

Making ecosystems deliver innovations: a cross-sector review

(a mortar, shop-floor innovation management point of view)

*Workshop Leveraging Technological Change:
The Role of Business Models and Ecosystems*

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Which field and theoretical anchorage?

Where do we speak from?



- A organization & management perspective, focused on innovation management
- « Inside the black-box » : frameworks, artefacts
- Grounded research methodologies: mortar (automotive, aerospace, optics) and click (telecom, big digitals)

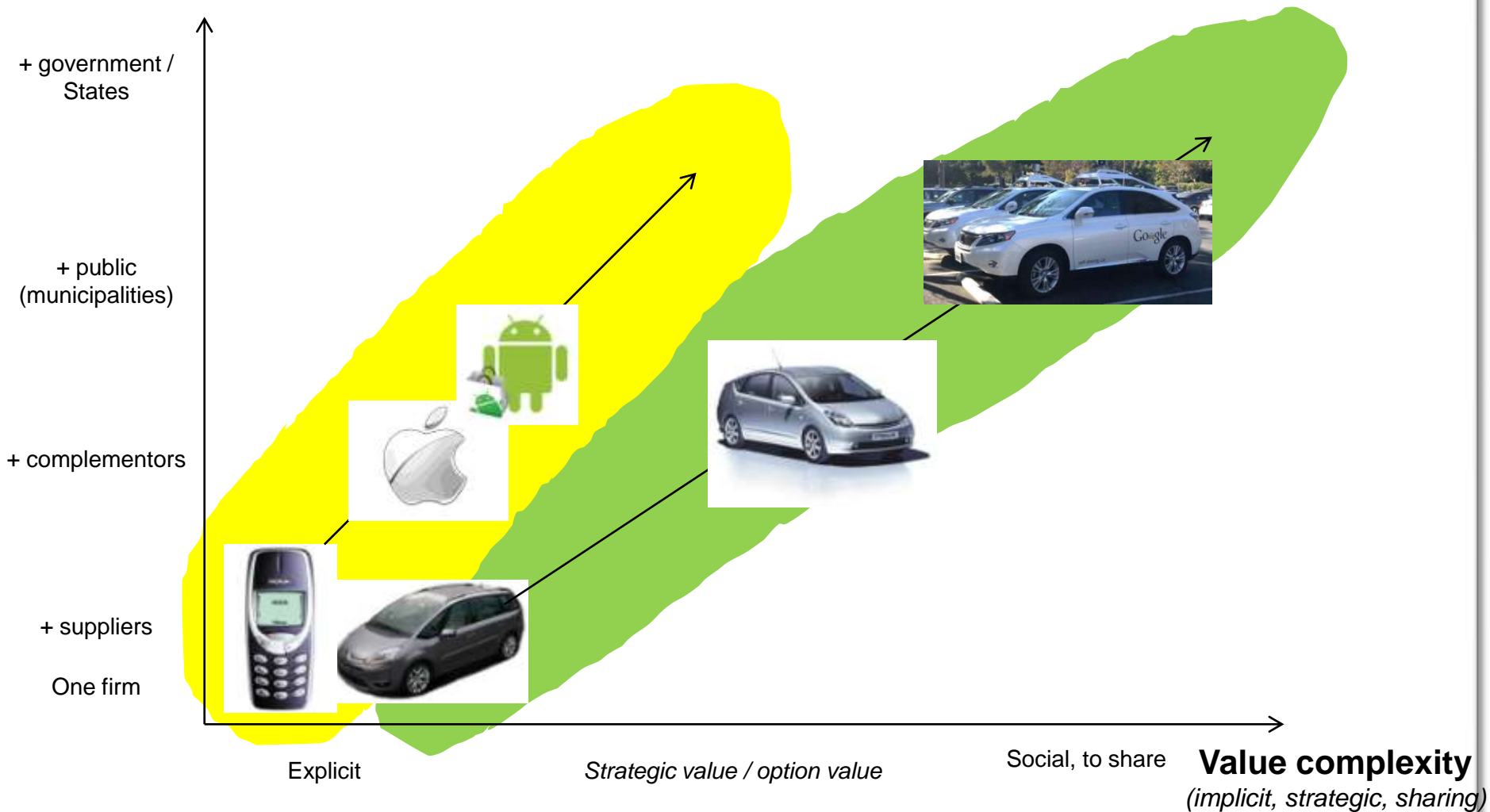
On which « giants' shoulders » do we stand?



- New product development
- Project management
- Organizational learning
- RBV / dynamic capabilities
- Design theories
- Project based learning

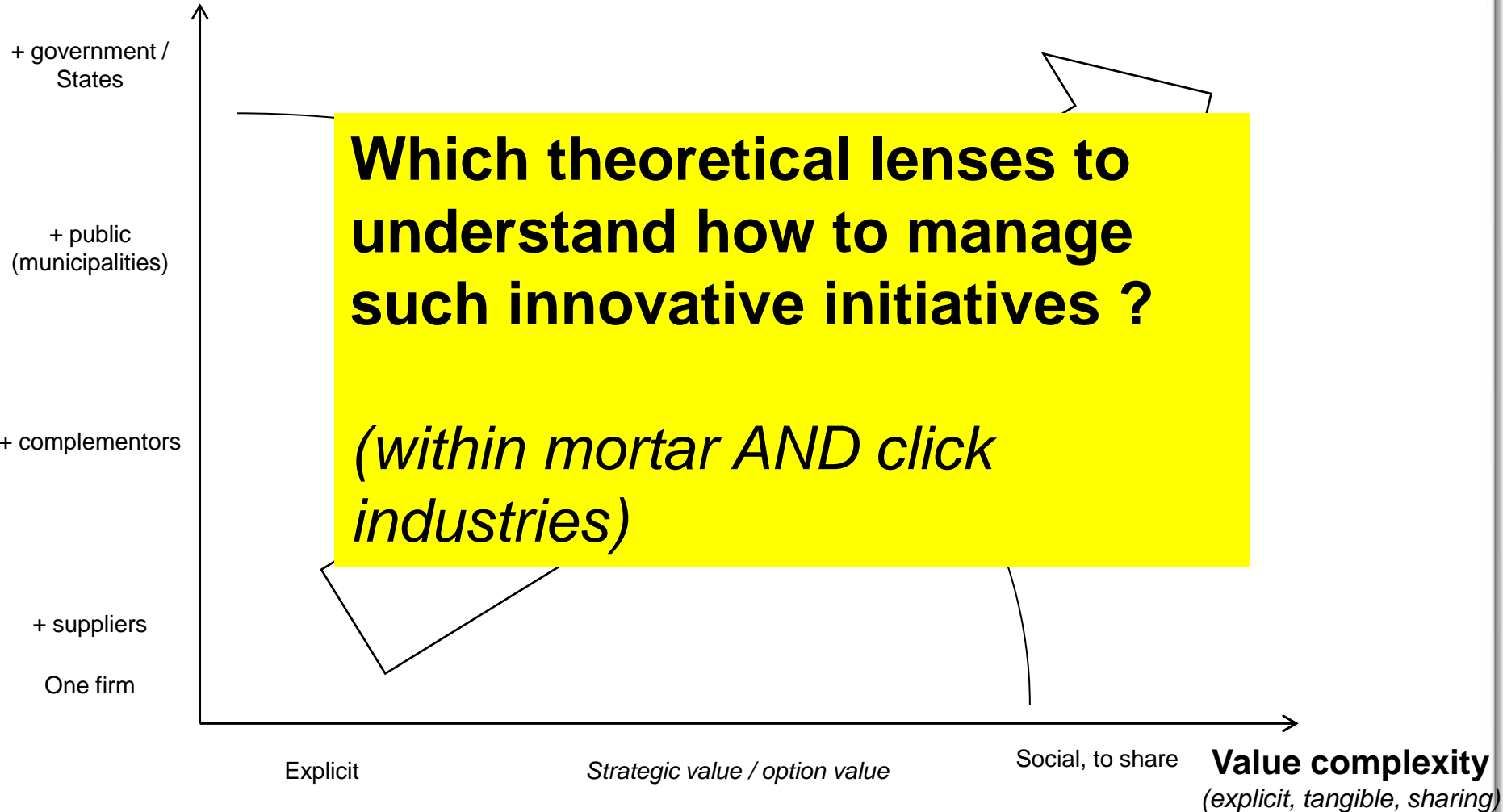
Innovation involves more players, and more complex understanding of value.

