

Πλατφόρμες: Τεχνολογία και Στρατηγική



Τεχνολογική Στρατηγική

- ▷ ΔΠΜΣ «Επιχειρηματικότητα»

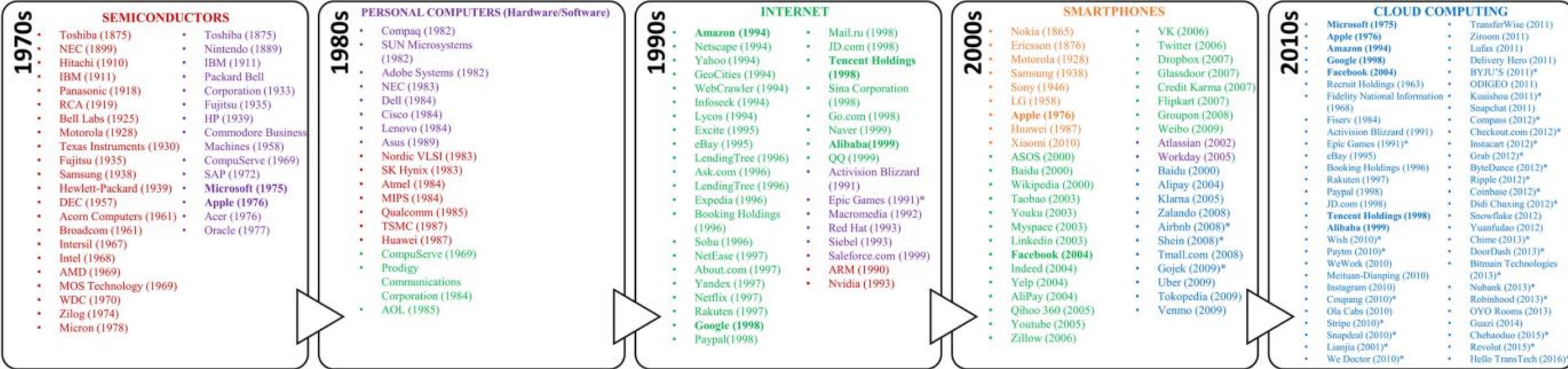
Γεώργιος Σταμπούλης

Τμήμα Οικονομικών Επιστημών

