

Contemporary Management Issues

Chapter 5
Why and How innovate?



Agenda

- Introduction
- Chap 1 – What is behind the term « company »?
- Chap 2 – Why and How does a company need to grow?
- Chap 3 – Where should a company compete (vertical integration and diversification)?
- Chap 4 - Where should a company compete (geographical scope)?
- Chap 5 – Why and How innovation?
- Chap 6 – Why and How does a company pursue its CSR?
- Chap 7 – Why and how deal with the ethical issues?
- Conclusion

Netflix: Disrupting the TV Industry



Who has a TV at their parents' house?

Who has a TV in their student flat?

What happen?

“Creative destruction” process of Joseph Schumpeter

Netflix: Disrupting the TV Industry



What was the TV industry before Netflix ?



Netflix: Disrupting the TV Industry

- I will tell you the story of Netflix and you have to find Netflix innovations ?

Product Innovation

New product Characteristics (e.g. new smartphone)

Service Innovation

New service (e.g. Siemens's co-creation service)

Process Innovation

New production methods (e.g. eco-conception)

Managerial Innovation

New organization of the work (e.g. management by project at NASA)

Social Innovation

Respond to a social or environmental need (e.g. faire trade label)

Business Model
Innovation

A new way to capture value/generate revenue (e.g. Tesla)

Netflix: Disrupting the TV Industry

The story

In 1997,

- Reed Hasting \$40 late fees for a blockbuster video (invest in online rental DVD)
- Internet was in its infancy (Amazon just made its first IPO- initial public offering)
- Turn from VHS to DVD (cheaper and easier to mail)
- Innovation : a queue of movies to watch and personalized recommendation

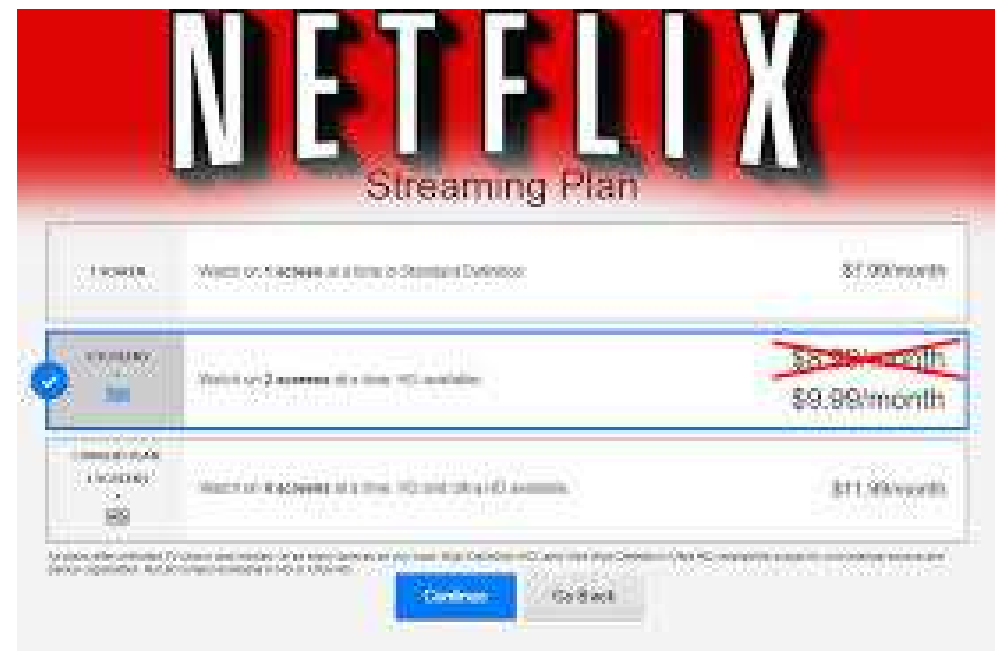


Netflix: Disrupting the TV Industry

The story

In 1999,

- Shift from one payment to a monthly subscription (no late fees)
- Innovation : One time product to a service
- Managerial issue : expensive to send by mail (almost broke)



Netflix: Disrupting the TV Industry

● The story

In 2007,

- Streaming content
- New channels :
computer, phone, tablet



Netflix: Disrupting the TV Industry

● The story

In 2010,

- Perceived as a threat by old media that refuse to distribute content to Netflix
(offer it to Hulu.com)
- Hulu. Com used to test for cheap new TD show

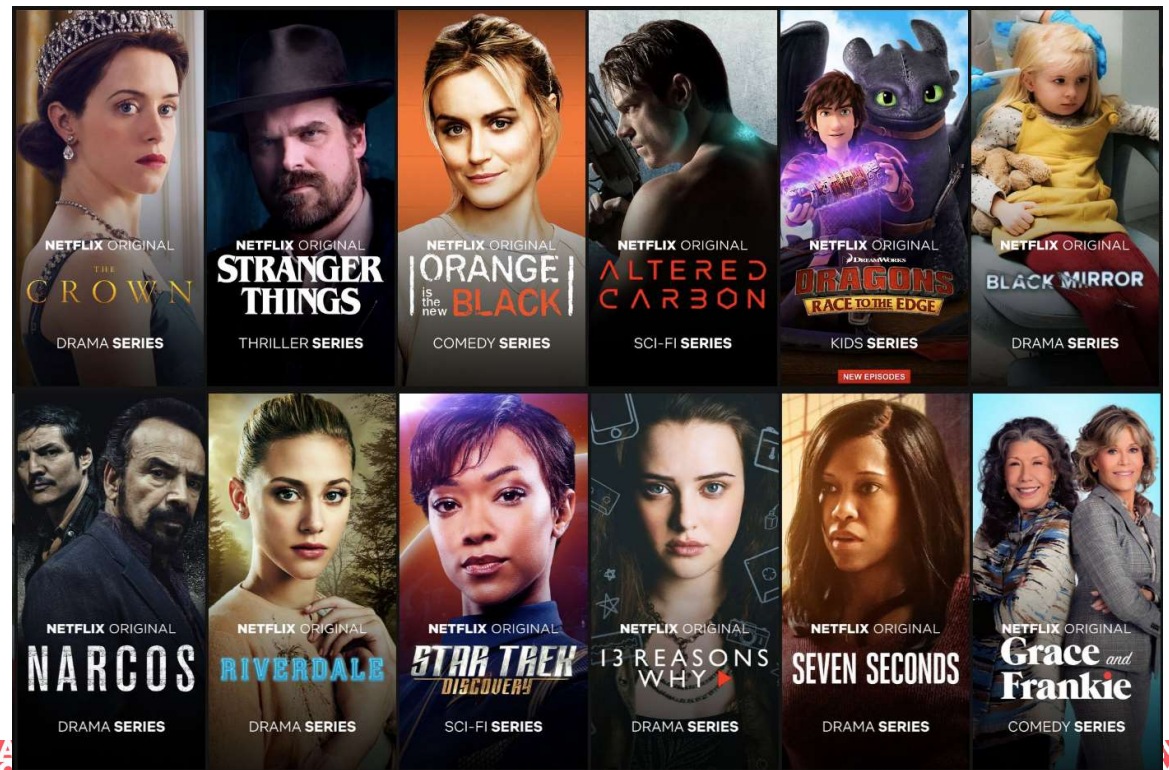


Netflix: Disrupting the TV Industry

The story

In 2010,

- In 2013 : Netflix : created its own TV show but not for cheap
- Use AI and data analytica