Ecosystem complexity (development, operation)



Ecosystem complexity

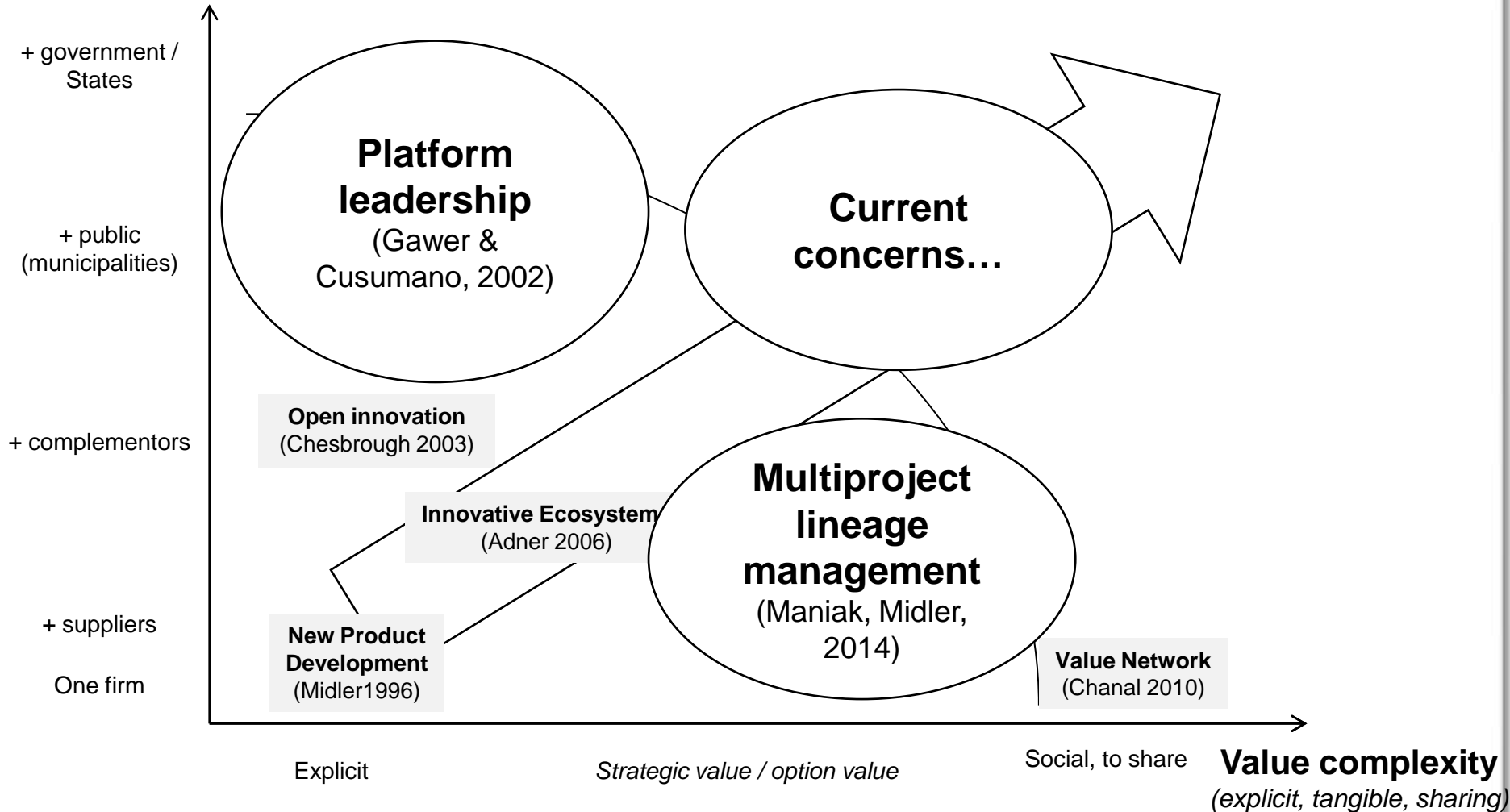
(development, operation)



Which theoretical lenses to understand how to manage such innovative initiatives ?

