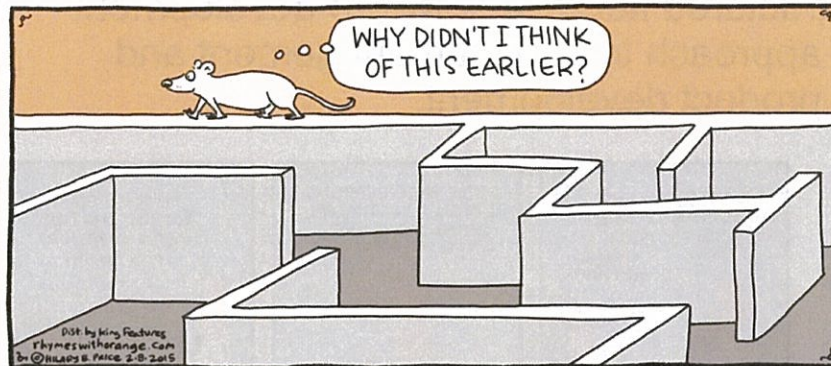


Agile vs. Lean Six Sigma

Working Smarter.



Dr. Isabelle Monlouis
Fall 2019

Lean Six Sigma

Lean originated at _____ in the 40's in the _____ industry.

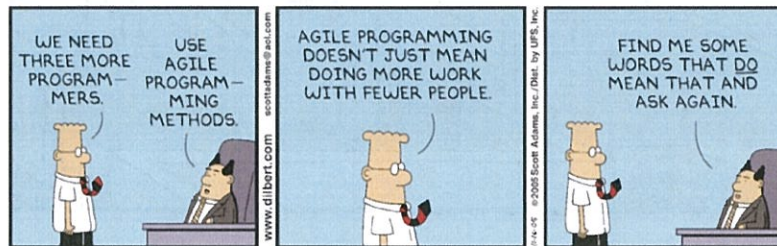
Six Sigma originated at _____ in the 80's in the _____ industry.

General Electric expanded the use of Six Sigma in the _____ industry.

Lean Six Sigma is a _____ improvement methodology

What is Agile?

Structured iterative software development approach to project management and product development.



Manifesto for Agile Software Development

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

February 11-13, 2001

Source: <https://agilemanifesto.org>

Lean Six Sigma Design Methodology

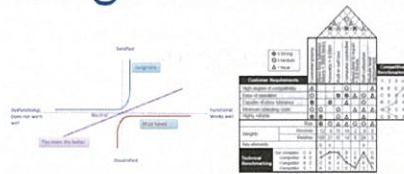
Design for Six Sigma (DFSS):
New process, products, and services.

DMADV



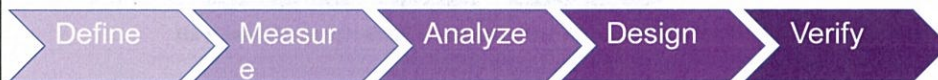
Do it right the first time
Linear sequential methodology
No design without specific CTQs

Design for Lean Six Sigma (DFSS)

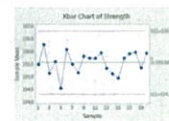
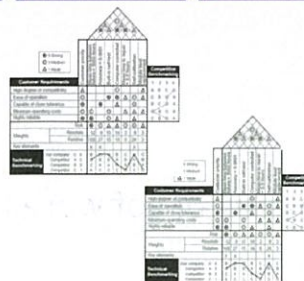


Prioritize the CTQs
from the VOC.

High level and detailed
design
Prototyping
FMEA



Develop a clear definition
of the design project
Project charter
Project plan (MGPP)



Design for Six Sigma



Focuses on Design with low emphasis on execution

Slow to respond to change



Fast delivery

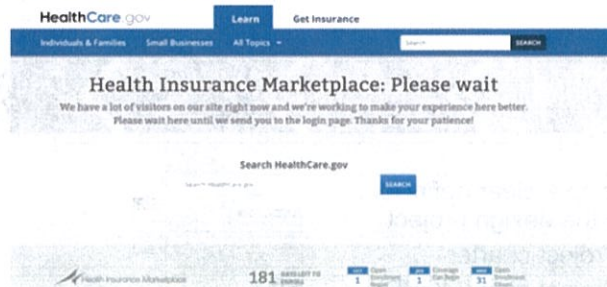
Focuses on Execution

Agile

12 Principles behind the Agile Manifesto

1. "Our highest priority is to satisfy the customer through early and continuous delivery of valuable *WORKING* software."

Can you release incrementally?



Big Bang releases of software fail 80+% of the time

12 Principles behind the Agile Manifesto

2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.



3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Principles behind the Agile Manifesto

4. Business people and developers must work together daily throughout the project.

5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.



