# Tom & Kai Gilb

•

# "Lean Startup"
(Book, Method)
## by
## *Eric Ries*
## *Compared to Agile, Scrum, XP, Evo*

## MASTER 2016

# Agile Credibility

- **Agile 'Grandfather' (Tom)**
  - **Practicing 'Agile' IT Projects since 1960**
  - **Preaching Agile since 1970's (CW UK)**
  - **Acknowledged Pioneer by Agile Gurus and Research**
    - **Beck, Sutherland, Highsmith, Cohn, Larman etc.**
    - **Ask me for details on this! I am too shy to show it here!**
- **Agile Practice**
  - **IT: for decades (Kai and Tom)**
  - **Organisations: for Decades  (Citigroup, Intel, HP, Boe**
- **Books:**
  - **Principles of Software Engineering Management (1988) the book Beck and others refer to**
  - **Competitive Engineering (2005)**
  - **Evo: (Kai, evolving, 55 iterations)**

# OK I am not that shy!
## (the most influential!)

**Agile References:**

"Tom Gilb <u>invented Evo, arguably the first Agile process</u>. He and his son Kai have been working with me in Norway to align what they are doing with Scrum.

Kai has some excellent case studies where he has acted as Product Owner. He has done some of the most innovative things I have seen in the Scrum community."

Jeff Sutherland, co-inventor of Scrum, 5Feb 2010 in Scrum Alliance Email.

"Tom Gilb's Planguage referenced and praised at #scrumgathering by Jeff Sutherland. <u>I highly agree</u>" Mike Cohn, Tweet, Oct 19 2009

"I've always considered Tom to have been the original agilist. In 1989, he wrote about short iterations (each should be no more than 2% of the total project schedule). This was long before the rest of us had it figured out." Mike Cohn  http://blog.mountaingoatsoftware.com/?p=77

Comment of Kent Beck on Tom Gilb's book , "Principles of Software Engineering Management": " A strong case for evolutionary delivery – small releases, constant refactoring,  intense dialog with the customer". (Beck, page 173).

In a mail to Tom, Kent wrote: "I'm glad you and I have some alignment of ideas. I stole enough of yours that I'd be disappointed if we didn't :-), Kent" (2003)

Jim Highsmith (an Agile Manifesto signatory) commented: "Two individuals in particular pioneered the evolution of iterative development approached in the 1980's – Barry Boehm with his Spiral Model and Tom Gilb with his Evo model. I drew on Boehm's and Gilb's ideas for early inspiration in developing Adaptive Software Development. .... Gilb has long advocated this more explicit (quantitative) valuation in order to capture the early value and increase ROI" (Cutter It Journal: The Journal of Information Technology Management, July 2004page 4, July 2004).

# Comparison

- **Lean Startup**
- SAME
  - Quantified Objectives
  - Fast Frequent Iterations
  - Value Delivery to Stakeholders
  - Measurement & Learning
- DIFFERENT
  - ? Next slide

- **Evo, CE, Planguage, Gilb**
- SAME
  - Quantified Objectives
  - Fast Frequent Iterations
  - Value Delivery to Stakeholders
  - Measurement & Learning
- DIFFERENT
  - ? Next slide

# Environment Comparison

- Lean Startup
- SAME
  - Quantified Objectives
  - Fast Frequent Iterations
  - Value Delivery to Stakeholders
  - Measurement & Learning

- DIFFERENT
  - Objectives = Marketing Hypothesis
    - Like 30% adoption rate
    - *Measured* Changes/day can be 50
  - *Extreme* uncertainty about final product, and final 'customer' (stakeholders)

- Evo, CE, Planguage, Gilb
- SAME
  - Quantified Objectives
  - Fast Frequent Iterations
  - Value Delivery to Stakeholders
  - Measurement & Learning

- DIFFERENT
  - Objectives are
    - Long Range Values for Money (Qualities)
  - Pretty *clear and stable* stakeholders and product values are defined
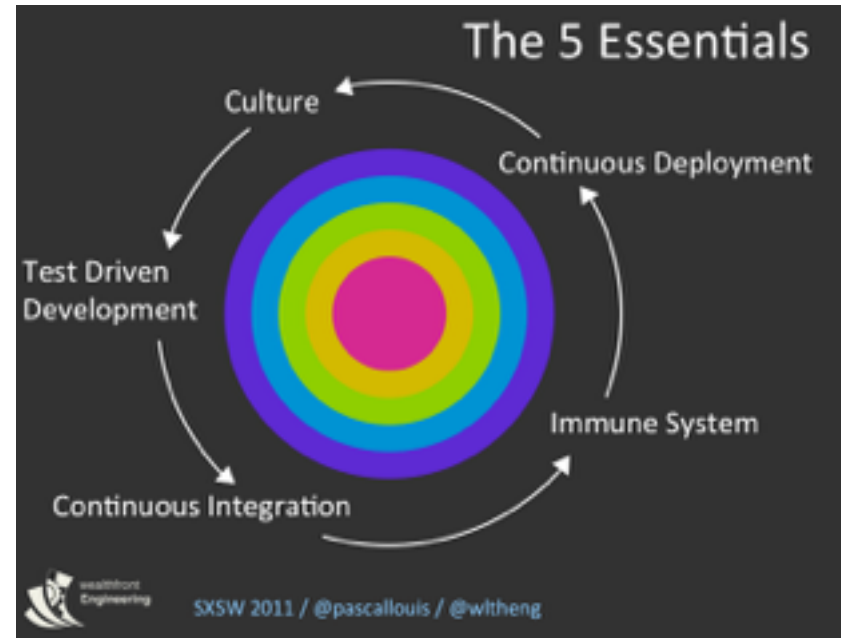
# Wealthfront Environment



Quick Facts about Wealthfront

- Managing close to $180,000,000*
- Processing over $2,000,000/day
- Highly regulated
  - By the SEC, as a Registered Investment Advisor
  - By FINRA, as a Broker Dealer
  - Member SIPC
- We're a technology company
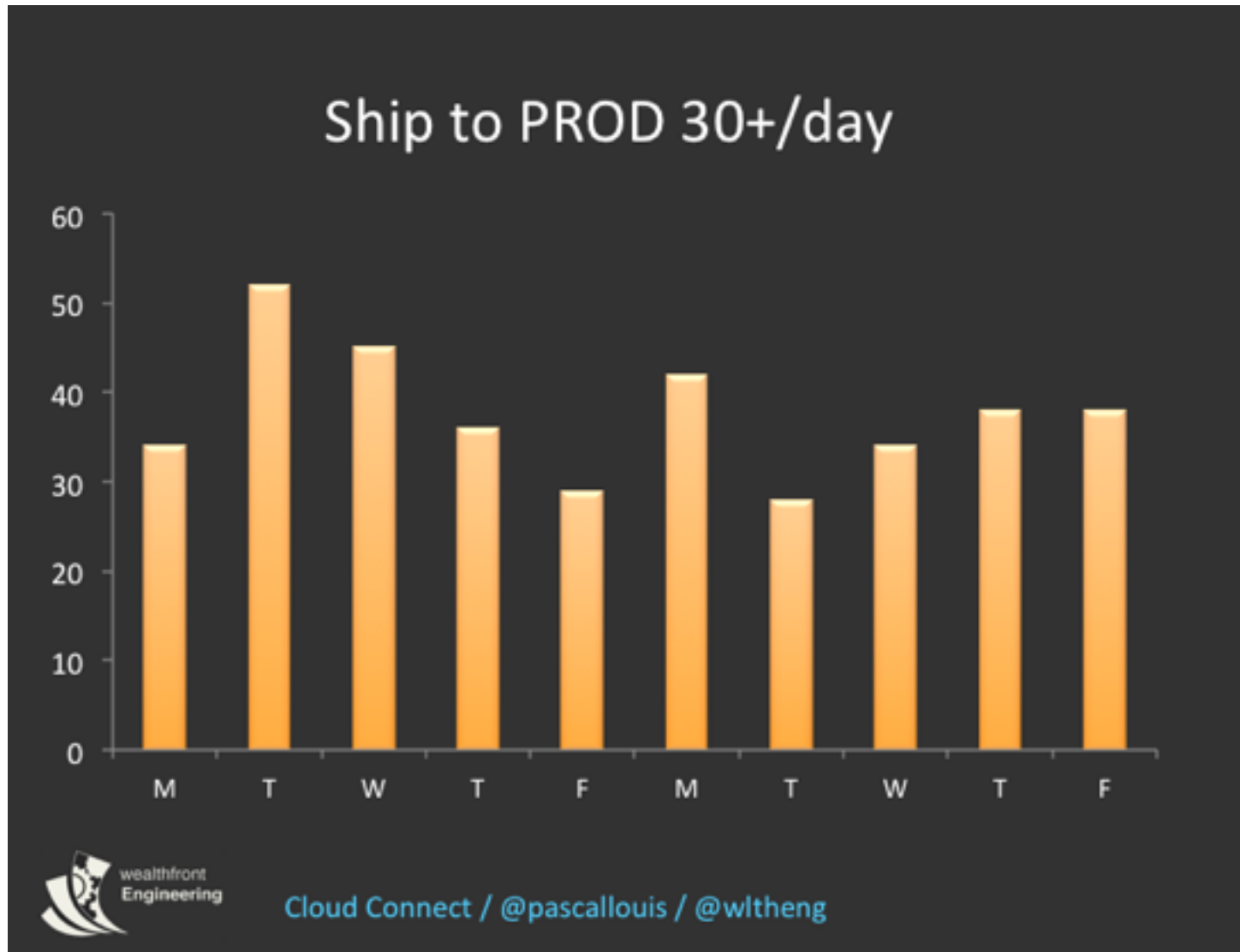- No Ops, no QA team

wealthfront Engineering

Cloud Connect / @pascallouis / @wltheng        * $30 AUM, $150 AUA



The 5 Essentials

Culture

Continuous Deployment

Test Driven Development

Immune System

Continuous Integration

wealthfront Engineering        SXSW 2011 / @pascallouis / @wltheng

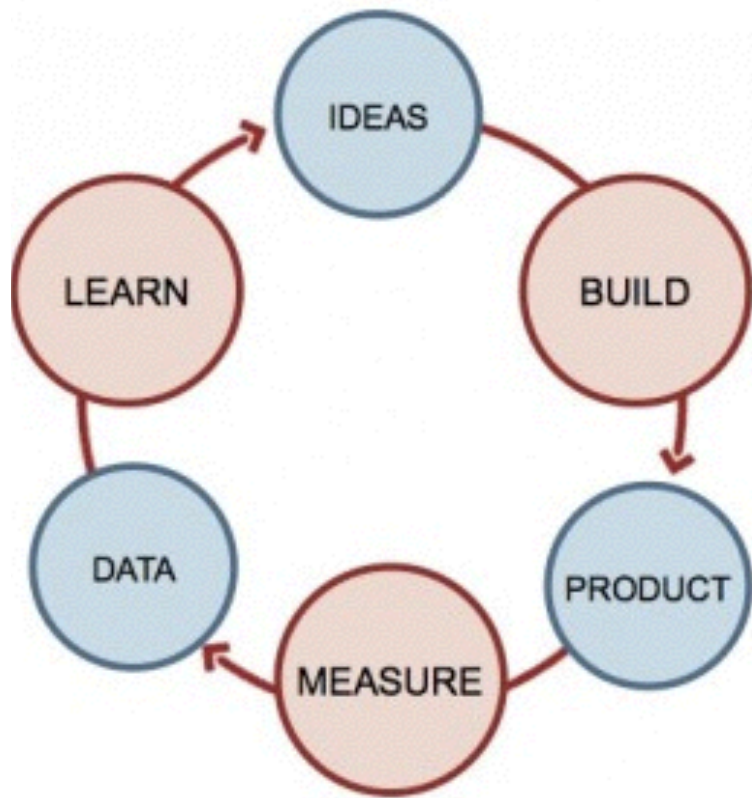http://eng.wealthfront.com/2011/03/lean-startup-stage-at-sxsw.html

