

Carnegie Mellon University

Swartz Center for Entrepreneurship



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Agile Innovation System

Lean Startup Concepts

Agenda

- 1.) Introduction to Agile & Lean Startups - Dave Mawhinney**
- 2.) Video “The Lean Startup: Innovation Through Experimentation.”
Eric Ries, Web 2.0 San Francisco**
- 3.) Videos, “How We Validated Customer Need”, Rob Daley, 4Moms**



Dave Mawhinney
Serial Entrepreneur



That Lean Startup Crap is just for lightweight Web 2.0

Elaine Chen “#Leanstartup – Hardware Edition”

<http://www.slideshare.net/chenelaine/lean-startup-hardware-edition-20563840>

Mike Kuniavsky “Lean Hardware startups”

<http://www.slideshare.net/mikek/lean-hardware-startups-elements-of-a-ubiquitous-computing-innovation-ecosystem>



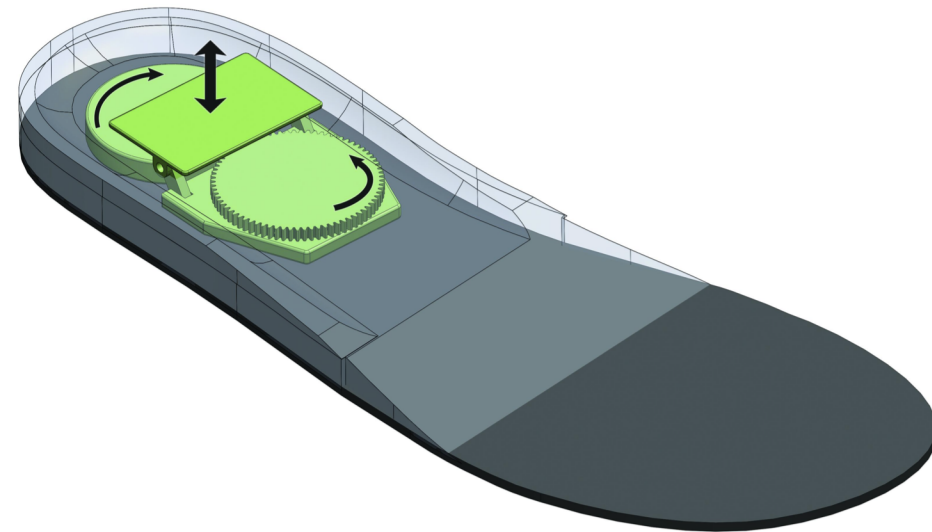
POPULAR SCIENCE

Invention Award 2014



SOLEPOWER

*POWERING THE FUTURE
ONE STEP AT A TIME*





A REBELLIOUS WHISKEY
CRAFT DISTILLED

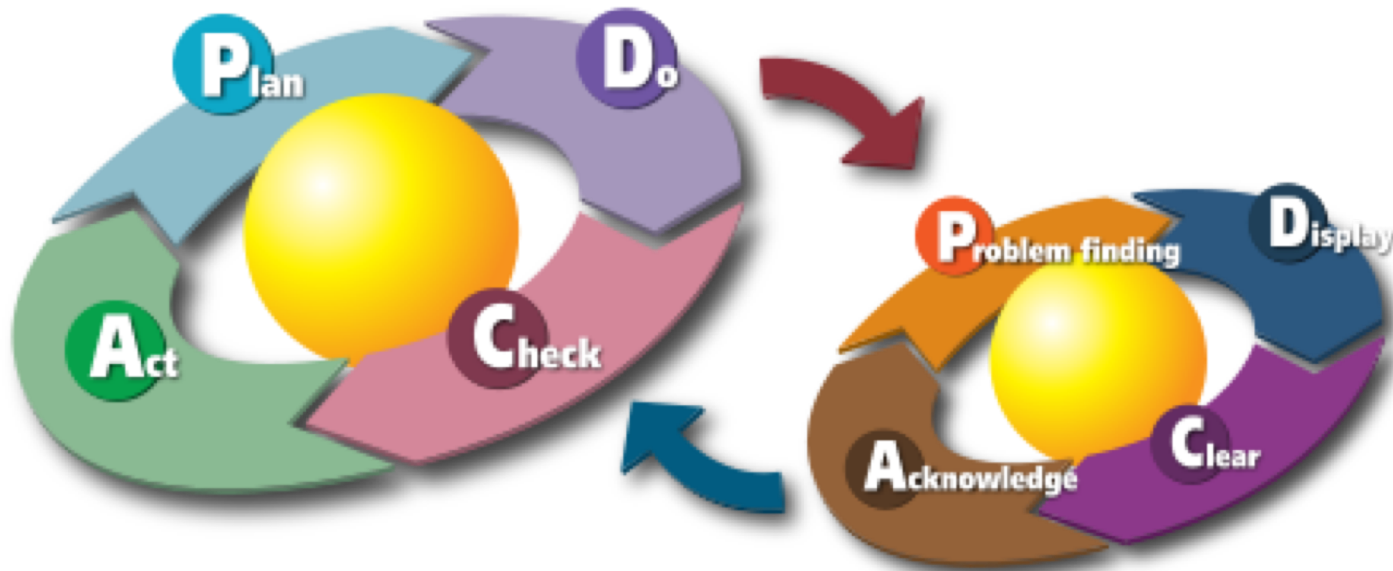
There is Nothing New Under the Sun!!



