

# The innovation journey...

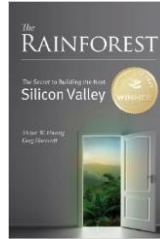
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Jacques Bazen,  
Lecturer Saxion University of Applied Sciences

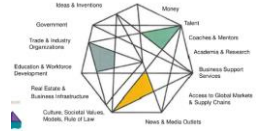


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## “Rainforest” as innovation environment



Hwang & Horowitz use the Rainforest metaphor to explain why some regions are successful in creating an innovative climate, while others are not.



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## What does “Rainforest” mean?

Innovative businesses should not be isolated but look for environments in which they can thrive. That means a diverse and fuzzy environment in which creativity plays a major role. “Weeds” can cause nice new developments...



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## “Building a Rainforest”

Most successful innovation “Rainforest” in the world, Silicon Valley in California.



1930s: Jan Broek, geography of the Santa Clara Valley. “Dry, not very attractive living environment without much chances for development”  
2010s: Hwang & Horowitz, most successful technology transfer area in the world. One of the most value creating regions in the world.



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## How did it happen?

University teachers & administrators (Fred Terman) of Stanford university stimulated talented students to start their own business, and invested in them. Breakthrough came when the team lead by William Shockley invented the transistor.



The conditions for success were already created by the work of Terman with his efforts to create a business & science park, to attract innovative companies.

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## How did it happen?



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### Role of Entrepreneurs

The role of entrepreneurs is those of the so-called: "Free spirits", who initiate innovation and creative destruction (new replaces old). According to Schumpeter.



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### Spotting opportunities – First: Getting into the right thinking mode

- Yes, but.... (leading nowhere)
- Yes, and.... (leading to creativity) (& possible craziness)



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### What about opportunities

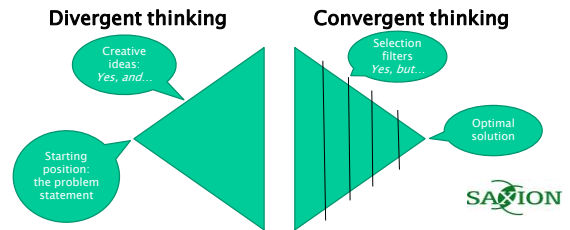
Are opportunities just out there, waiting for us to spot them? "The gap in the market, the niche waiting to be filled"

Or...can opportunities be created? A serendipitous finding...a real breakthrough (eg. Penicillin, Kevlar, Teflon)



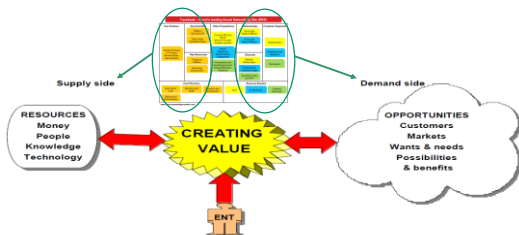
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### Spotting opportunities



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### What is an entrepreneur?



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### Model of innovative entrepreneurship (Shane & Vankateraman, 2000)

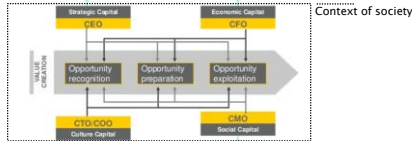


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## Model of innovative entrepreneurship

Relates to vision, mission  
Influence, power

Relates to finance,  
cash flow, costs



Relates to knowledge, technology  
organization, culture,

Relates to networks on  
multiple aggregation  
Levels in markets



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## Role of the entrepreneur

Eric Ries, "The lean startup":

*An entrepreneur is seldom the swashbuckling adventurer that we usually think he / she is. We often have this image in mind of the Branson type. But, almost all entrepreneurs are thoughtful methodical persons, looking for as much as possible solid arguments for their decisions.*



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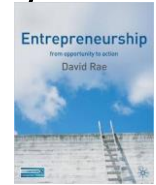


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## The innovation journey



According to Rae, 2007



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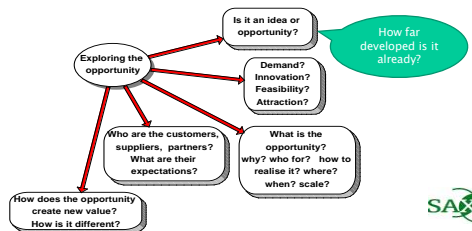
## Assessing opportunities

- Investment: None  $\longleftrightarrow$  High
- Risk: Certain  $\longleftrightarrow$  Unpredictable
- Return: None  $\longleftrightarrow$  High
- Impact of change: None  $\longleftrightarrow$  Great
- Time: Now  $\longleftrightarrow$  Future



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## Opportunity preparation



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## Idea or opportunity?