6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Principles behind the Agile Manifesto

7. Working software is the primary measure of progress.



Principles behind the Agile Manifesto

8. Agile processes promote sustainable development.
The sponsors, developers, and users should be able
to maintain a constant pace indefinitely.

9. Continuous attention to technical excellence
and good design enhances agility.



Principles behind the Agile Manifesto

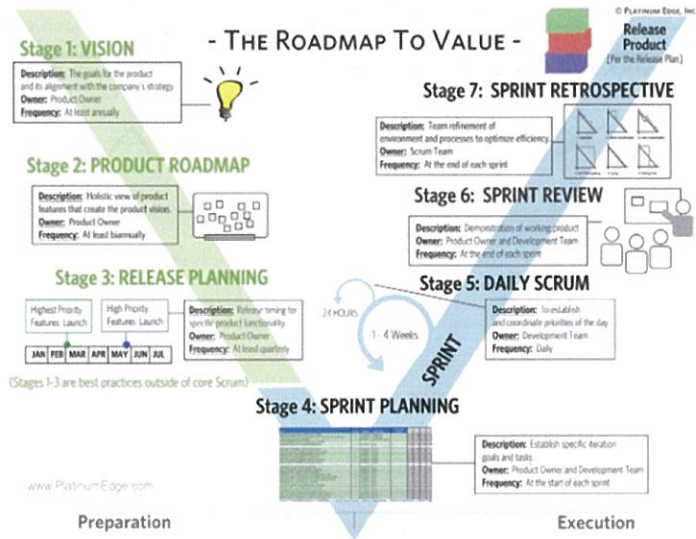
10. Simplicity--the art of maximizing the amount of work not done--is essential.

Principles behind the Agile Manifesto

11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile Methodologies

SCRUM
Kanban
SAFe



Agile Roles: Scrum Master vs. Master Black Belt



Monday, February 06, 2012 Agile Methodology



Junior Scrum Master

Scrum Master Mid Level

Scrum Master Sr. / Lead Scrum Master

Responsible for ensuring the team lives **Agile values and principles** and follows **processes and practices** that the teams agree they will use within **Agile** (i.e. **Scrum, Kanban, SAFe, etc.**) frameworks to **self-organize** while delivering value to customers. The Scrum Master is a **servant leader** and champions the **Agile mindset** through effective guidance, coaching, education and through removal of impediments to team progress. This role is responsible for building high-performing teams focused on **constantly improving team dynamics and performance**.

Barriers to Agile “Movement” Success

Mindset

Cultural resistance

Leadership support

Rituals vs. real change

Role mandates. E.g. Scrum Master

Lean Six Sigma Successes:

- ✓ Project-based process improvement methodology
- ✓ Bottom line impact
- ✓ Professional and leadership development

IT development**	➡	Agile Software Development
Strategic renewal	➡	Business Model Transformation
Innovation*	➡	Design Thinking
New product/Service	➡	Lean Startup
Exponential growth	➡	Exponential Organizations

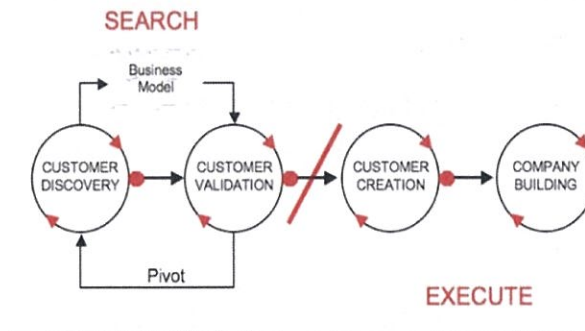
*User centric

** Except w/ strong dependencies

What's next?

Lean Start-up:

The Lean Startup provides a scientific approach to creating and managing startups and get a desired product to customers' hands faster.



Source: Blank and Dorf, 2012

Lean Startup

Customer Development matters as much as Product Development. It requires an iterative toolkit

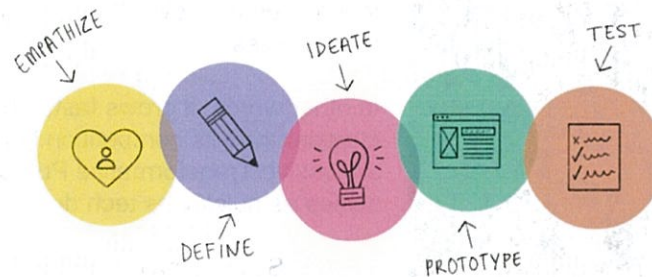


Identify hypotheses – Experiment to validate them
Pivot if indicated – Create an MVP

What's next?

