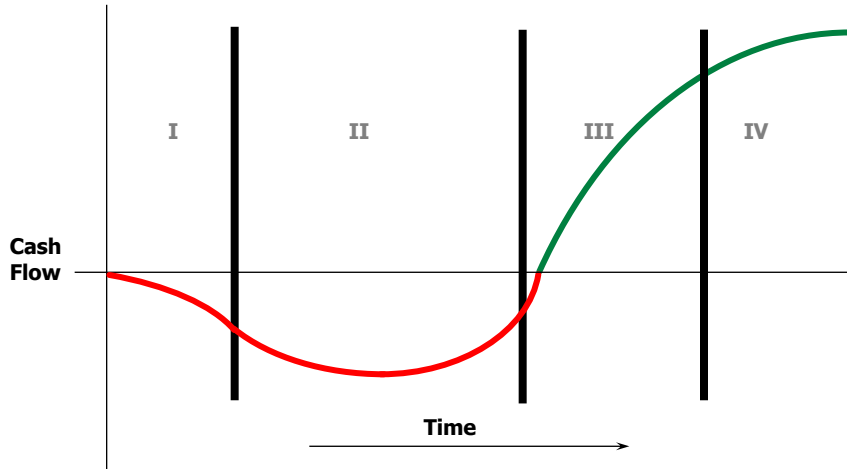
Key Skill of Professional Entrepreneur

Engaging the Ecosystem to Support the Venture



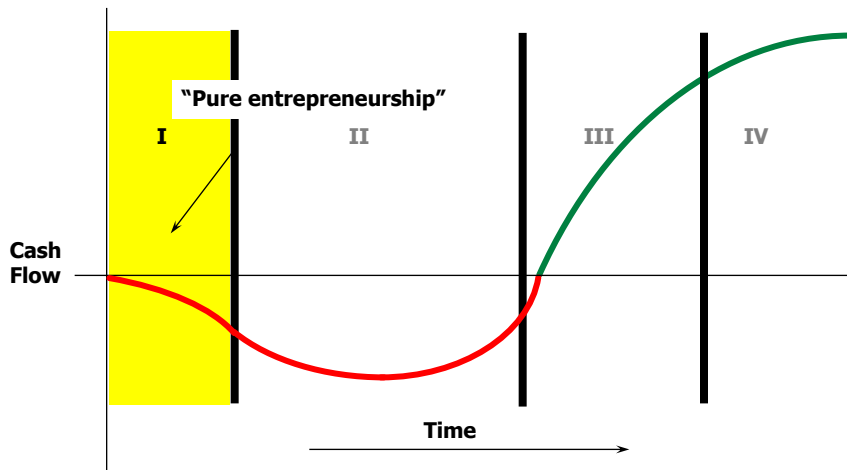
Engaging the Ecosystem Builds and Ecology of Innovation

The Entrepreneurial Venture FOUR PERIODS of DEVELOPMENT



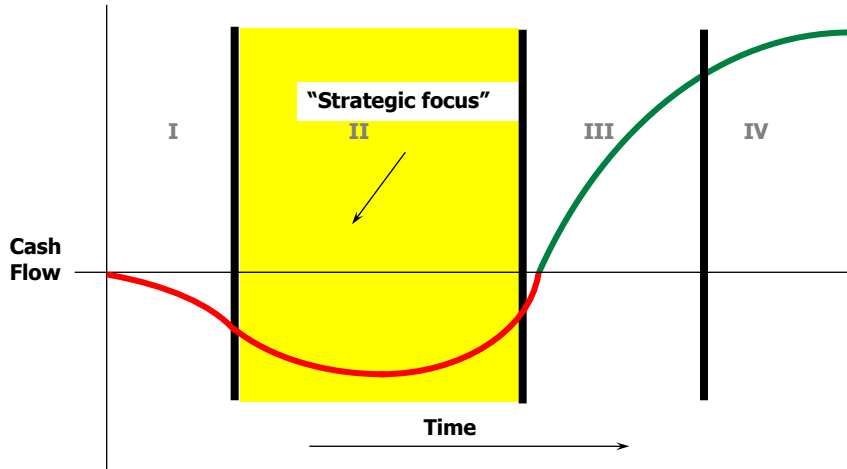
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The Entrepreneurial Venture FOUR PERIODS of DEVELOPMENT



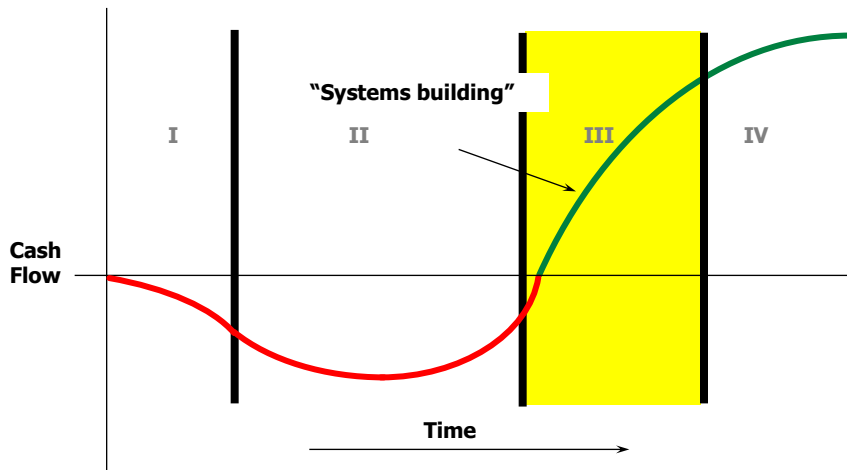
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The Entrepreneurial Venture FOUR PERIODS of DEVELOPMENT



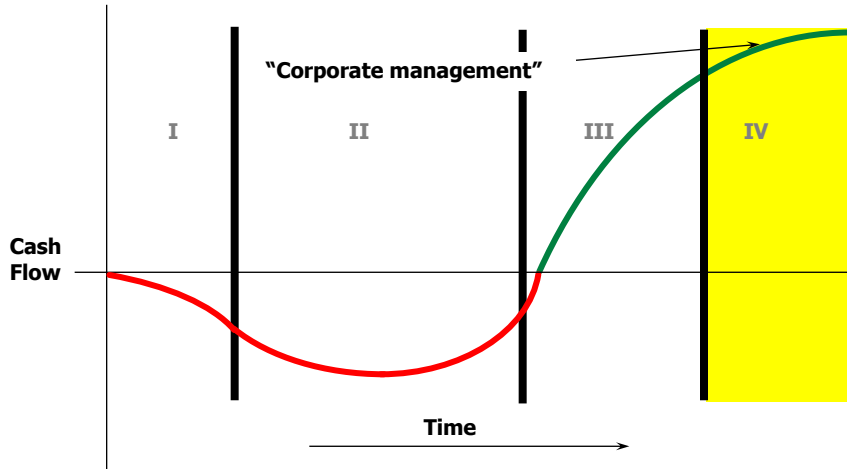
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The Entrepreneurial Venture FOUR PERIODS of DEVELOPMENT



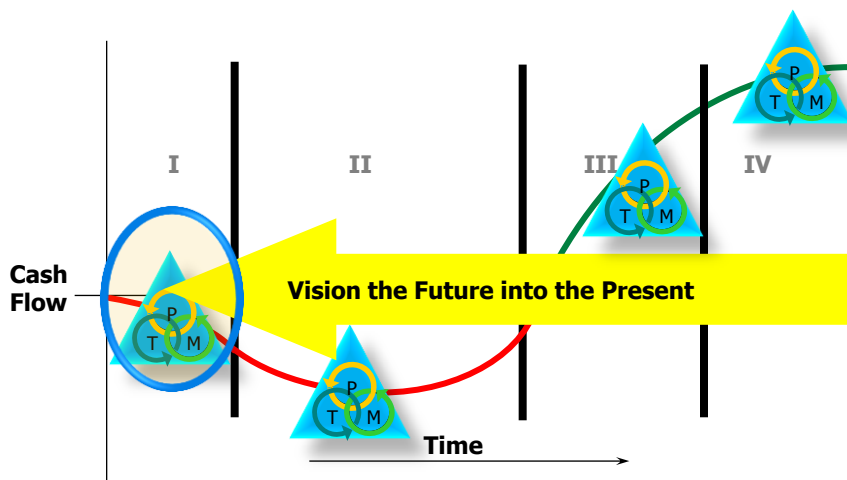
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The Entrepreneurial Venture FOUR PERIODS of DEVELOPMENT