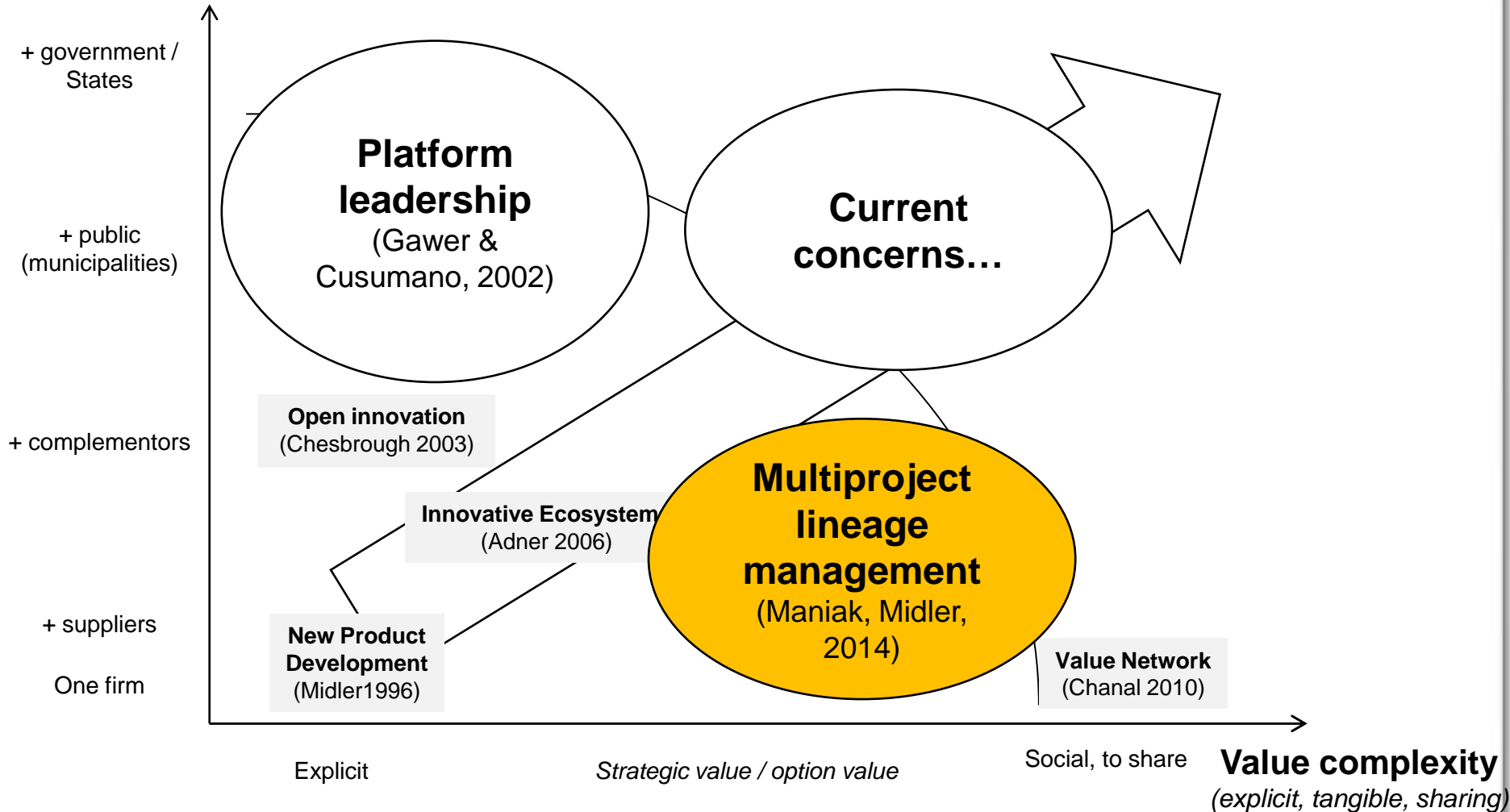
Ecosystem complexity

(development, operation)



Which theoretical lenses to understand how to manage such innovative initiatives ?

Ecosystem complexity *(development, operation)*





Case study: The hybrid

1990

1995

2000

2005

2010

Concept

« The car for the 21st century »

Hybrid : “an easy way to explain its fuel economy.”



Hybrid becomes famous & desirable

Products



20ku/an
1b\$ loss



230ku/an



Camry
+35% vol



Highlander

Assets

R&D too complex
Brand too old

R&D : Toyota Hybrid System (250 patents), NVH,...
Brand x2 between 2000 and 2008, mostly because of Prius.





Case study: The hybrid

1990

1995

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2005

2010

Concept

« The car for the 21st century »

Hybrid way to fuel

Hybrid becomes famous & desirable

Products



Highlander

A multi-project « lineage » business model = reactivity (international), cumulativity (capitalize) = a « product / assets » dynamic

Assets

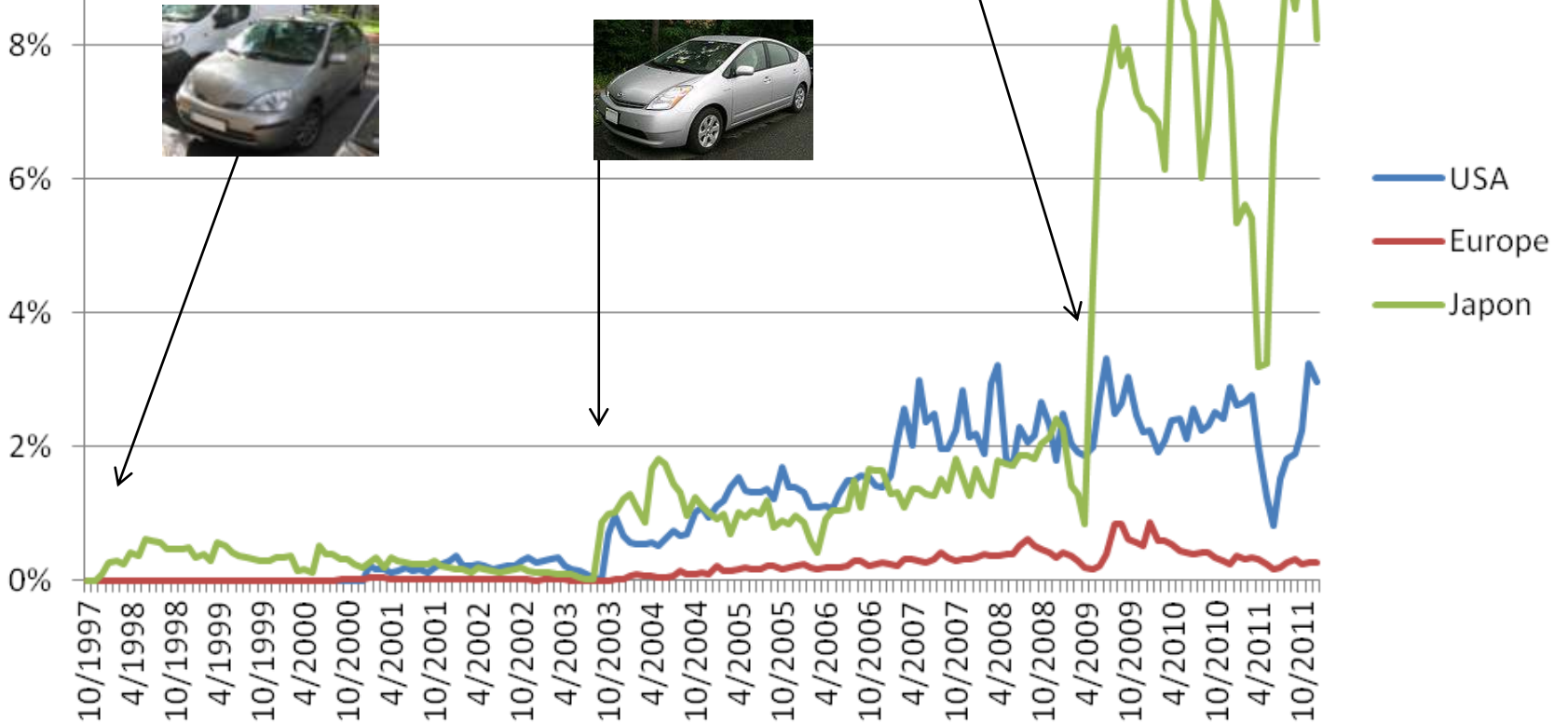
R&D too complex
Brand too old

(its), NVH,...
mostly because of Prius.