© Dave Mawhinney 2012



Kaizen!



Rapid, Continuous, Incremental, Improvement

Origins of Kaizen, Lean & Agile

In 1951, as part of the United States effort to rebuild Japanese industry, the Civil Communications Section's (CCS) Economic and Scientific Section (ESS) developed the training film **"Improvement in 4 Steps" (Kaizen eno Yon Dankai)**. This is the original introduction of "Kaizen" to Japan.

For the pioneering, introducing, and implementing Kaizen in Japan, the Emperor of Japan awarded the Second Order Medal of the Sacred Treasure to Dr. W. Edwards Deming in 1960.



2001: *Agile Manifesto*

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

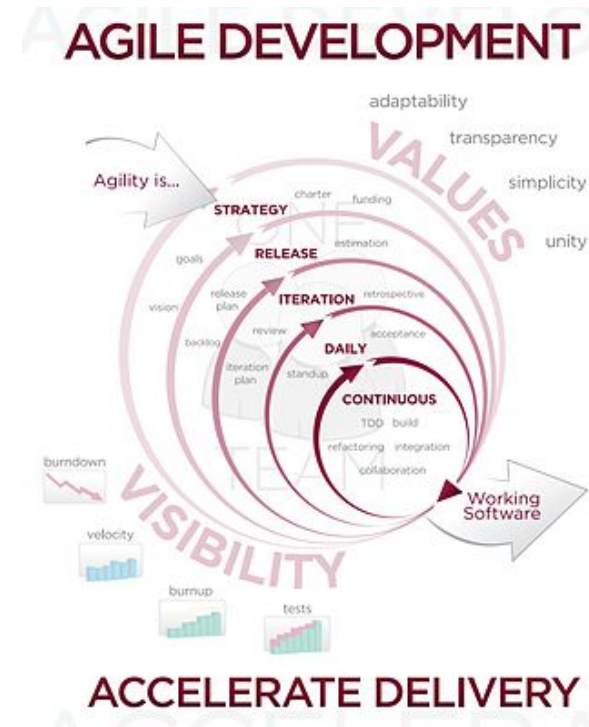
Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.



Sutherland & Schwaber
Fathers of Scrum

Why do most start-ups fail?

*Will the dogs
eat the dog food?*



They don't talk to customers early and often enough!