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THE ENTREPRENEUR'S TASK



Freeman, J. & Engel, J. (2007)

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Part 1
Not All Startups Are Alike

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What We Used to Believe

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There is **one type of startup and
entrepreneur**

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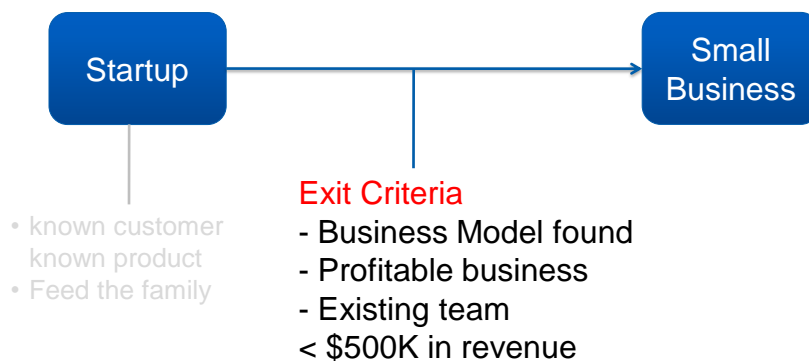
**21st Century Entrepreneurship:
What We Now Know**

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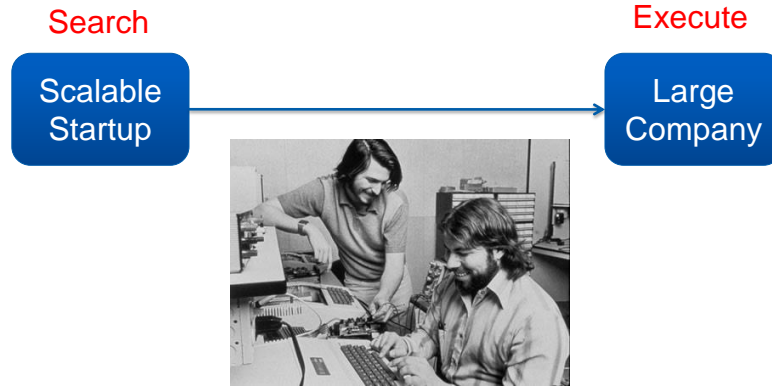
Small Business Startups Work to Feed the Family



Small Business Startups Work to Feed the Family



Scalable Startup



- In contrast a *scalable startup* is designed to grow big
 - Typically needs risk capital
 - What Silicon Valley means when they say “Startup”
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Scalable Startup



Goal is to solve for:
 unknown customer and
 unknown features

Scalable Startup Born to Be Big



Exit Criteria

- Business model found
- Total Available Market > \$500M
- Can grow to \$100M/year

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Buyable Startup Born to Sell



Typically:
Internet, Mobile, Gaming Apps



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Buyable Startup



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Summary Part 1: Multiple Types of Startups

Policies, Funding and Tactics **Differ**
Techniques to build them are **the same**

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Part 2
Search Versus Execution

Startups Are Not Smaller Versions of
Large Companies

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What We Used to Believe

Search vs. Execution

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Startups are **Smaller Versions** of Large Companies

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What We **Now** Know

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Startups Search
Large Companies Execute

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What We Used to Believe

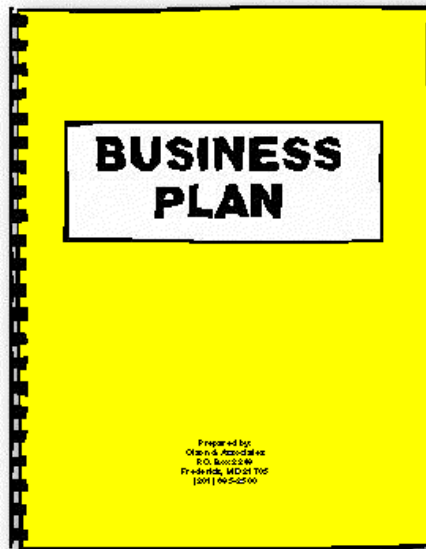
Strategy

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**Start With an Operating Plan
and Financial Model**

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**1980 – 2010
30 Years Building and Executing the Plan**



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**Actual Photo of What Happened
When My **Plans** Had
First Contact With Customers**

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No Business **Plan** survives
first contact with customers

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What We Used to Believe

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	A	B	C	D	E	G	H	I	J	K	L	M	N		
32	Balance Sheet												Year		
33											1999	2000	2001	2002	2003
34	Assets														
35		Cash and cash equivalents*								\$4.27	\$6.38	\$7.62	\$8.83	\$7.00	
36		Accounts receivable*								\$20.58	\$24.39	\$28.77	\$34.11	\$32.00	
37		Inventories*								\$26.73	\$30.45	\$36.75	\$43.27	\$38.00	
38		Deferred income taxes*								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
39		Total current assets								\$51.58	\$61.22	\$73.14	\$86.21	\$77.00	
40		Fixed assets											\$613.28	\$650.00	
41		Property, plant, and equipment*											\$622.26	\$615.00	
42		Leasehold improvements*											\$12.26	\$15.00	
43		Net fixed assets								\$232.92	\$218.83	\$391.47	\$491.02	\$535.00	
44		Goodwill*								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
45		Intangible assets*								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
46		Other assets*								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
47		Total assets								\$284.50	\$380.05	\$464.61	\$577.23	\$612.00	
48	Liabilities														
49		Accounts payable*								\$31.83	\$63.43	\$83.84	\$94.41	\$80.00	
50		Current debt*								\$30.86	\$43.03	\$64.85	\$79.49	\$0.00	
51		Total current liabilities								\$62.69	\$106.46	\$148.69	\$173.90	\$80.00	
52		Long-term debt*								\$40.00	\$46.92	\$53.41	\$73.57	\$214.54	
53		Other long-term liabilities*								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
54		Total liabilities								\$102.69	\$153.38	\$202.10	\$247.47	\$294.54	
55	Shareholders' equity														
56		Common Stock and Additional Paid in Capital*								\$90.00	\$130.00	\$160.00	\$220.00	\$200.00	
57		Retained Earnings*								\$91.81	\$96.67	\$102.51	\$109.76	\$117.46	
58		Total Shareholders' Equity								\$181.81	\$226.67	\$262.51	\$329.76	\$317.46	
59		Total liabilities and shareholders' Equity								\$284.50	\$380.05	\$464.61	\$577.23	\$612.00	

All We Needed was the
5-Year Forecast

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What We Now Know

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VC's and the
Soviet Union
were the only
people to believe
5-Year Plans



**We now know how to make
startups fail less**

How?

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Is this all there is?

EXECUTION

A screenshot of a financial spreadsheet with multiple columns and rows of data, including numerical values and some text labels.

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SEARCH

EXECUTION



Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270
Expenses	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165
Profit	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105

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SEARCH

EXECUTION



Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
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Profit	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105

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Startups Are **Not Smaller Versions of Large
Companies**

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**Startups Are Not Smaller Versions of Large
Companies**

Large Companies **Execute
Known Business Models**

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**Startups Are Not Smaller Versions of Large
Companies**

Startups **Search** for Unknown
Business Models

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What's A Startup?