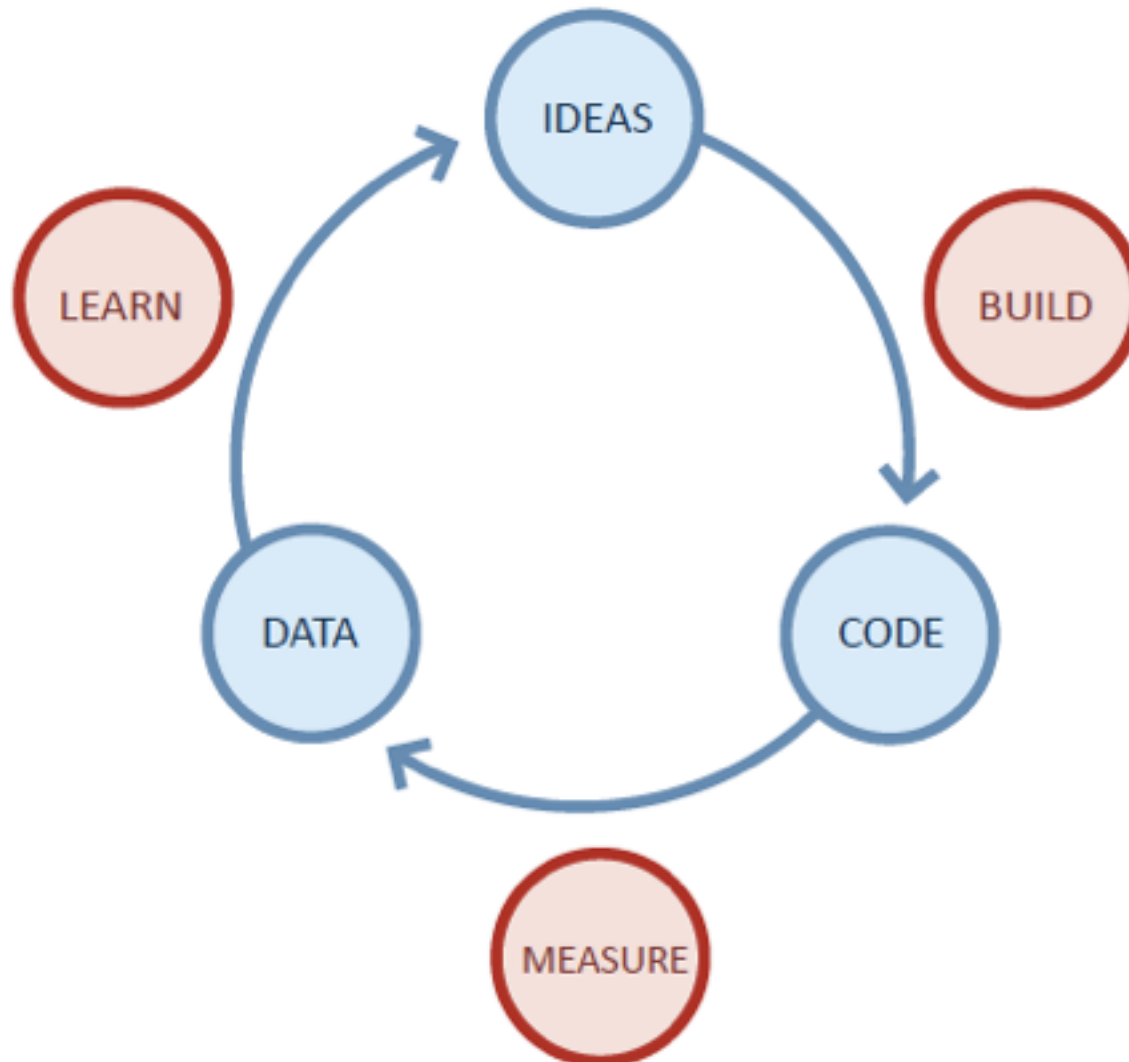# Shipping 30+ times a day (Wealthfront)

# Lean Startup Cycle

# Evo Cycle

# Lean Startup Loop
## "Minimize Time though the loop"

# There is Much More ...



**Learn Faster**
Split Tests
Customer Interviews
Customer Development
Five Whys Root Cause Analysis
Customer Advisory Board
Falsifiable Hypotheses
Product Owner Accountability
Customer Archetypes
Cross-functional Teams
Semi-autonomous Teams
Smoke Tests

LEARN

IDEAS

DATA

CODE

BUILD

**Code Faster**
Unit Tests
Usability Tests
Continuous Integration
Incremental Deployment
Free & Open-Source Components
Cloud Computing
Cluster Immune System
Just-in-time Scalability
Refactoring
Developer Sandbox

MEASURE

**Measure Faster**
Split Tests
Clear Product Owner
Continuous Deployment
Usability Tests
Real-time Monitoring
Customer Liaison

Funnel Analysis
Cohort Analysis
Net Promoter Score
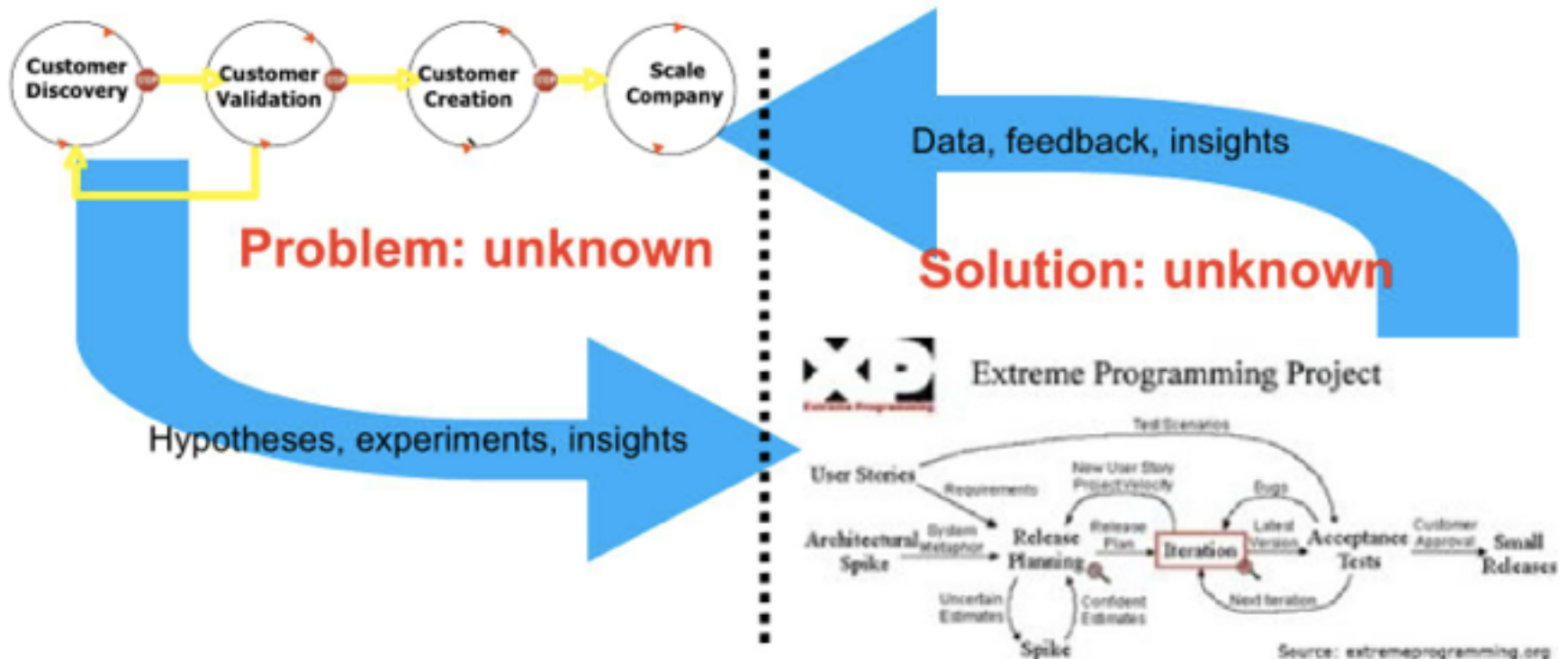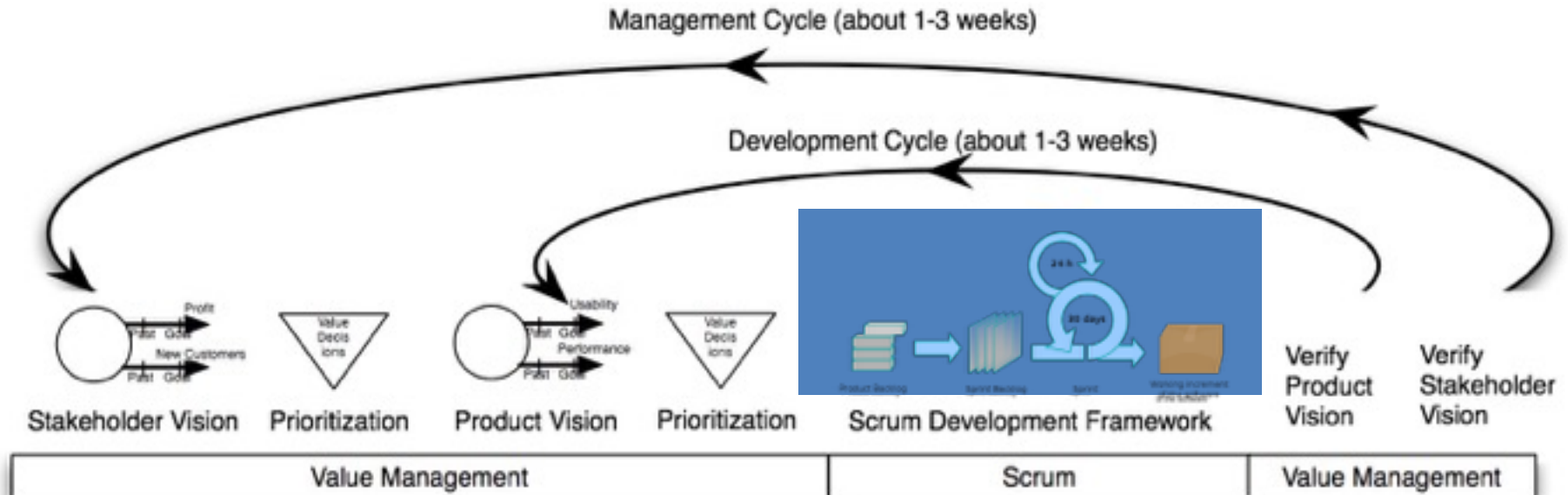Search Engine Marketing
Real-Time Alerting
Predictive Monitoring