CAMRY

Case study: The hybrid



PDM Prius



Case study: Apple

Product stream

In-house capabilities

Strategy

2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014



Ex: HMI

Rolling Trackpad

Capacitance sensors

Laser-cut sapphire
crystal finger recognition

What remains : sexy
high-end hardware
OEM, mixed with digital
services.

What keeps moving:
sectors (music, apps,
banking,...), usages
(payment, finger-pad
HMI...)



Case study: Apple

Product stream

In-house capabilities

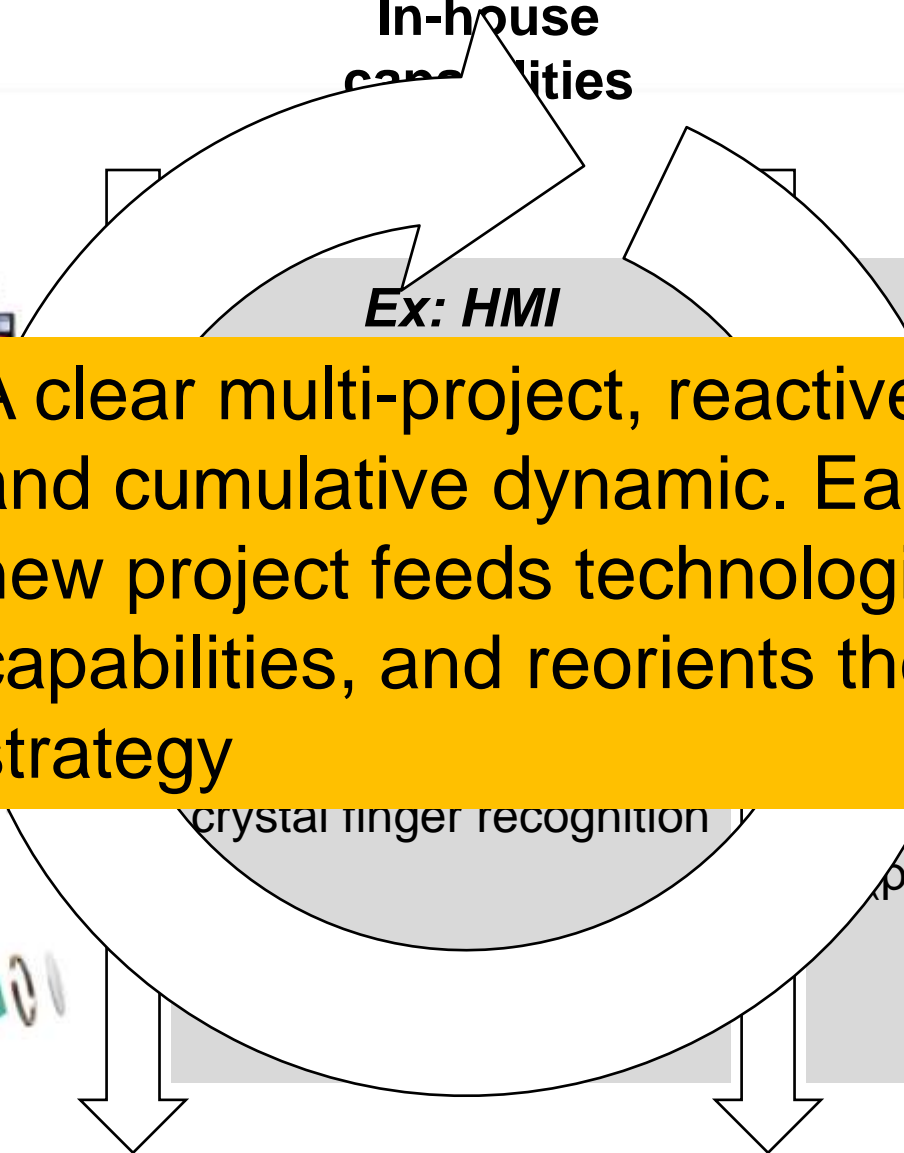
Strategy

2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014



Ex: HMI

A clear multi-project, reactive and cumulative dynamic. Each new project feeds technological capabilities, and reorients the strategy



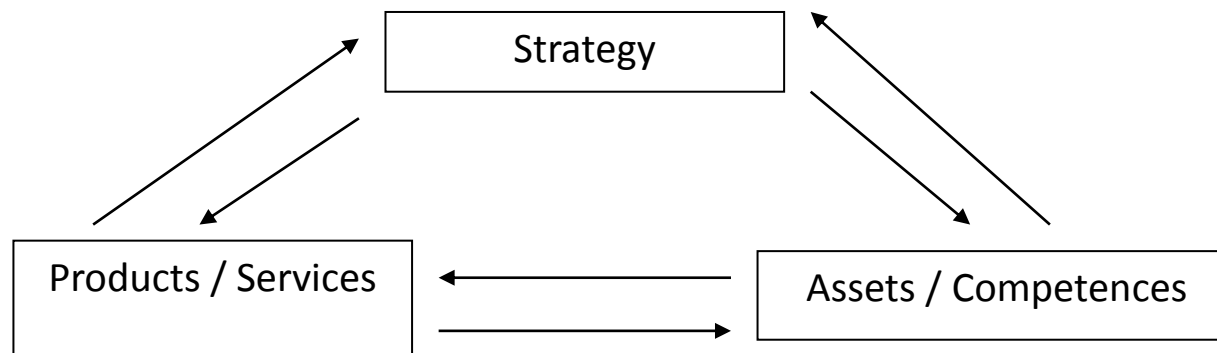
remains : sexy
d hardware
ed with digital
rvice.

Steps moving:
music, apps,
(banking,...), usages
(payment, finger-pad
HMI...)

