

8. The Lean Launchpad and the Business Model Canvas

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Privo[®]technologies.

Current Business Model Canvas

<p>Key Partners</p> <ul style="list-style-type: none"> • NSF, NIH, NCI • Mass Life Sciences • Universities • Academic Centers • Angel Investors • Venture Capital • New England Hospitals • Global Hospitals • CRO's for manufacturing, preclinical and 	<p>Key Activities</p> <ul style="list-style-type: none"> • Fund Raising • Grant Writing • Optimize Formulation • Build Partnerships • Mfg NP's • Pre-clinical trials • Phase 1 Clinical Trials <p>Key Resources</p> <ul style="list-style-type: none"> • Scientists • Mass Life Science • NSF, NIH, NCI • IP Attorneys • Business Advisors • Science Advisors • Medical Advisors • GMP/GLP CRO's 	<p>VALUE PROPOSITIONS</p> <p>Replacing existing intravenous Oral Cancer chemotherapy</p> <ul style="list-style-type: none"> • Much Higher efficacy • Better quality of life • Vastly lower toxicity • Ease of use • Lower Total Cost <p>Other applications</p> <ul style="list-style-type: none"> • Deliver other drugs through buccal tissue using NP permeation • Use NP loaded Chemo-Wafer (CW) to deliver drugs to target other cancers 	<p>Customer Relationship</p> <ul style="list-style-type: none"> • Oncologists as advisors • Pharma as advisors/mentors • Oncology radiologists <p>Channels</p> <ul style="list-style-type: none"> • Large Pharma as partner or purchaser for Global Marketing, Sales, & Distribution 	<p>CUSTOMER SEGMENTS</p> <p>Chemo-Wafer Patients</p> <ul style="list-style-type: none"> • Age 62+ at diagnosis • Early Stage OC patients • Later Stage OC patients • HPV Patients (male age 40-59) • Oncology surgery patients <p>Head & Neck Oncologists Surgeons</p> <ul style="list-style-type: none"> • Maxillofacial and oral surgeons • General oncology surgeon <p>Large Pharma</p> <ul style="list-style-type: none"> • Licensing out 	
<p>Cost Structure</p> <ul style="list-style-type: none"> • Salaries • Lab space • Lab equipment 		<ul style="list-style-type: none"> • Materials & Supplies • Fund Raising • IP License & Development • Legal 		<p>Revenue Stream</p> <ul style="list-style-type: none"> • Commercial Licensing • Sale of the company • Royalties 	

Beat The Odds 5

Entrepreneurship is more of an Art than a Science

–from business plan competitions to the lean launch pad.

Entrepreneurship today is in a state of flux as the field has recoiled from the prescriptive approach of the last decade in which the business plan, and business plan competitions, defined the science of entrepreneurship. The annoying fact that many, if not most, new businesses simply did not use business plans was viewed as something undesirable and needing to be corrected.

As scholars looked at start-ups in a systematic fashion, they also observed that even those that did have business plans rarely executed those business plans in a linear fashion. In fact, most successful new businesses ended up on a trajectory that was not envisioned in the original plan. The ability of a new venture to change its business model dramatically in mid-course has come to be known as a **pivot**. This has led to many scholars abandoning the idea of the business plan altogether.

An Alternative Viewpoint-Effectual Entrepreneurship

In Chapter 6 on Feasibility, we introduced the concepts of effectual entrepreneurship as developed by Saras Sarasvathy. She studied entrepreneurship carefully and has criticized the causal process as much too deterministic. Life is simply not that orderly! She has proposed an alternative formulation that she terms “the effectual entrepreneur.” In her formulation there are five major principles:

Bird in Hand – Who are you? What do you know? Who do you know? What do you have?

Affordable Loss –Limit risk by focusing on the downside and knowing what you can afford to lose when you go after the upside.

Lemonade – Use your lemons to make lemonade. Use the bad news as a clue to what might work in new markets.

Patchwork Quilt – Form partnerships. Working together can increase the probability of success through co-creation of new markets.

Pilot in the Plane –Control rather than predict. The future is created rather than found or predicted.

- <http://www.effectuation.org/sites/default/files/documents/what-makes-entrepreneurs-entrepreneurial-sarasvathy.pdf>
- <http://www.effectuation.org/sites/default/files/documents/effectuation-3-pager.pdf>
- <http://www.imd.org/news/Creating-entrepreneurs-that-create-opportunities-the-Effectual-Entrepreneurship-textbook.cfm>
- see also “Effectual Entrepreneurship”, by Stuart Read, Saras Sarasvathy, Nick Dew, Robert Wiltbank and Anne-Valérie Ohlsson Routledge Publishing; NY, NT (2010).

The Lean Launchpad

- In this chapter we will introduce the concept of the lean launchpad, as it is used in the National Science Foundation iCorp Program to encourage scientists and engineers to move their research into the market place through entrepreneurship.
- You will no doubt notice the similarities to the approach and the conclusions that Steve Blank reached in the development of the lean launchpad.
- Sarasvathy is a scholar who has done a careful study and published her work in peer reviewed journals to be evaluated and perhaps substantiated (or refuted) by her peers.
- Blank is a serial entrepreneur of some success who draws on his personal experiences and is a consumer of research rather than a producer. His formidable marketing skills have made the lean launchpad a hot topic around the world.
 - <http://www.forbes.com/sites/steveblank/2013/06/18/the-lean-launchpad-educators-course/#df15d0d43a74>

Steve Blank

- Steve Blank became the leading apostle of business plan rejection about five years ago. In 2009 he wrote that *“In the real world, most business plans don’t survive the first few months of customer contact. And even if they did – customers don’t ask to see your business plan. Steve advocated for the supremacy of business models and he enshrined the concept of the pivot as part of his mantra of the “Customer Development Process” with the concepts of*
 - *“minimum viable product (MVP),”*
 - *“iterate and pivot”,*
 - *“get out of the building,”* and
 - *“no business plan survives first contact with customers.”*
- <http://www.forbes.com/sites/steveblank/2013/06/18/the-lean-launchpad-educators-cour>
- <http://steveblank.com/about/>
- <http://steveblank.com/2009/05/07/business-plan-competitions-2/>
- <http://www.businessinsider.com/the-lean-launchpad--teaching-entrepreneurship-as-a-m>
- <https://www.udacity.com/course/how-to-build-a-startup--ep245>
- <http://www.entrepreneur.com/article/219772>
- <http://nciia.org/sites/default/files/u7/Educators%20Guide%20Jan%202014.pdf>