# Lean Startup: High Unknowns

**Product Development at Lean Startup**
*Assumes Customers and Markets are Unknown*



**Customer Development Engineering**

Customer Discovery → Customer Validation → Customer Creation → Scale Company

Data, feedback, insights

**Problem: unknown**

**Solution: unknown**

Hypotheses, experiments, insights

Extreme Programming Project

Source: extremeprogramming.org

http://www.slideshare.net/venturehacks/the-lean-startup-2

# Value Management (Gilb, Evo)

# Value Decision Tables (Gilb, Evo)

| Business Goals | Stakeholder Value 1 | Stakeholder Value 2 |
|---|---|---|
| Business Value 1 | -10% | 40% |
| Business Value 2 | 50% | 10% |
| Resources | 20% | 10% |

| Stakeholder Val. | Product Value 1 | Product Value 2 |
|---|---|---|
| Stakeholder Value 1 | -10% | 50 % |
| Stakeholder Value 2 | 10 % | 10% |
| Resources | 2 % | 5 % |

| Product Values | Solution 1 | Solution 2 |
|---|---|---|
| Product Value 1 | -10% | 40% |
| Product Value 2 | 50% | 80 % |
| Resources | 1 % | 2 % |

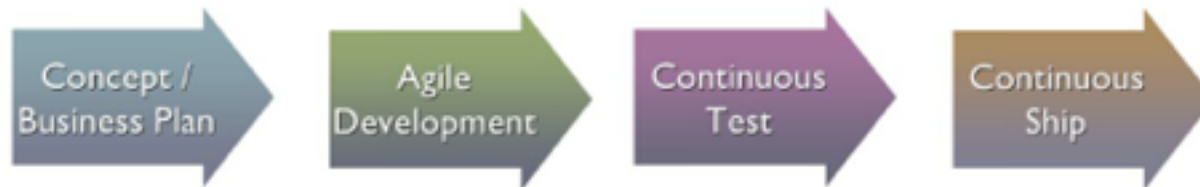| Prioritized List |
|---|
| 1. Solution 2 |
| 2. Solution 9 |
| 3. Solution 7 |

Scrum Develops



We measure improvements Learn and Repeat

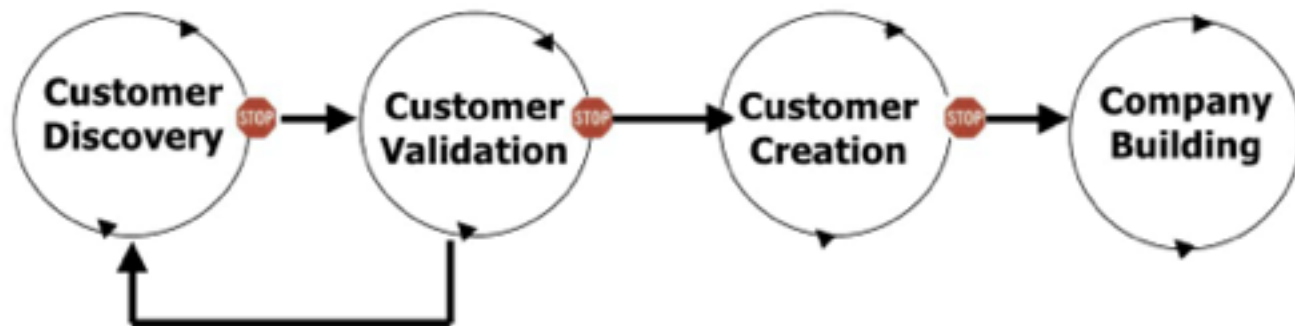# Parallel 'Customer' (Stakeholder)  Development



**The Lean Startup**
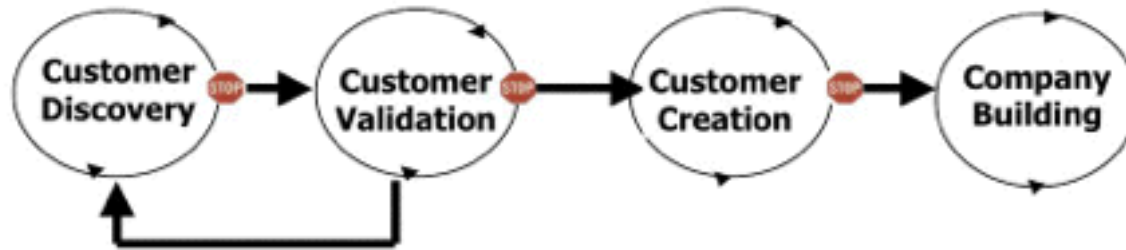*Customer Development Parallels Agile Development*

**Agile Development**

Concept / Business Plan → Agile Development → Continuous Test → Continuous Ship

**Customer Development**

Customer Discovery → STOP → Customer Validation → STOP → Customer Creation → STOP → Company Building

# Customer (Stakeholder) Discovery



- Discovery
  - Test hypotheses I.e. problem and product concept
- Validation
  - Build a repeatable and scalable sales process
- Creation
  - Create end-user demand and fill the sales pipeline
- Building
  - Scale via relentless execution

# Lean Startup Advantages

- Builds low-burn companies by design

  - Low cost market risk testing

- Organized around learning and discovery

- Right model for current conditions



## The next wave of capital efficient startups
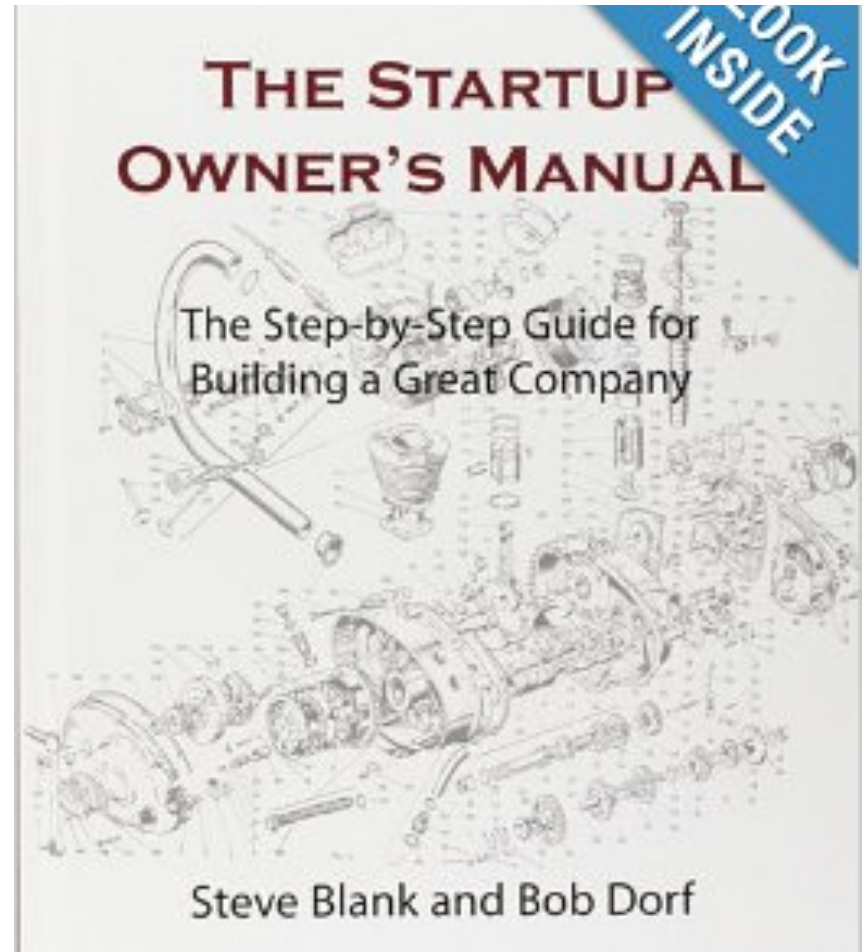
# Method Comparison

- Lean Startup
- SAME METHOD
  - Stakeholder Focus
  - Value Focus

- DIFFERENT METHOD
  - Intense stakeholder & value exploration
  - Intense quantitative product effect hypothesis and measurement (daily)

- Gilb Methods: Evo, CE, Planguage, Value Delivery
- SAME METHOD
  - Stakeholder Focus
  - Value Focus

- DIFFERENT METHOD
  - Stakeholders mainly known, and formally identified, and correlated to values, but can be discovered as needed
  - Longer term quantified value objectives and weekly feedback
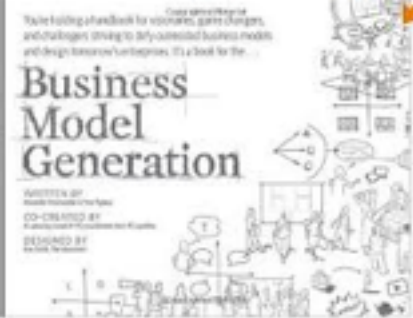
# Comparison

- **Lean Startup**
  - Focus on Market, Customers, Product Qualities (**Value** for Stakeholders)

- **Agile Scrum, XP**
  - Focus on reliable productive delivery of user stories, functions, designs (on **coding**)

# Steve Blank

Steve Blank is a Silicon Valley serial-entrepreneur and academician who is based in Pescadero, California. Blank is recognized for developing the Customer Development methodology, which launched the Lean Startup movement.



