



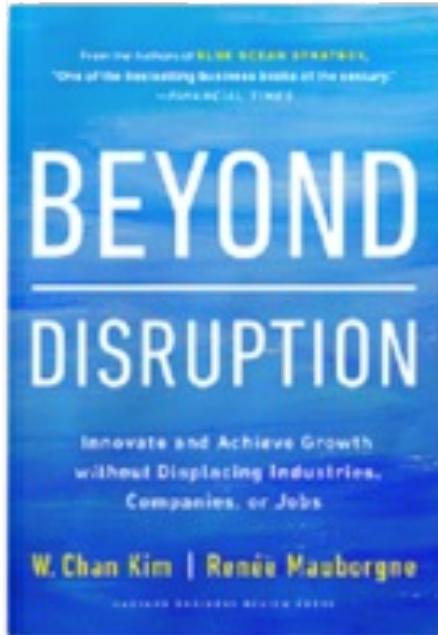
Strategic Management

Master IREN

2023

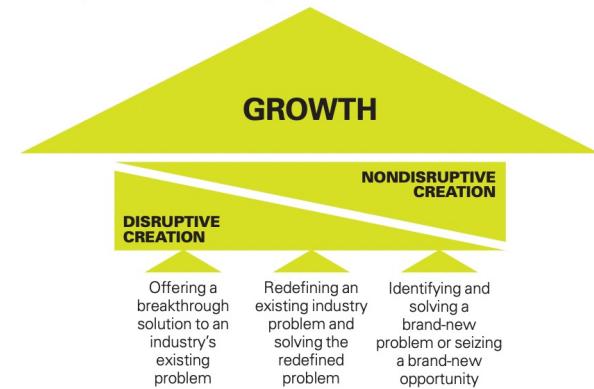
Camille Toussaint

Our topic in the news – « non-creative destruction »



« Most companies remain stuck in the mindset that in order to create you must disrupt or destroy. The time has come to fully embrace the idea that you can create without destroying. Nondisruptive creation breaks the existing frame on innovation and growth and allows for a much broader view of how they are generated. »

- Non-creative disruption is nothing new...
- But it underlines the close ties between disruption and creative destruction, and therefore between disruption and growth.



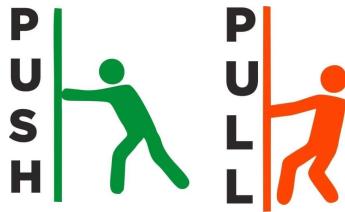


INSTITUT
POLYTECHNIQUE
DE PARIS

Session 6

Open-innovation and ecosystems

3 innovation dilemmas



What drives innovation?



What is innovation about?



How is innovation organized?



How is innovation created?