Another Evolution: ~~MVP~~

Minamally

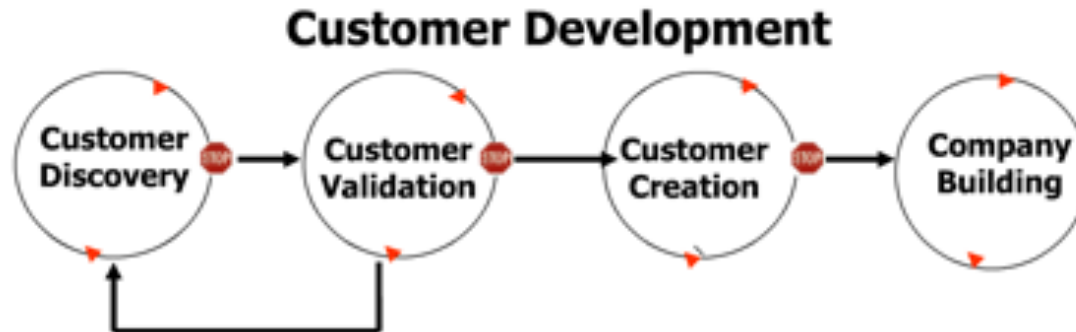
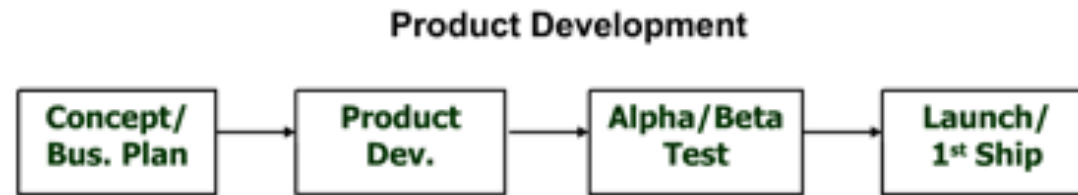
Awesome

Product

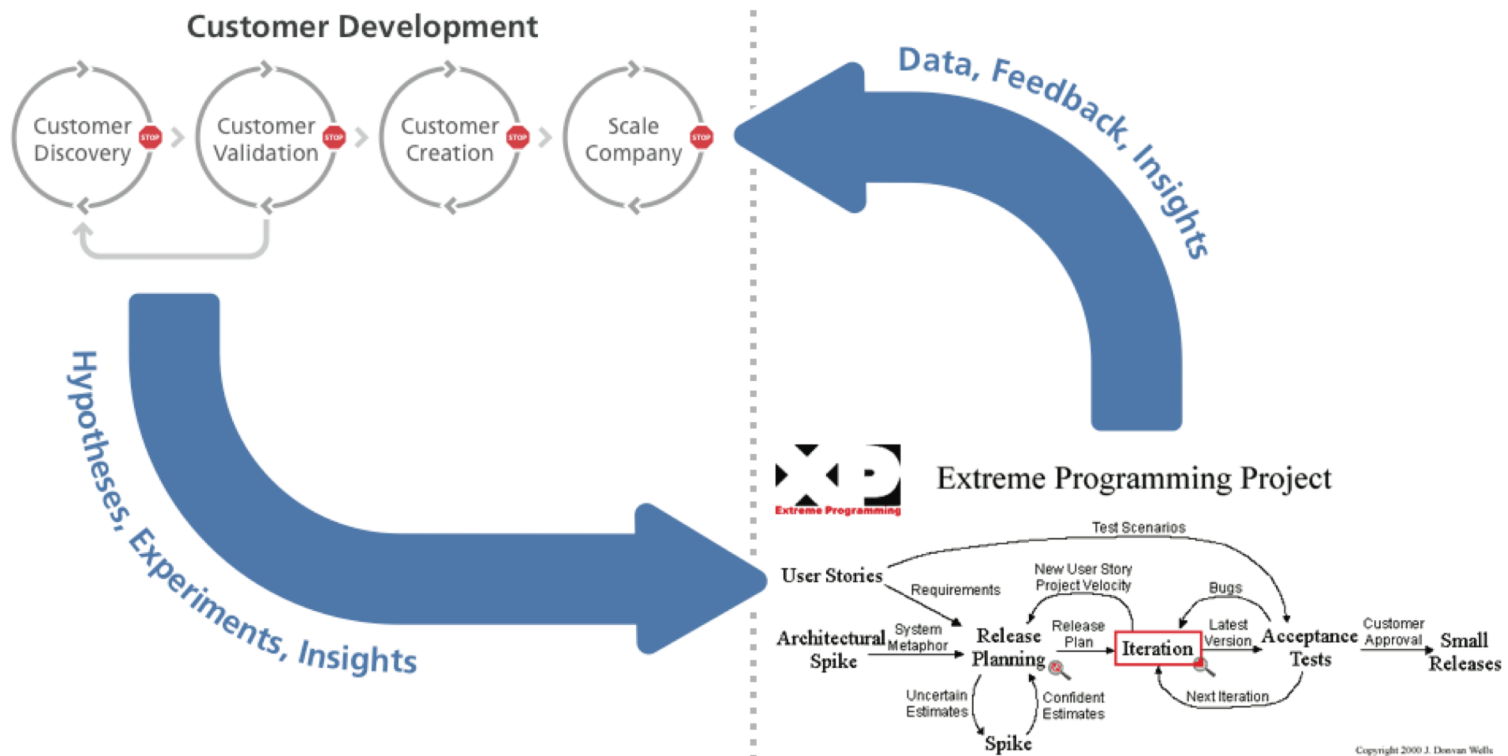
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Minimal Viable Product – Lean Startups