Netflix: Disrupting the TV Industry

The story

- Netflix button
- Also a new channel TV



Netflix: Disrupting the TV Industry

The story

- **They get unlimited vacation.** They can expense without getting approval from their managers, as long as they're acting in Netflix's best interest. **They don't have traditional yearly performance reviews.** Oh, and **they're also paid really, really well.**

Food for thought (chapter on growth)



Netflix: Disrupting the TV Industry

- Why did Netflix innovate?
 - Powerful driver in the competitive process
 - Innovation makes existing competitors obsolete and gain a competitive advantage**
- What the consequence of Netflix innovation success?
 - Traditional television network as trouble to survive and keep the

Netflix: Disrupting the TV Industry

- Many firms have dominated an early wave of innovation only to be challenged and often destroyed by the next one (*“Creative destruction” process of Joseph Schumpeter*)



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PLAN du cours

Chap 5. Why and How innovate

Introduction

1. Innovation process

1. The innovation process

The four I's

Innovation : Commercialized invention
Remark : 45% of new product are taken out from the market after 2 years
Remark2 : First mover advantage

Idea: New Knowledge without business

Idea

Invention : Prototype of a new product, service or process or a recombination of existing one
Remark : Patent it or not (Netflix never patent its algorithm that makes his competitive advantage)

Invention

Innovation

Copy if successful

Imitation

INNOVATION IS NOT creativity
IS NOT a technical object

INNOVATION IS one step in a 4 steps innovation process

1. The innovation process

The four I's and a focus on Imitation

- BE CAREFUL : can not always be copied!
 - First mover advantage due to scale effect and network effect (Creates a Lock-in of customers)



- But innovation is possible to overcome it



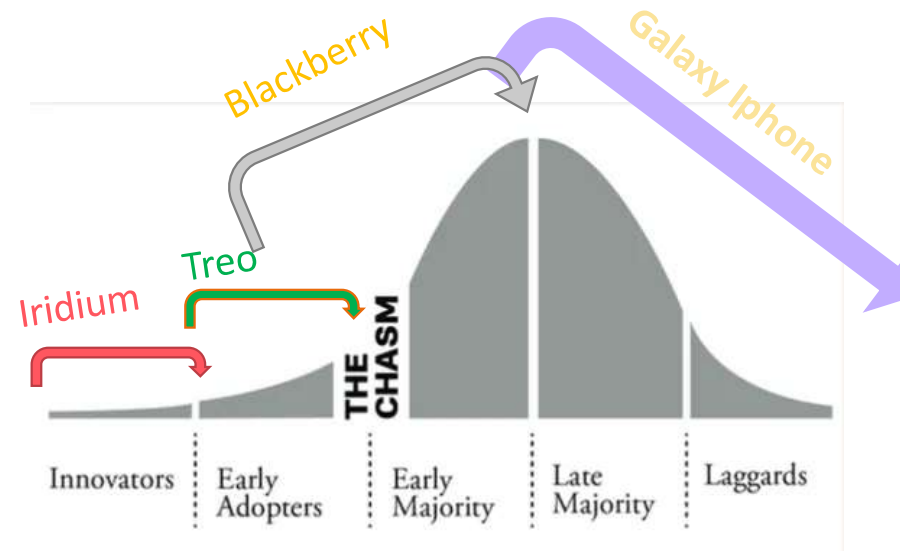
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Chap 5. Why and How innovate

1. The innovation process
2. Innovation and diffusion

2. Innovation and diffusion

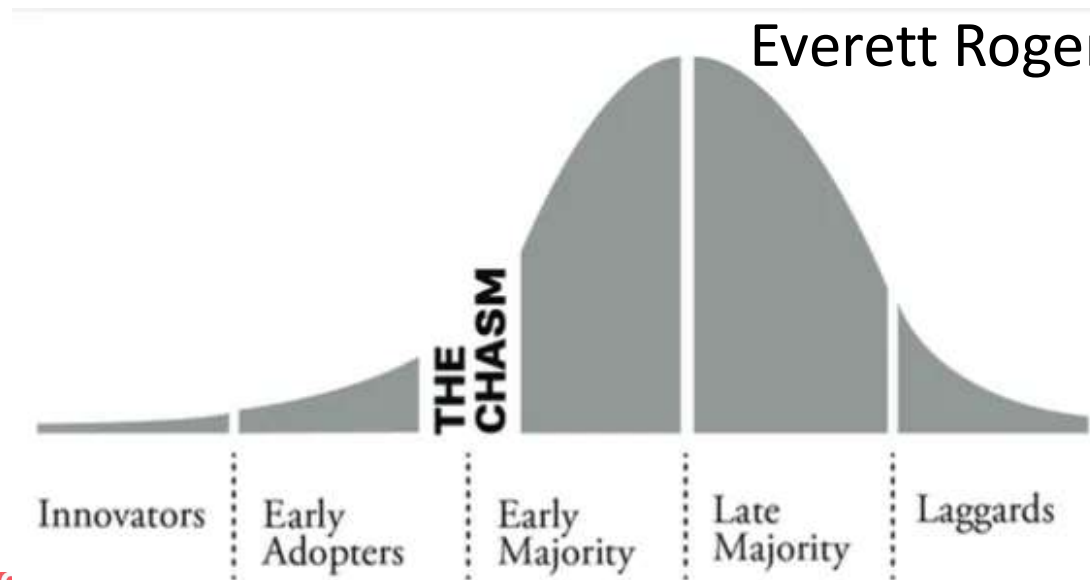
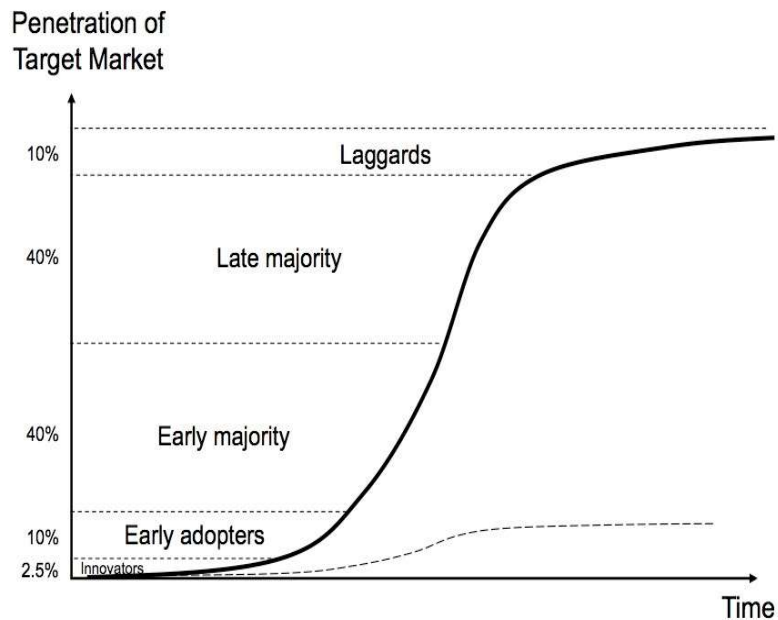
- What is behind the smartphone innovation?