Steve Blank says:

- After decades of watching thousands of startups follow this standard regimen, we've now learned at least three things:
 - As business plans are full of untested assumptions, they rarely survive first contact with customers. As the boxer Mike Tyson once said about his opponents' prefight strategies: "Everybody has a plan until they get punched in the mouth."
 - No one, aside from venture capitalists and the former Soviet Union, requires five-year plans to forecast a series of unknowns. These plans are generally fiction, and conceiving them is almost always a waste of time.
 - Startups are not smaller versions of large companies. They do not unfold in accordance with master plans. Those that ultimately succeed go quickly from failure to failure, all the while adapting, testing new iterations, and improving their initial ideas as they continually learn from customers.
 - Existing companies execute a business model, startups search for one. This distinction is at the heart of the Lean Startup approach. It shapes the lean definition of a startup:
 - **a temporary organization designed to search for a repeatable and scalable business model.**
- <http://nciia.org/sites/default/files/u7/Educators%20Guide%20Jan%202014.pdf>

Concerns not new

To be fair to many others in the field, his insights into the shortcomings of the business plan were not entirely new, and were probably more a reaction to the way the business plan had become unexamined enshrined dogma that hampered development rather than helped. The problem was not that doing a business plan was bad, but that too many people actually believed that the business plan was an actual “plan” in the sense that large companies create plans. Most of those who taught entrepreneurship already knew that the business plan was something that required regular testing and revision.

I often told my students that the last step in the development of ANY plan was to step back and ask yourself what you were going to do when the plan did not go as planned.

Blank made the significant contribution of pulling together the alternate approaches, rebranding it, and marketing it into key constituencies –with one of his students, **Eric Reis**. Their Lean-Launchpad model of entrepreneurship now bills itself as the “evidence based entrepreneurship” model and Blank has even trademarked the latter term.

NSF and the iCore Program

- The **National Science Foundation** embraced Blank's and Reis' formulation of new venture development when they launched their **iCore** program a couple of years ago. In many ways they viewed it as a more scientific approach to venture creation that used the method of hypothesis formation, quick testing, revision, further testing, and continuous refinement. Fields as disparate as science and creative writing would perceive this process as the continuous refinement of drafts while writing. It is indeed the way the world works. We build new models of anything we study as we find out more and more detail through research. And so it is with entrepreneurship.
- http://www.nsf.gov/news/special_reports/i-corps/
- In the new model, the business model canvas, originally proposed by **Alexander Osterwalder** becomes the starting point. (See an example below)
- <http://businessmodelgeneration.com/canvas>

Transition to new planning models

- This transition continues to play out in entrepreneurship education programs across the country –as well as at UMass. The most used textbooks are built under the old paradigm. Business plan competitions continue to be held in spite of Steve Blank’s pronouncement that “*I hate business plan competitions.*”
- Just as physicists teach Newton’s Laws and the Einstein Theory of Relativity –which extends and alters Newton’s laws, entrepreneurship education needs to introduce students to the process of business planning as well as the limitations and the alternative formulations, like Blank’s, that have emerged.
- We also need to alert students to the danger of allowing any model (including Blank’s) to morph into a dogma that could constrain innovation.

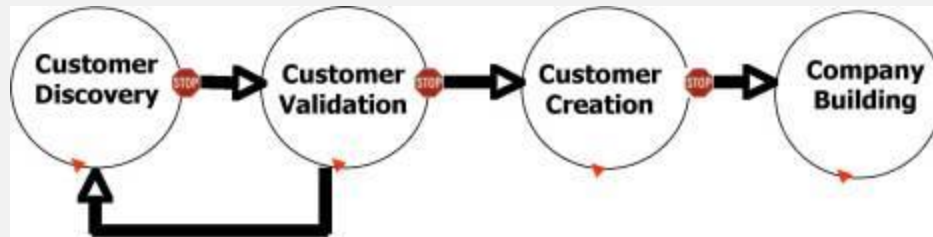
Customer Discovery

- Customer versus Product Development

Steve Blank:

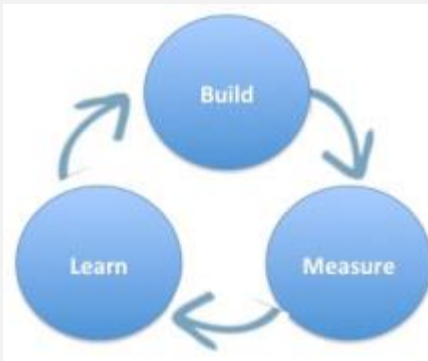
- Get out of the building (physically or virtually)
 - Talk to customers, ask them questions, and listen.
- Sales calls aren't your IQ test or PhD defense
- Stop talking and listen to the customers problem
- Hire a sales team at the Customer Validation step
- Match the sales team to market type
 - <http://steveblank.com/tag/customer-discovery/>