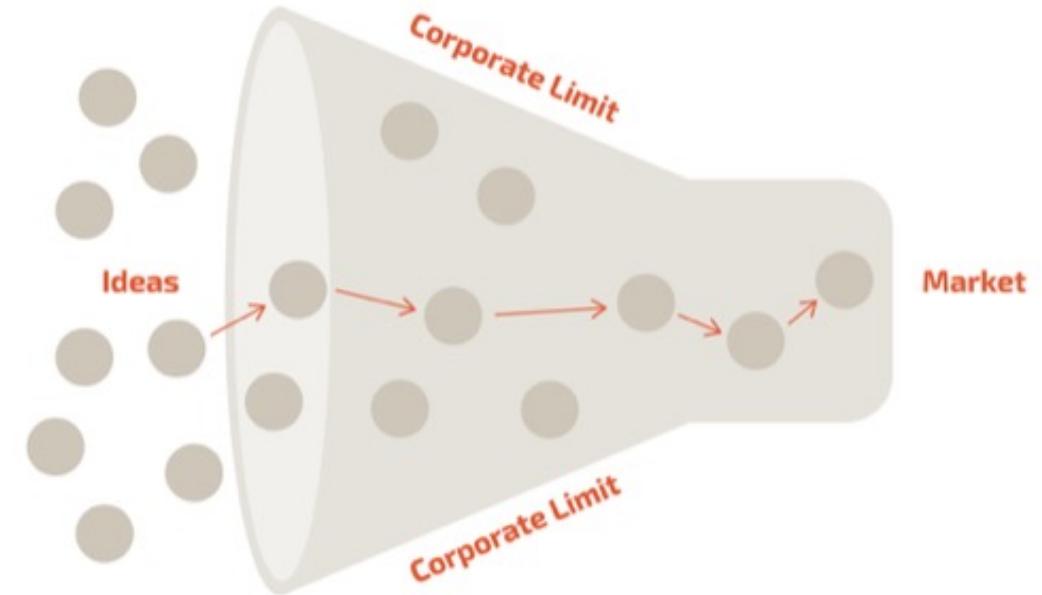
Open vs Closed innovation

Closed / Traditional innovation model

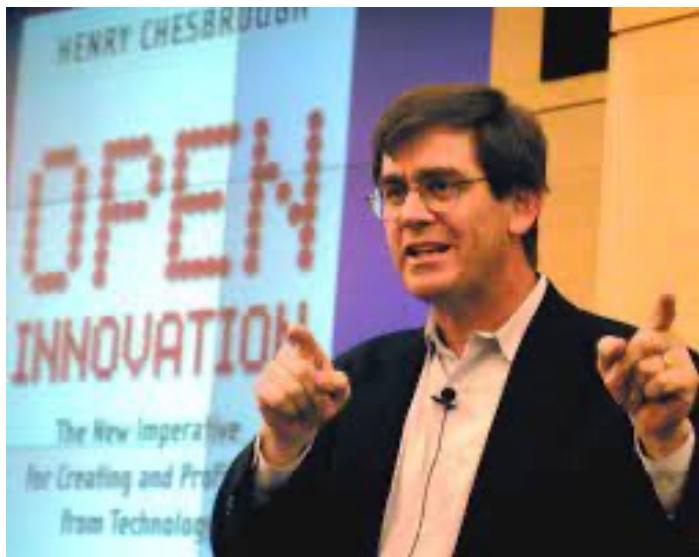
- Organization uses its own internal resources,
- In a closed environment

Research > development > Project > Launch

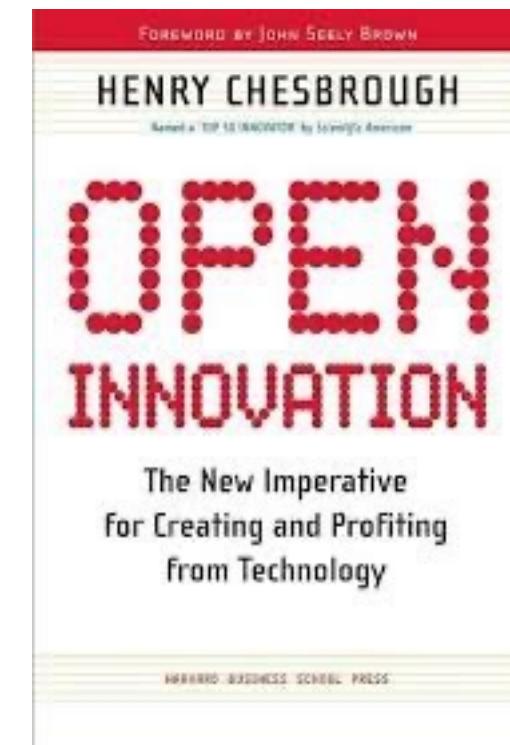
What are the advantages and risks associated with this model?