Customer Development is as important
as Product Development



Customer Development meets Agile Product Development

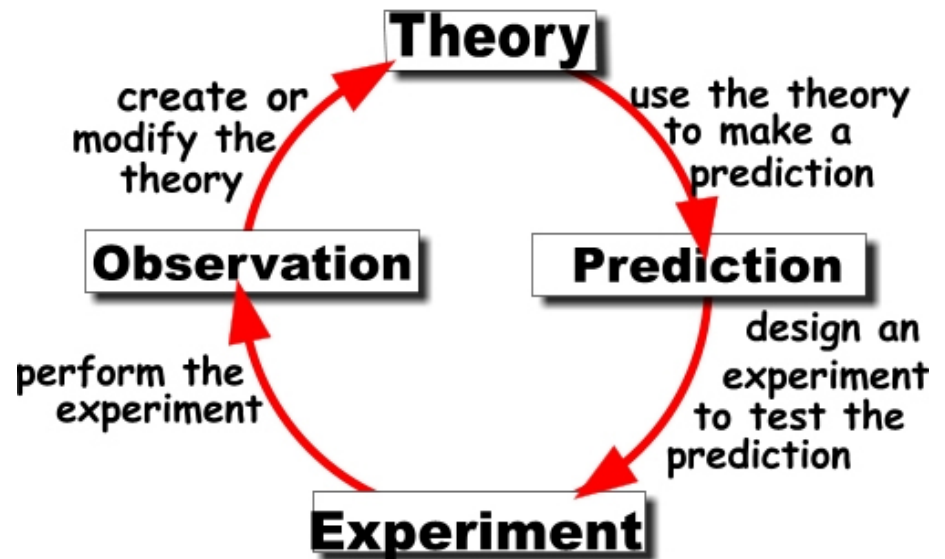


The Lean Startup!

There is Nothing New Under the Sun!!



The Scientific Method



Phases in the Embryonic Stage

2. Feasibility

- Benchscale Model
- Lab Tests
- Private Information Gathering
- Preliminary Business Plan

3. Verification

- Prototype Product Design
- “Quiet” Field Exposure
- Evaluations
- Management Team



5. Commercialization

- Full Scale Production
- Explosive Market Development

4. Demonstration

- Produce First Production Quantity
- “Noisy” Customer Involvement
- Replicate Formula for Success
- “Seasoned” Management Team
- Detailed Plan of Attack



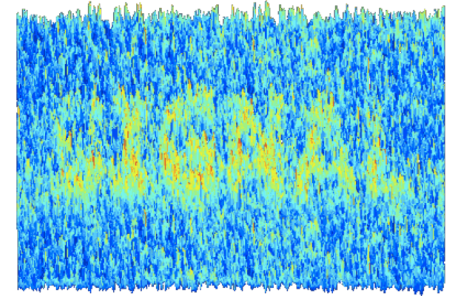
all ri

Three Failure Modes

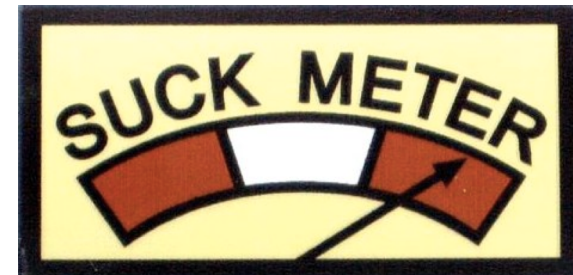
1. False Positive

	Disease or Condition	No Disease or Condition
Test Positive	A True Positive	B False Positive
Test Negative	C False Negative	D True Negative

2. Signal to Noise Problem



3. Your Product is not Good Enough!



The Goodness Factor



Don Jones

Robot
Entrepreneur
& VC

If you enter a market that has an existing solution and your product is the same “price”, then you must be **THREE TIMES BETTER**.