From Customer Discovery to Company Building

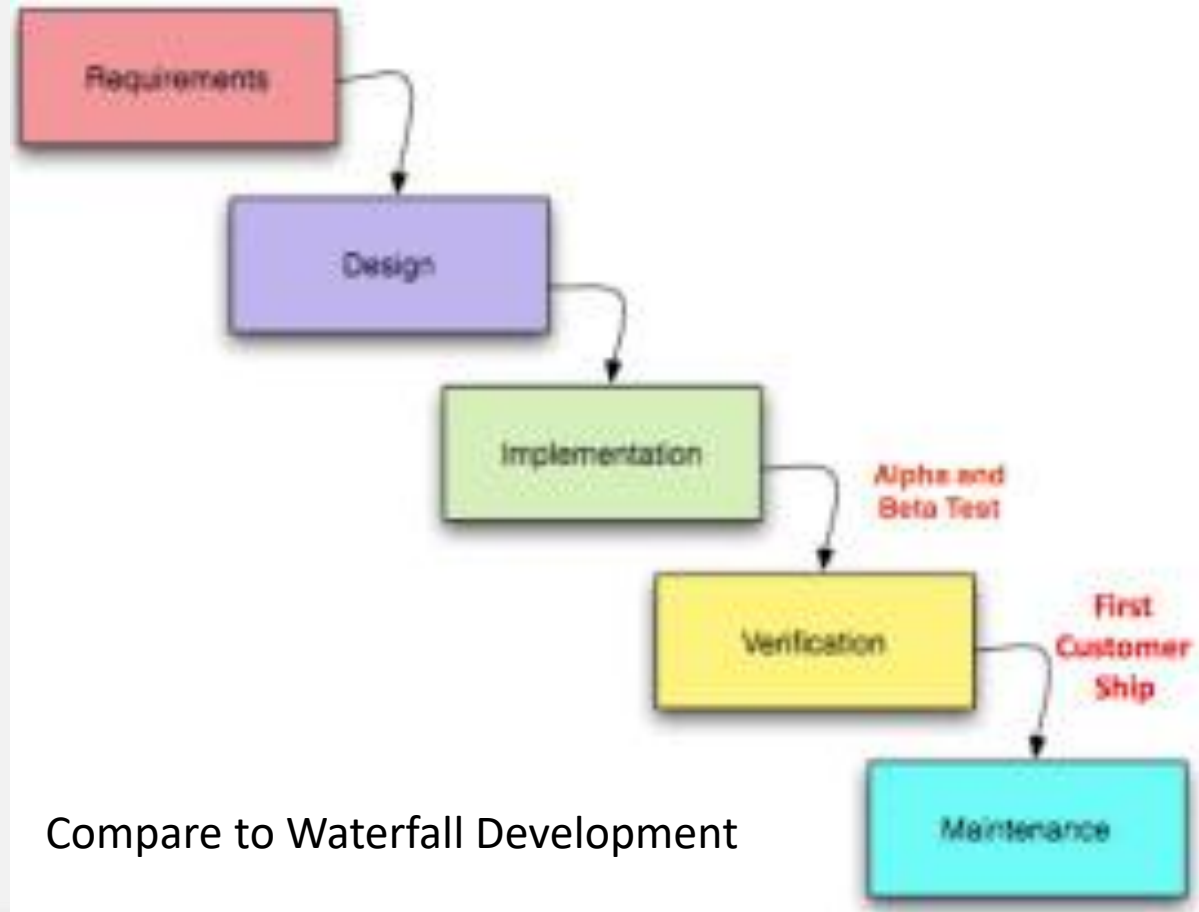


- **Customer Discovery** first captures the founders' vision and turns it into a series of business model hypotheses. Then it develops a plan to test customer reactions to those hypotheses and turn them into facts.
- **Customer Validation** tests whether the resulting business model is repeatable and scalable. If not, the team returns to Customer Discovery.
- **Customer Creation** is the beginning of execution. It builds end-user demand and drives it into the sales channel to scale the business.
- **Company-building** transitions the organization from a startup to a company focused on executing a validated model.

Build, Measure, Learn (repeat)



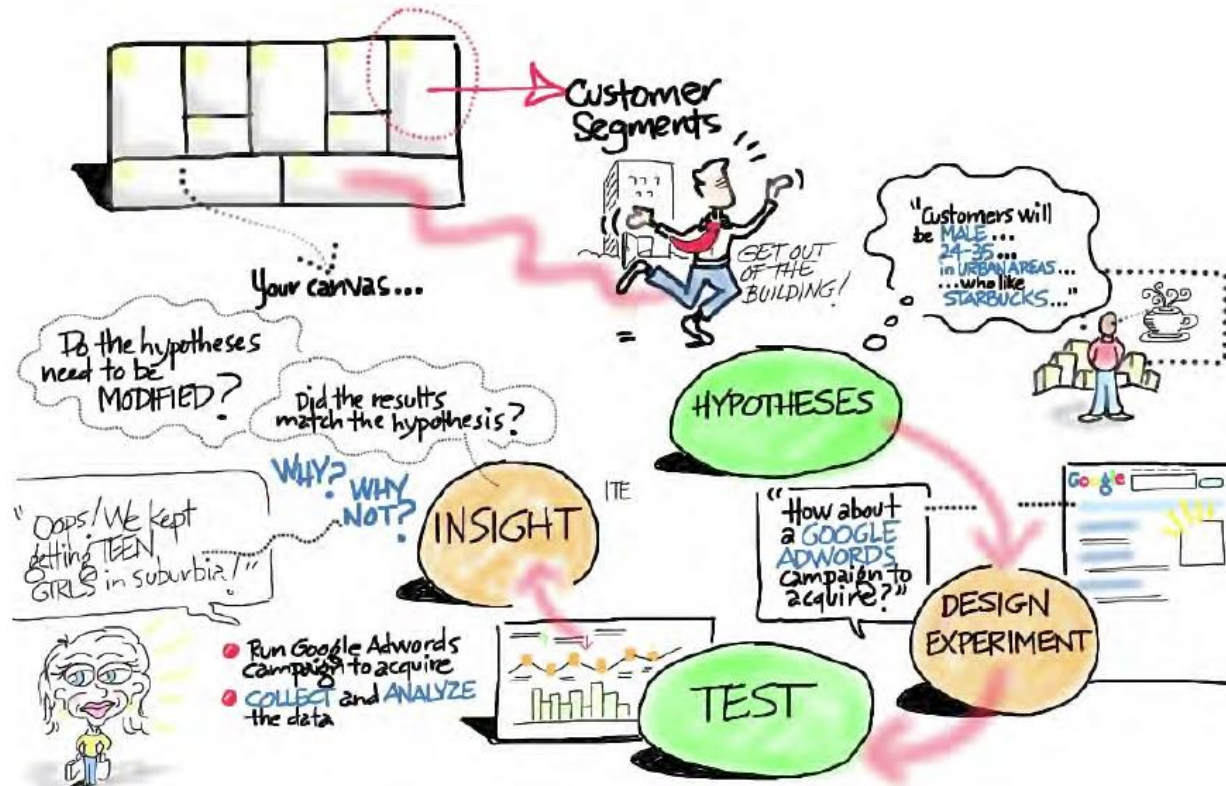
Agile Development



Compare to Waterfall Development

Agile Process

Class 1



Ensure students understand the hypothesis>design>test>insight loop.