## THE STARTUP OWNER'S MANUAL

The Step-by-Step Guide for Building a Great Company

LOOK INSIDE

Steve Blank and Bob Dorf

http://steveblank.com/books-for-startups/

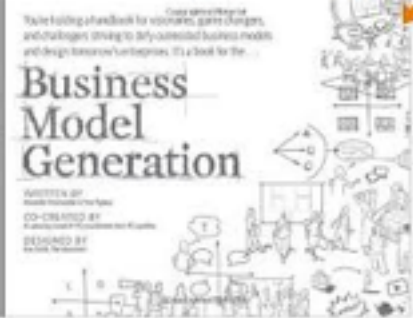# Business Model Canvas-> Blank by Osterwalder & Pigneur



## Sketch Out Your Hypotheses

The business model canvas lets you look at all nine building blocks of your business on one page. Each component of the business model contains a series of hypotheses that you need to test.

| KEY PARTNERS | KEY ACTIVITIES | VALUE PROPOSITIONS | CUSTOMER RELATIONSHIPS | CUSTOMER SEGMENTS |
|---|---|---|---|---|
| Who are our key partners? Who are our key suppliers? Which key resources are we acquiring from our partners? Which key activities do partners perform? | What key activities do our value propositions require? Our distribution channels? Customer relationships? Revenue streams? | What value do we deliver to the customer? Which one of our customers' problems are we helping to solve? What bundles of products and services are we offering to each segment? Which customer needs are we satisfying? What is the minimum viable product? | How do we get, keep, and grow customers? Which customer relationships have we established? How are they integrated with the rest of our business model? How costly are they? | For whom are we creating value? Who are our most important customers? What are the customer archetypes? |
| | **KEY RESOURCES** What key resources do our value propositions require? Our distribution channels? Customer relationships? Revenue streams? | | **CHANNELS** Through which channels do our customer segments want to be reached? How do other companies reach them now? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines? | |

| COST STRUCTURE | REVENUE STREAMS |
|---|---|
| What are the most important costs inherent to our business model? Which key resources are most expensive? Which key activities are most expensive? | For what value are our customers really willing to pay? For what do they currently pay? What is the revenue model? What are the pricing tactics? |

See ppt note for links and sources detail

# Business Model Generation + Blank by Osterwalder and Entrepreneur

YP

AO

This is the area we would like to teach you some methods for articulation of stakeholder values and product value



## Sketch Out Your Hypotheses

The business model canvas lets you look at all nine building blocks of your business on one page. Each component of the business model contains a series of hypotheses that you need to test.

**KEY PARTNERS**
Who are our key partners?
Who are our key suppliers?
Which key resources are we acquiring from our partners?
Which key activities do partners perform?

**KEY ACTIVITIES**
What key activities do our value propositions require?
Our distribution channels?
Customer relationships?
Revenue streams?

**KEY RESOURCES**
What key resources do our value propositions require?
Our distribution channels?
Customer relationships?
Revenue streams?

**VALUE PROPOSITIONS**
What value do we deliver to the customer?
Which one of our customers' problems are we helping to solve?
What bundles of products and services are we offering to each segment?
Which customer needs are we satisfying?
What is the minimum viable product?

**CUSTOMER RELATIONSHIPS**
How do we get, keep, and grow customers?
Which customer relationships have we established?
How are they integrated with the rest of our business model?
How costly are they?

**CHANNELS**
Through which channels do our customer segments want to be reached?
How do other companies reach them now?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

**CUSTOMER SEGMENTS**
For whom are we creating value?
Who are our most important customers?
What are the customer archetypes?

**COST STRUCTURE**
What are the most important costs inherent to our business model?
Which key resources are most expensive?
Which key activities are most expensive?

**REVENUE STREAMS**
For what value are our customers really willing to pay?
For what do they currently pay?
What is the revenue model?
What are the pricing tactics?
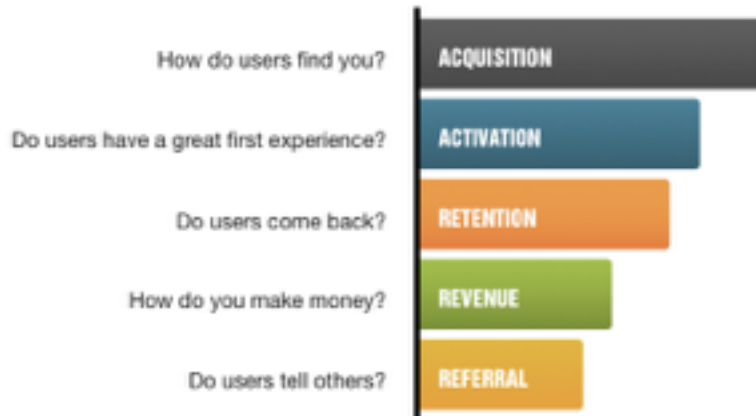
See ppt note for links and sources detail

# Innovation Accounting

via
http://practicetrumpstheory.com/innovation-accounting/
Ash Maurya



Dave McClure's Pirate Metrics

Financial accounting → Innovation Accounting

# Project Startup Week, Evo 1st Week
# Paper = http://www.gilb.com/dl568

- Day 1: **Project Objectives**: The top few critical objectives quantified.
- Objective: Determine, clarify, agree critical few project objectives – results – end states
- Day 2: **Project Strategies and Architecture**: the top few critical strategies for reaching the critical objectives
- Day 3: Evaluation of Strategies using Impact Estimation: our best estimates with experience and risk. How sure are of the major strategy decisions.
- Day 4: **Evolutionary Step Decomposition**: what are the high value short term value delivery steps we can execute
- Day 5 **Buy In to next step, next week**
  - This is normally used to present the plan to management and get approval to go forward the next week.

  - **DETAIL AND EXAMPLES NEXT SLIDES**

- Evo Startup Standard, Jan 12 2013
- http://www.gilb.com/dl562

# Day 1: Top Ten 'Value Improvements'

Paper = http://www.gilb.com/dl554

- Top 10 ?
  - A prioritization technique
  - A 'focus' technique
  - After top 10 are delivered we can turn to other current priorities
  - All the top ten are 'improvements' that can be quantified, and tracked in projects in practice
  - They are the top ten from the top stakeholder set point of view

# TOP 10 EXAMPLE LAST WEEK FOR A STARTUP

**Brainstormed needs:**

- **Top Ten Critical Objective/needs/benefits/Requirements**
  - **Effectiveness:** Understand the Effectiveness of their Teaching
  - **Drop Out Rate:**
  - **Profitability:**
  - **Scope:** of content
  - **Employability:**
  - **Distance Capability:**
  - **Tool Real Deployment:**
  - **Visibility of Learning:** Transparency
  - **Ranking Effect:**
  - **Collaboration Capability:**
  - **Competitive Differentiation:**
  - **Personal Adaptability:**

# DETAIL FOR ONE NEED

- **<u>Competitive Differentiation:   try this one for a sample</u>**
  - **Type: Complex Top Level University Objective**
  - **Version: 18.03.2014 11:38**
  - **Owner: CEO (Mervi)**
  - **Ambition: "disrupt the education industry" <- Vesa (Founder) 18.3.14**
  - **Includes:  <subattributes>**
    - » **Market Penetration Rate:**
    - » **User Growth Rate:**
    - » **<u>Customer Value</u>**: "probably complex but not now"
      - **Type:** Elementary ? Objective.
      - **Ambition:** <customer delighted long term>  <- Vesa (Founder) 18.3.14
      - **Scale:** % of defined [Customers/Users/Institutions] who retain or improve on defined [Delight Level] for defined [Periods]
      - **Meter [Universities, Introduction Year]  Sampling surveys at least 20% of Users**
      - **G1:Goal** [Institution = University, Mode = Virtual, Subject = Maths, Size = 100,000, Funding = For Profit, Users = Students, Delight level = Upper 25%, Period = at least 3 years, Deadline = By End 2015 ??, Market = Saudi ]   at least **90%** ??  <- SWAG TG
      - **Tolerable** [Institution = University, Mode = Virtual, Subject = Maths, Size = 100,000, Funding = For Profit, Users = Students, Delight level = Upper 25%, Period = at least 3 years, Deadline = By End 2015 ??, Market = Saudi ]   **at least 70% ??  <- SWAG TG**

**P&L-Consiste...**
and Actual (T-...

ONE PAGE PROJECT REQUIREMENTS QUANTIFIED

...cket

**Speed-To-Deliver**: **Scale**: average Calendar days needed from New Idea Approved until Idea Operational, for given Tasks, on given Markets.
**Past** [2009, Market = EURex, Task =Bond Execution] **2-3 months** ?
**Goal** [Deadline =End 20xz, Market = EURex, Task =Bond Execution] **5 days**

**Operational-Control**: **Scale**: % of trades per day, where the calculated economic difference between OUR CO and Marketplace/Clients, is less than "1 Yen"(or equivalent).
**Past** [April 20xx] **10%** change this to 90% NH **Goal** [Dec. 20xy] **100%**

**Operational-Control.Consistent**: **Scale**: % of defined [Trades] failing full STP across the transaction cycle. **Past** [April 20xx, Trades=Voice Trades] **95%**
**Past** [April 20xx, Trades=eTrades] **93%**
**Goal** [April 20xz, Trades=Voice Trades] <**95 ± 2%**>
**Goal** [April 20xz, Trades=eTrades] **98.5 ± 0.5 %**

**Operational-Control.Timely.End&OvernightP&L** **Scale:** number of times, per quarter, the P&L information is not delivered timely to the defined [Bach-Run].
**Past** [April 20xx, Batch-Run=Overnight] 1 **Goal** [Dec. 20xy, Batch-Run=Overnight] <**0.5**> **Past** [April 20xx, Batch-Run= **T+1**] **1 Goal** [Dec. 20xy, Batch-Run=End-Of-Day, Delay<1hour] **1**

**Operational-Control.Timely.IntradayP&L** **Scale:** number of times per day the intraday P&L process is delayed more than 0.5 sec.