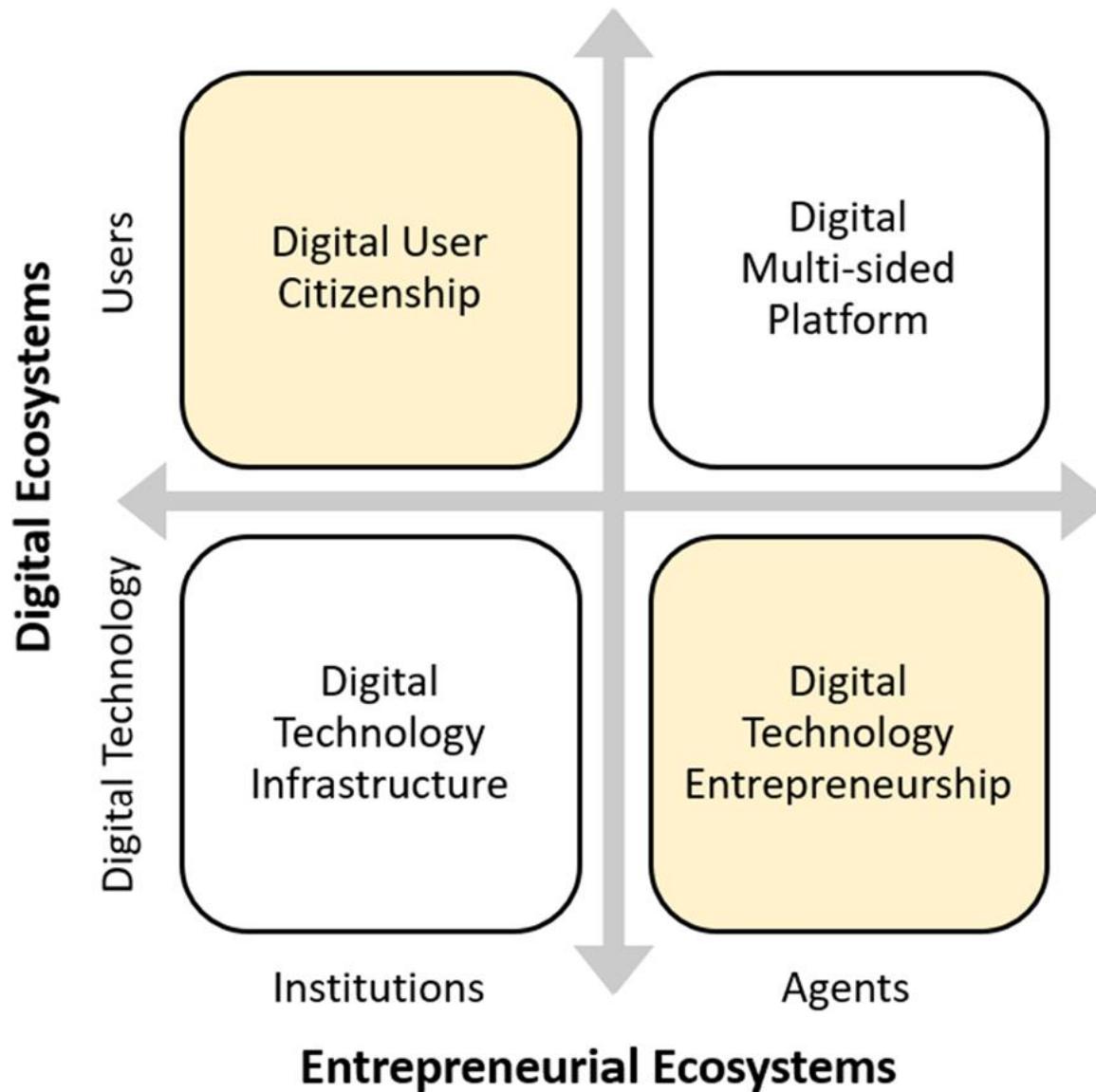


ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΕΣΣΑΛΙΑΣ

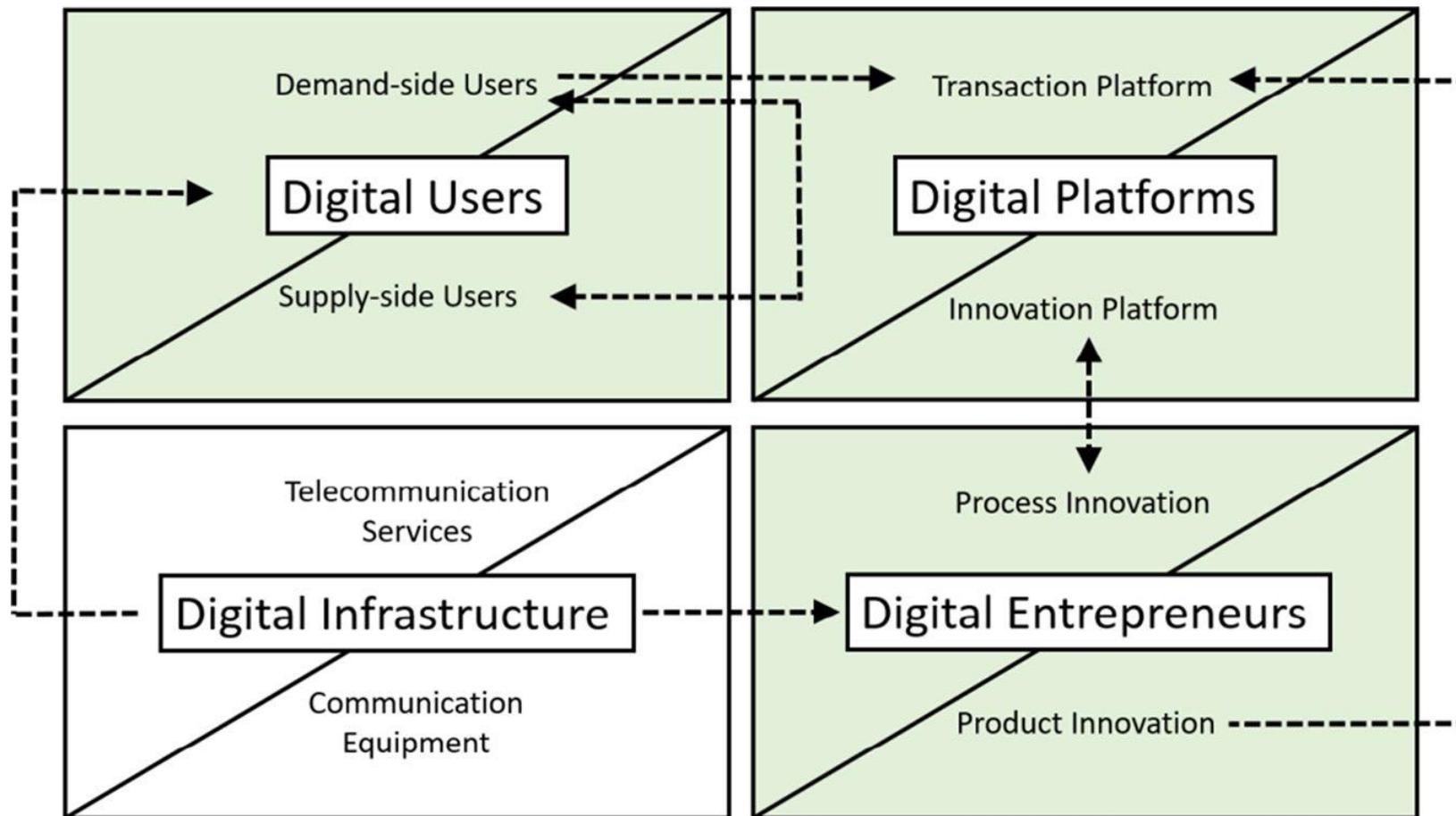
The evolution of the Digital Platform Economy