2. Innovation and diffusion

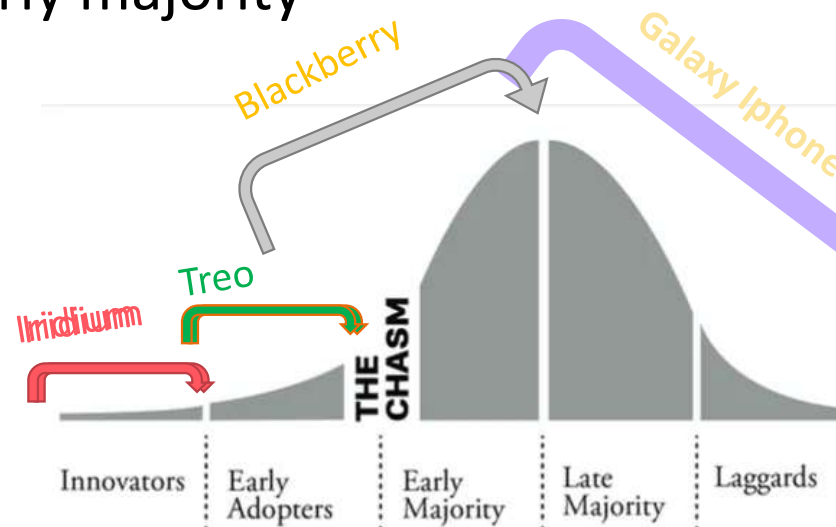
- Innovation can lead to the birth of new industry:
 - The innovation success relies on the adoption of different customer groups
 - Behind one innovation there might not one company
 - Companies struggle crossing-the chasm framework.

➤ *Diffusion of Innovation theory, Everett Rogers 1962*



2. Innovation and diffusion

- The reality is that in the industry life of a technology, some technologies does not managed to cross the groups : crossing-the chasm framework.
- There are mini-chasms at each stage and a big one between early adopter and early majority



➤ *Diffusion of Innovation theory,*
Everett Rogers 1962

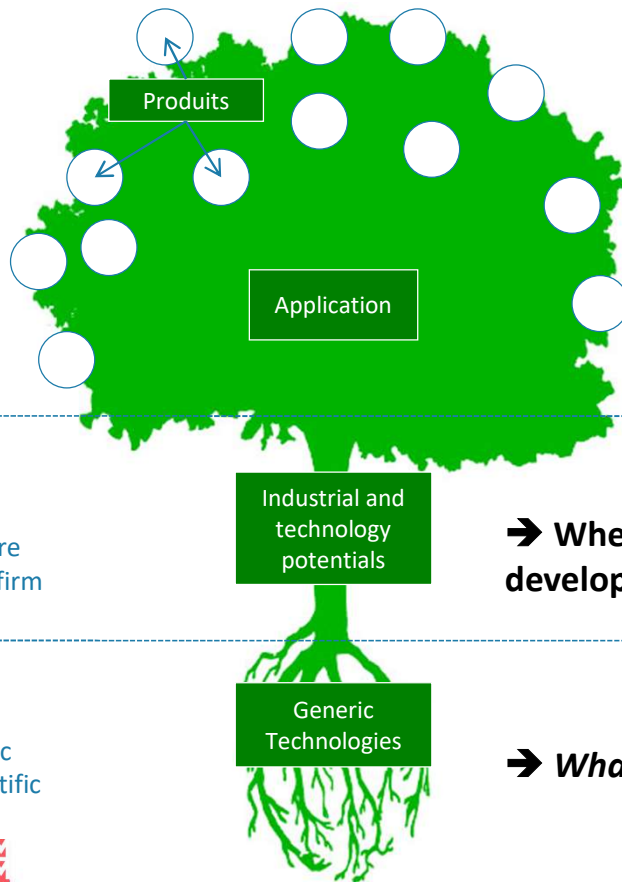
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Chap 5. Why and How innovate

1. The innovation process
2. Innovation and diffusion
3. Innovation and drivers

3. Innovation and drivers

The technological tree



3 Value the technology on different product and market



2 Integration of the technology are a core competency of the firm



1 Creation of a generic technology by scientific research

→ In which products and market use it ?

→ When a company should invest in its development ?

→ What technology to prioritize in the R&D labs?