Or, if you offer the same benefit, you must be **THREE TIMES CHEAPER**.

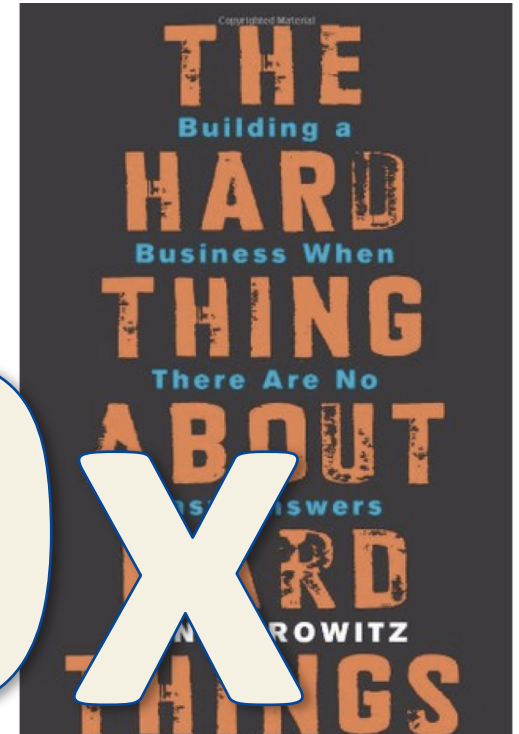
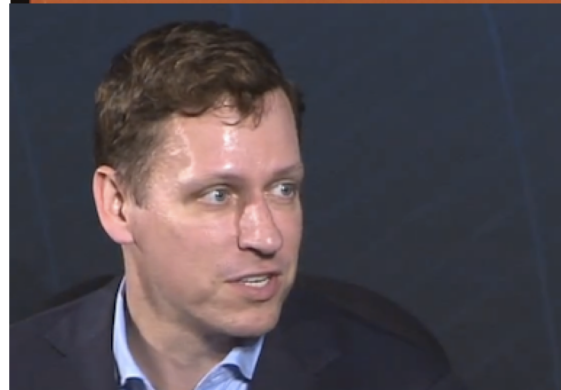
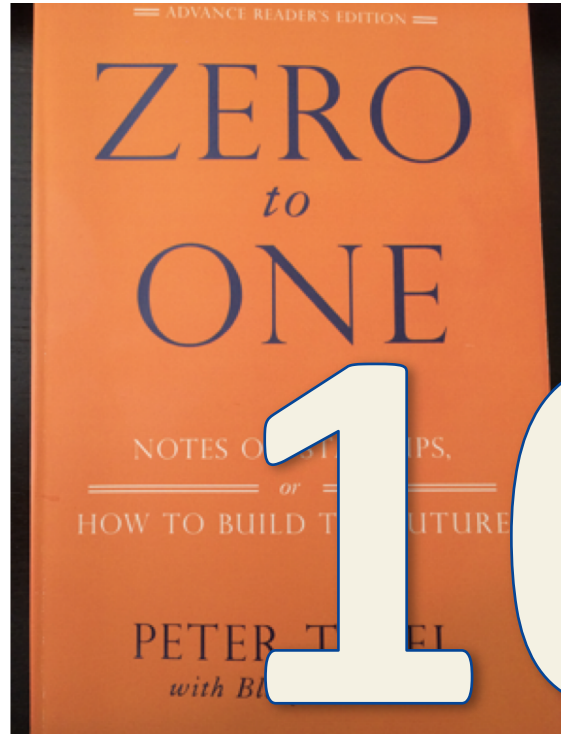
Why?