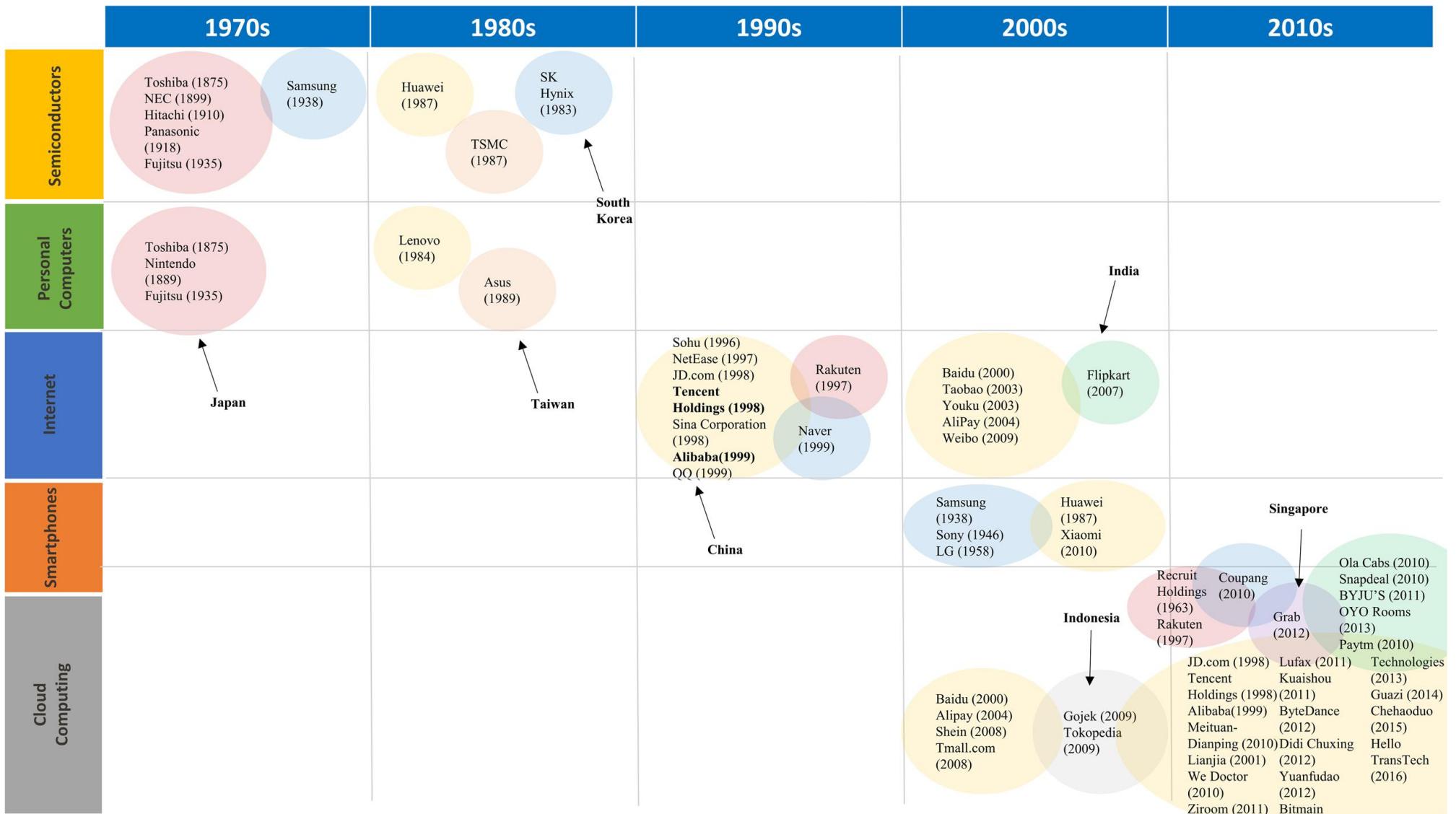
The digital entrepreneurial ecosystem



The DPE



The Evolution of the DPE in Asia



The four levers of Platform Leadership

- **Scope** of innovation: in-house or market complements?
- **Product technology**: modularity, interface openness, information disclosure
- **Relationships with external complementors**: collaboration vs competition, conflict management
- **Internal organization**: group proximity and market similarity or conflict, organizational culture, communication of corporate strategy

Ideas From Intel on Managing Platform Leadership

- Protect the core technology but share interface technology.