MVP- Minimum Viable Product

- In product development, the minimum viable product (MVP) is the product with the **highest return on investment versus risk**.
 - The term was coined and defined by Frank Robinson, and popularized by Steve Blank, and Eric Ries
 - An MVP is not a minimal product, it is a strategy and process directed toward making and selling a product to customers.
 - It is an iterative process of idea generation, prototyping, presentation, data collection, analysis and learning.
 - One seeks to minimize the total time spent on an iteration.
 - The process is iterated until a desirable product/market fit is obtained, or until the product is deemed to be non-viable.
- <http://steveblank.com/2013/07/22/an-mvp-is-not-a-cheaper-product-its-about-smart-learning/>

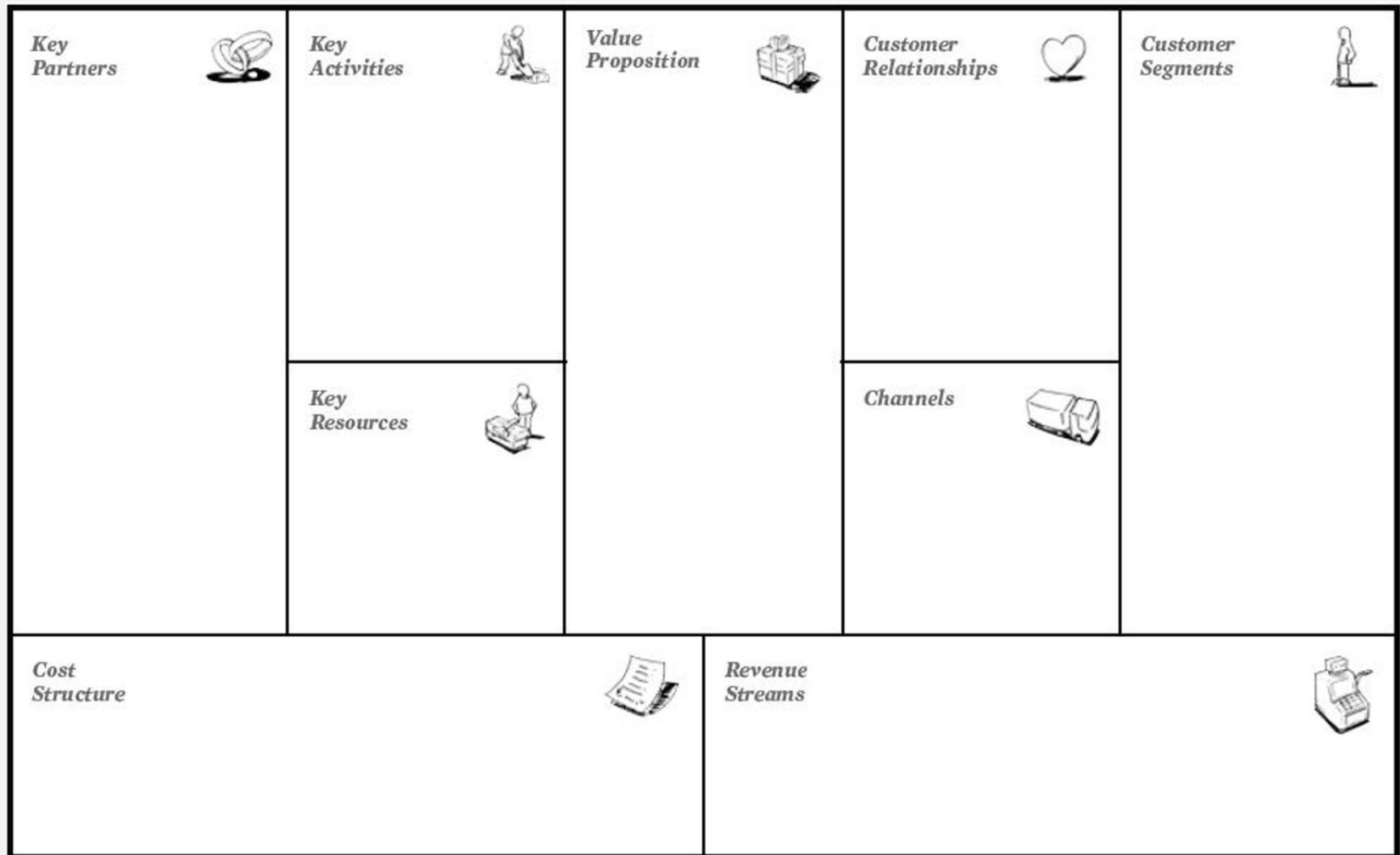
Pivot

- What you learn in the customer development process or in the build-measure-learn process will OFTEN cause you to change direction.
- The Pivot
- This is not a sign of failure.
- It is a sign of success.

Not invention.

- Many teams believe “a company is all about my **invention.**” Your goal is to teach them “it’s all about the business model.”
- The MVP, pivots, and Customer Development conserve cash,
 - and can accelerate the time it takes to discover a viable product-market fit.

Blank Business Model Canvas



Business Model Canvas

<p>Key Partners Who are our Key partners? Who are our key suppliers? Which Key Resources are we getting from suppliers? What key activities do partners perform?</p>	<p>Key Activities What key activities are required by</p> <ol style="list-style-type: none"> 1. our value propositions? 2. our distribution channels? 3. our customer relationships? 4. our revenue streams? 	<p>Value Proposition What value do we deliver to the customer? What problem(s) are we solving for our customers? What bundles of products and services are we offering to each customer segment? What customer needs are we satisfying?</p>	<p>Customer Relationships What type of relationships do customers expect? Which ones are already established? How do those relationships fit with our business model? What is the cost of maintaining those relationships?</p>	<p>Customer Segments What customers do we create value for? Who are our most important customers?</p>
	<p>Key Resources What key resources do we need for:</p> <ol style="list-style-type: none"> 1. our value propositions? 2. our distribution channels? 3. our customer relationships? 4. our revenue streams? 		<p>Channels Through which channels do our customers wish to be reached? How do we reach them now? How do those channels fit together? Which work best? Which are most cost efficient? How do we fit them into customer routines</p>	
<p>Cost Structure What are the most important costs in our business model? What key resources are most expensive? What key activities are most expensive? Is this business more cost driven or value driven? Fixed versus variable expenses? Are there economies of scale?</p>		<p>Revenue Streams What value are our customers ready to pay for? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each revenue stream contribute to the overall revenue?</p>		