Design Thinking:

Iterative problem solving process developed by the Stanford D.School with a hyper focus on the user.



Understand the user, challenge assumptions, and redefine problems to create innovative solutions

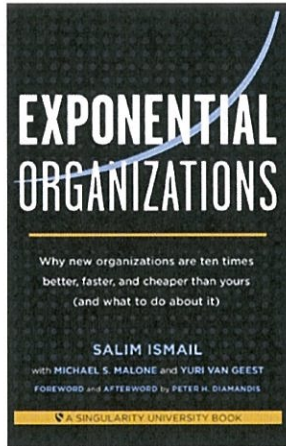
Design Thinking

Nobody wants to run a business based on feeling, intuition, and inspiration, but an overreliance on the rational and the analytical can be just as dangerous. The integrated approach at the core of the design process suggests a 'third way.' “

– Tim Brown, IDEO CEO
*Change by Design,
Introduction*



Exponential Organizations



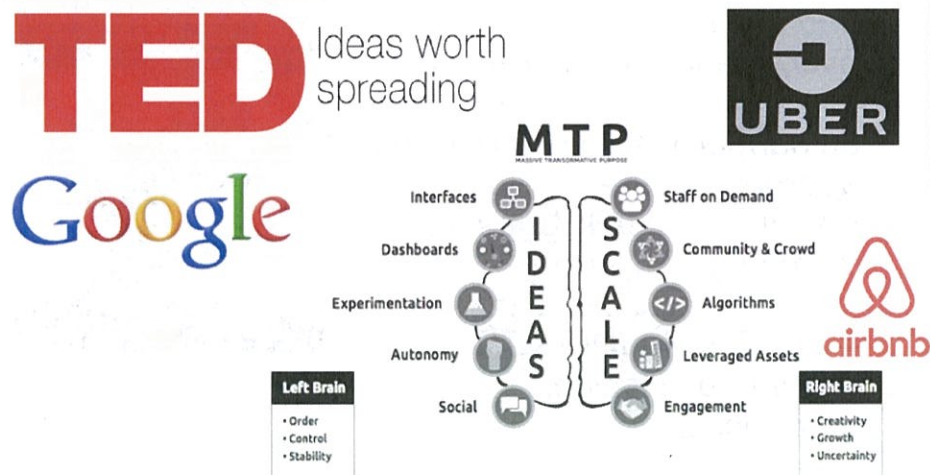
"An Exponential Organization is one whose impact or output is disproportionately large --at least 10 times larger -- compared to its peers because of new organizational techniques that leverage accelerating technologies.

In other words, it grows faster, bigger and cheaper than its competition because it has a Massive Transformative Purpose and scales as quickly as tech does."

Salim Ismail
-Singularity University, Founder
-OpenExO

Exponential Organizations

Massive Transformative Purpose



Traditional vs. Exponential Organizations

Company trait	Traditional, linear organization	ExO Organization
Management	Top down, Hierarchical	Autonomy, Social technology
Objectives	Financial outcomes	MTP, Dashboards
Dominant train of thought	Linear, sequential thinking	Experimentation, Autonomy
Innovation sources	Innovation primarily from within	Experimentation, Autonomy
Planning	Extrapolation from the past	MTP, Experimentation
Risk tolerance	Intolerant	Experimentation
Flexibility	Process inflexibility	Autonomy, Experimentation
Staffing level	Large number of FTE	Algorithms, Community & crowd; Staff on demand
Ownership	Controls/owns its own assets	Leveraged assets
Time horizon	Heavily invested in status quo	MTP, Dashboards, Experimentation

Source: Signal-and-the-noise.com, based on Tomer Salm and Yuri von Gessert "Exponential Organizations", 2014

- ➡ Create an MTP
- ➡ Develop a Community of support
- ➡ Pick a team with Sr. mgt. support
- ➡ Create disruptive projects
- ➡ ExO coach for ExO Sprints

Which one is right for your project?

The one your organization uses.

If your organization uses multiple approaches:

Scope of work (Fixed vs. Flexible)

Scope and speed of change (Low vs. High)

Degree of ambiguity/certainty of design requirements at the beginning of the project

Scope of transformation expected

INNOVATE

&

EXECUTE

Quirky

Home

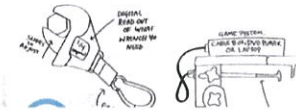
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If you've got more than just an idea (like a patent, prototype, or actual product) connect with Quirky here!



PrACTtice:

Questions for Innovation



How can we surprise and delight customers?

How can we double our average order value?

How can we get 100% brand awareness in our target market?

How can we make all our employees really proud to work here?

What is the most dramatic business innovation you have seen in the last two years? How could we apply that approach here?

How can we empower people at all levels to make decisions quickly?