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## Business Opportunity

An opportunity has:

- Demand: actual or potential customer need, ability to pay – viability
- Innovation: a product, service or technology can be provided
- Feasibility: technology and resources exist and can be sourced
- Attraction: benefits and interest for you, customers, investors

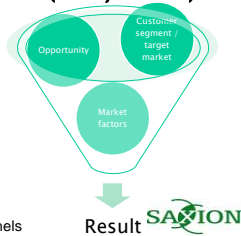
*Flying car: Business idea or opportunity?*



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## The innovation funnel (Rae, 2007)

- Identify potential markets
- Market characteristics:
  - Total value, growth, accessibility
- Decide on target market
- Identify customer segments within market
- Identify segment characteristics:
  - Total value, growth, accessibility
- Decide on target segment(s)
- Identify customer needs, preferences,
- Decision making factors, pricing
- Identify media, promotional and sales channels
- Develop marketing plan



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## Within innovative companies: The innovation funnel

From 100 new ideas, maybe just one will lead to a new venture or innovative product!

DON'T DESPAIR when your first idea goes nowhere! ☹

Try again!  
☺



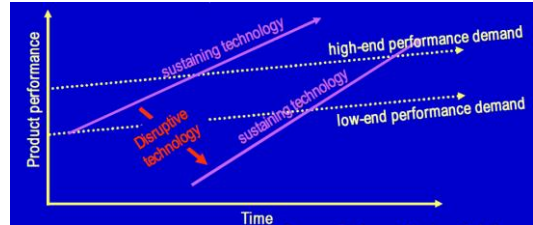
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## Disruptive Technologies

- Trajectories of market need versus technology improvement
- Technologies can progress faster than market demand
- Entrepreneurs often give customers more than they need or are willing to pay for



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### Example: CDs

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### Example: CDs

Idea of the Laser developed by Einstein in 1917.  
First prototype Laser built in 1960.



What to do with it? Nobody knew... maybe a weapon?  
Disruptive technology breakthrough: using laser to read microscopic pits in a plastic disk...the CD

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### Disruptive Technologies

- Disruptive technologies versus rational investments:
- "Investing aggressively in disruptive technologies is not a rational financial decision"
  - Disruptive technologies are usually simpler and cheaper: implies lower margins, not greater profits
  - Usually first commercialized in emerging or insignificant markets
  - Leading firm's most profitable customers generally don't want, and initially can't use, products based on disruptive technologies



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### Disruptive Technologies

These unused disruptive technologies are often perfect niche markets waiting to be explored by entrepreneurs: creation of so-called "spin-outs" of large companies.



Example of Philips spin-outs: PSV Eindhoven, ASML, Origin (now Atos (Origin)), Polygram (now UMG) NXP Semiconductors, Philips Lighting (2015)



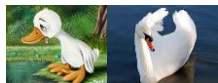
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### Incremental vs. Disruptive innovation



Innovation Funnel – Open Innovation

**Xerox's Ugly ducklings**  
"11 innovations from a group 35 tracked projects underutilized within Xerox developed its fullest potential when developed beyond Xerox. These dormant projects went onto to become publicly traded companies. The total value of these 11 businesses exceeded the total value of Xerox!"



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### Incremental / Disruptive Innovation



Two-person umbrella



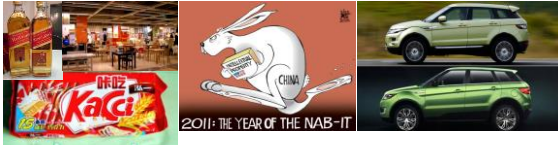
Amazon drone



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## Intellectual property paradox

- How to protect your hard work...making sure YOU have the results of your investment...
- Hiding everything is not working: No investors.



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## Intellectual property

Examples:

Fake Ikea/Apple stores:

<http://www.youtube.com/watch?v=M4zwujKVKpY>

Fake cars:

[http://www.youtube.com/watch?v=\\_ULm6QrC428](http://www.youtube.com/watch?v=_ULm6QrC428)

How to protect against this?