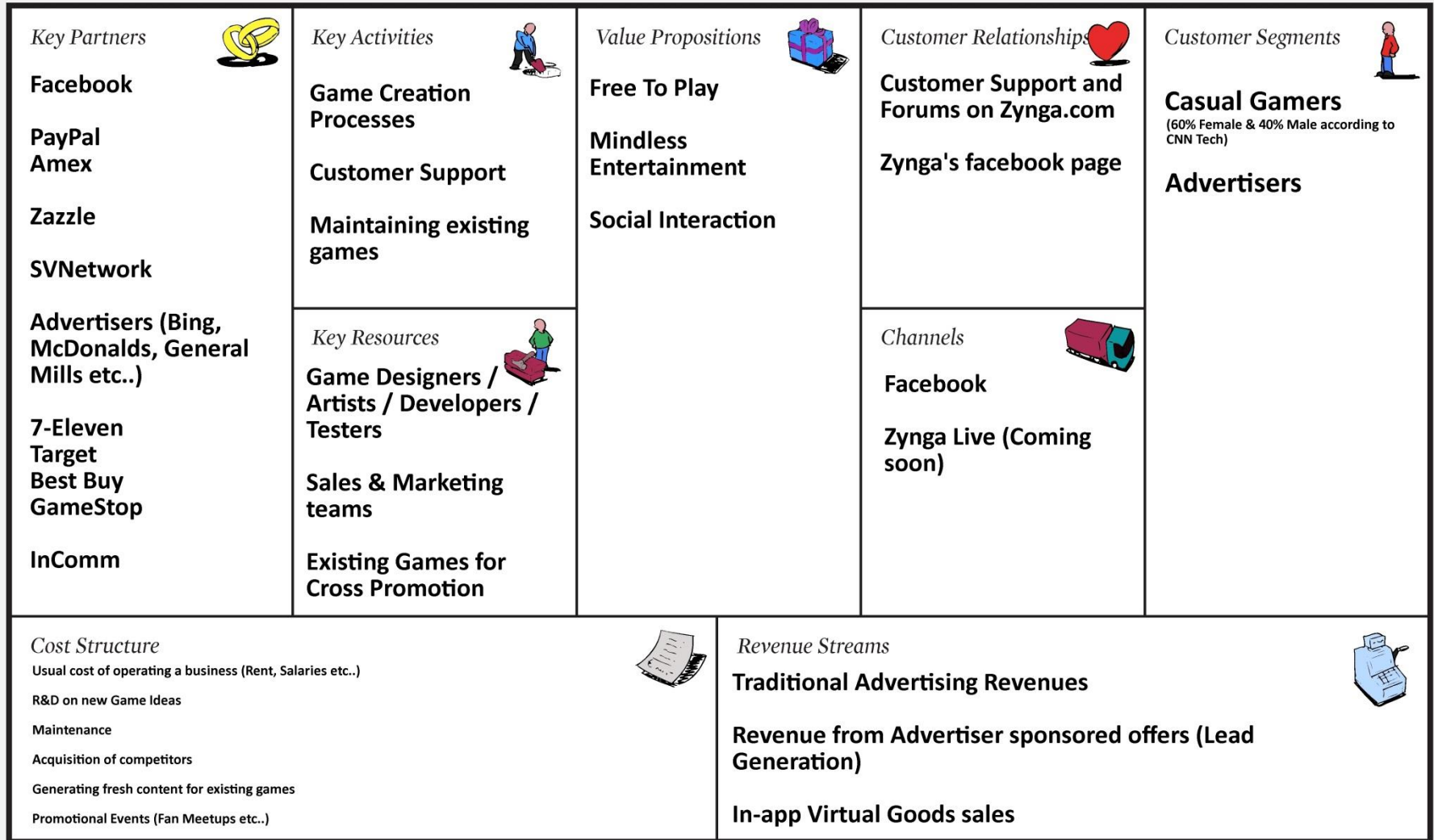
The business model canvas (Nine Sections)

- **Value Proposition** – *What value does the company bring to the customers?*
- **Customer Segments** – *What market segment(s) are being targeted by the company?*
- **Channels** – *How do they reach the customers –go to market (market, deliver, support)?*
- **Customer Relationships** – *How does the business develop and retain the customer relationships?*
- **Key Activities** – *What activities need to occur to make the company successful?*
- **Key Resources** – *How does the company get its resources?*
- **Key Partners** – *Who are the key partners?*
- **Revenue Streams** – *How does the company generate its revenues?*
- **Cost Structure** – *What costs does the business incur?*
 - http://en.wikipedia.org/wiki/Business_Model_Canvas