**Operational-Control.Timely.Trade-Bookings Scale:** number of trades per day that are not booked on trade date. **Past** [April 20xx] **20** ?

**Past** [20xx, Function = Risk Mgt, Region = Global] ~ **80s** +/- **45s** ??
**Goal** [End 20xz, Function = Risk Mgt, Region = Global] ~ **50%** better?
Managing Risk – Accurate – Consolidated – Real Time

**Risk.Cross-Product Scale:** % of financial products that risk metrics can be displayed in a single position blotter in a way appropriate for the trader (i.e. – around a benchmark vs. across the curve).
**Past** [April 20xx] **0%** 95%.           **Goal** [Dec. 20xy] **100%**

**Risk.Low-latency Scale:** number of times per day the intraday risk metrics is delayed by more than 0.5 sec. **Past** [April 20xx, NA] **1% Past** [April 20xx, EMEA] ??**% Past** [April 20xx, AP] **100% Goal** [Dec. 20xy] **0%**
Risk.Accuracy

**Risk. user-configurable Scale:** ??? pretty binary – feature is there or not – how do we represent?
**Past** [April 20xx] **1% Goal** [Dec. 20xy] **0%**

**Operational Cost Efficiency Scale:** <Increased efficiency (Straight through processing STP Rates )>

**Cost-Per-Trade Scale**: % reduction in Cost-Per-Trade
**Goal** (EOY 20xy, cost type = I 1 – REGION = ALL) **Reduce cost by 60% (BW)**
**Goal** (EOY 20xy, cost type = I 2 – REGION = ALL) **Reduce cost by x %**
**Goal** (EOY 20xy, cost type = E1 – REGION = ALL) **Reduce cost by x %**
**Goal** (EOY 20xy, cost type = E 2 – REGION = ALL) **Reduce cost by 100%**
**Goal** (EOY 20xy, cost type = E 3 – REGION = ALL) **Reduce cost by x %**

## ONE PAGE PROJECT REQUIREMENTS QUANTIFIED

*(partially obscured background text)*

P&L-Consiste
and Actual (T-                                                            cket

Past [20xx, Function = Risk Mgt, Region = Global] ~ **80s +/- 45s** ??

**Speed-To-I                                                            better?**
Idea Approv
Markets.
**Past** [2009,                                                            rics
**Goal** [Dead                                                            te for
**days**

Operationa                                                            y risk
economic                                                            ] **1% Past**
less than "                                                            20xy] **0%**
**Past** [April

Operationa                                                            here or
full STP ac
Trades] **95**
**Past** [April                                                            aight
**Goal** [April
**Goal** [April                                                            by **60%**

Operationa                                                            by **x %**
times, per                                                            by **x %**
defined [Ba                                                            by **100%**
**Past** [April                                                            by **x %**
Run=Overn
20xy, Batch
Operationa
day the int
Operationa
per day that are not booked on trade date: Past [April 20xx] 20

### Operational-Control:
Scale: % of trades per day, where the calculated economic difference between OUR CO and Marketplace/ Clients, is less than "1 Yen"(or equivalent).

**Past** [April 20xx] **10%**
**Goal** [Dec. 20xy] **100%**

# Day 2 Top Strategies or 'Architecture'

The solutions to 'how to get to your critical goals on time

- Principles of determining strategies
- The most effective: for meeting my Goal levels
- The most efficient: value or effect for resources ($, ☺, t)
- Experience history
- Try your hypothesis strategy, early, small scale.
- Confirm it or learn it.
- Dynamic validation of architecture
  - Cf. Quinnan, Cleanroom, IBM SJ 4/80

# Acer: VERY TOP LEVEL PROJECT STRATEGIES

*Note: These very top level project strategies specify how we are going to achieve the top level project goals.*

**Identify Binding Compliance Requirements Strategy:**
**Gist:** Identify all officially binding security administration requirements with which we must become compliant both from THE CORP and Regulatory Authorities.

**System Control Strategy:**
**Gist:** a formal system or process we can use to decide what characteristics a [system; default = application] has with regard to our compliance, performance, availability and cost goals
*Note: an inspection process, for instance*
Define and implement inspection for security administration-related business requirements specifications
Define and implement inspection for [systems; default = applications] which already exist in CitiTech environments
*Note: systems include applications, databases, data service and machines. Project ACER ought to be extensible.*

**System Implementation Strategy:**
**Gist:** a formal system or process we can use to actually change a [system; default = application] so that it meets our compliance, performance, availability and cost goals
All systems ought to feed EERS
Publish best practices for developing security administration requirement specifications
Publish a security administration requirement specification template
Application technology managers are service providers in the formal change process, that

**Find Services That Meet Our Goals Strategy:**
**Gist:** a formal system or process we can use to evaluate security administration services offered by internal and external services providers so that we can meet our defined goals
*Note: this strategy avoids pre-supposition that one solution is the only option (EG all applications must migrate to RSA and that RSA is the only security administration services offering)*

**Use The Lowest Cost Provider Strategy:**
**Gist:** use the services provider that meets all signed-off project goals for the lowest $US cost.
*Note: if all project goals can be met by more than one services provider, the provider offering the lowest $US cost for meeting the goals and no more than the goals ought to be used*

> How much do these strategies cost?

> How much impact on our 4 Goals do these strategies have?

**Defining a Design**/Solution/Architecture/Strategy (Planguage, CE Design Template)
1. enough detail to estimate, 2. some impact assertion, 3. Assumptions, Risks, Issues



Orbit Application Base:  (formal Cross reference Tag)

**Type**: Primary Architecture Option

=========== Basic Information ==========

**Version**: Nov. 30 20xx  16:49, updated 2.Dec by telephone and in meeting. 14:34

**Status**: Draft

**Owner**: Brent Barclays

**Expert**: Raj Shell, London

**Authority**: for differentiating business environment character
Barclays(for overview)

**Source**: <Source references for the information in this specific
Various, can be done later BB

**Gist**: risk and P/L aggregation service, which also provides wo
outbound and inbound feed support. Currently used by Rates
and Middle Office, USA & UK.

**Description**: <Describe the design idea in sufficient detail to s
and costs given below>.

> D1: ETL Layer. Rules based highly configurable imple
> which allows the data to be onboarded more quickly.
> very quickly. With minimal development required. ->
> Market, Business Scalability

> D2: high performance risk and P/L aggregation proce
> Timeliness, P/L Explanation, Risk & P/L Understandin
> Scalability, Responsiveness.

> D3: Orbit supports BOTH Risk and P/L  -> P/L Explan
> Risk & P/L Understanding, Decision Support.

> D4: a flexible configurable workflow tool, which can
> workflow processes -> Books/Records Consistency, Business Process Effectiveness,
> Business Capability Time to Market.

> D5: a report definition language, which provides 90+% of the business logic
> contained with Orbit, allows a quick turnaround of new and enhanced reports with
> minimal regression testing and release procedure impact. -> P/L Explanation, Risk
> & P/L Understanding, Business Capability Time to Market, Business Scalability.

> D6: Orbit GUI. Utilizes an Outlook Explorer metaphor for ease of use, and the Dxx
> Express Grid Control, to provide high performance Cube Interrogation Capability. -
> > Responsiveness, People Interchangeability, Decision Support, Risk & P/L
> Understanding.

> D7: downstream feeds. A configurable event-driven data export service, which is
> used to generate feeds .  -> Business Process Effectiveness, Business Capability
> Time to Market.

===================== **Priority and Risk Management** =====================

**Assumptions**: <Any assumptions that have been made>.

> A1: **FCCP is assumed to be a part of Orbit.** FCxx does not currently exist and
> is Dec 20xx 6 months into Requirements Spec.   <- Picked up by TsG from dec
> 2 discussions AH MA JH EC.

> > Consequence: FCxx must be a part of the impact estimation and
> > costs rating.

> evelopment costs will not be different. All will base on a
> n mm and 3 years. The o+

> slightly, like $n  mm for hardware. MA AH 3 dec

> ntinue to own Orbit. TSG DEC 2

> , 3 years, will constrained to a scope we can in fact deliver,
> ven additional budget. If not "I would have a problem"  <- BB
> xpanding Orbit will not be prohibitive. <- BB 2 dec

> e the assumption that we can integrate Oribit with PX+ in a
> en in the short term <- BB

> y dependencies for this design idea>.

> s Px+ in time. ? tsg 2.12

> ags of any factors, which could threaten your estimated

> ed. Mitigation: continue to use Pxx   <- tsg 2.12

> **integration** of Px+ is not as easy as thought & we must

> alability and cost of **coherence** will not allow us to meet the

> Orbit team and infrastructure, first year especially <- BB.
> People, environments, etc.

> R5: re Cross Desk reporting Requirement, major impact on technical design.
> **Solution not currently known**. Risk no solution allowing us to report all P/L

**Issues**: <Unresolved concerns or problems in the specification or the system>.

> I1: Do we need to put the fact that we own Orbit into the objectives
> (Ownership). MA said, other agreed this is a huge differentiator. Dec 2.

> I2: what are the time scales and scope now? Unclear now BB

> I3: what will the success factors be? We don't know what we are actually
> being asked to do. BB 2 dec 20xx

> I4: for the business other than flow options, there is still a lack of clarity as
> to what the requirements are and how they might differ from Extra and Flow
> Options. BB

> I5: the degree to which this option will be seen to be useful without Intra
> Day. BB 2 dec

## Spec Headers

## Detailed Description and -> <u>Impacted Objectives</u>

<u>Orbit Application Base</u>:  (formal Cross reference Tag)

**Type**: Primary Architecture Option

==== Basic Information =========

**Version**: Nov. 30 20xx  16:49, updated 2.Dec by telephone and in meeting. 14:34

**Status**: Draft (PUBLIC EXAMPLE EDIT)

**Owner**: Brent Barclays

**Expert**: Raj Shell, London

**Authority**: for differentiating business environment characteristics, Raj Shell, Brent Barclays(for overview)

**Source**: <Source references for the information in this specification. Could include people>.  Various, can be done later BB

**Gist**: risk and P/L aggregation service,

which also provides work flow/ adjustment and outbound and inbound feed support. Currently used by Rates Extra Business, Front Office and Middle Office, USA & UK.