REPLACED...
(INDUSTRY DECLIN)

STANDARDIZED TECHNOLOGY
(INDUSTRY MATURITY)

CORE TECHNOLOGY
(INDUSTRY GROWTH)

EMERGENT TECHNOLOGY
(INDUSTRY EARLY GROWTH)

BIRTH OF THE TECHNOLOGY
(INDUSTRY BIRTH)



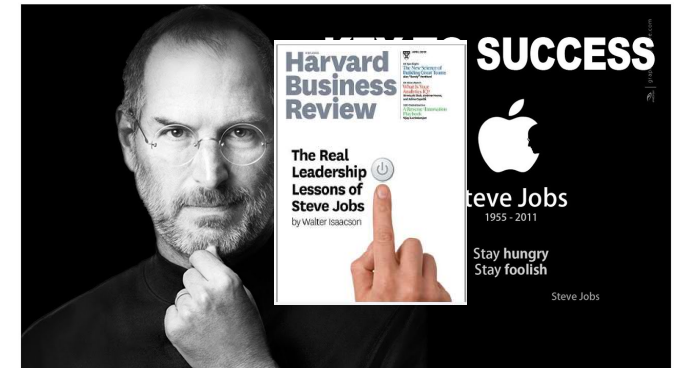
3. Innovation and drivers

- What is driving innovation ?
 - Until now, we show innovation process as a linear process of creation then market reflection
 - TECHNOLOGICAL PUSH : driven by creation of technological innovation
- Which companies have their innovation pushed by technology?
PRODUCT FOCUSED COMPANIES mainly composed of engineer (e.g. Siemens)
- *What the limit?*
 - More and more criticized because need to respond to a market need (e.g. Siemens's internal business model consultant)
 - There are technology without need or right timing (e.g. Kaneka erasable emails)

Food for thoughts

Jim Collins mentioned in the book called *Good to Great* that to our surprise, we found that 80% of the corporate executives of the companies interviewed did not list technology as one of the five essential elements in the transformation period (from a mediocre company to an excellent one),

3. Innovation and drivers



- What is driving innovation ?
 - Also by customers experience
 - MARKET PULL : A response to customers expressing their needs
- Which companies have their innovation pushed by technology?
CUSTOMERS FOCUSED COMPANIES mainly composed of designer and marketing
- What the limit?
Steve Jobs argues that customers do not know what they want (it is only when they see it that they want it)

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Chap 5. Why and How innovate

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3. Innovation and drivers
4. Innovation impact

4. Innovation imp

- Different impacts of technoc



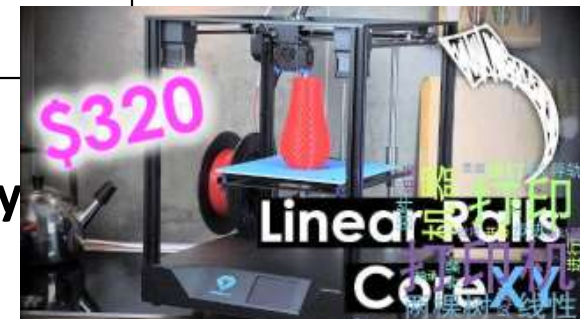
New market

Existing market



Existing technology

New technology



4. Innovation impacts

- Different impacts of technology



New market		
Existing market	Incremental Innovation <i>(improve the life cycle of the product)</i>	
	Existing technology	New technology

4. Innovation impacts

- Different impacts of technology



New market		Radical Innovation <i>(new application of new technology)</i>
Existing market	Incremental Innovation <i>(improve the life cycle of the product)</i>	
	Existing technology	New technology



4. Innovation im

- Different impacts of technology



<p>New market</p>		<p>Radical Innovation <i>(new application of new technology)</i></p>	
<p>Existing market</p>	<p>Incremental Innovation <i>(improve the life cycle of the product)</i></p>	<p>Disruptive Innovation <i>(leverage new technology to attack existing market)</i></p>	
		<p>Existing technology</p>	<p>New technology</p>



4. Innovation impacts

- Different impacts of technology



New market

Existing market

Architectural innovation
*(reconfigure an existing
technology for a new market)*

Radical Innovation
*(new application of ne
technology)*

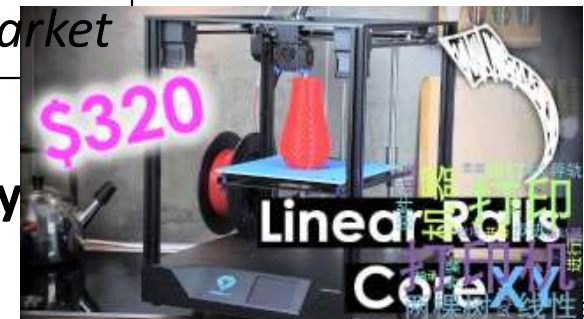
Incremental Innovation
*(improve the life cycle of
the product)*