- Sacrifice short-term interests in favor of the industry's common good.
- Do not step carelessly onto partners' turf.
- When pushing an agenda, test the waters in a low-key way.
- Help complementors protect their intellectual property.
- Separate internal groups that produce complements from those that assist complementors.
- Leverage internal processes, such as senior-management arbitration of conflicting goals.
- Communicate diligently with partners.
- Communicate diligently with internal constituencies.

Πηγή: Cusumano and Gawer (2002)

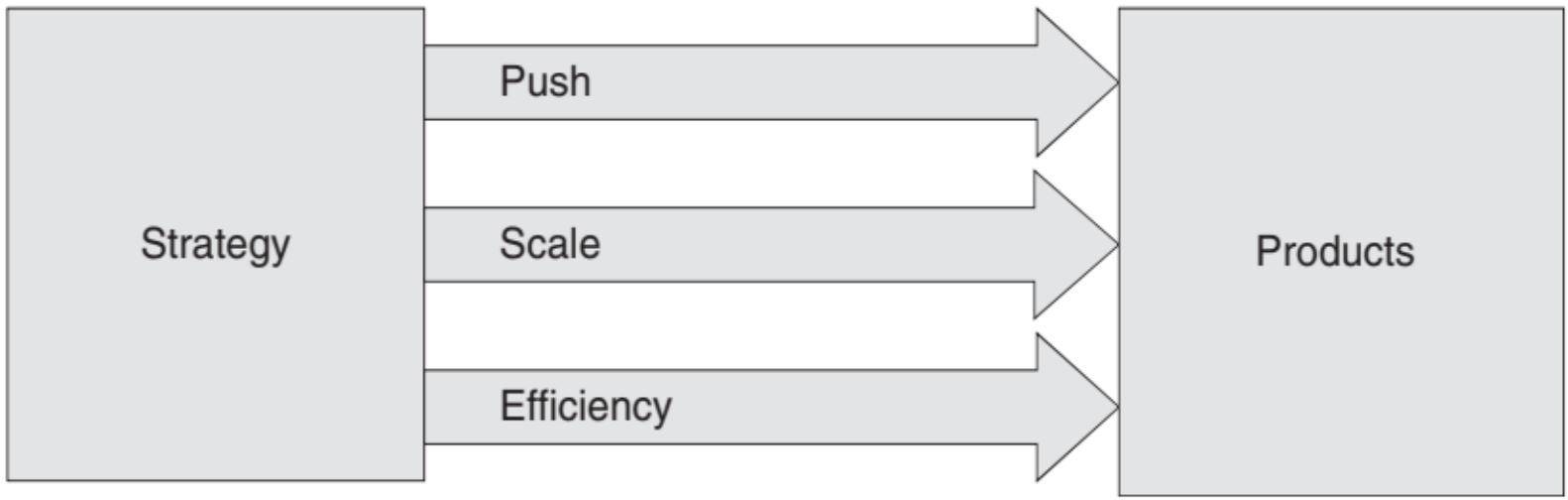
Strategic Options for Platform-Leader Wannabes