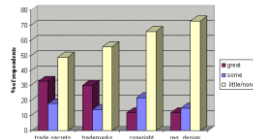


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## Intellectual property: Problems



There is a problem however for innovation... High to very high transaction costs...



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## Intellectual property

- Rainforest paradox: development/protection of ideas by sharing. "Trust" as important driver behind innovation.
- Trust only works if there is a shared culture or external control mechanism (set of rules of Silicon Valley for example).

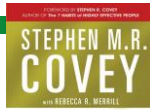


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## Trust



Fukuyama on Covey:  
*“Trust is generally good: it eliminates transaction costs. However if you are the a trusting person in a society of swindlers and thieves, you could actually be very naive”.*



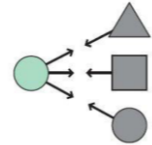
**THE SPEED OF TRUST**  
 THE ONE THING THAT CHANGES EVERYTHING



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## Intellectual property

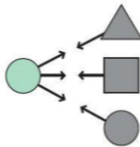
- Trust is necessary to get the culture of innovation working.
- People with different “language” have to communicate (eg. entrepreneurs, venture capitalists, marketeers)



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## Trust: Personal development

- People with different “language” have to communicate (eg. entrepreneurs, venture capitalists, marketeers)
- Do the “*trust exercise*”... do you need other people to be effective? 😊



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## Innovative culture

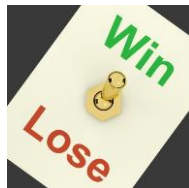
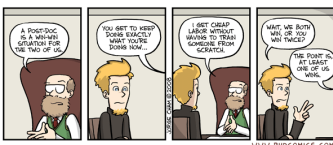
- Necessary to have non-zero sum game culture (See Rainforest chapter 5)
- Bazaar economies based on zero-sum games. Win - Lose.
- Innovation economies based on non zero-sum. Win - Win.



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## Innovative culture

A bit more on win - win / win - lose / lose - win / lose - lose situations:  
 Can you explain and name examples of each category (from life or business)?



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## Innovative culture

Innovative culture thrives in places where people have a so-called *abundance mindset* instead of a *scarcity mindset*.  
 Win - win situations/mentality strongly connected with abundance mindset.



I fight tooth and nail for everything I have. I do unto others before they do unto me. I say whatever it takes to get ahead. And I always fight for my share of the pie.

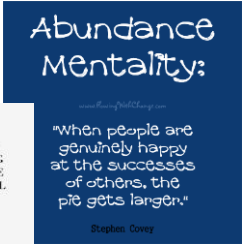
Now tell me one thing: Why are people always so nasty?



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### Innovative culture

Abundance mindset: *Naive?*  
Some quotes. What is your opinion?



Abundance Mentality: 5 Simple Steps Towards Prosperity

Michael Lee  
<http://www.prosperityinsidemoney.com/>

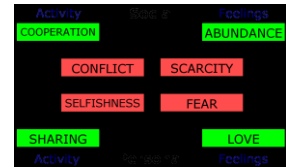


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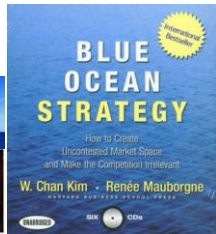
Win – win situations/mentality strongly connected with abundance mindset.



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### Innovative culture: Blue ocean/Red ocean

Example of abundance mentality  
*Blue Ocean* : Uncontested market space  
*Red Ocean* : Full of competitors



Avoid Red Oceans... develop the blue ones!

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### Innovative culture: Blue ocean/Red ocean

The bicycle market as an ocean

Bicycle industry competes for a share of the 20% cyclists (red, with blood)



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### Innovative culture: Blue ocean/Red ocean



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### Innovative culture

- **Proactive**
  - Have strong research orientation
  - Have the first mover advantage and be a technology market leader
  - Ex: Companies like DuPont, Apple and Singapore Airlines
- **Active**
  - Involves defending existing technologies and markets with the preparedness to respond quickly
  - Have incremental innovation with in-house applied R & D
  - Ex: Companies like Microsoft, Dell and British Airways
- **Reactive**
  - Copy proven innovation and have a focus on operations
  - Have a wait and see approach
  - Ex: Ryanair copied from service model of Southwest Airlines
- **Passive**
  - Wait until their customers demand a change in their products or services
  - Ex: Companies that supply to automotive companies





## Innovation: conclusion

- Works best in "Rainforest" environments (difficult to establish)
- Can totally change markets
- Often new ideas don't make it to the market
- Questionable if IP protection really helps