Disruptive Innovation
*(leverage new technology
to attack existing market)*



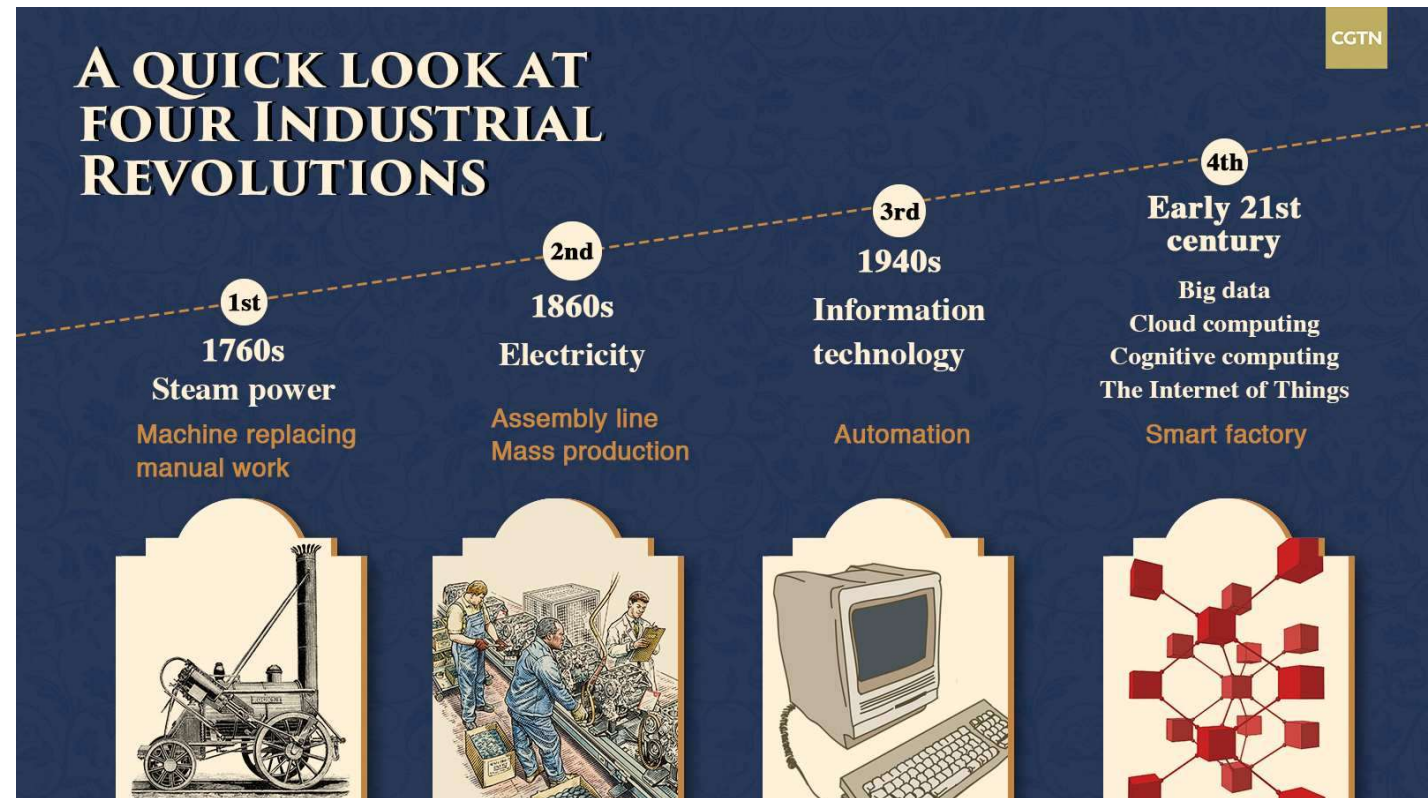
Existing technology

New technology



4. Innovation impacts

- But what about « Technological revolution » :



PLAN du cours

Chap 3. The firm and the innovation(Séance 5)

1. The innovation process
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4. Innovation impacts
5. Innovation types

5. The innovation type

- Classify the innovation based on the nature of the innovation

Product Innovation

New product Characteristics (e.g. smartphone – Blackberry 2003)

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New service (e.g. Siemens's co-creation service)

Process Innovation

New production methods (e.g. eco-conception)

Managerial Innovation

New organization of the work (e.g. management by project at NASA)

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Social Innovation

Respond to a social or environmental need (e.g. faire trade label)

5. The innovation type

- Social Innovation:

New emerging concept Moonshot innovation: radicale innovation to solve a societal issue

“provide access energy to everyone reliable and affordable”



5. The innovation type

- Enel choose Number 7 Sustainable Development goal :

“... everyone reliable and affordable”

The basic assumption behind :

If you do not innovate, you die (e.g especially with the risk of disruptive start-ups)
So for our sustainability, we need to innovate

The second assumption behind :

We want to work with the smartest people (university, start up, large companies)
The most talented people and do not work only for money (look for useful life)
So by aiming sustainable development goal, you attract the smartest people

The Third assumption :

It is a great social need / challenge for humanity, it concerns billion people
So by aiming sustainable development goal, you open a huge business opportunity

*Today : 1.2 billion with no access;
1.8 billion with not reliable and
affordable energy*

PLAN du cours

Chap 3. The firm and the innovation(Séance 5)

1. The innovation process
2. Innovation and diffusion
3. Innovation and drivers
4. Innovation types
5. Managing innovation
 1. Definition
 2. Choice 1 : Strategic vision
 3. Choice 2 : Open or closed
 4. Choice 3: Top down or Bottom up
 5. Choice 4 : Ethical discussion

Managing Innovation

- **Definition**

“all the actions taken and choices made to foster the (1) emergence of new ideas, (2) the creation of prototypes, and (3) its successful commercialization”

- ***Managing innovation is key***

It is impossible to pick winners, but there are processes to maximize the chances of making one success to emerge

- ***Managing innovation requires 4 critical decisions***

A clear vision on why innovation

A choice of being open

A choice of leveraging bottom up

A choice of following ethical principle

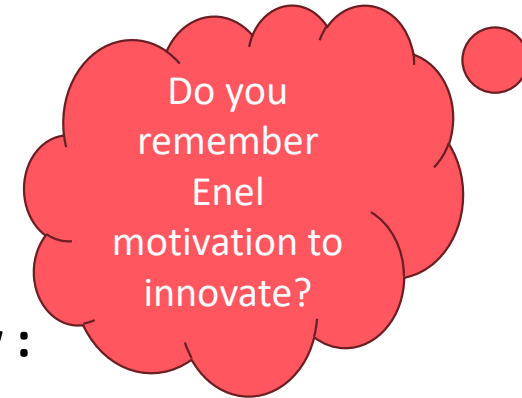
5. Managing innovation

Choice 1 : *Managing innovation as a strategic decision*

- Enel choose Number 7 Sustainable Development goal :
“provide access energy to everyone reliable and affordable”
- But remember WHY?
 - Attract smart employee
 - Big market

5. Managing innovation

Managing as a strategic decision



- **Innovation need to be considered as strategic capability that allow :**
 - ▶ Make Profit : by benefiting from the first mover advantage
 - ▶ Improve the reputation of the company or brand : known as an innovator
 - ▶ Increase the life cycle of the product : by creating a barrier to imitation
 - ▶ Reduce cost : by creating for efficient process
 - ▶ Attract smart employee
- ▶ Above are pro-active actions but some companies are doing innovation for defense and to not disappear (see bellow):
 - ▶ Fight against emerging low cost products coming from international competition
(*ex: Siemens and the high speed train*)
 - ▶ Not miss an economic and technological environmental change that will allow new entrant into the market (*ex: Kodak and digital photography*)

5. Managing innovation

Managing as a strategic decision

Why is innovation strategic for ENEL?

- The moonshot : create a **geothermal-solar plant**

It is impossible!



?

It is impossible!



Massachusetts Institute of Technology

Why is it impossible ?

4 reasons to stop = 4 challenges to solve



Managing Innovation Example

- Looked at what existed
 - In the US they had a very big geo-thermal plant in Nevada
- Came-up with the idea of
 - hybridize three energies : geo-thermal energy with solar energy and photovoltaic plan
- How to do it?
 - “faire” or “faire-faire”?
 - Asked MIT ; did some years of research and said it is impossible
- What to do ?
 - Ask : why it is impossible ? The answer was 3 reasons (3 reasons to kill the project)
- Shift the 3 reasons into a challenge that they offered on a digital platform called “Innosentive”?
 - Solved it
 - Received the award of the most innovative plant in the world