Lesson learnt

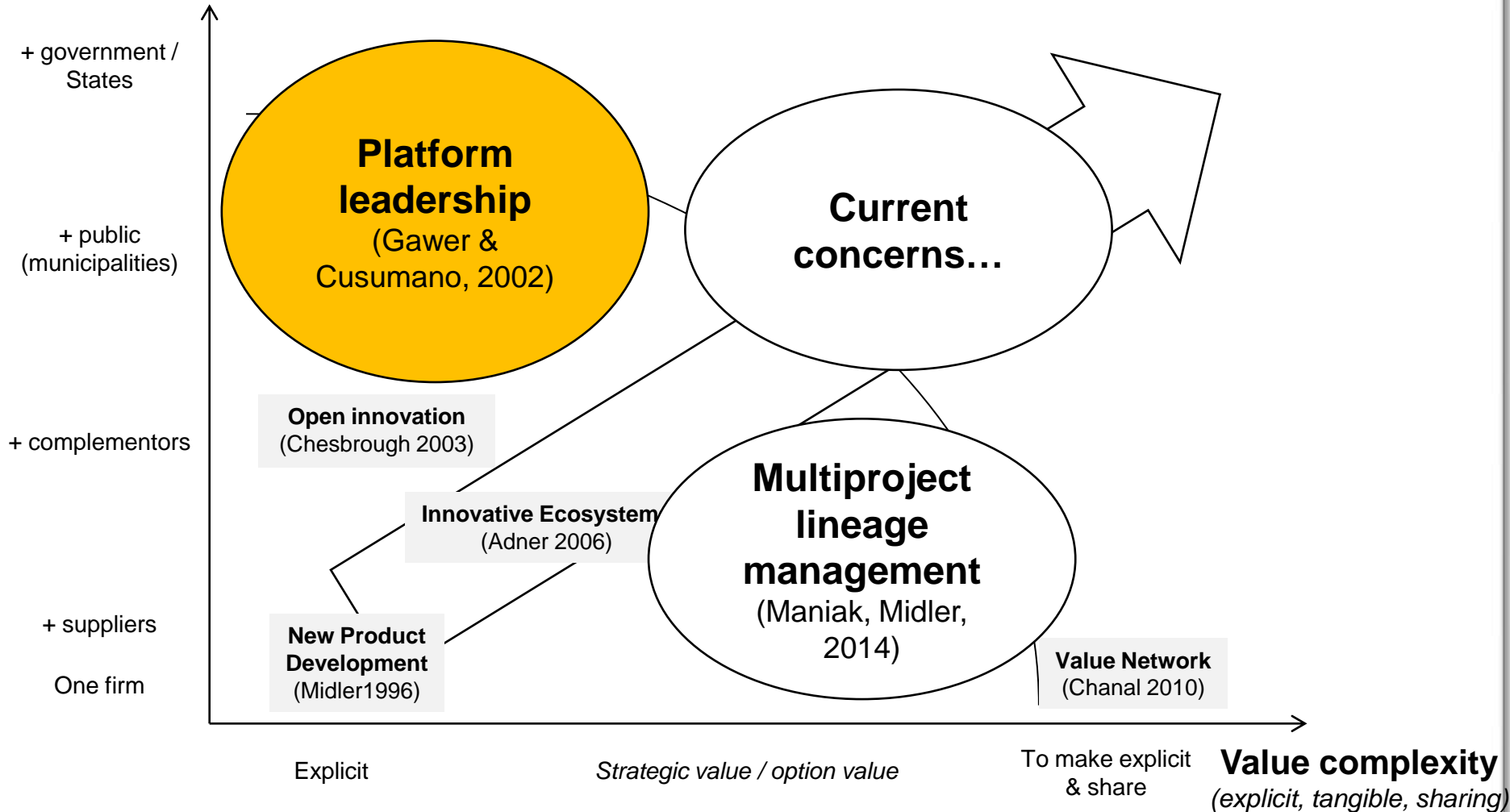
Multi-project lineage management

- Continuously building « option value » becomes a critical component of innovation-based business models.
- **Management theories and practices begin to integrate such principles.**
 - **Organization** : dynamically ambidextrous organizations, lineage program management.
 - **Business model & value management** : « full value » of a project (loosing money to feed a lineage?).



Which theoretical lenses to understand how to manage such innovative initiatives ?

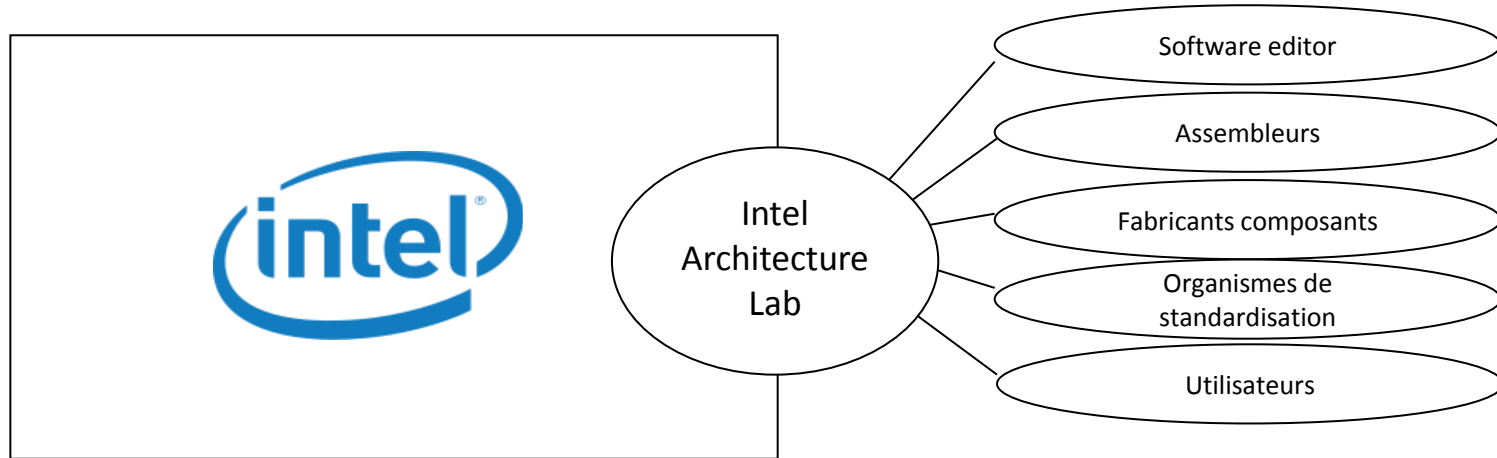
Ecosystem complexity
(development, operation)