Henry Chesbrough



American management sciences scholar,
Berkeley, Harvard

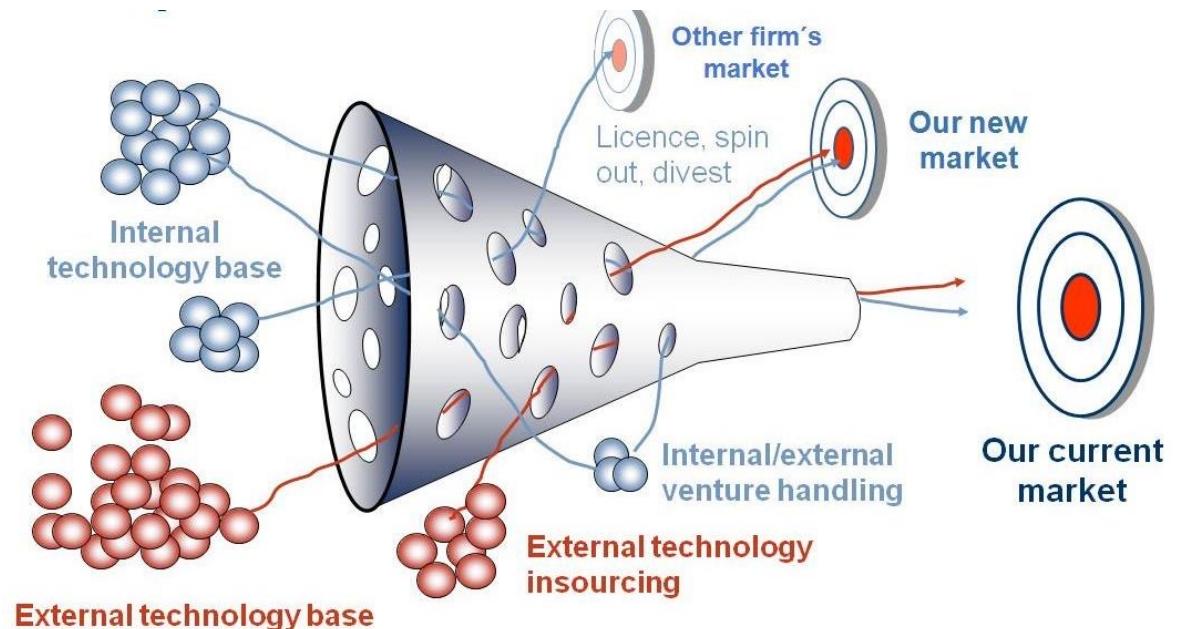


Open innovation

- **Organization using external resources**
- **In an open environment**

« Open innovation involves the deliberate import and export of knowledge by an organisation in order to accelerate and enhance its innovation »
(Strategy Handbook, 2023)

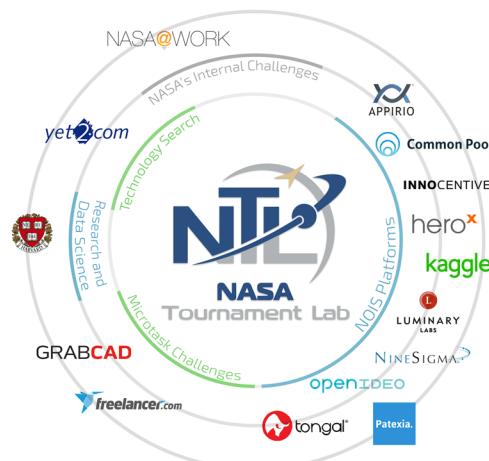
"a distributed innovation process based on purposefully managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model »
(Chesbrough & Bogers, 2014)



Different types of openness

Outside-in

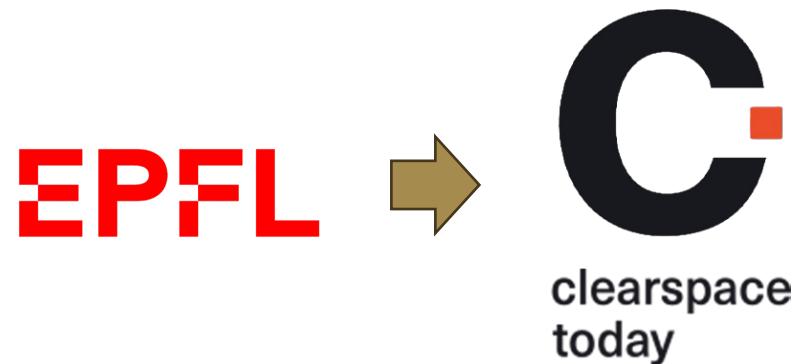
- Bringing new ideas within the organization
- Crowdsourcing, challenges, prizes...