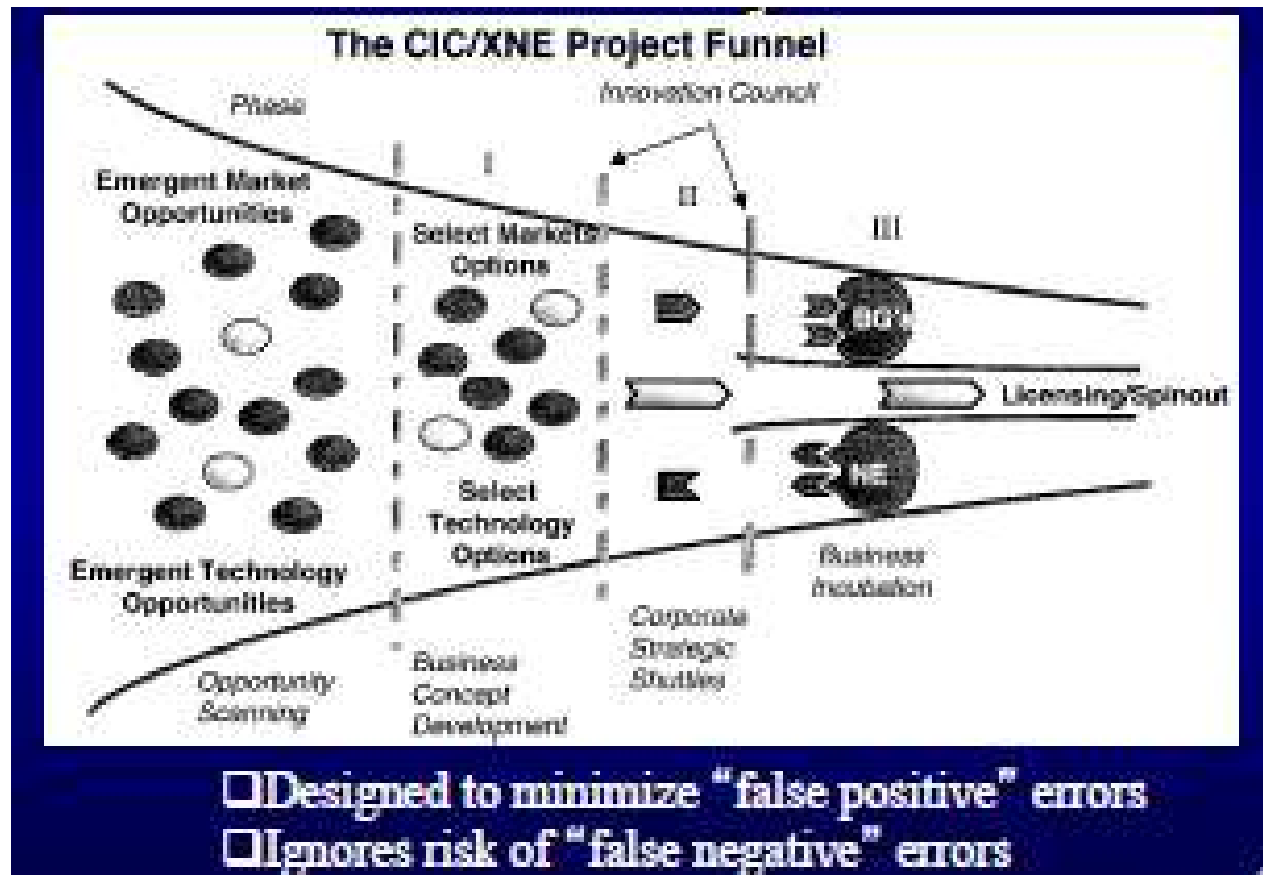
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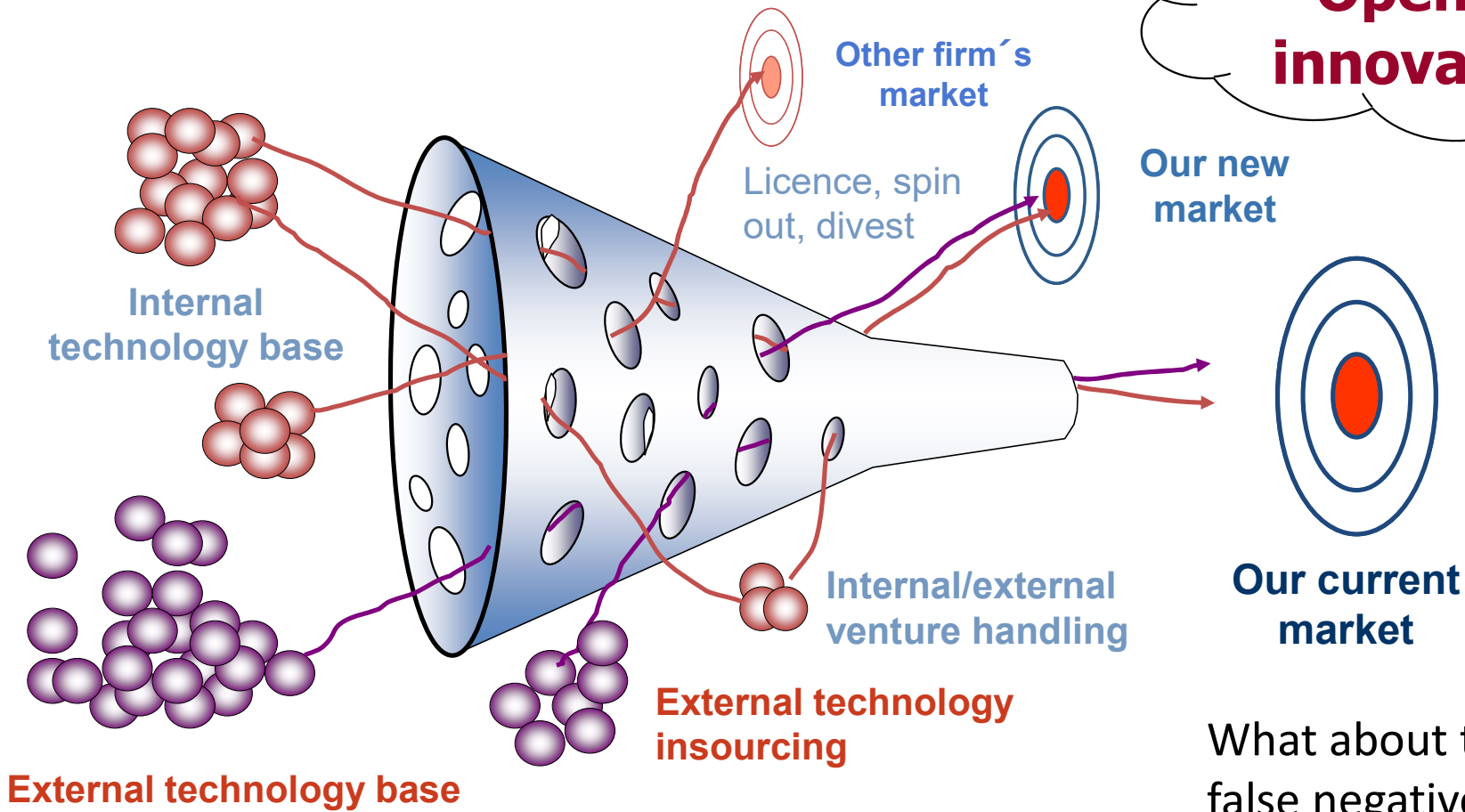
Managing Innovation