Let's begin with the core definition

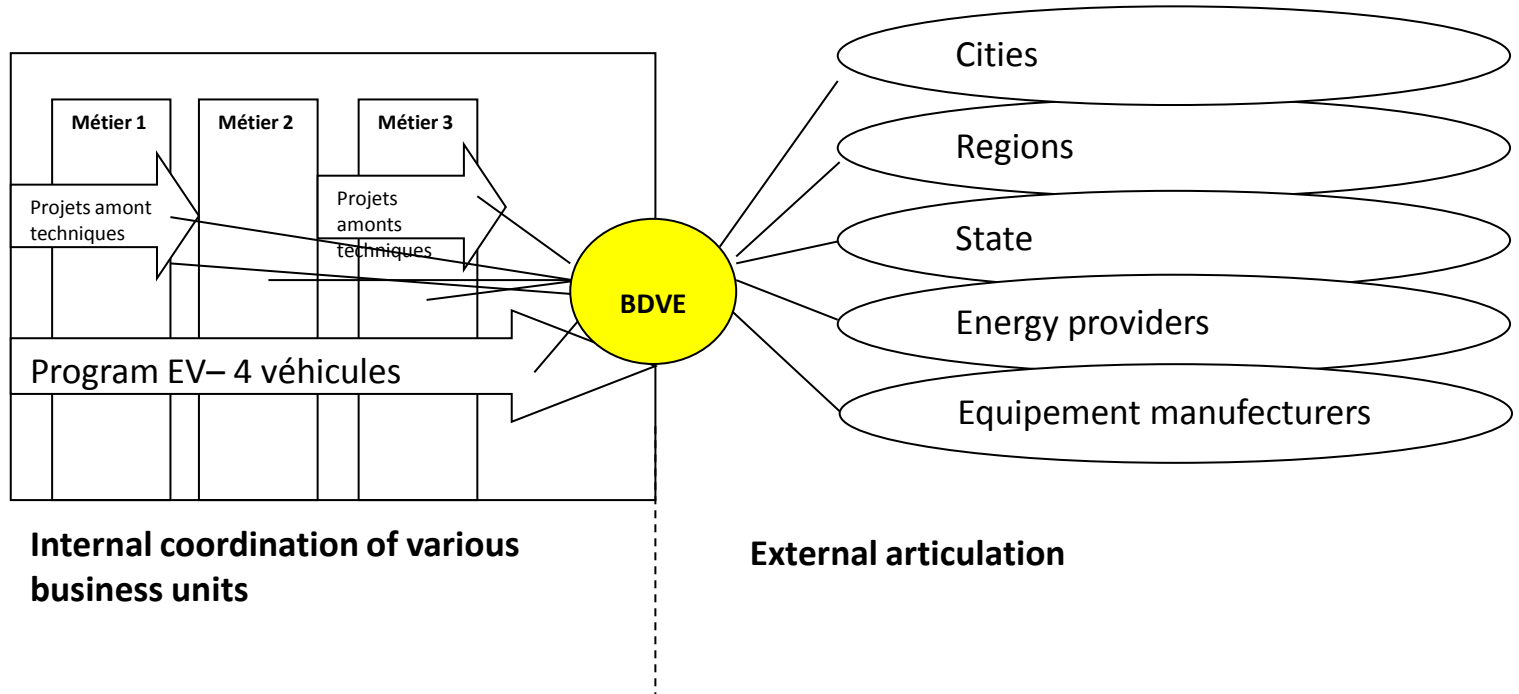
“A Platform Leader is an organisation which has an objective to develop a network of complementors which can add value to one of its own products by developing innovative ‘add on’s’ which add value to the core product.”

Cusumano, M. A. and Gawer, A. (2002). *Platform Leadership: How Intel, Microsoft, and Cisco Drive Industry Innovation*: Harvard Business School Press.



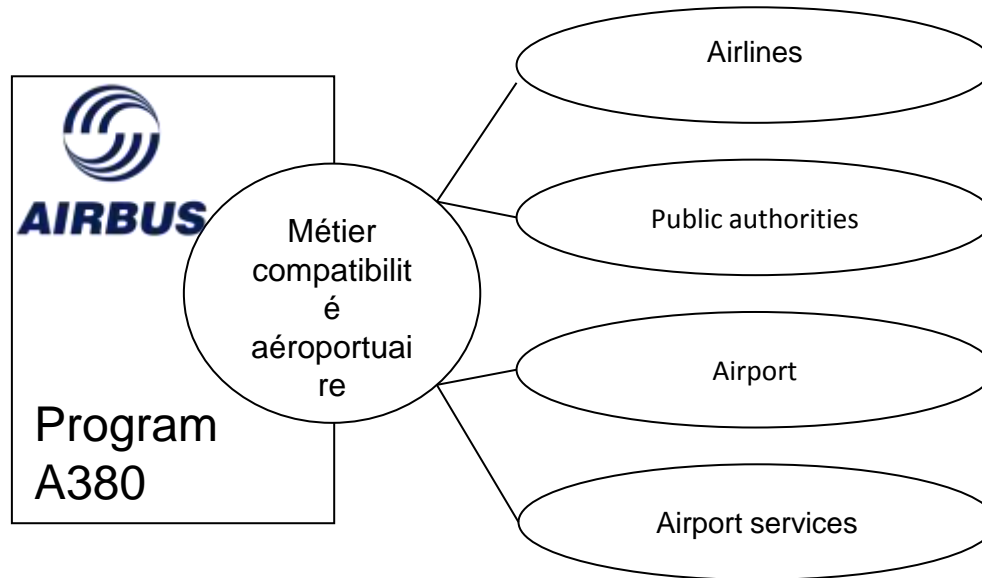
Intel Architecture Lab in 2001 : 550 engineers who build no CPU.
Coordinate inside et outside, synchronize.
Developed standrds (AGP, USB, PCI)
Community management