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A temporary organization
designed to search
for a repeatable and scalable
business model

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A temporary organization
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**A temporary organization
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**A temporary organization
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**Startups Fail Because They Confuse *Search*
with *Execution***

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Startups need their own tools,

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**Startups need their own tools, different from
those used
in existing companies**

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**Summary Part 2:
Search Versus Execution**

Startups Need **Tools to Search**

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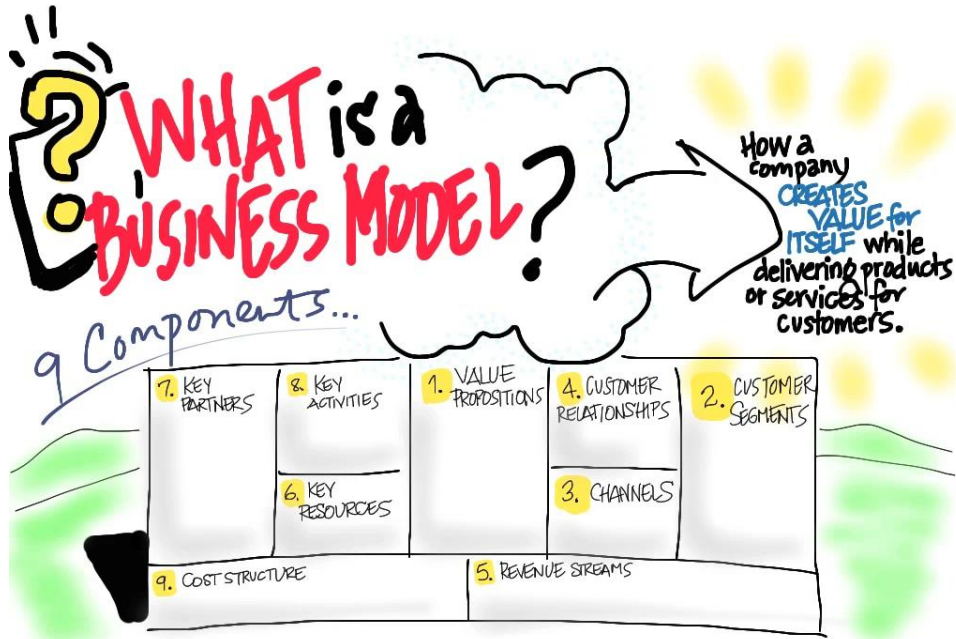
Part 3
Can We Build a
Process to Search?

Before we Execute

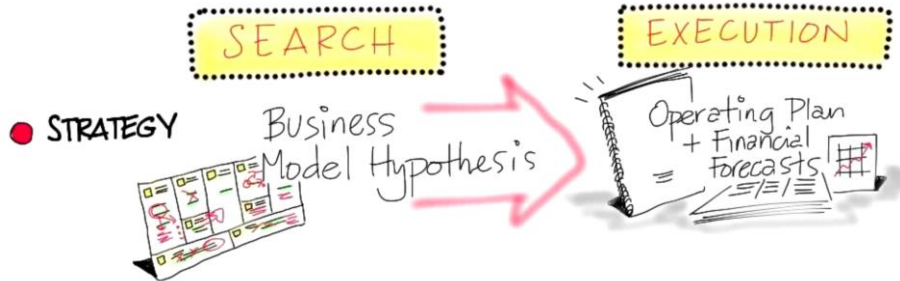
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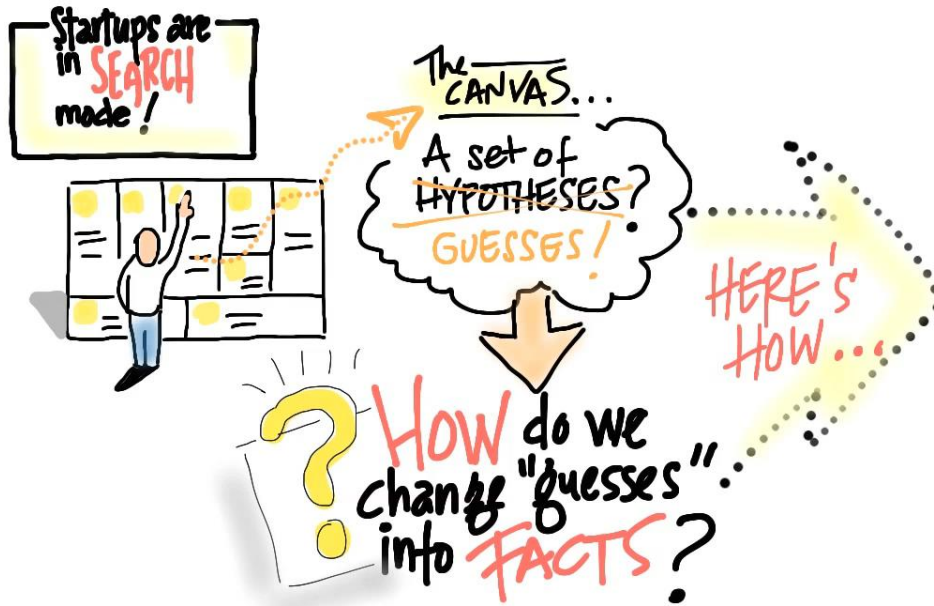
But What is it We're Searching For?

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© 2012 Steve Blank

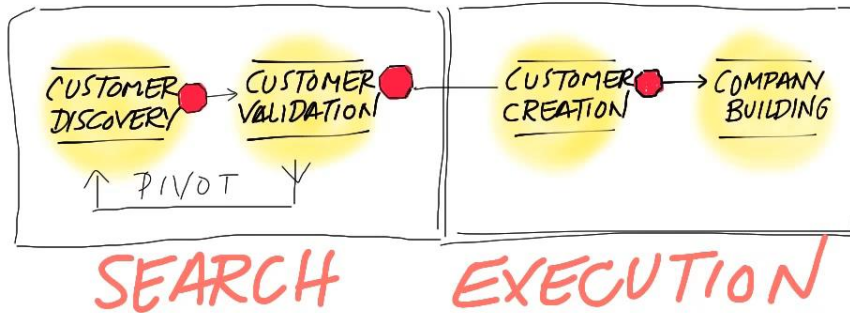




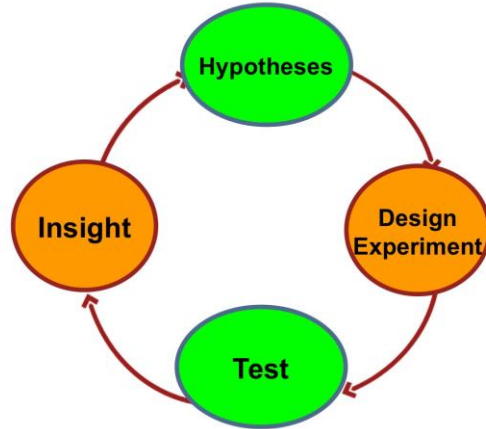
The **CUSTOMER DEVELOPMENT PROCESS**

Customer Development is **how you search** for the model

In other words...



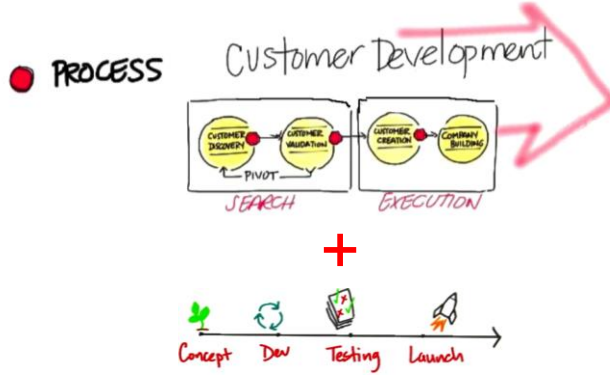
Customer Development is Hypothesis Testing



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SEARCH

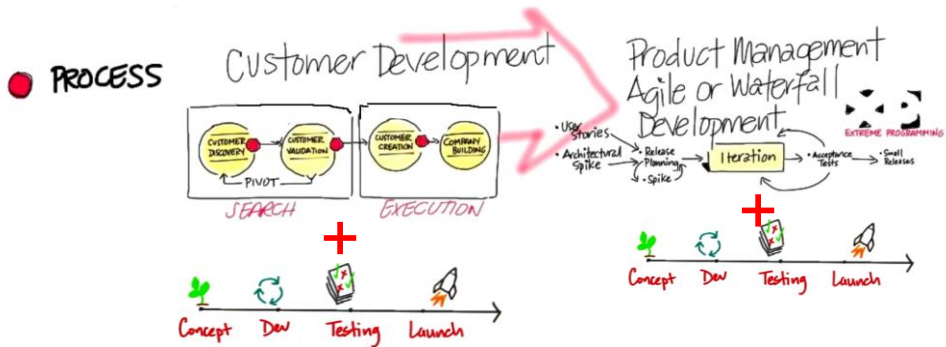
EXECUTION



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SEARCH

EXECUTION

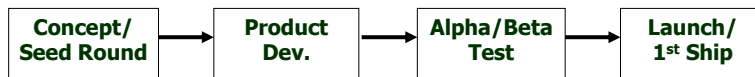


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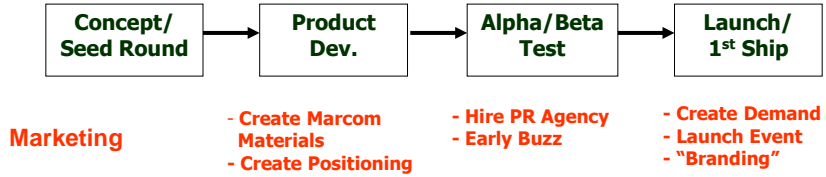
But What About Product Development and Introduction?