Inside-out

- Bringing internal ideas outside the organization to help them with the commercialisation
- Spin-off

+ open inside



... and different stages of innovation



	Degree of openness		
	Open inside	Outside in	Inside out
Stage of innovation			
Explore	Colleague Crowd	Social Listening	Open Innovation Ecosystem
Extract	Innovation Lab	Co-creation Community	Accelerator Programme
Exploit	Intrapreneurship Programme	Crowdsourcing	Open Innovation Challenge

Explore: Charting unmet customer needs by gathering insight.



Extract: Collaborating with others to build and develop ideas on those unmet needs.



Exploit: Creating actionable business plans based on the developed ideas that show potential.

The benefits and challenges of open-innovation



- Access to broader knowledge and expertise, increased learning capacity
- Higher quality of innovations (multi- disciplinary approaches)
- Increased speed of innovation/market introduction & increased returns to investments
- Increased acceptance of innovations
- Reduce R&D costs
- Increased flexibility and agility



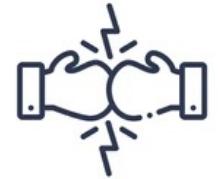
- Balancing between internal & external innovation
- Loss of control & ownership (IP concerns) & risk of opportunism
- Coordination and management complexities
- Balancing motivational drivers/rules of the game across all stakeholders
- Finding the right partners and managing the relationship on the long run
- Managing the innovation process (control, etc)

When to choose open innovation?

3 factors to take into consideration:

- ***Is there an intense rivalry between actors?***

In highly rivalrous industries, partners are liable to behave opportunistically and steal innovations: **prefer closed innovation in a highly competitive situation.**



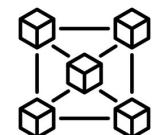
- ***Is it a one-shot innovation?***

Opportunistic behaviour is more likely where innovation involves a major shift in technology, likely to put winners substantially ahead and losers permanently behind: **open innovation fits incremental innovation better.**