A closed or open process



Managing Innovation

A closed or open process



Managing Innovation

A closed or open process

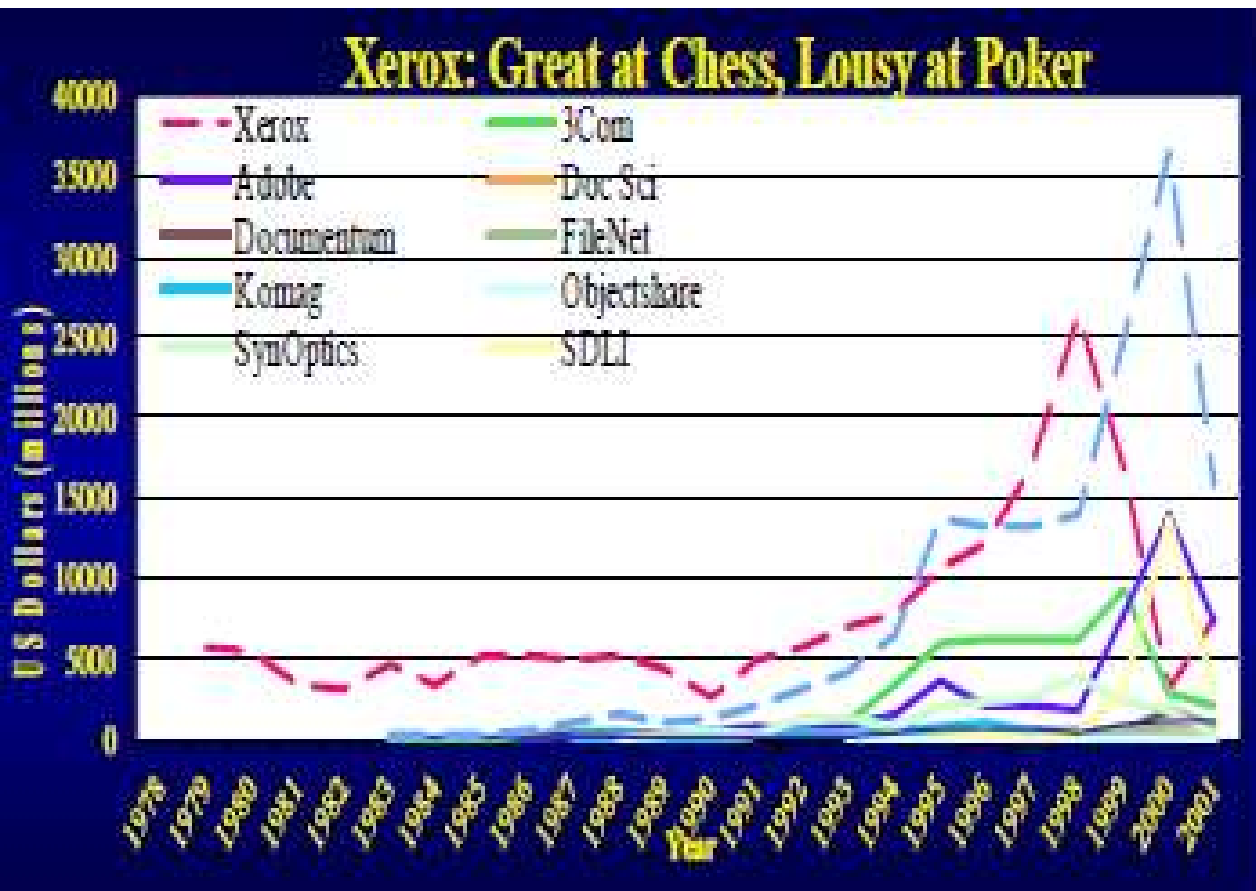
- OPEN INNOVATION : From doing innovation alone to do with external parties :
Outside-in ideas : be humble and there are smart people outside with great ideas, that can accelerate the access to the idea and reduce the cost
Inside-out ideas : let go your invention that you will not develop because you do not believe in it or because it does not fit your business model outside of the company (false negative)



- With : Startups, Government, University, Customers, Competitors
- Get something in return : pecuniary or not

Managing Innovation

A closed or open process



- Xerox: Great at Chess

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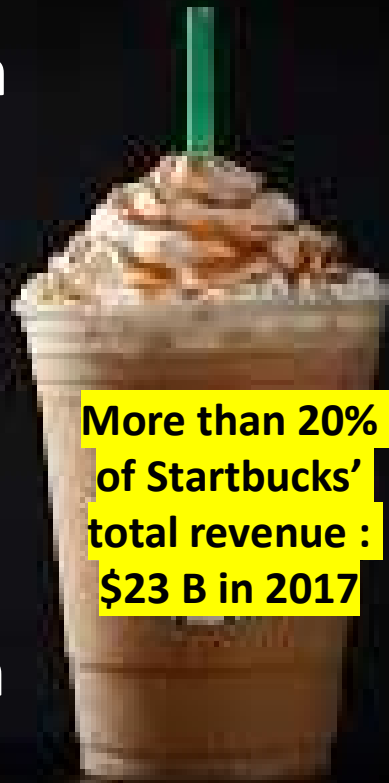
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Managing Innovation *Top-down or Bottom-up*