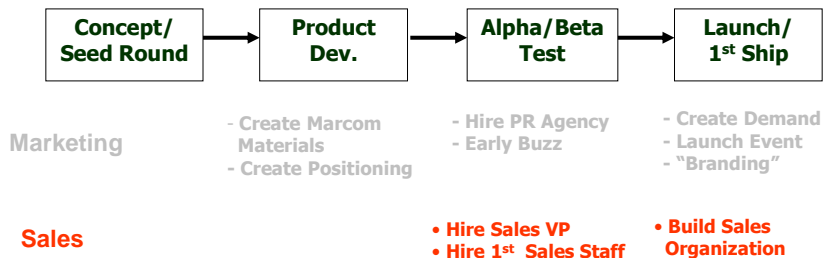
Product Introduction Model



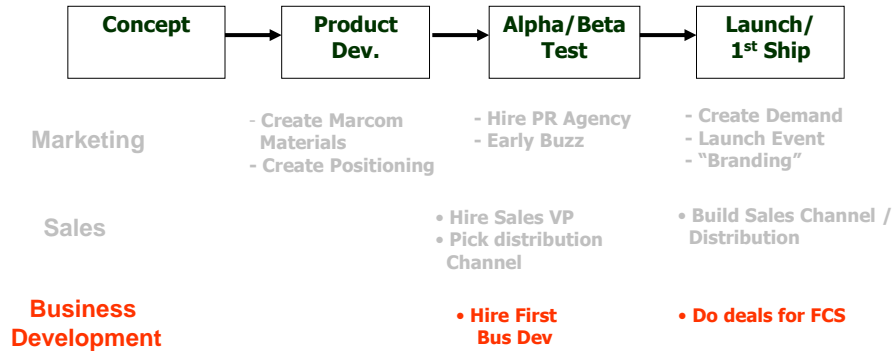
Tradition – Hire Marketing



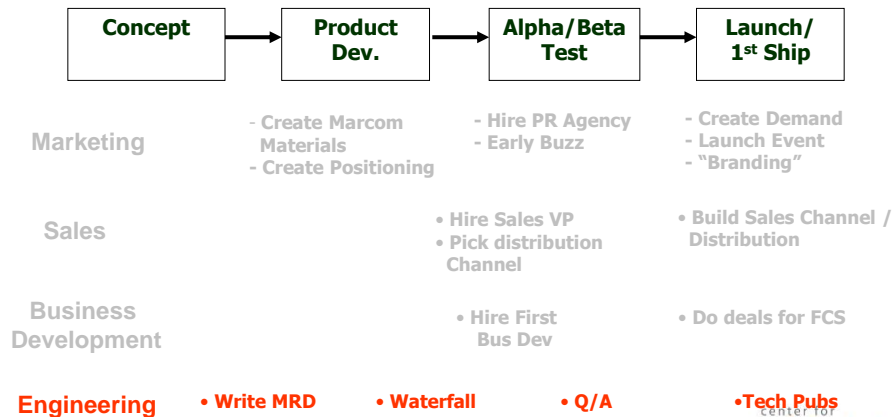
Tradition – Hire Sales



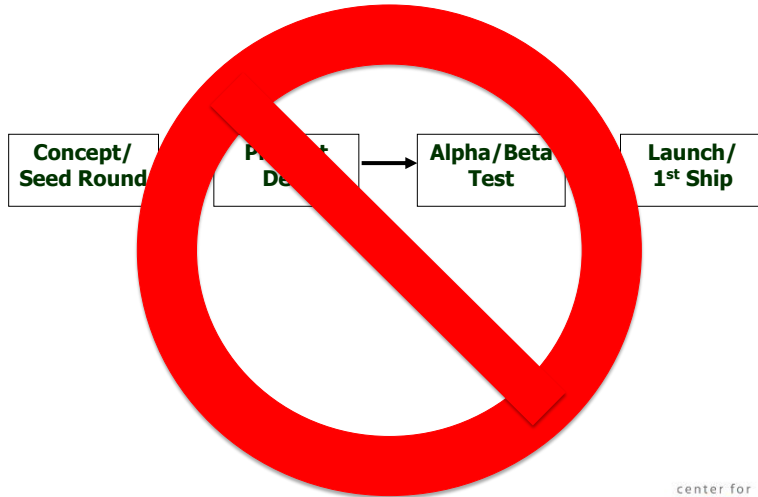
Tradition – Hire **Bus Development**



Tradition – Hire **Engineering**

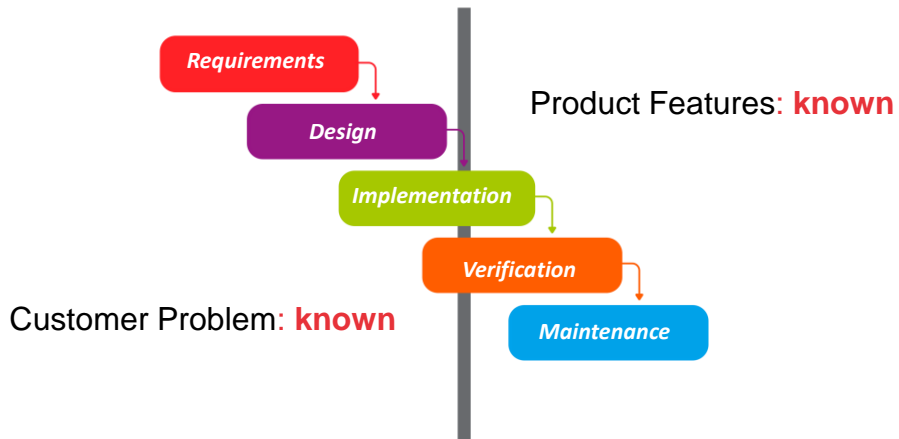


Product Introduction Model



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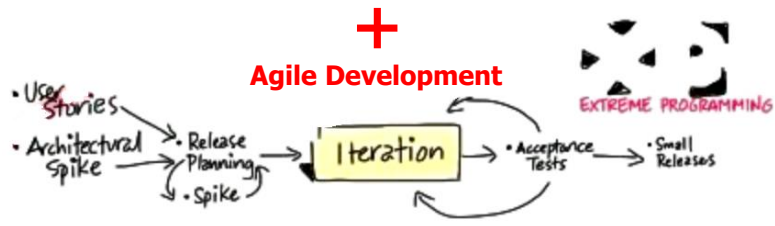
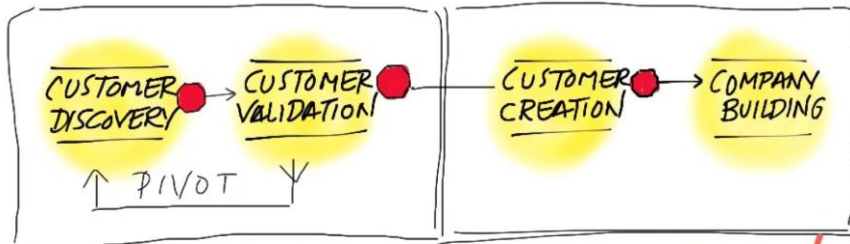
Waterfall / Product Management Execution on Two “Knowns”