**Description**: <Describe the design idea in sufficient detail to support the estimated impacts and costs given below>.

**D1**: ETL Layer. Rules based highly configurable implementation of the ETL Pattern, which allows the data to be onboarded more quickly. Load and persist new data very quickly. With minimal development required. -> <u>Business-Capability-Time-To-Market, Business Scalability</u>

**D2**: high performance risk and P/L aggregation processing (Cube Building).  -> <u>Timeliness, P/L Explanation, Risk & P/L Understanding, Decision Support, Business Scalability, Responsiveness.</u>

**D3**: Orbit supports BOTH Risk and P/L -> <u>P/L Explanation, Risk & P/L Consistency,  Risk & P/L</u>

**D4**: a flexible configur... new workflow processe... <u>Effectiveness, Busines...</u>

**D5**: a report definition... contained with Orbit, ... with minimal regressio... <u>Explanation, Risk & P/... Business Scalability.</u>

**D6**: Orbit GUI. Utilizes... Dxx Express Grid Contr... Capability. -> <u>Responsi... Risk & P/L Understand...</u>

**D7**: downstream feeds... which is used to gener... <u>Capability Time to Mar...</u>

The Detailed description is useful,

- to understand costs
- to understand impacts on your objectives (see '->')
- to permit separate implementation and value delivery, incrementally
- as basis for test planning

© Gilb

## ==== Priority & Risk Management ========

**Assumptions**: *<Any assumptions that have been made>*.

A1: **FCCP is assumed to**
not currently exist and i[s]
Requirements Spec.   <-
discussions AH MA JH EC.

   Consequence: FCx[x]
   impact estimation

A2: **Costs**, the developm[ent]
different. All will base o[n]
and 3 years. The ops cos[t]
mm for hardware. MA AH

A3:Boss X will continue t[o]

A4: the schedule, 3 year[s]
we can in fact deliver, O[r]
budget. If not "I would h[ave]

A5: the cost of expanding Orbit will not be
prohibitive. <- BB 2 dec

A6: we have made the assumption that we can
integrate Oribit with PX+ in a sensible way, even in
the short term <- BB

**Dependencies**: *<State a[nd]*

   D1: FCxx replaces Px+ in time. ? tsg 2.12

**Risks**: *<Name or refer to tags of any factors,    which could threaten your estimated impacts>*.

R1. FCxx is delaye[d]
tsg 2.12

R2: the technical
thought & we mus[t]

R3: the and or sca[le]
allow us to meet t[he]

R4: **scalability** of
year especially <-

R5: re Cross Desk
on technical desig[n]
no solution allowi[ng]

**Issues**: *<Unresolved concerns or problems in the specification or the system>*.

I1: Do we need to put th[e]
the objectives (Ownersh[ip]
a huge differentiator. D[o]

I2: what are the time s[cales]
now BB

I3: what will the succes[s]
what we are actually be[ing]

I4: for the business othe[r]
a lack of clarity as to w[hy]
how they might differ f[rom]

I5: the degree to which
useful without Intra Day. BB 2 dec

# Day 3
## How good are your strategies for your goals?

- Main ideas
  - Assure yourself that credible strategies exist, to meet your goals
  - That the strategies will work in the time frame you need, and within your profitable budget limits
  - Force your team to think objectively, and to document and present their thinking clearly to investors and supporters
    - 'This is worth a million $ cash"
      - Medtronic
      - WattLoo
      - Symbian

**LOOWATT: A NEW PARADIGM IN SANITATION**
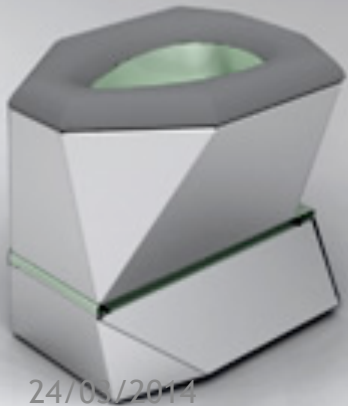
# Nick Coutts Presenting

# Planning Language

Name of Value definition

Definition of value as a quantity

Current or Past level (systems analysis)

Target level, Required level, Objective

- **Improve Sanitation**
  Target: 25% - 75%
  ...lected / waste produced by user group
  ...**and Longevity**

  ...ngle user per n...

- **Story and Data**
  Target: 0.4 - 0.8
  Unit: Average of factors rated...

- **Managing Risk**
  Target: 0.2 – 0.8
  Unit:  Average of factors rated 0.0 – 1.0

- **Methodology**
  Target: 0.4 – 0.8
  Unit:  Average of factors rated 0.0 – 1.0

- **Diffusing Knowledge**
  Target 0.15 – 0.8
  Unit:  Average of factors rated 0.0 – 1.0
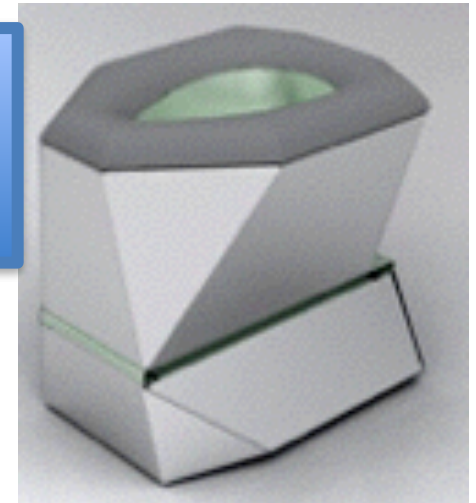
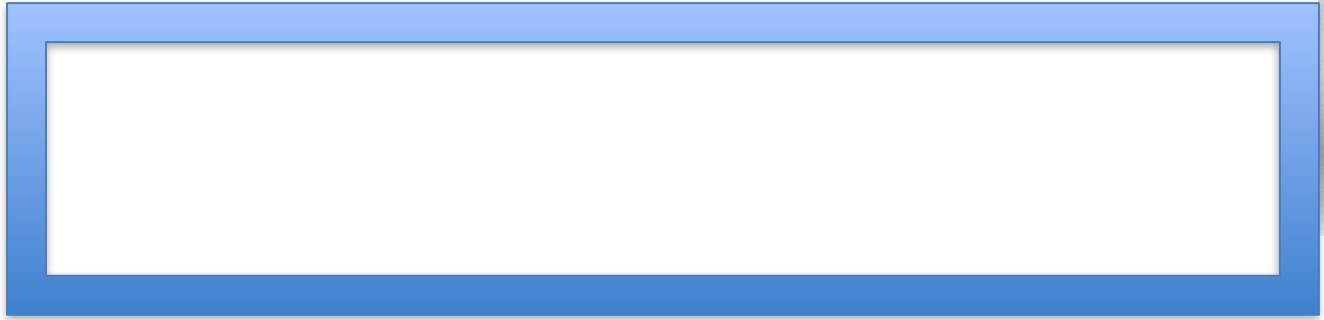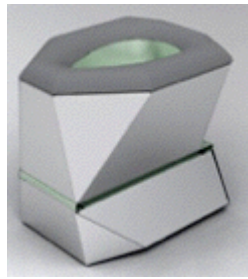**Impact Estimation Table** for Gates GCE Project
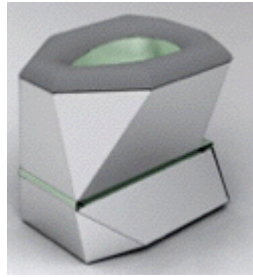
# *Names of major strategies or architectures*
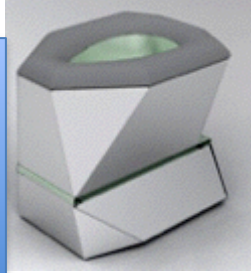
# Estimates of strategy impact on the quantified goals (0% none, 100% = Goal)
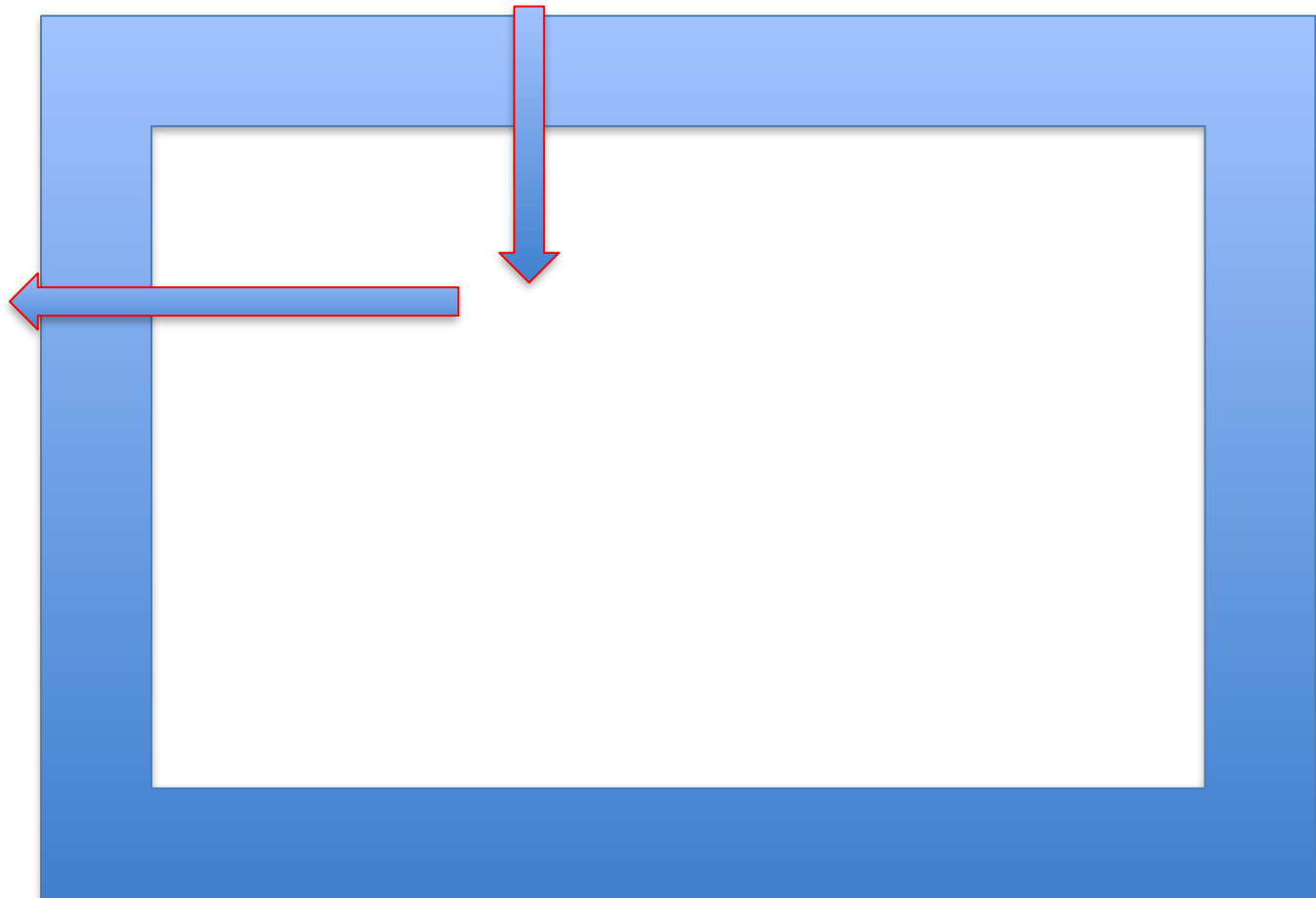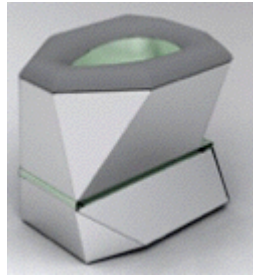
# Sum all Strategies ->