Example- Zynga's Business Model Canvas

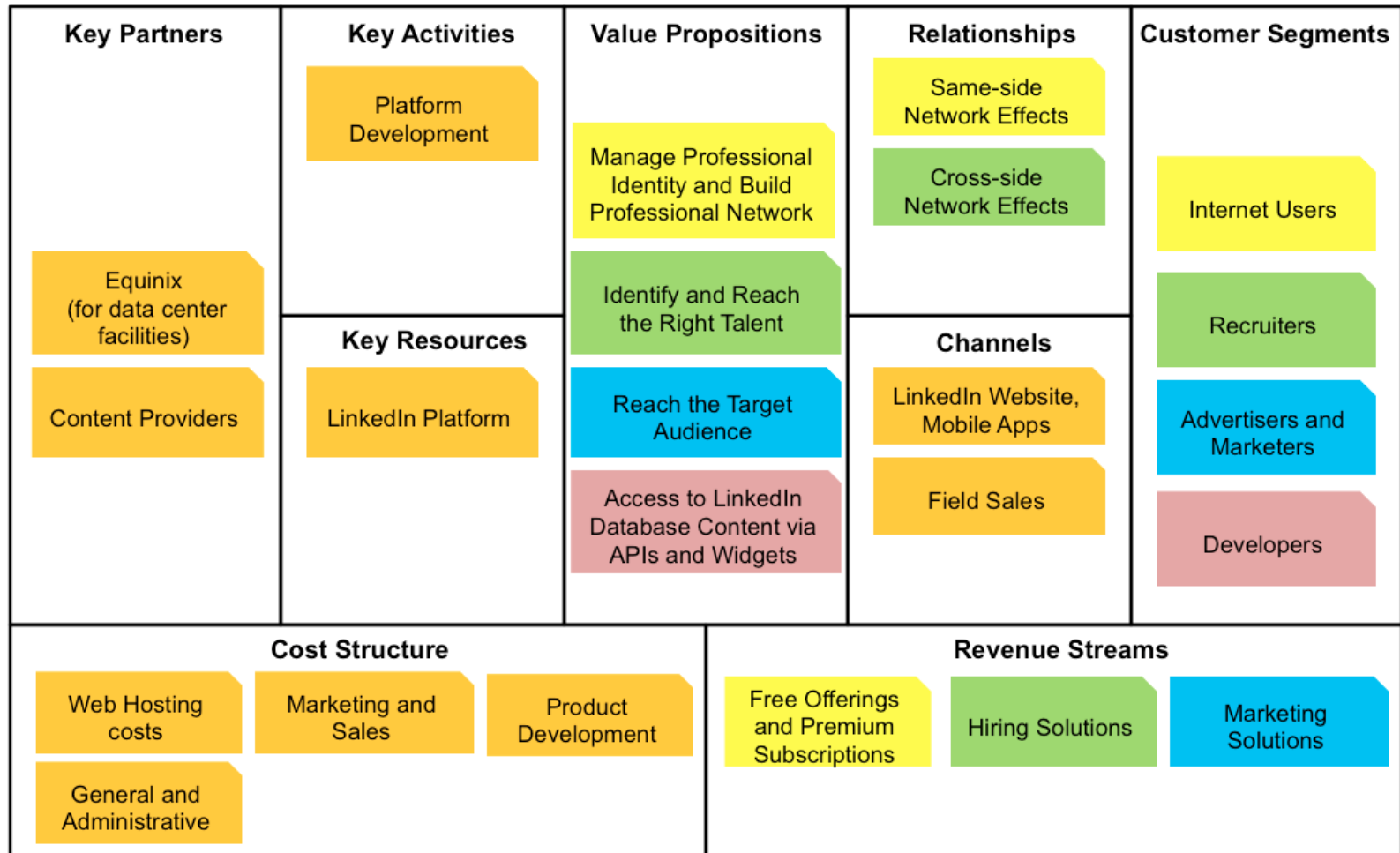
- http://freethinkingbrian.files.wordpress.com/2013/09/zynga_business_model_canvas.jpg

The Business Model Canvas



LinkedIn Business Model Canvas - <http://bmimatters.com/>

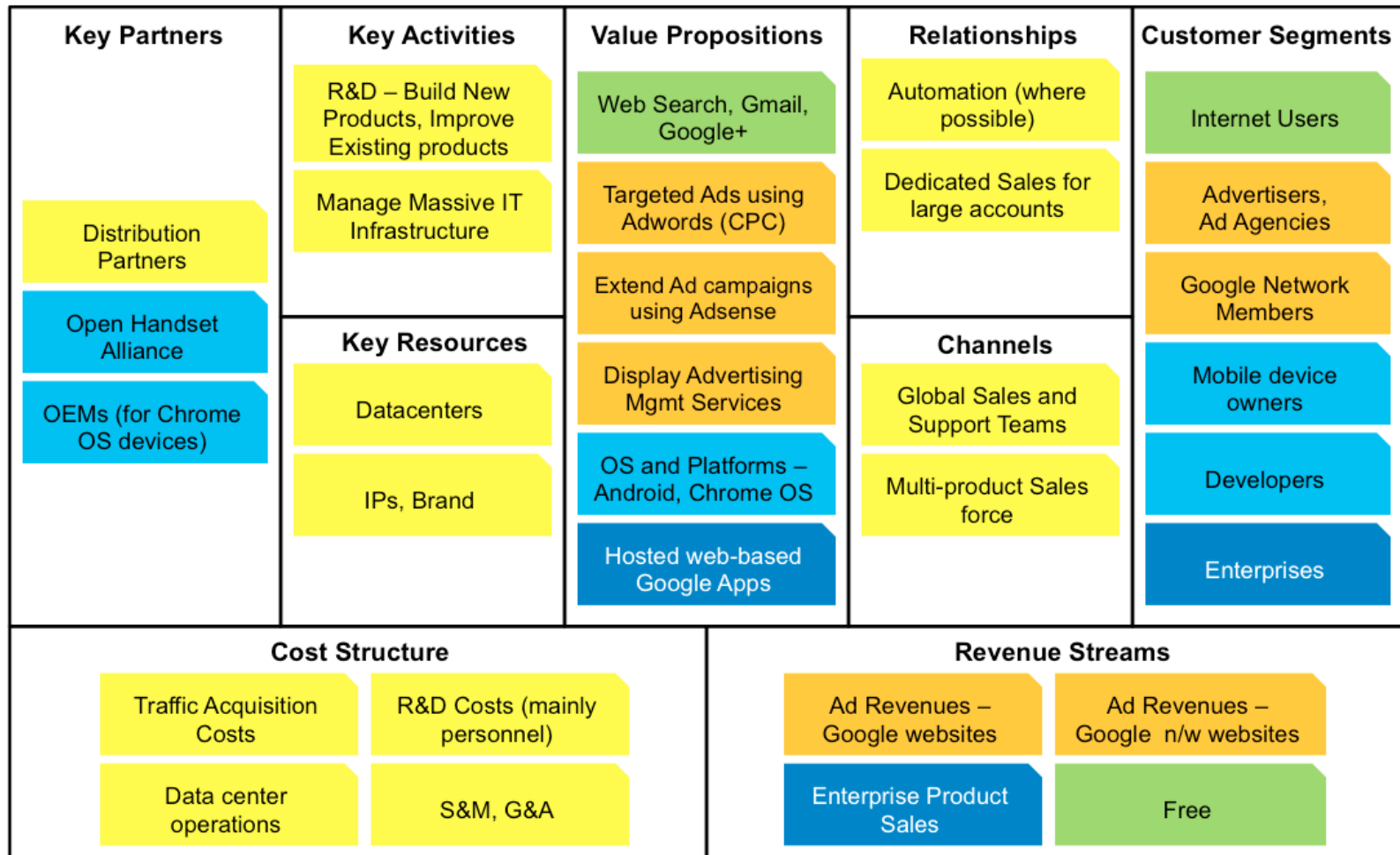
LinkedIn – World’s Largest Professional Network