Source: Eric Ries <http://startupslessonslearned.blogspot.com>

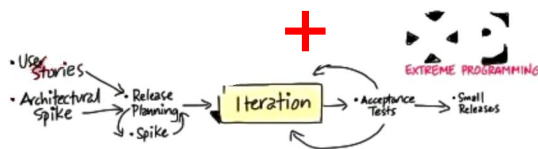
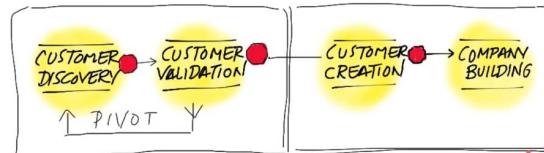
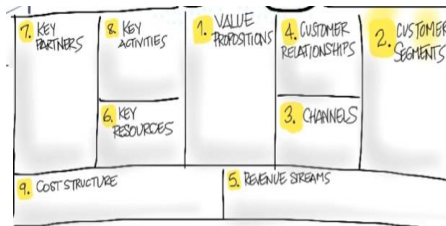
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Which We Turned Into A Better Model

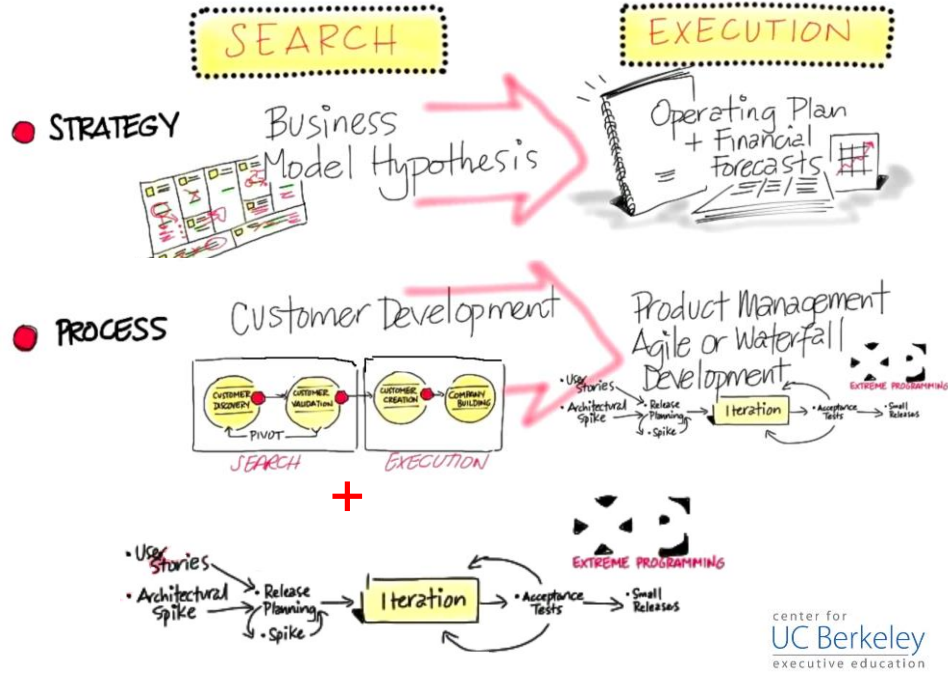


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**..and then..
Turned Into an Even Better Model**



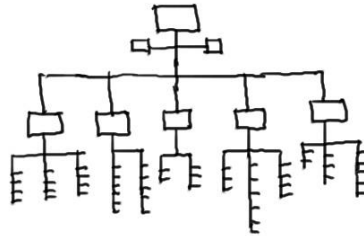
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What We Used to Believe

Organization

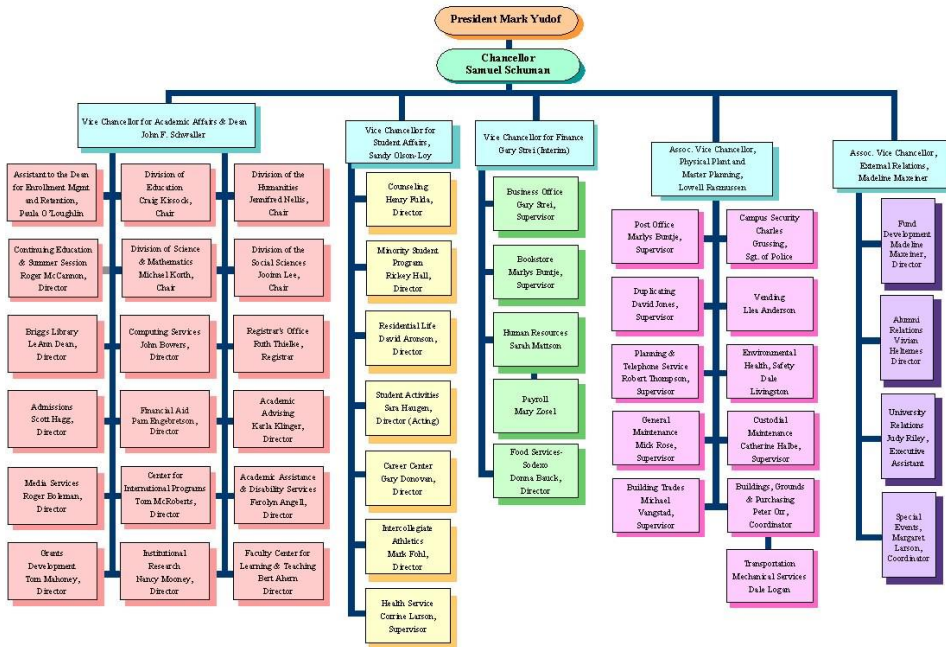
Hire and Build a Functional Organization



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(February 2002)

Administrative Organization University of Minnesota, Morris



(February 2002)

Administrative Organization
University of Minnesota, Morris



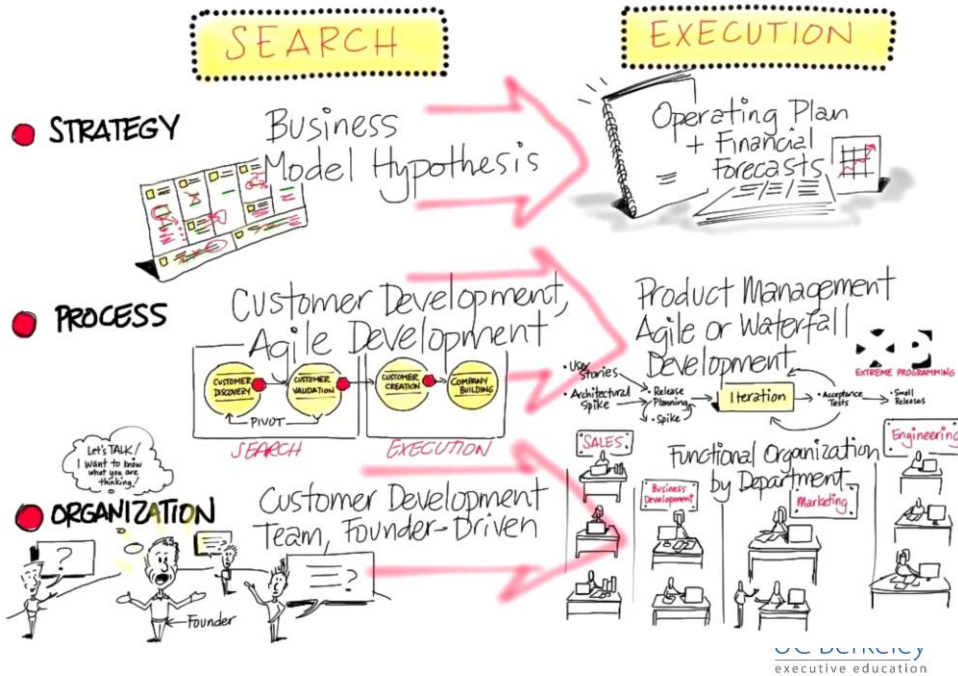
What We Now Know

Organization

Founders run a Customer Development Team

No sales, marketing and business development

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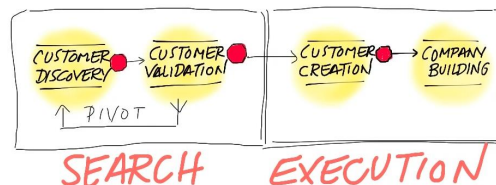
Summary Part 3

Tools for Search: Business Model Customer Development Agile Engineering

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Implications of Search and Execution The Customer Discovery/LLP Approach

- Lower Initial Investment
 - Minimum Viable Product [MVP] tests only crucial features
- Earlier testing and validation. Room to recover AND REVISE.
- More capital preserved and higher valuation achieved before scaling
- Scaling financing more available
- Clarify the role of the entrepreneur
- Able to retain entrepreneurs engaged in business senior leadership
- Higher rate of return for all
 - Entrepreneurs
 - Investors
 - Employees



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Part 4
Can We Teach Entrepreneurship?