Case study: Renault EV initiative



**New Business Unit « Business Development »
Co-funding an development-based consortium (GIREVE)**

Platform leadership : Airbus



Co-specifications

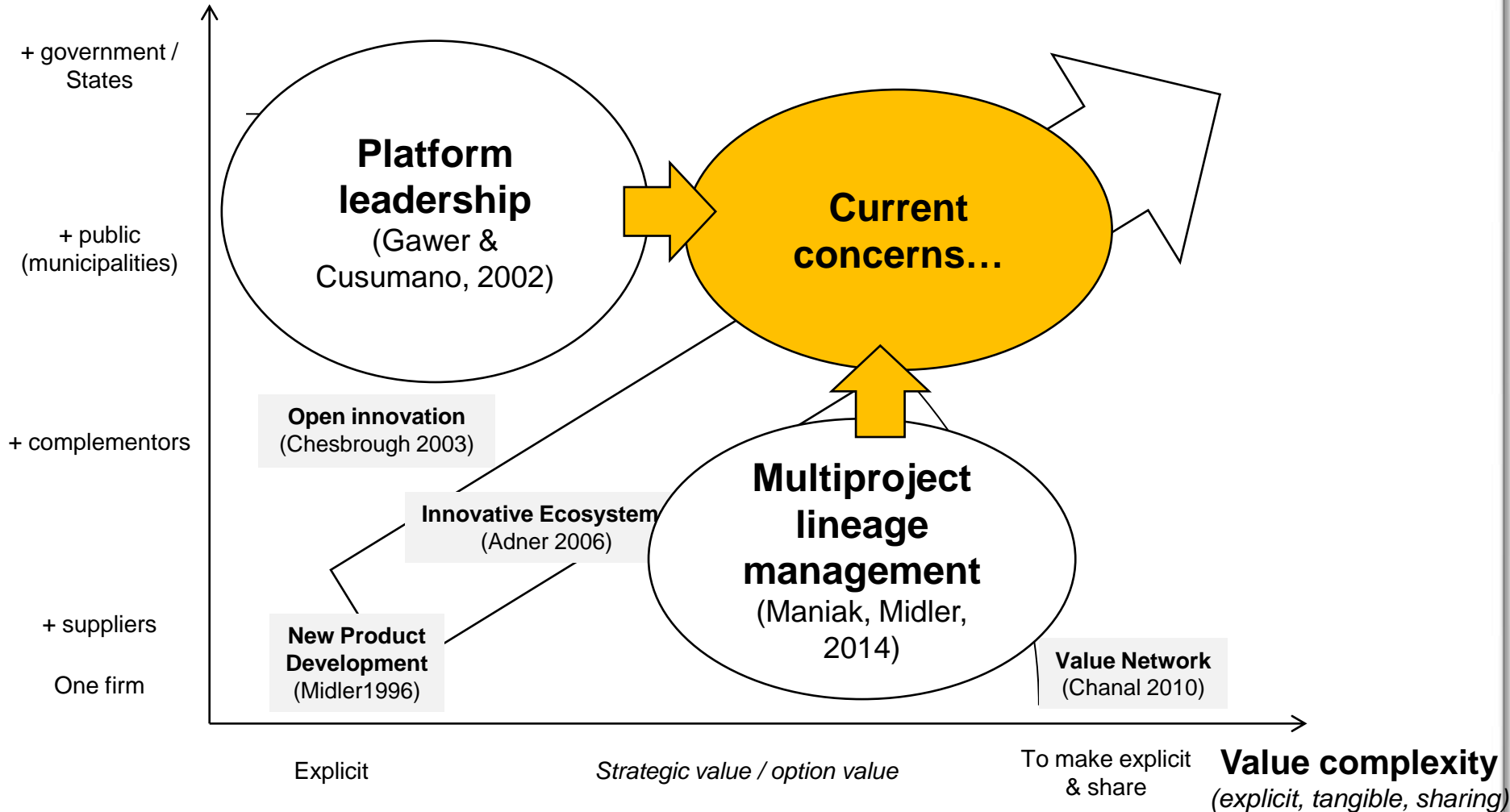
Roadmap synchronization

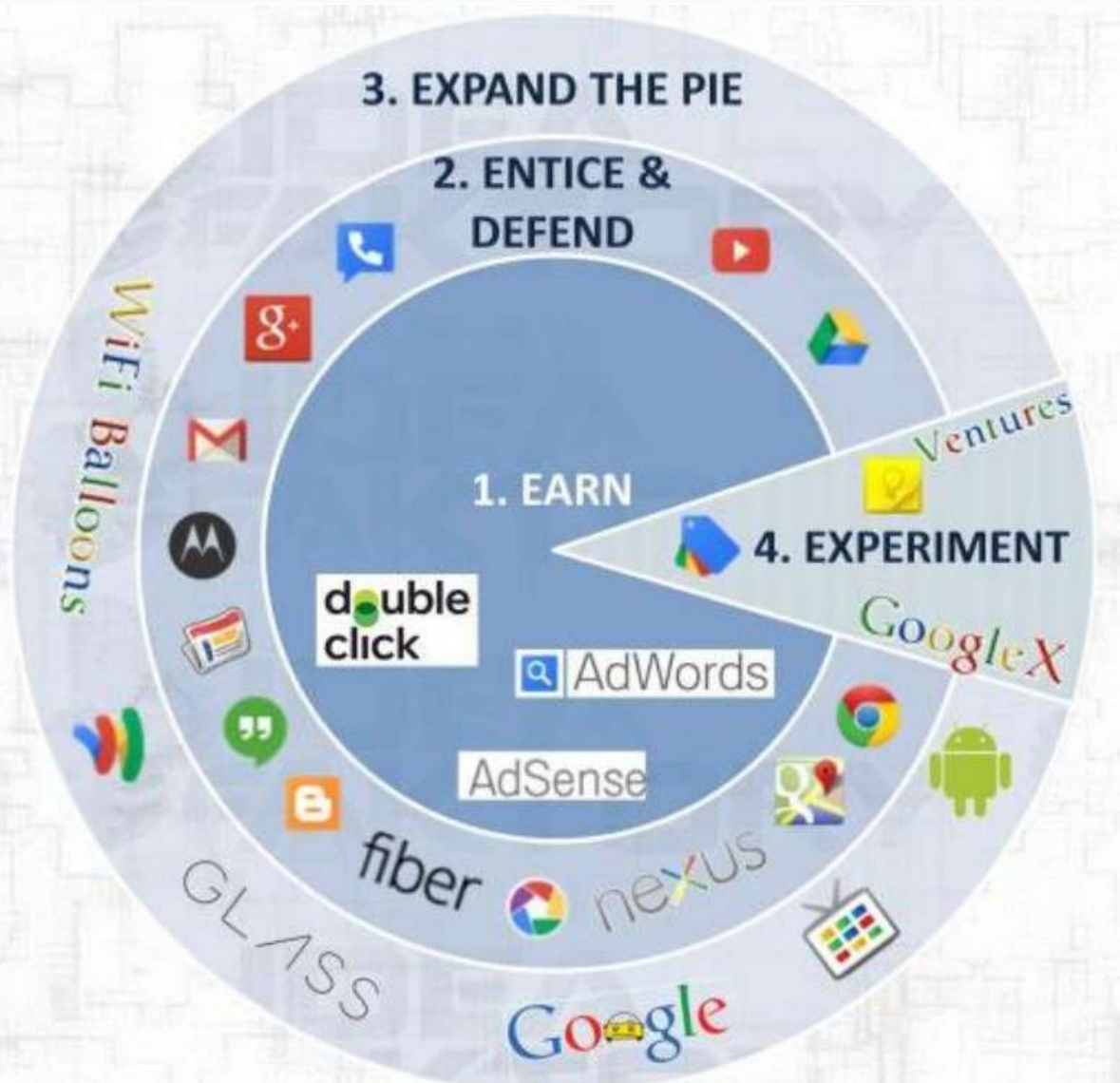
Co-investment and value sharing negotiation

**New business unit.
Involving more and more partners**

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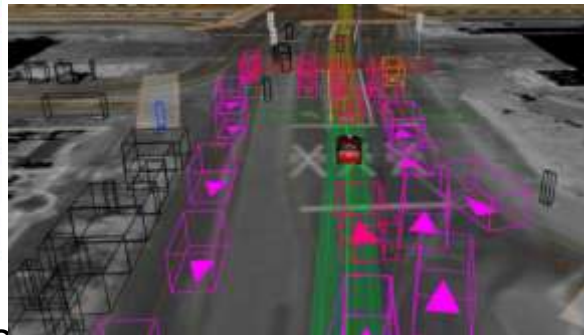
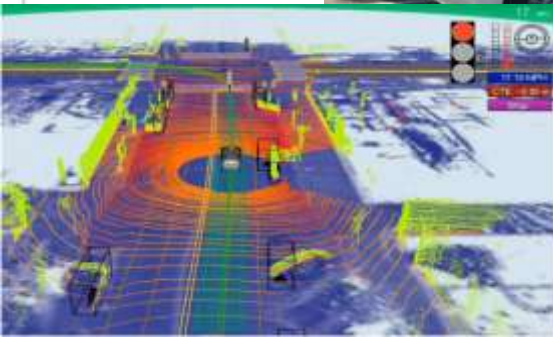




What's critical is its capability to have a « lineage strategy » focused on data expansion, and the ability to organize to make new products feed the global dynamic.