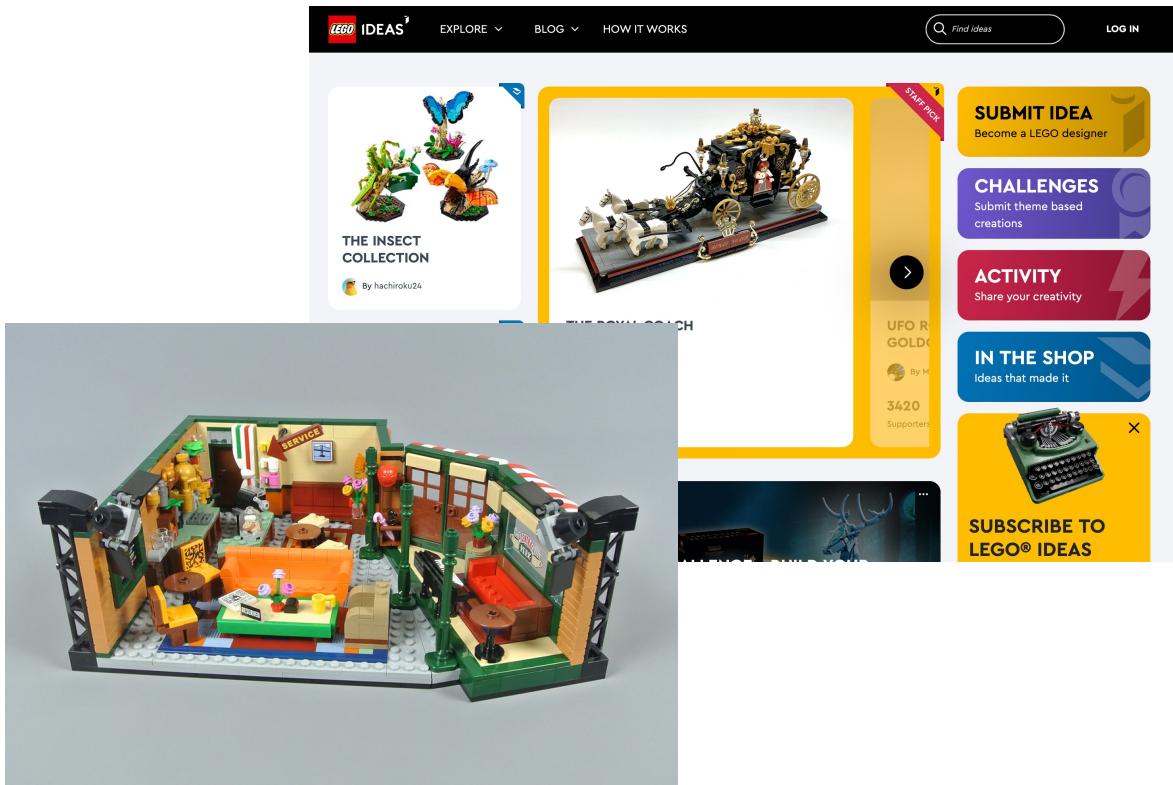


- ***Is it a « Tight-linked » innovation?***

Where technologies are complex and tightly interlinked, open innovation risks introducing damagingly inconsistent elements, with knock-on effects throughout the product range. **Prefer closed innovation if products of tightly interlinked.**



Examples of open-innovation



<https://ideas.lego.com/howitworks>

Open innovation > communities > ... ecosystems

At one point, when there is a diversity of external collaboration to manage, communities emerge.

They are referred to as ***ecosystems***....