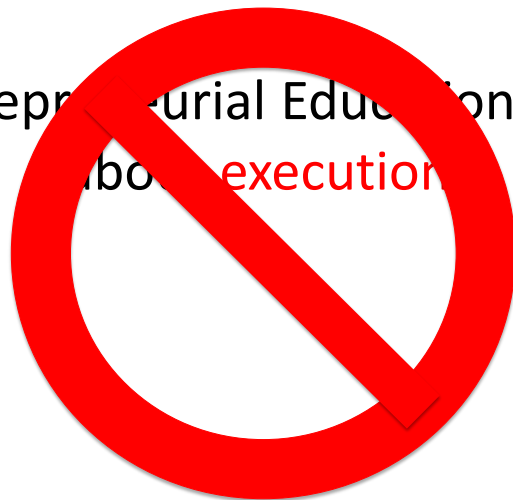
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What We Used to Believe

Education

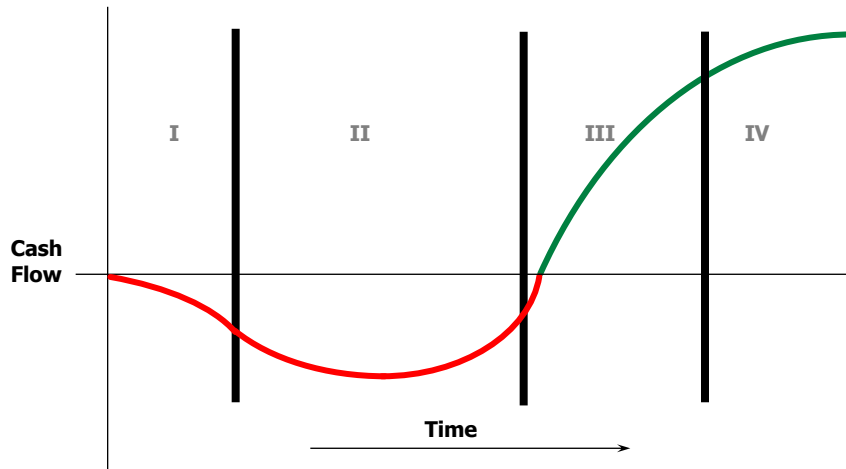
Entrepreneurial Education was
about **execution**