Example : Google Car

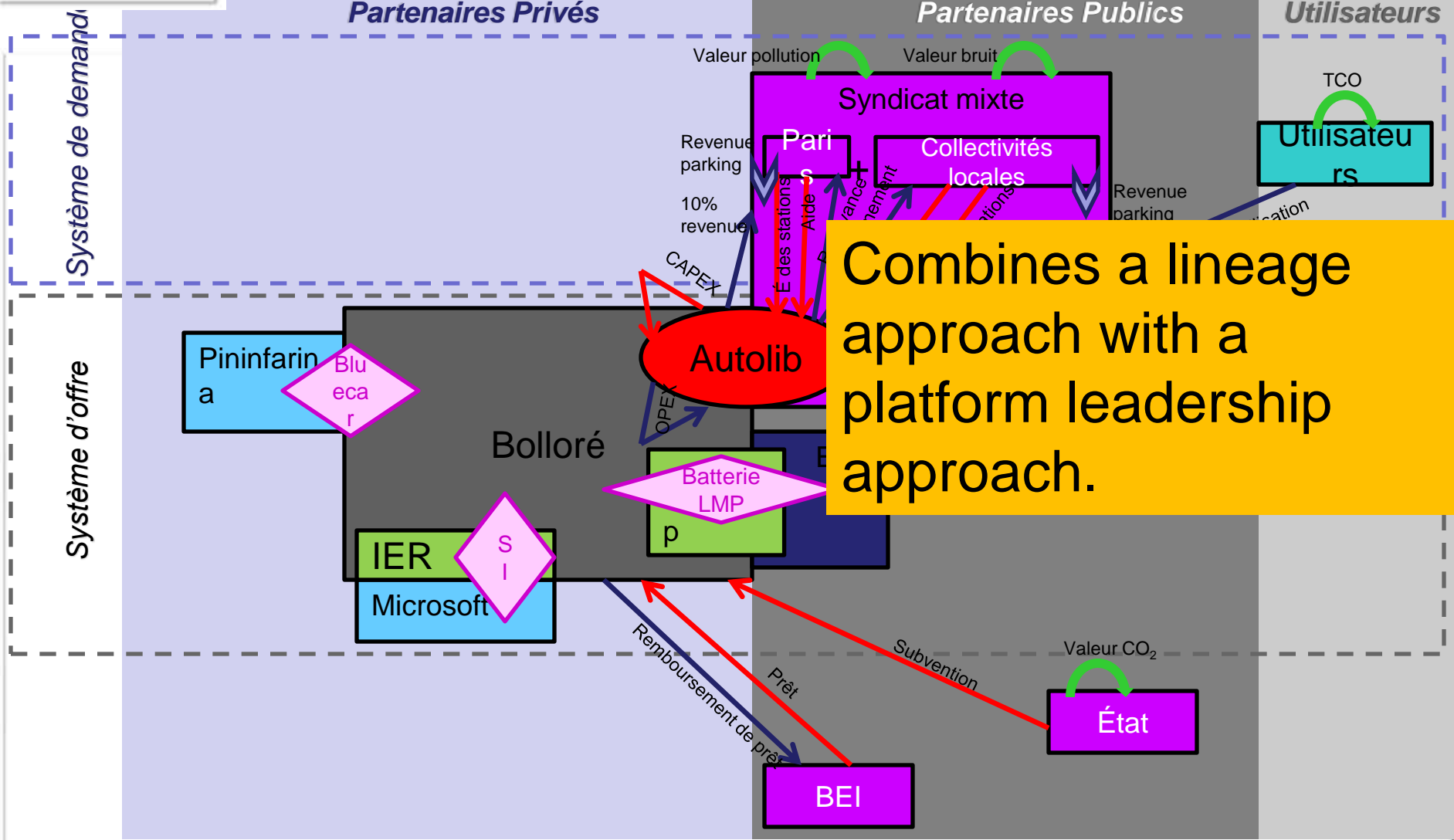


The project progressively twins with in-house concerns, and links with increasingly interested partners

- > Launched 2004, 80 people full time, 30 vehicle for 36 months
- > **Ecosystemic project led** by Google, including carmakers, suppliers, startups, California State = created the Open Automotive Alliance
- > **Shared Business Model** : social value (safety, major official motivation), time monetization for third parties, ads, data monetization (traffic, maps update,...).



Case study : Bolloré / Autolib



Combines a lineage approach with a platform leadership approach.

→ Flux financier d'investissement
 → Flux financier de fonctionnement
 ↻ Économie
 ⌵ Manque d'opportunité
 ● Objet fédérateur (Bien ou Service)
 ◇ Objet intermédiaire (Bien ou service)

 Acteur privé
 Acteur leader
 Filiale de l'acteur leader
 Acteur public industriel
 Acteur public

Digital ecosystems are structuring platforms & shared business models

Store					?	SONY	amazon
Apps	+ communauté SDK	Communauté Android	BlackBerry + communauté	Microsoft + communauté	Communauté Firefox		amazon + communauté Android
OS			BlackBerry	Microsoft	Firefox OS	adapté	adapté
Phone		HTC SAMSUNG MOTOROLA	BlackBerry	NOKIA Connecting People	ZTE中兴 + Alcatel	Sony Ericsson	
Other hard	iPad, iPod, Mac	HTC SAMSUNG MOTOROLA	non	Microsoft XBox	?	SONY PSP, TV, Tablet...	

- **Innovation involves more players, and more complex understanding of value.**
- Making these ecosystems emerge and deliver innovation widely questions the management & organization theories and practices, and business models: value propositions, value capture,...
- Relying on a multi-sectorial sampling, we saw two theoretical pillars which found the current work on this issue :
 - **A « multi-project lineage »** logic, which puts emphasis on the product-competence dynamic, and continuous value creation.
 - **A « platform leadership »**-based organizational approach, to explain how companies organize to deal with this complexity.
- **Research keeps going**, twinning these two approaches, namely in the field of connected and autonomous vehicle.

- Maniak, Rémi, & Midler, Christophe. (2014). Multiproject Lineage Management: bridging project management and design-based innovation strategy. *International Journal of Project Management*, (under press).
- Maniak, Rémi, Midler, Christophe, Beaume, Romain, & Pechmann, Felix von. (2014). Featuring capability: How carmakers organize to deploy innovative features across products. *Journal of Product Innovation Management*, 31(1), p.114–127.
- Maniak, Rémi, Midler, Christophe, Lenfle, Sylvain, & Pellec-Dairon, Marie Le. (2014). Value management for exploration projects. *Project Management Journal* (under press).
- Maniak, Rémi. (2014). The future of the automotive industry: who will invest in intelligent transportation systems? *ParisTech Review*, February.