# Value for Money
I
V

# FEEDBACK FROM LOOWATT

- They continued to use the planning method throughout the 14 month project
  - Because it helped keep them on track to the real critical objectives
- They highly recommended to their 20 parallel incubator projects, that they should use these methods for planning their startups

# Day 4:  Find A Value delivery 'Experiment', next week
# (and repeat this process every week until all goals met)

- **Basic Ideas of this day**
- Try out your ideas, early and frequently
  - (next week, every week)
- Get practical
- Confront real users and stakeholders
- Force yourselves to think about the entire system (hw, sw, data, culture, motivation, getting inside)
- Learn Fast, Fail Fast
- Cumulate value delivered
- Prove you can really deliver value
- Build confidence in your stakeholders that you really can help them short term!

# The 'Evo' (**Evol**utionary) Method for Project Management.

**The 'Evo' (Evolutionary) Method for Project Management.**

> **Process Description , http://www.gilb.com/dl563**

**1.** **Gather from all the key stakeholders the top few (5 to 20) most critical goals that the project needs to deliver.**
**Give each goal a reference name (a tag).**

**2.** **For each goal, define a scale of measure and a 'final' goal level.**
**For example: Reliable: Scale: Mean Time Before Failure, Goal: 1 month.**

**3.** **Define approximately 4 budgets for your most limited resources**
**(for example, time, people, money, and equipment).**

**4.** **Write up these plans for the goals and budgets**
**(Try to ensure this is kept to only one page).**

**5.** **Negotiate with the key stakeholders to formally agree the goals and budgets.**

**6.** **Plan to deliver some benefit**
**(that is, progress towards the goals)**
**in weekly (or shorter) increments (Evo steps).**

**7.** **Implement the project in Evo steps.**
**Report to project sponsors after each Evo step (weekly, or shorter) with your best available estimates or measures, for each performance goal and each resource budget.**
**On a single page, summarize the progress to date towards achieving the goals and the costs incurred.**

**8.** **When all Goals are reached: 'Claim success and move on'**
**a.** **Free remaining resources for more profitable ventures**

**Richard Smith**

" I attended a 3-day course with you and Kai whilst at Citigroup in 2006"

© Gilb.com

# Previous PM Methods:
## No 'Value delivery tracking'.
## No change reaction ability

**Richard Smith**

- "However, (**our old** project management methodology) main failings were that

-  it almost **totally missed the ability to track delivery of actual *value* improvements to a project's stakeholders,**

-  and **the ability to react to changes**
  - **in requirements and**
  - **priority**
  - **for the project's duration"**

We only had the illusion of control.
But little help to testers and analysts

**Richard Smith**

- "The (old) toolset generated lots of charts and stats
-  that provided **the illusion of risk control**.
- But actually provided very little help to the analysts, developers and testers actually doing the work at the coal face."

# The proof is in the pudding;

**Richard Smith**

- "The proof is in the pudding;

- I have **<u>used Evo</u>**

  - *(albeit in disguise sometimes)*

  - on two large, high-risk projects in front-office investment banking businesses,

  - and several smaller tasks. "

*Experience*: if top level requirements are *separated* from design, the 'requirements' are **stable**!



**Richard Smith**

- "On the largest critical project,
-  the original ***business functions & performance objective requirements document,***
-  ***which included <u>no</u> design,***
- essentially remained ***unchanged***
-  over the **14 months** the project took to deliver,…."

" I attended a 3-day course with you and Kai whilst at Citigroup in 2006", Richard Smith

# Dynamic (Agile, Evo) design testing: not unlike 'Lean Startup'
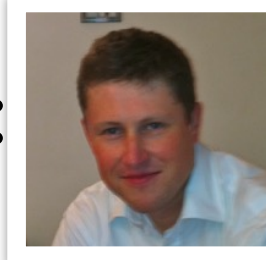
**Richard Smith**

- "... but the detailed **designs**
  - **(of the GUI, business logic, performance characteristics)**

- **changed** many many times,
- guided by lessons learnt
- and **feedback** gained by
- delivering a succession of early deliveries
-  to real users"

" I attended a 3-day course with you and Kai whilst at Citigroup in 2006", Richard Smith

It looks like the stakeholders liked the top level system qualities,
on first try

**Richard Smith**

– " In the end, the new system responsible for 10s of USD billions of notional risk,

– **successfully went live**

– **over one weekend**

– **for 800 users worldwide**,

– and **was seen as a big success**

– **by the sponsoring stakeholders."**

" I attended a 3-day course with you and Kai whilst at Citigroup in 2006" , Richard Smith

© Gilb.com

# Free Digital Books ?

1. 100s of papers, slides, cases
   www.Gilb.com
2. Competitive Engineering
   - Email me: Tom @ Gilb . Com
   - Subject: **Book**
   - Offer only valid for people attending this talk, and within 48 hours.
3. Evo Book Manuscript
   - Gilb.com/connect

# Links for Lean Startup

- www.theleanstartup.com/
  - The official website of all things **Lean Startup** presented by Eric Ries.
- www.slideshare.net/venturehacks/the-lean-startup-2
  - Eric Ries' presentation on **lean startups**. From Steve Blank's Customer Development course at Berkeley. Learn more and hear the audio at http://bit.ly/ 3qsvJ.

- www.startuplessonslearned.com/2008/09/lean-startup.html
  - 8 Sep 2008 – (Update April, 2011: In September, 2008 I wrote the following post in which I (ER)published my thoughts on the term "**lean startup**" for the first time
- http://eng.wealthfront.com/2011/03/lean-startup-stage-at-sxsw.html
- http://www.slideshare.net/venturehacks/the-lean-startup-2
  - Slides bySteven Blank and Eric Ries. "The Lean Startup, Low Burn by Design , not Crisis"
- http://www.slideshare.net/startuplessonslearned/2009-05-01-how-to-build-a-lean-startup-step-by-step/download
- https://archive.harvardbusiness.org/cla/web/pl/product.seam?c=29512&i=29514&cs=72931baa3b05f76aca8090b33db139b0
- http://steveblank.com/books-for-startups/
- http://www.amazon.com/gp/product/0984999302/ref=as_li_tf_tl?ie=UTF8&tag=wwwsteveblank-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0984999302
- http://practicetrumpstheory.com/business-model/      Ash Mayura

# Links for Other Methods

- The Inmates are running the asylum, Construx Summit talk Oct 25 2011 Seattle
  - Contains considerable 'Bring' Case slides
  - www.gilb.com/tiki-download_file.php?fileId=488
- Value Management (Evo) with Scrum development ('Bring' Case), March 2010 English Version , Kai Gilb
  - www.gilb.com/tiki-download_file.php?fileId=277