Entrepreneurial Education was
about **execution**

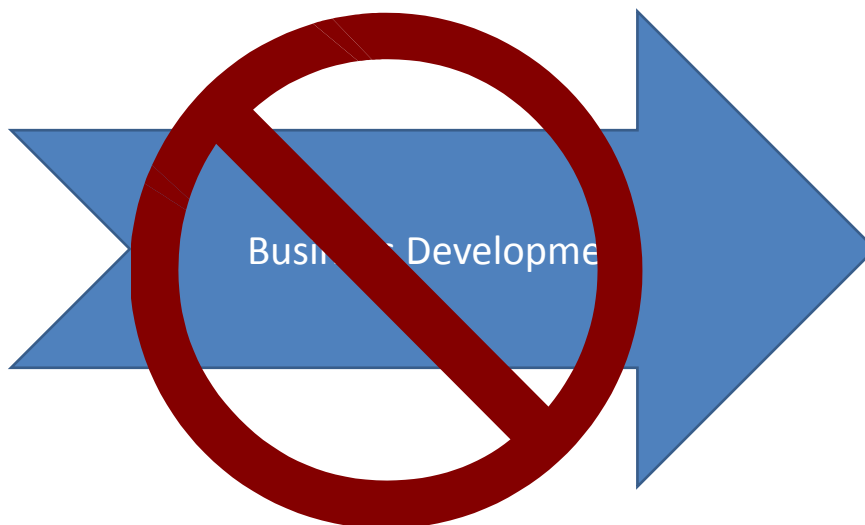


The Entrepreneurial Venture

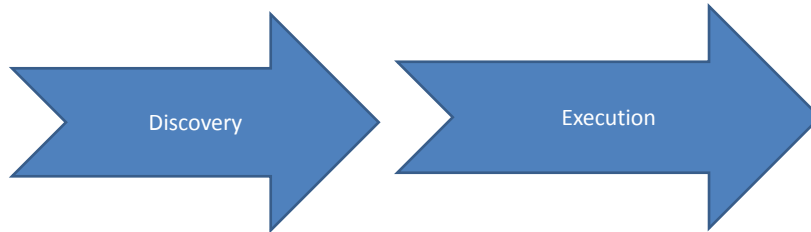
FOUR PERIODS of DEVELOPMENT



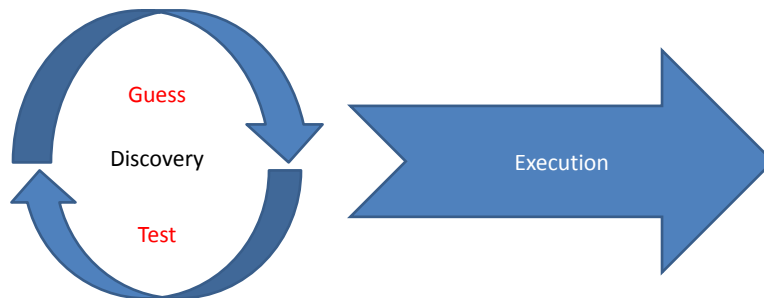
New Venture Development Education



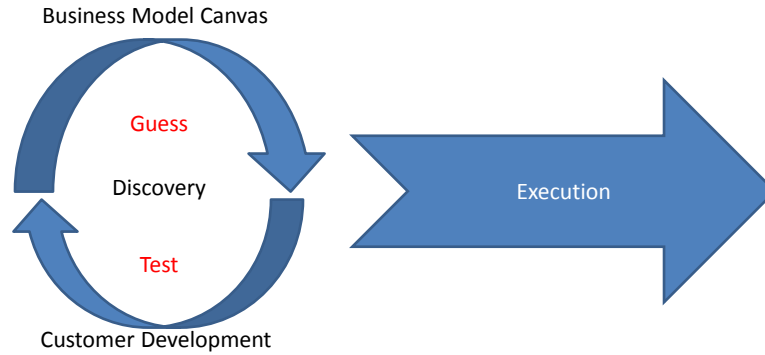
New Venture Development Education



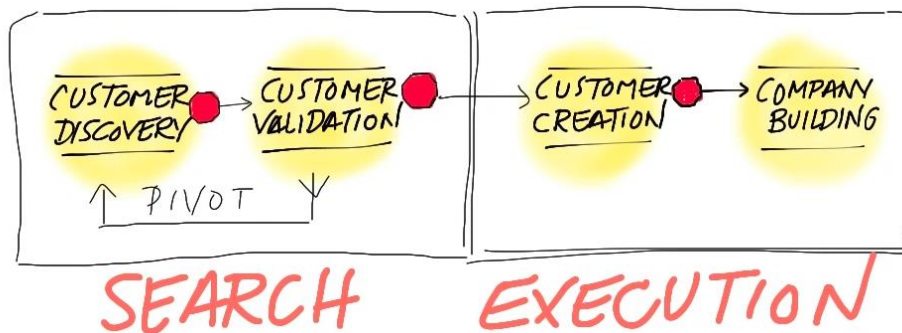
New Venture Development Education



New Venture Development Education

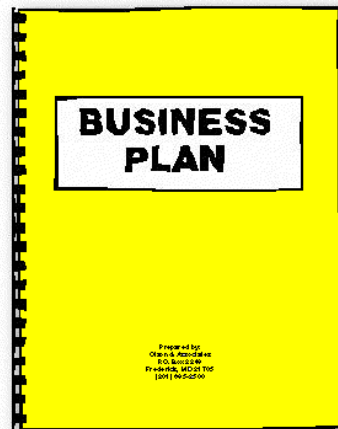
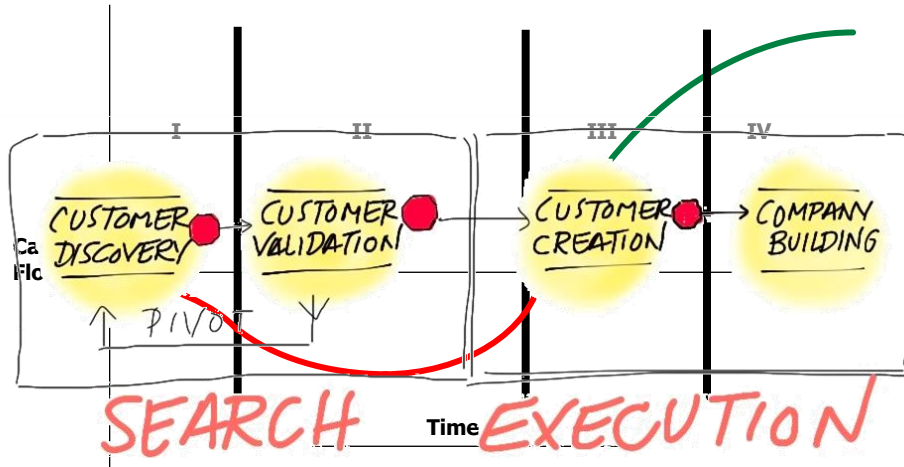


Customer Development is
how you search for the model

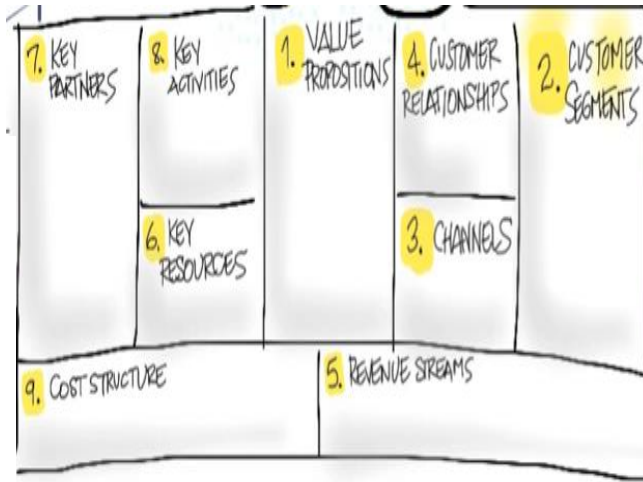


The Entrepreneurial Venture

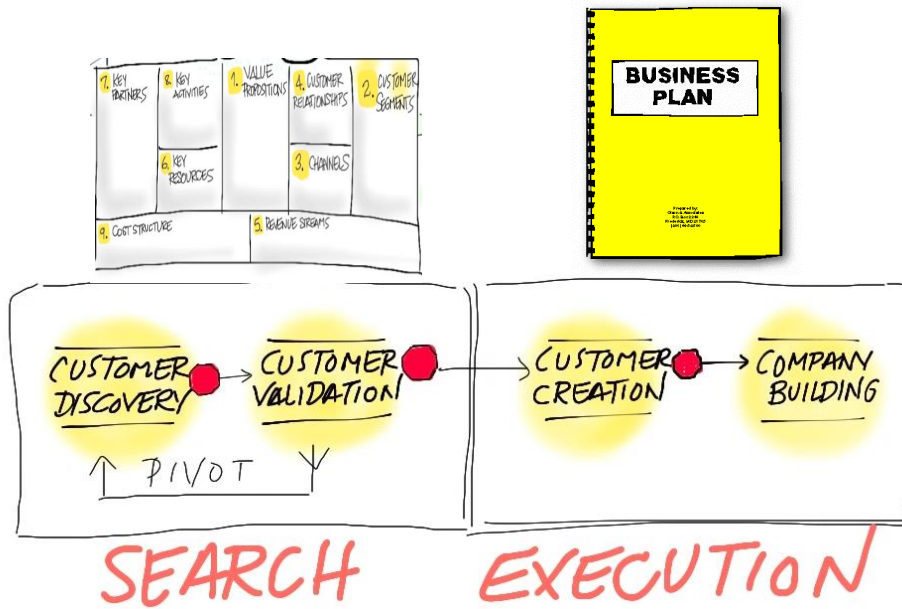
FOUR PERIODS – BUT THE SEARCH PHASE IS DIFFERENT!



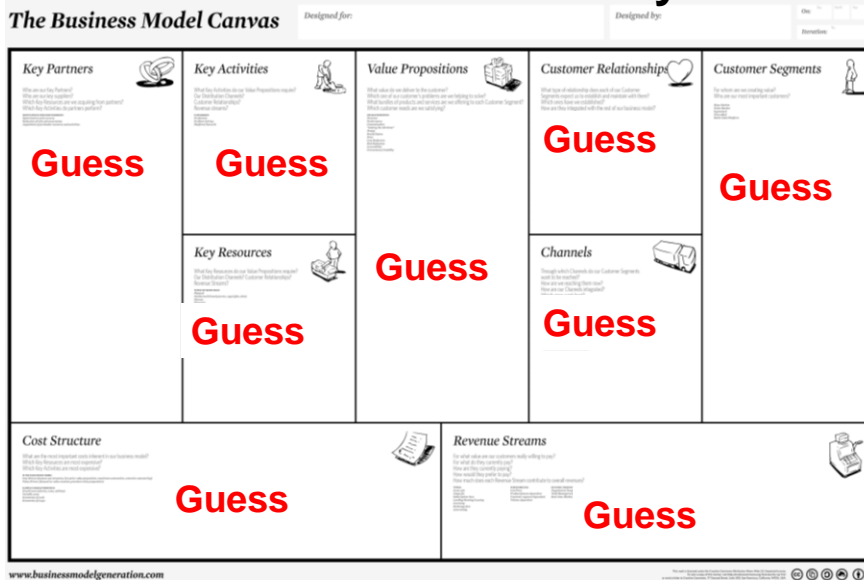
Business Model Canvas



To Manage
Search

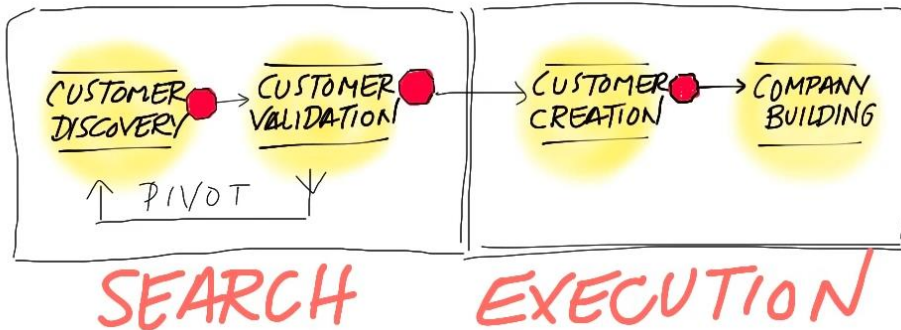


9 Guesses – Customer Discovery



The
CUSTOMER DEVELOPMENT PROCESS

In other words...

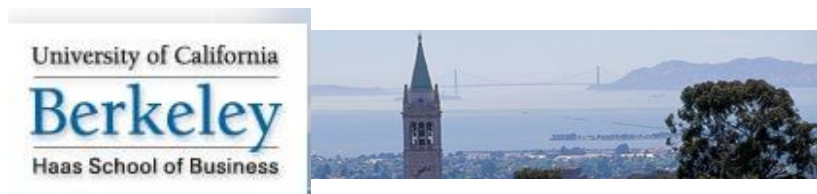


How Did this Evolve?