People are LAZY!!! The great HABIT FORCE is hard to break. So you must have a **GOODNESS FACTOR** to compel them to change!

The Goodness Factor



Don Jones
Robot
Entrepreneur
& VC



10x

Quantitative Benefits

1. Saves Time



2. Saves/Makes Money

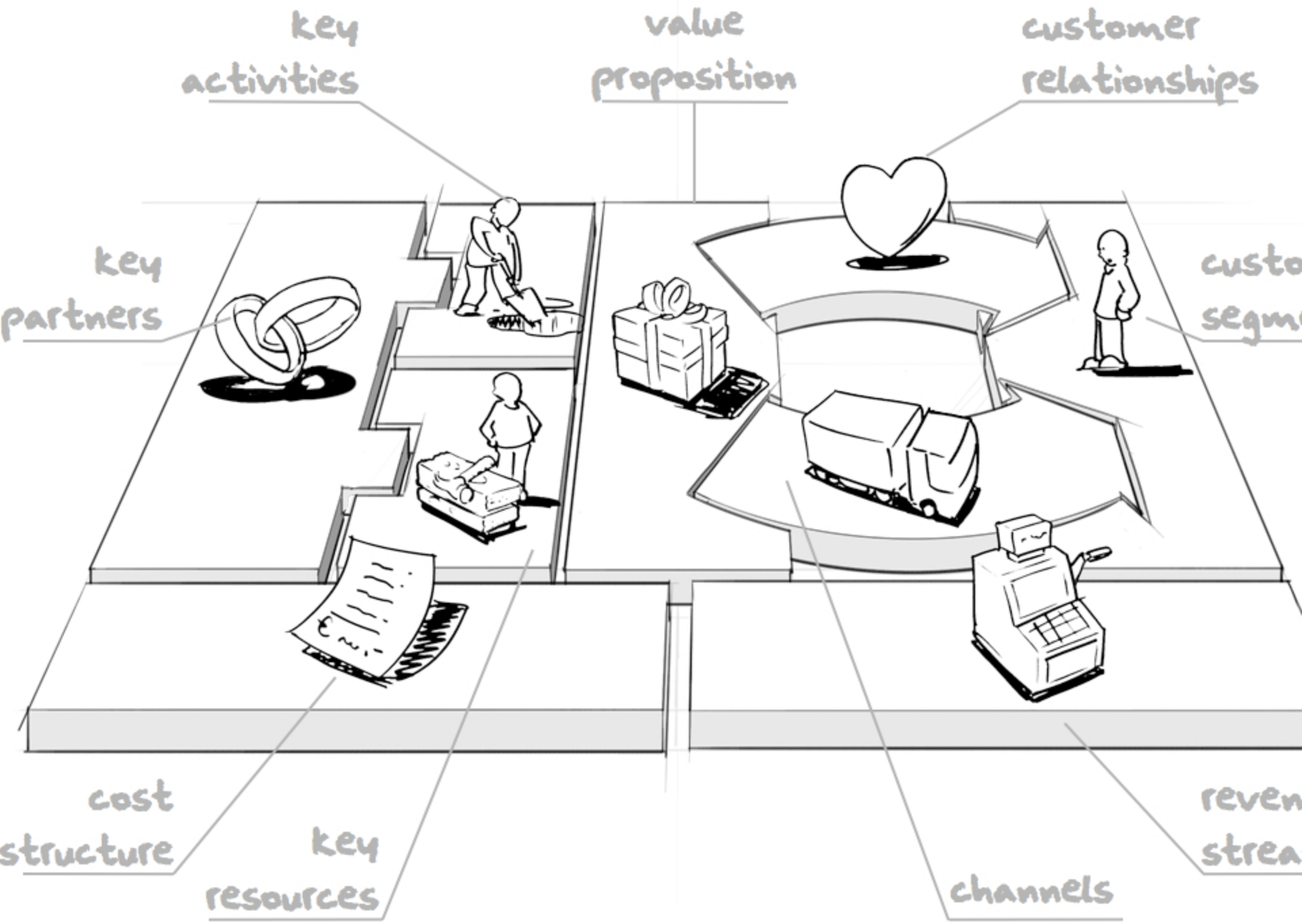


3. Hooks you up!

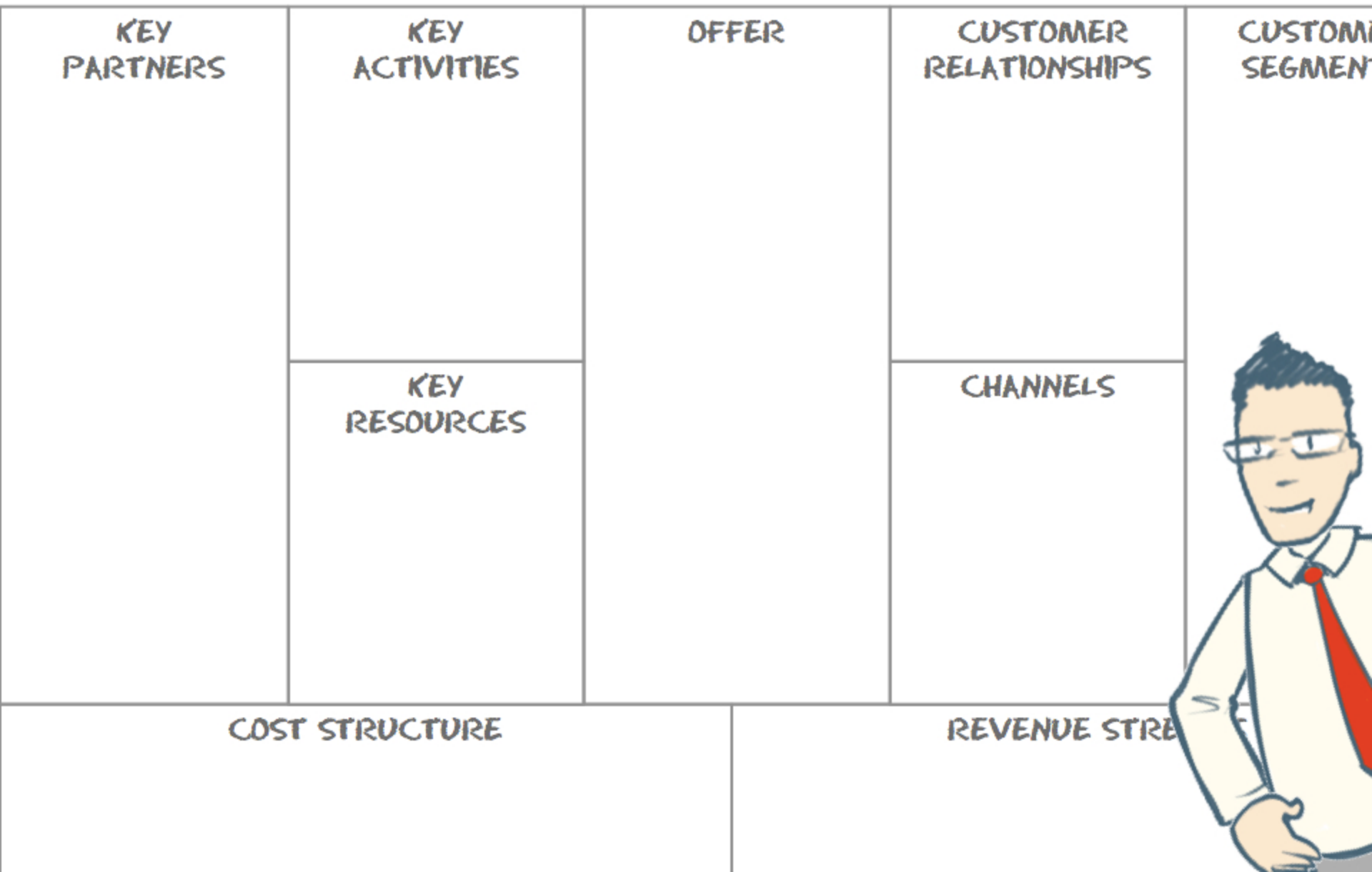


4. Fame/Recognition

5. Altruism/Doing Good



THE BUSINESS MODEL CANVAS



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