www.businessmodelgeneration.com

Google Business Model Canvas - <http://bmimatters.com/>

Google Business Model



www.businessmodelgeneration.com

Privo

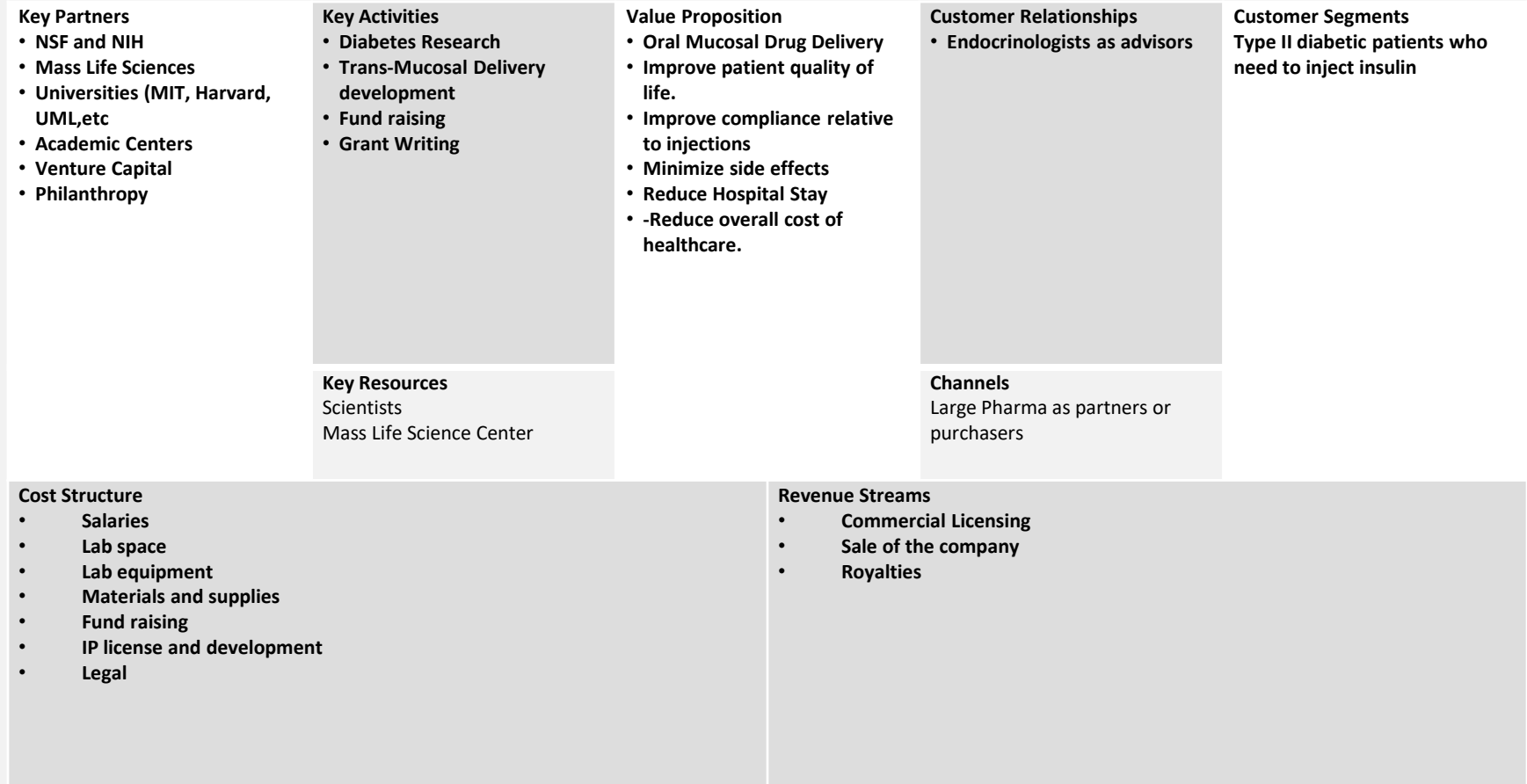
- Now let us take a look at a company that was founded and is led by Manijeh Nazari Goldberg, who took two degrees (engineering and computer science) from Umass Lowell and then one each from Harvard and MIT.
- Privo Technologies was formed to commercialize a discovery made in Robert Langer's laboratory at MIT that allowed the delivery of various drugs through encapsulation using nan-technology
 - Privo was a winner of the MIT 100 K Business Plan Competition
 - Their original idea was Nano delivery of insulin by chewing gum
 - Nano Drug Delivery
- In a very tough area of raising money to commercialize. It can take a billion dollars to bring a new drug to market.
- The next page will show their initial business plan canvas.



Early Business Model Canvas

<p>Key Partners</p> <ul style="list-style-type: none"> • NSF, NIH • Mass Life Sciences • Universities • Academic Centers • Venture Capital • Philanthropy 	<p>Key Activities</p> <ul style="list-style-type: none"> • Diabetes Research • Developing trans-mucosal delivery techniques • Fund Raising • Grant Writing 	<p>VALUE PROPOSITIONS</p> <p>Oral mucosal drug delivery</p> <ul style="list-style-type: none"> • Improve patient quality of life • Improve compliance relative injections • Minimize side effects • Reduce hospital Stay • Reduce overall cost of healthcare 	<p>Customer Relationship</p> <ul style="list-style-type: none"> • Endocrinologists as advisors 	<p>CUSTOMER SEGMENTS</p> <ul style="list-style-type: none"> • Type II diabetic patients Patients who need to inject insulin • Mucositis Patients that have gone through radiation therapy • Oral cancer Patients with the cancer in their mouth
<p>Cost Structure</p> <ul style="list-style-type: none"> • Salaries • Lab space • Lab equipment • Materials & Supplies • Fund Raising • IP License & Development • Legal 	<p>Key Resources</p> <ul style="list-style-type: none"> • Scientists • Mass Life Science 		<p>Channels</p> <ul style="list-style-type: none"> • Large Pharma as partner or purchaser 	
		<p>Revenue Stream</p> <ul style="list-style-type: none"> • Commercial Licensing • Sale of the company • Royalties 		