The Lean LaunchPad Journey

It all started about 10 years ago when
Steve Blank walked in my office
At UC Berkeley.....

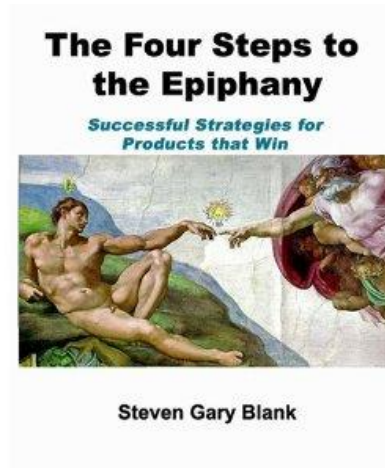
First we experimented with a class



MBA 295: Customer Development

Co-taught with: Rob Majteles @ Treehouse Ventures

Then Steve Wrote a “Book”



And Then Into Another Class



Engr 245: The Lean LaunchPad

Co-taught with: Jon Feiber @ MDV

Ann Miura-Ko @ Floodgate

And that Turned into Another Book



Then It Turned Into Another Class



Co-taught by:

Steve Blank
Jon Feiber @ MDV
Jim Hornthal @ CMEA
John Burke @ True Ventures
Jerry Engel @ Haas/Monitor Ventures
Bhavik Joshi @ Better Place
Oren Jacob @ Pixar

The Prototype
"MVP"

Then It Turned Into Another Class



Managed by



The Scale-Up

Trained the Trainers



The Scale-Up

Added two
More Schools



And Four More Schools



Co-taught with Murray Low @ Columbia
Bob Dorf



Co-taught with: Jon Feiber @ MDV

National Roll-out



Taught by Jim Horntal



Taught by Takashi Tsutsumi @ Hosei

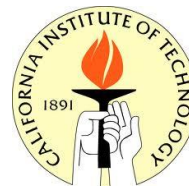
And Four More Schools

Add 5-day version of the class



Co-taught with Murray Low @ Columbia
Bob Dorf

← 5-day Version →



Co-taught with: Jon Feiber @ MDV



Taught by Jim Horntal



Taught by Takashi Tsutsumi @ Hosei

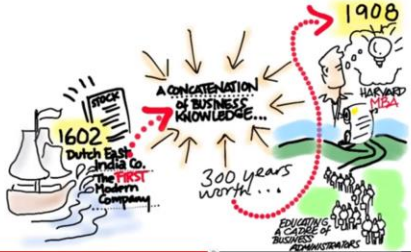
Put the class online

60,000 students

UDACITY EP245 My Classes - Welcome, Steve Blank -

Overview **Classroom** Discussion Wiki Announcements Progress

History Of The Corporation Like 44 Tweet 12 +1 14



1602 Dutch East India Co. The FIRST Modern Company

A concatenation of business knowledge...

300 years worth...

1908 HARVARD MBA

EDUCATION'S COLLEGE OF BUSINESS ADMINISTRATION

1:13 / 2:25

< Previous Next >

Auto-Next: ON

- + Lecture 0: Before You Get Started
- Lecture 1: What We Now Know
- ✓ 1. What We Now Know
- ✓ 2. History Of The Corporation
- ✓ 3. Startups Are Not Smaller Versions Of Large Companies
- ✓ 4. Strategy
- ✓ 5. Process
- ✓ 6. Waterfall Development
- ✓ 7. Customer vs Product Development
- ✓ 8. Why Do Startups Fail - Question Answer
- ✓ 9. Organization
- ✓ 10. Entrepreneurial Education
- ✓ 11. Startup Outcomes - Question - Answer
- + Lecture 1.5A: Business Models



Going Global

134

Online Class

enables a "flipped classroom"

UDACITY IC100 My Classes - Welcome, steve blank -

Overview **Classroom** Discussion Wiki Announcements Progress

Enroll

Get Physical Like 0 Tweet 0 +1 0



GET-KEEP-GROW

get customers

EARNED + PAID MEDIA

AWARENESS

INTEREST

CONSIDERATION

PURCHASE

Loop

2:15 / 2:32

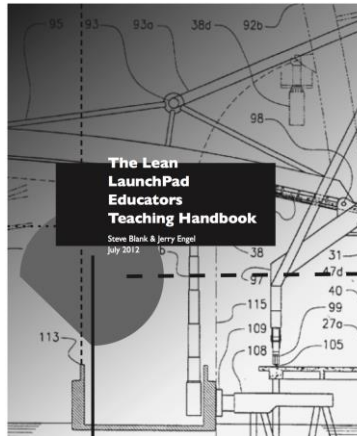
< Previous Next >

Auto-Next: ON

- + Lecture 4: Distribution Channels
- Lecture 5: Customer Relationships
- ✓ 1. Customer Relationships
- ✓ 2. Customer Archetypes
- ✓ 3. Paid Demand Creation
- ✓ 4. Earned Demand Creation
- ✓ 5. Get Keep Grow
- ✓ 6. Get Physical
- ✓ 7. Viral Loop
- ✓ 8. Get Alternatives
- ✓ 9. Keep Physical
- ✓ 10. Grow Physical
- ✓ 11. Get Web
- ✓ 12. Web Customer Acquisition Cost
- ✓ 13. Calculate Customer Acquisition Cost - Question - Answer
- ✓ 14. Keep Web
- ✓ 15. Grow Web

Instructor Comments Supplementary Material

Lean LaunchPad Educators Class



- Train 60 educators/quarter
- Run by NCIIA
- Taught by
 - Steve Blank
 - Jerry Engel

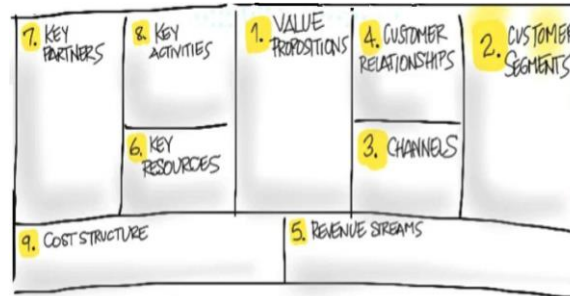


Changing Entrepreneurship Educators!

Teach Them the
Entrepreneurial API

Entrepreneurial API = 3 parts

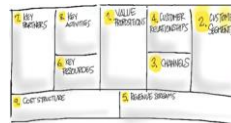
Part 1



Business Model Canvas

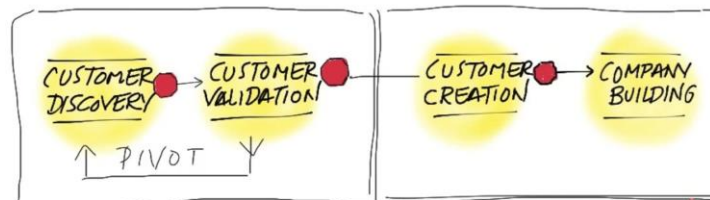
Entrepreneurial API

Part 1



+

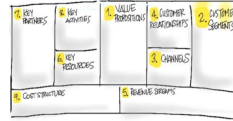
Part 2



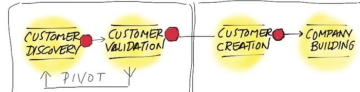
Customer Development

Entrepreneurial API

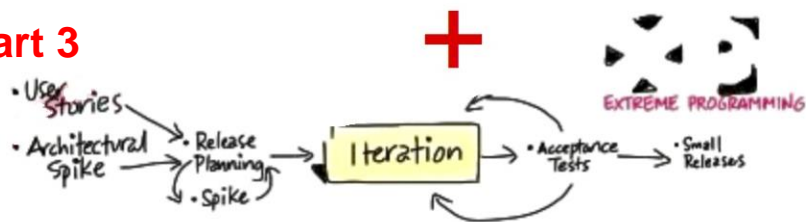
Part 1



Part 2



Part 3



Agile Engineering

Leading through Innovation



The Innovator!



It still takes a person ready to step forward...

Entrepreneurship is a Team Sport



Thank You

Jerome S. Engel
engel@haas.berkeley.edu