# Extra Slides for More Detail

# Continuous Deployment
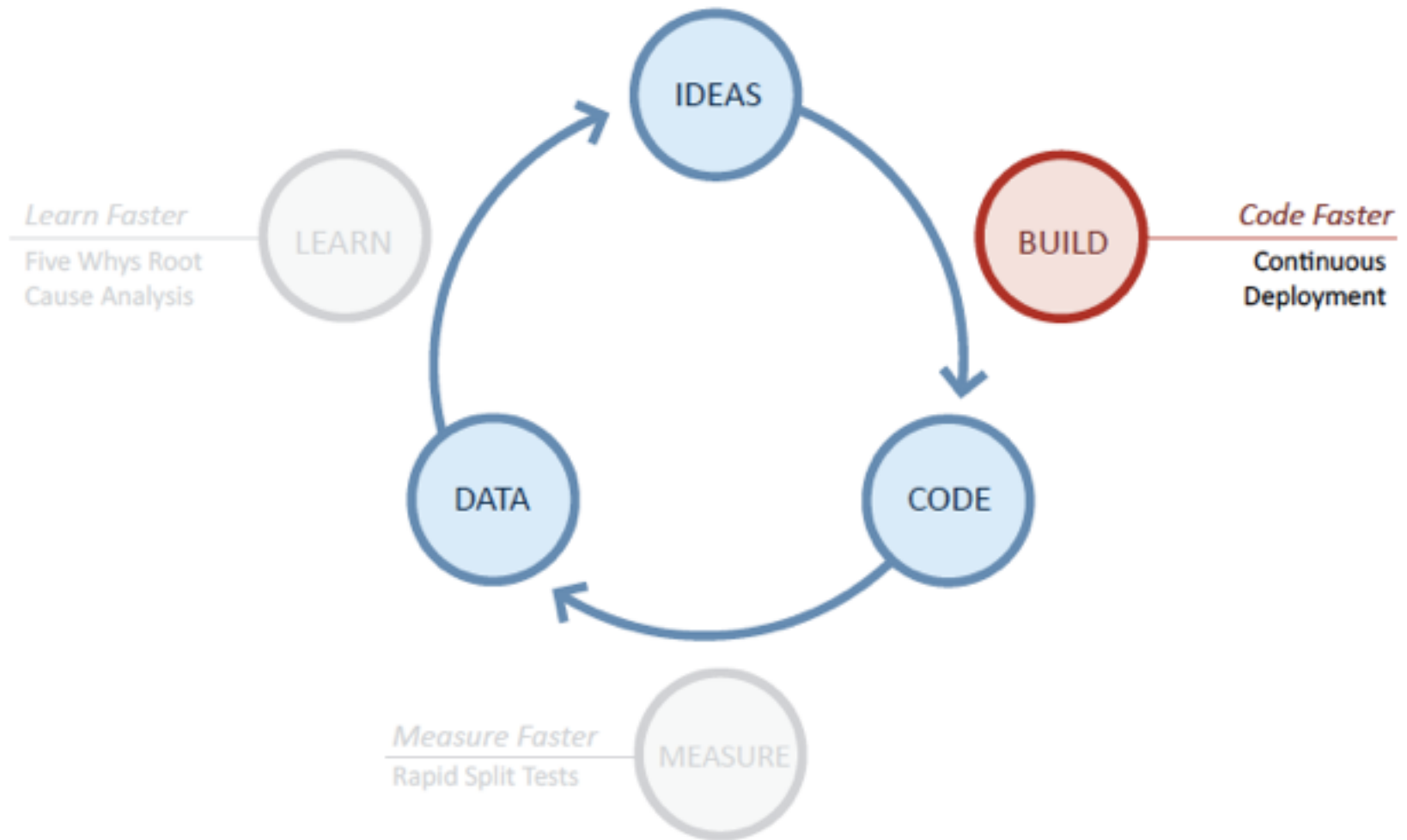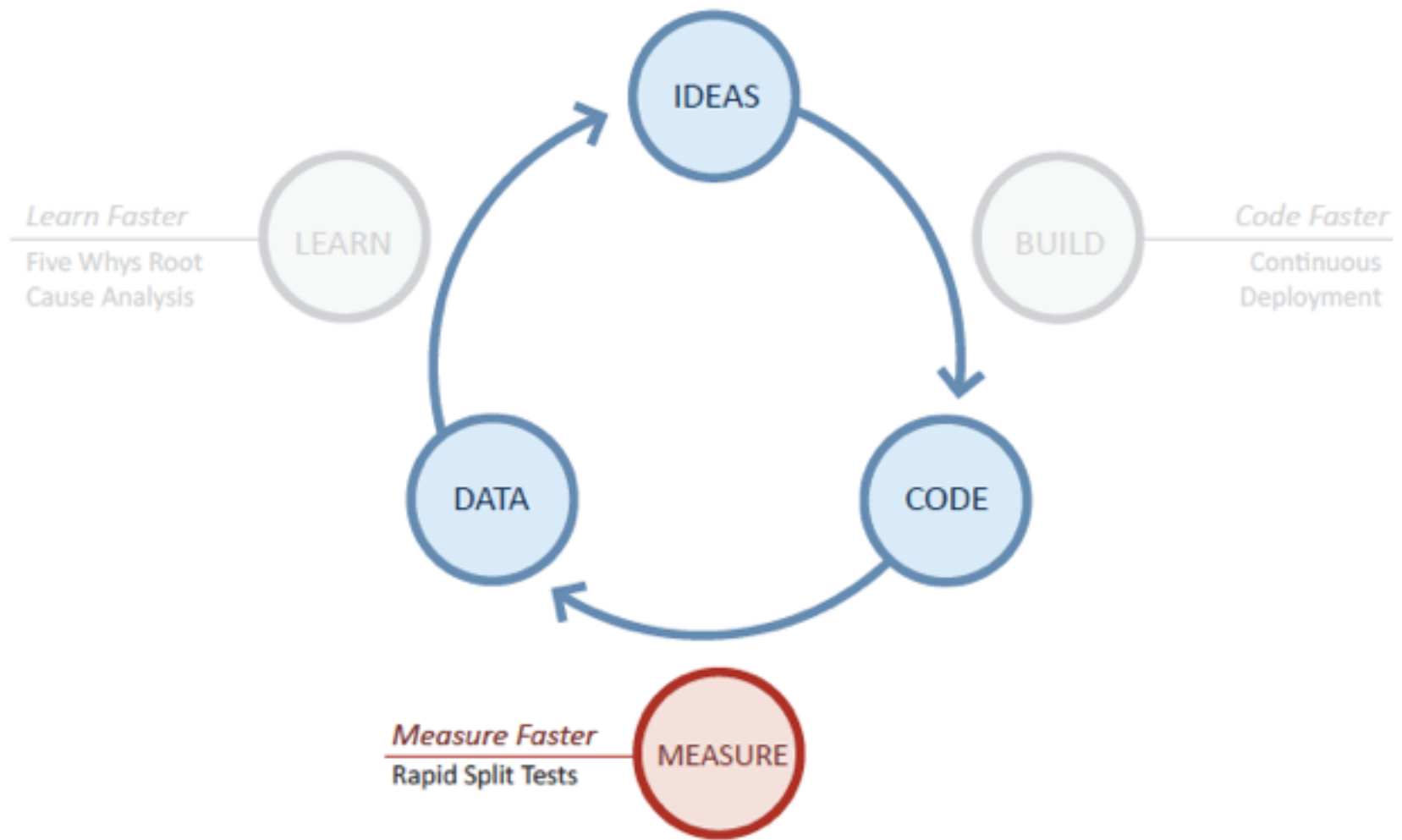
# Cluster Immune System

What it looks like to ship one piece of code to production:

- Run tests locally (SimpleTest, Selenium)
  - Everyone has a complete sandbox

- Continuous Integration Server (BuildBot)
  - All tests must pass or "shut down the line"
  - Automatic feedback if the team is going too fast

- Incremental deploy
  - Monitor cluster and business metrics in real-time
  - Reject changes that move metrics out-of-bounds

- Alerting & Predictive monitoring (Nagios)
  - Monitor all metrics that stakeholders care about
  - If any metric goes out-of-bounds, wake somebody up
  - Use historical trends to predict acceptable bounds

When customers see a failure:
  - Fix the problem for customers
  - Improve your defenses at each level

# Measure Faster: Rapid Split Tests



*Learn Faster*
Five Whys Root
Cause Analysis

LEARN

IDEAS

*Code Faster*
Continuous
Deployment

BUILD

DATA

CODE

*Measure Faster*
Rapid Split Tests

MEASURE

# Split-testing all the time

- A/B testing is key to validating your hypotheses

- Has to be simple enough for everyone to use and understand it

- Make creating a split-test no more than *one line of code:*

```
if( setup_experiment(…) == "control" ) {
    // do it the old way
} else {
    // do it the new way
}
```
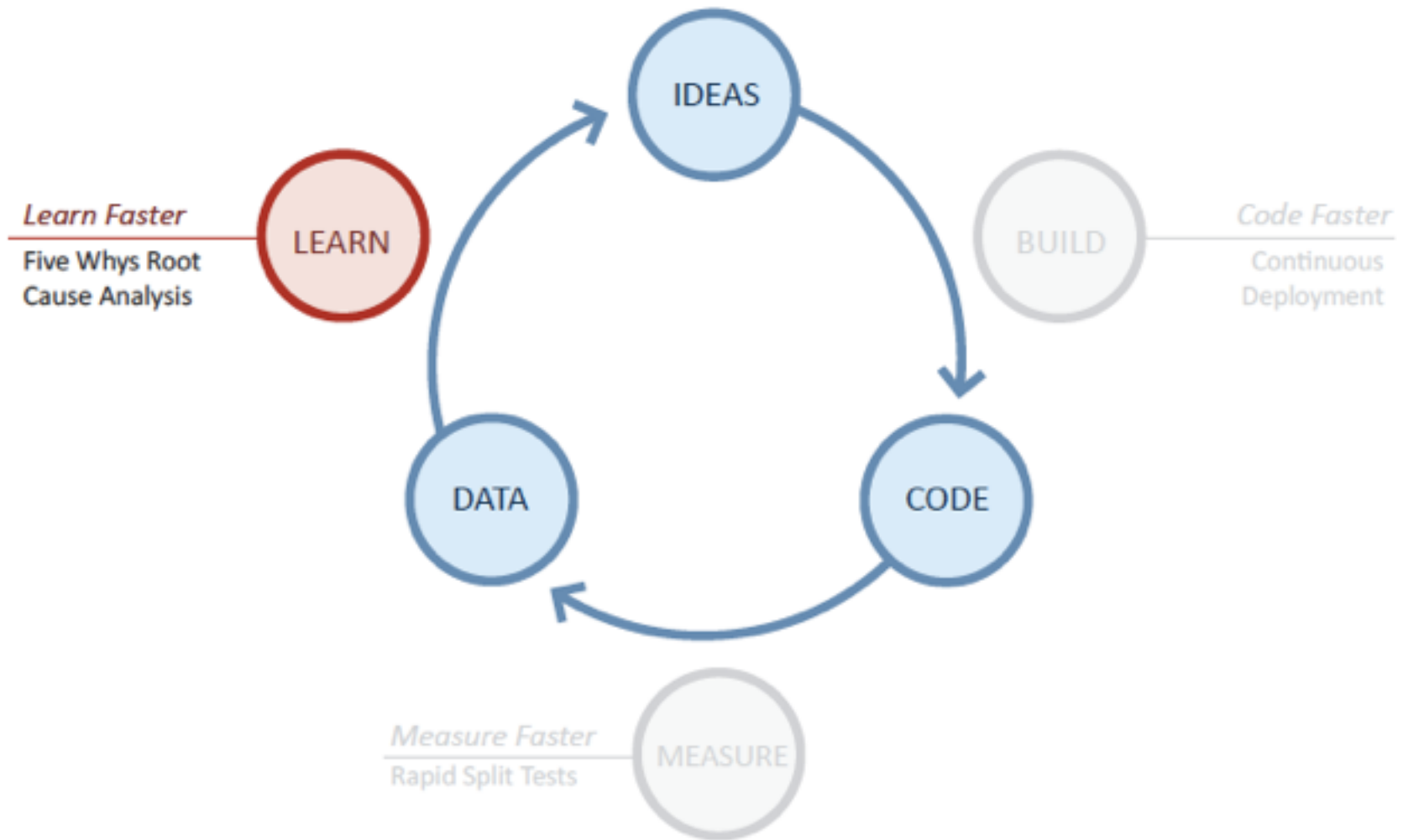
# Metrics Qualities

## The AAA's of Metrics

- Actionable
- Accessible
- Auditable

# Measure the macro

- Always look at cohort-based metrics over time
- Split-test the small, measure the large

|  | Control Group (A) | Experiment (B) |
| --- | --- | --- |
| # Registered | 1025 | 1099 |
| Downloads | 755 (73%) | 733 (67%) |
| Active days 0-1 | 600 (58%) | 650 (59%) |
| Active days 1-3 | 500 (48%) | 545 (49%) |
| Active days 3-10 | 300 (29%) | 330 (30%) |
| Active days 10-30 | 250 (24%) | 290 (26%) |
| Total Revenue | $3210.50 | $3450.10 |
| RPU | $3.13 | $3.14 |

# 5 Whys

# THE VERY END STOP GO BACK !!