Privo Business Model Canvas –First version



Privo: Learn and Pivot

- As they moved forward they learned both from their successes and their mistakes –and got lots of advice along the way.
- They Interviewed
 - 20 Physicians
 - 40 Scientists
 - 12 Attorneys
 - 6 Multinational Pharmaceutical Co.
- They wrote many Grants (that were peer reviewed) for
 - NCI (National Cancer Institute)
 - NIH (National Institute of Health)
 - MLSC (Mass Life Science Center)
 - NSF (National Science Foundation)
 - Next (Rare Disease services)
 - NCL (Nano Characterization)
 - Deshpande –MIT
- They met with the governments of 7 other countries

Pivot when you learn new information

- When an entrepreneurial venture learns from their customers, experience, mistakes, and other sources that they need to take a significantly new direction.
- At that point we say they **Pivot**.
- Research shows that this is very typical of a new venture and is not actually either rare or a fatal flaw.
- You have learned something new about the market -from the market.
- If you are walking down a hall looking for the exit door and you open a door and find that it is a closet, what would you do?
 - Close the closet door and open another door.
- When we compared Effectual Entrepreneurship (EE) to Causal Entrepreneurship (CE) we saw that they (EE) rejected set goals in favor of constant iteration.
- This is also an element of the Lean Launchpad.

Business Model after pivot (as of 2014)



Current Business Model Canvas

<p>Key Partners</p> <ul style="list-style-type: none"> • NSF, NIH, NCI • Mass Life Sciences • Universities • Academic Centers • Angel Investors • Venture Capital • New England Hospitals • Global Hospitals • CRO's for manufacturing, preclinical and 	<p>Key Activities</p> <ul style="list-style-type: none"> • Fund Raising • Grant Writing • Optimize Formulation • Build Partnerships • Mfg NP's • Pre-clinical trials • Phase 1 Clinical Trials 	<p>VALUE PROPOSITIONS</p> <p>Replacing existing intravenous Oral Cancer chemotherapy</p> <ul style="list-style-type: none"> • Much Higher efficacy • Better quality of life • Vastly lower toxicity • Ease of use • Lower Total Cost <p>Other applications</p> <ul style="list-style-type: none"> • Deliver other drugs through buccal tissue using NP permeation • Use NP loaded Chemo-Wafer (CW) to deliver drugs to target other cancers 	<p>Customer Relationship</p> <ul style="list-style-type: none"> • Oncologists as advisors • Pharma as advisors/mentors • Oncology radiologists 	<p>CUSTOMER SEGMENTS</p> <p>Chemo-Wafer Patients</p> <ul style="list-style-type: none"> • Age 62+ at diagnosis • Early Stage OC patients • Later Stage OC patients • HPV Patients (male age 40-59) • Oncology surgery patients <p>Head & Neck Oncologists Surgeons</p> <ul style="list-style-type: none"> • Maxillofacial and oral surgeons • General oncology surgeon <p>Large Pharma</p> <ul style="list-style-type: none"> • Licensing out
<p>Cost Structure</p> <ul style="list-style-type: none"> • Salaries • Lab space • Lab equipment • Materials & Supplies • Fund Raising • IP License & Development • Legal 		<p>Revenue Stream</p> <ul style="list-style-type: none"> • Commercial Licensing • Sale of the company • Royalties 		

Business Model after pivot (as of 2014) (black and white)

Key Partners <ul style="list-style-type: none"> • NSF and NIH and NCI • Mass Life Sciences • Universities (MIT, Harvard, UML, etc) • Academic Centers • Venture Capital • Philanthropy • <i>New England Hospitals</i> • <i>Global Hospitals</i> 	Key Activities <ul style="list-style-type: none"> • Diabetes Research • Trans-Mucosal Delivery development • Fund raising • Grant Writing • <i>Optimize Formulation</i> • <i>Build partnerships</i> • <i>Manufacturing nanoparticles (NP's)</i> • <i>Pre-clinical trials</i> • <i>Phase 1 clinical trials</i> 	Value Proposition <ul style="list-style-type: none"> • Oral Mucosal Drug Delivery for oral cancer chemotherapy • Improve patient quality of life. • Improve compliance relative to injections • Minimize side effects • Vastly lower toxicity • Ease of use • Reduce Hospital Stay • Reduce overall cost of healthcare. 	Customer Relationships <ul style="list-style-type: none"> • Endocrinologists as advisors • Oncologists as advisors • Pharma as advisors/mentors • Oncology radiologists 	Customer Segments <ul style="list-style-type: none"> • Type II diabetic patients who need to inject insulin • Chemo-wafer cancer patients • Age 62+ at diagnosis • Early stage oral cancer (OC) patients. • Later stage OC patients. • HPV patients (male 40-59) • Oncology surgery patients • Head and neck oncologists and surgeons
<ul style="list-style-type: none"> • <i>Chief Research Officers (CRO) for manufacturing and pre-clinical.</i> 	Key Resources <ul style="list-style-type: none"> • Scientists • Mass Life Science Center 	<ul style="list-style-type: none"> • <i>other applications</i> • <i>Deliver other drugs through buccal tissue using NP permeation</i> • <i>Using NP loaded chemo-wafer to deliver drugs to other targets.</i> 	Channels <ul style="list-style-type: none"> • Large Pharma as partners or purchasers for Global Marketing Sales and Distribution 	<ul style="list-style-type: none"> • Maxillofacial and oral surgeons • General oncology surgeons • Larger pharma –licensing
Cost Structure <ul style="list-style-type: none"> • Salaries • Lab space • Lab equipment • Materials and supplies • Fund raising • IP license and development • Legal 		Revenue Streams <ul style="list-style-type: none"> • Commercial Licensing • Sale of the company • Royalties 		

Now THAT is quite a pivot!

- You can now see why effectual entrepreneurship focuses on the iterative relationship between means, goals, interactions, and commitments.
- EE is far less goal oriented and far more interested in how one can use the resources at hand to create something of value.