Diana, store manager in
Southern California

An internal champion
Howard Behar

Add on the list of her
menu even if forbidden



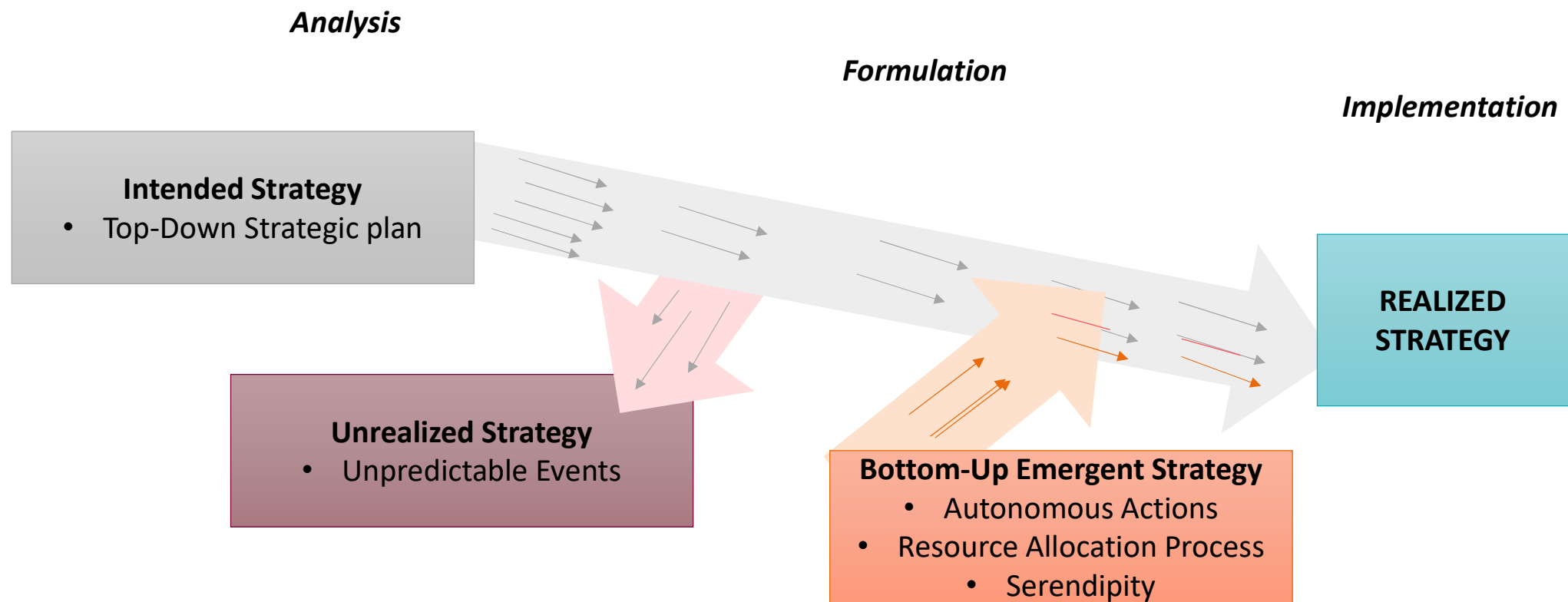
30 requests one day for an
iced beverage offered by a
local competitor

Vote from the Top
Executive 7:1 against
After trying : say still no

After seeing the sales
figures : Frappuccino is born

Managing Innovation

Top-down or Bottom-up



Managing Innovation Form Top-down or Bottom-up

- Innovation is not coming only from the top management or R&D department
- Autonomous actions : strategic initiatives undertaken by lower-level employees on their own initiative and often in response to unexpected situation
- Allowing these autonomous actions requires specific management :

Google : 70-30-10

Telefonica : Celebrating failure

Managing Innovation *Top-down or Bottom-up*

- Innovation : is also listening to serendipity
Random events, pleasant surprises, and accidental happenstances that can have a profound impact on a firm's strategic initiatives :
 - 3M : Post-it Notes
 - Pfizer's : Viagra (hypertension initially)
 - Moon Lake Lodge : Potato chips

Managing Innovation

Top-down or Bottom-up



Question the status quo when managing innovation



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Managing Innovation

Ethical limits

Gene-editing?

Artificial Intelligence?

<https://www.futurelearn.com/info/courses/philosophy-of-technology/0/steps/256167>



REVISION COURSE

- What is the “4 I” process of innovation?*
- Shall a firm patent its innovation?*
- What is NOT innovation?*
- What the first mover advantage?*
- Is it too late for the other when you are not the first mover?*
- What are the drivers of innovation?*
- Why innovation?*
- What are the types of innovation based on the impact?*
- What are the nature of innovation?*
- What is a moonshot innovation?*
- What does it mean to manage innovation? Why is it key?*
- How to manage innovation ?*
- What are the limit of maning innovation?*
- What does it mean to question the status quo?*
- What is serendipity?*
- What is autonomous actions? How to foster it?*
- What is outside-in ? Inside-out? False negative?*
- Shall a company patent its invention?*
- Explain the technological tree*
- What is the crossing-the chasm framework?*

Training

Amazon

The giant e-commerce Amazon is ready to do anything to reduce its delivery times, even to anticipate the purchase intention of its current customers, according to a patent filed on December 24, 2013. Amazon would proceed to the "preventive" sending of a product even before the consumer has bought the product.

With this advanced delivery system, Amazon would pre-send a product of interest to a given area, and the final address would be added along the way. If customers did not follow through with their intention to purchase, Amazon is betting on the fact that they would be more likely to accept these packages than to return them. The site does not exclude offering them a discount in case of refusal, to limit the rate of return.

This delivery system is based on new technologies and algorithms developed specifically by Amazon's R&D study. This system has already been tested with drones (in prototype format) but it is not yet commercialized.

13) Question : According to the theory of diffusion of innovation, what is the main risk of being an inventor?

- a) Amazon risks being copied if it doesn't have a patent
- b) Amazon takes the risk that its innovation is a "false positive"
- c) Amazon may not be able to survive the "chasm" between early adopters and the early majority
- d) Amazon does not take a risk because as an inventor Amazon will be the first to make a profit from this innovation

Training

14) Question: When Amazon files a patent on the delivery system, Amazon:

- a) Does not protect its innovation because, despite the patent, a competitor can imitate its innovation without Amazon's agreement and without risk of legal action by Amazon despite the patent
- b) Protects for a long period (about 20 years) its innovation but at the end of the patent, any company can copy its innovation because Amazon must reveal the technical details of its innovation to file a patent.
- c) Protects for a short period (about 2 years) its innovation and then a competitor can market a similar product
- d) Protects for a long time (about 20 years) innovation and even more because Amazon keeps the technical details secret

15) Question: What is the nature of Amazon's innovation with this advanced delivery system?

- a) Managerial Innovation
- b) Process innovation
- c) Social Innovation
- d) Product innovation

Training

16) Question: what is the impact of this delivery system innovation?

- a) Incremental innovation
- b) Architectural innovation
- c) Radical innovation
- d) Disruptive innovation

17) Question : At what stage of the innovation process is Amazon with its delivery system innovation?

- a) Imitation
- b) Invention
- c) Innovation
- d) Idea