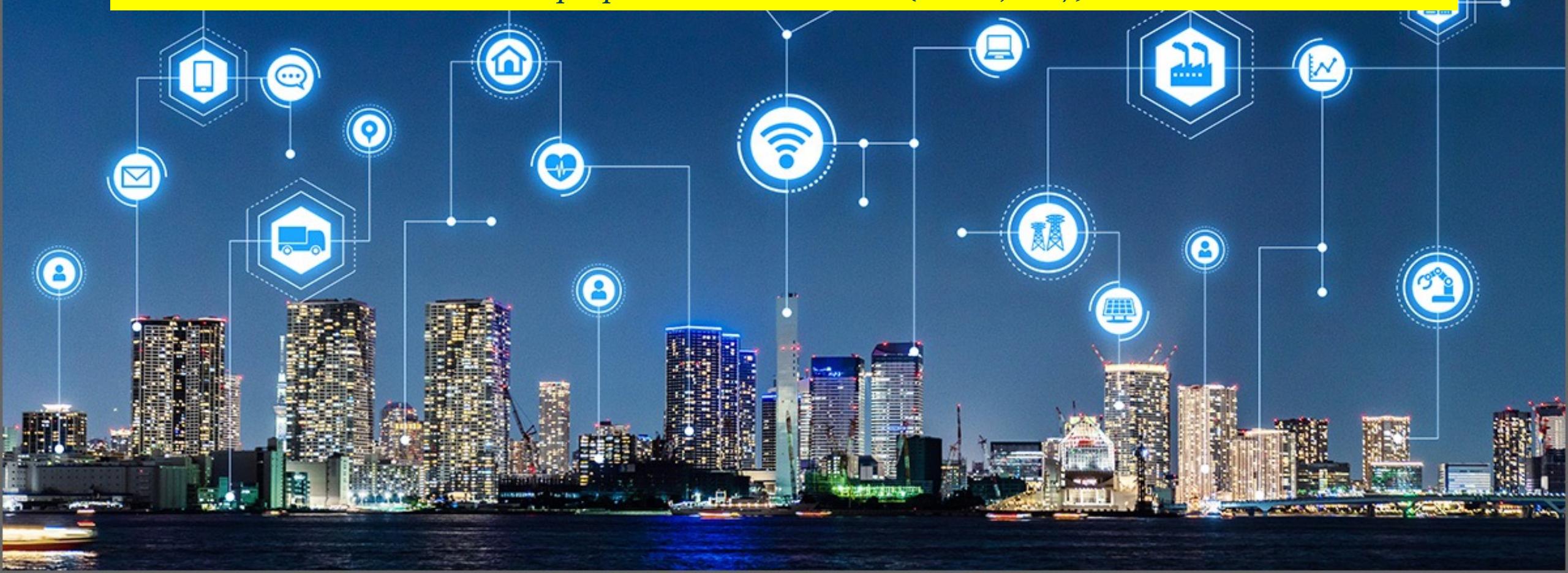


Ecosystems





The alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize (Adner, 2017)



Ecosystem characteristics

- Structured network of actors, usually organized around one *broker* or leader + set of secondary actors
 - Logic of complementarity between actors (resources and competences)
 - Logic of collective value creation
 - Institutional stability (trust, governance mechanisms)
-
- Competition over the distribution of value within the ecosystem
 - Competition with other ecosystems

Business / Innovation / Open-innovation ecosystems

a community of mutually dependent organizations that **combine their offerings** to create value collectively



a community of interdependent organizations that must **interact to innovate and create value collectively**



An open-innovation ecosystem is an innovation ecosystem **where a substantial number of the supported activities are classified as open innovation initiatives.**

Example of ARM

- ARM holdings: British-based and Japanese SoftBank-owned semiconductor company.
 - 85-90 % of market shares worldwide.
 - 6000 employees
 - **1000 partners** over the entire semiconductor value chain
-
- Create and develop the core microprocessor chips ;
 - License the technology to partner companies that improve it and pair it to their systems
 - Collect a royalty fee on every product that uses it
- > *rather than manufacturing and selling its own set of final products*



Simplified overview of ARM's ecosystem

ARM		ARM Ecosystem Partners			
Chip Architecture	Chip designers	IP block suppliers	Chip manufacturers	OEM device companies & distributors	Application software companies
ARM processor cores	ARM processor designed into operating systems (e.g. Apple) and larger systems to be used in devices (e.g. Qualcomm, Broadcom, Texas Instruments)	Pre-defined modules supporting specific functions (e.g. camera functions, video processing, blue tooth communication)	Chip manufacturing (e.g. Samsung, Taiwan Semiconductor Manufacturing Company)	Smartphones, tablets, wearables, storage, etc.(e.g. Apple, Huawei, Samsung)	End-user applications: smart phone user interfaces, games, apps, etc. (e.g. Facebook, Skype, Google)

Sources: P.J. Williamson and A. De Meyer, 'Ecosystem advantage: how to successfully harness the power of partners', *California Management Review*, vol. 55, no. 1, Autumn 2012; H. Shaughnessy, 'Intel vs. ARM: battle of the business model', *Forbes*, 24 February 2012; M. Smith, 'What is an ARM processor? Everything you need to know', makeuseof.com, 4 December 2012; ARM.com, 2018; H. Glimstedt, 'Re-thinking Apple's entry and platform leadership in smartphones', mimeo, Stockholm School of Economics, 2019.

To keep in mind

- Ecosystems are not the answer to every business problem
- Every actor cannot be the orchestrator
- It influences the company's internal organization
- It evolves over time
- It is compatible with other ecosystems



Final thoughts on
digital strategy

Digital strategy – why does it really matter?

- The digital technology revolution is still continuing and accelerating (rapid and continuous dev of digital technologies, infrastructures and services).

It changes:

- The nature of the economy: knowledge/information economy – disruption of entire sectors
- The nature of space : new cyber-physical spaces: organizations and individuals live both physical and virtual spaces, interconnected via networks
- The « rules of the game »: organizations have to consider it when envisioning new business models, new strategies, new technologies.

Digital strategy – why does it really matter?

« The focus today is not just about new technologies, deployed by new digital native companies, disrupting incumbents across different industries. The transformation is more fundamental, which redefines how every organization in the economy senses, creates, delivers and captures value, across all sectors, in both developed and developing countries. » (Li, 2023).

« Every business is a digital business or data-driven business »

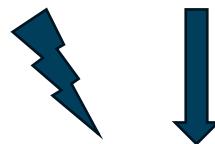
Revising traditional strategy making?

3 new strategic approaches:

1. Innovating by experimenting
2. Radical transformation through incremental approaches
3. Evolving portfolio of temporary advantages

1. Innovating by experimenting

Linear processes of strategy making

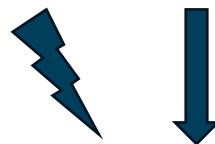


Iterative processes: strategy is constantly recalibrated through execution

- tolerant to failure
- better at mistake recognition

2. Radical transformation through incremental approaches

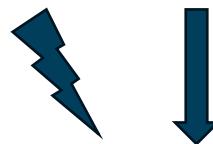
Big Bang transformation of radical innovation



Small radical / incremental steps, which allow to correct if necessary

3. Evolving portfolio of temporary advantages

Strategy objective:
attain sustainable competitive advantage



Given the fast pace of changes, sustainability is difficult to reach (winner takes-all, network effect). Hence, easier to have « successive temporary advantages » in order to achieve SCA.

Small radical / incremental steps, which allow to correct if necessary

Bonus:
What is management science?

Management sciences: definition and purpose

- Management science is a **social science**
- A historical science: **situated**, anchored in a context
- An **interdisciplinary** approach (mainly economics, psychology and sociology)
- Based on loops between **practice and knowledge**



Set of practices for designing, controlling and transforming collective action
(produced by managers)



Theoretical corpus on - and sometimes at the service of – practice
(produced by researchers)

"Understand organizations (companies, associations, administrations, etc.) based on their members' practical problems. » (David & Hatchuel, 2000)

Management sciences: a collection of sub-disciplines



- Human Resources
- Marketing
- Project management
- Logistics
- **Strategic Management**
- Finance
- Entrepreneurship
- Accounting
- Organisational Behaviour
- Organization theory
- **Innovation management**
- Sustainability



A wide range of sub-disciplines

At the origins of management sciences in France

- Post WWII, creation of ENA, industry restructuring and importation of « American managerial concepts »
- Sending young French researchers to American Business Schools
- Developing national business education training programs (INSEAD, 1959)
- Developing a French specificity and research centers in universities, business schools, and engineering schools.

Today, at the Management Research Centre of Ecole polytechnique

- Founded in 1972
- First Management Sciences Research department to be recognized by the CNRS (1980)
- Firmly anchored in practice (action research, intervention, « field first »)
- Research topics: Strategy and organizational management of innovation (entrepreneurship, open-innovation, digital technologies), social and environmental dynamics of innovation (mobility, health, frugality), responsibility of innovation (IA, ethics).



Group work

Last session!

Agenda:

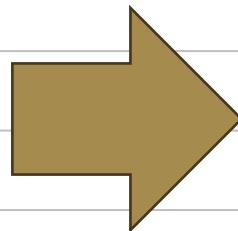
- October 23: First deadline to send the report
- October 26: Oral presentation – 20 mn, with slides, equal participation of group members, clarity, comprehensiveness, critical approach
- November 2nd : Final deadline for the report

Assessment:

- 10/15 pages document (50%)
- Oral presentation (40%)
- Participation (10%)

Last session!

This group...	... will comment on this group's work
AIVA	Digital identity
Digital identity	Autonomous vehicle
Autonomous vehicle	Apple Vision Pro
Apple Vision Pro	Smart Buildings
Smart Buildings	Chatbots
Chatbots	Plan Data Storage
Plan Data Storage	AIVA



Provide a relevant, kind, constructive feedback
Prepare 3-4 questions + 2 remarks/advises for final report