Two principal strategies for becoming a platform leader are (1) coring (creating a new platform) and (2) tipping a market toward your company's platform. To become a platform leader, companies need to address both the business and technology aspects of platform strategy.

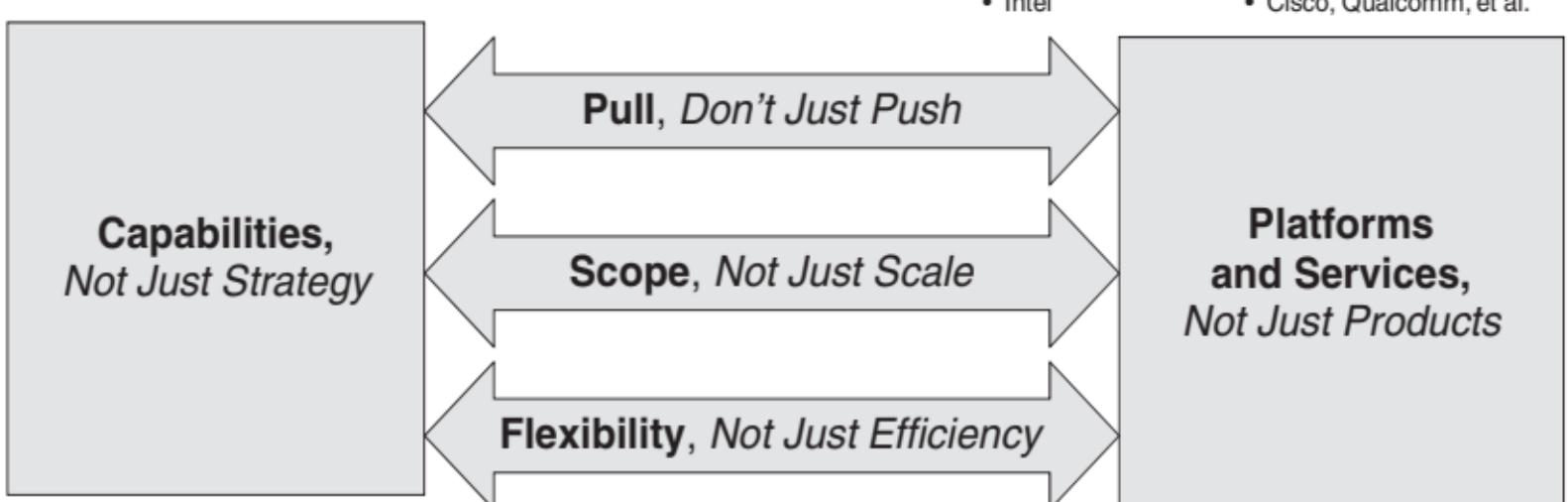
Strategic Option	Technology Actions to Consider	Business Actions to Consider
Coring How to create a new platform where none existed before	<ul style="list-style-type: none">• Solve an essential “system” problem• Facilitate external companies’ provision of add-ons• Keep intellectual property closed on the innards of your technology• Maintain strong interdependencies between platform and complements	<ul style="list-style-type: none">• Solve an essential business problem for many industry players• Create and preserve complementors’ incentives to contribute and innovate• Protect your main source of revenue and profit• Maintain high switching costs to competing platforms
Tipping How to win platform wars by building market momentum	<ul style="list-style-type: none">• Try to develop unique, compelling features that are hard to imitate and that attract users• Tip across markets: absorb and bundle technical features from an adjacent market	<ul style="list-style-type: none">• Provide more incentives for complementors than your competitors do• Rally competitors to form a coalition• Consider pricing or subsidy mechanisms that attract users to the platform

Enduring principles and competitive advantage

Narrow way of thinking about focus and competitive advantage at the product level

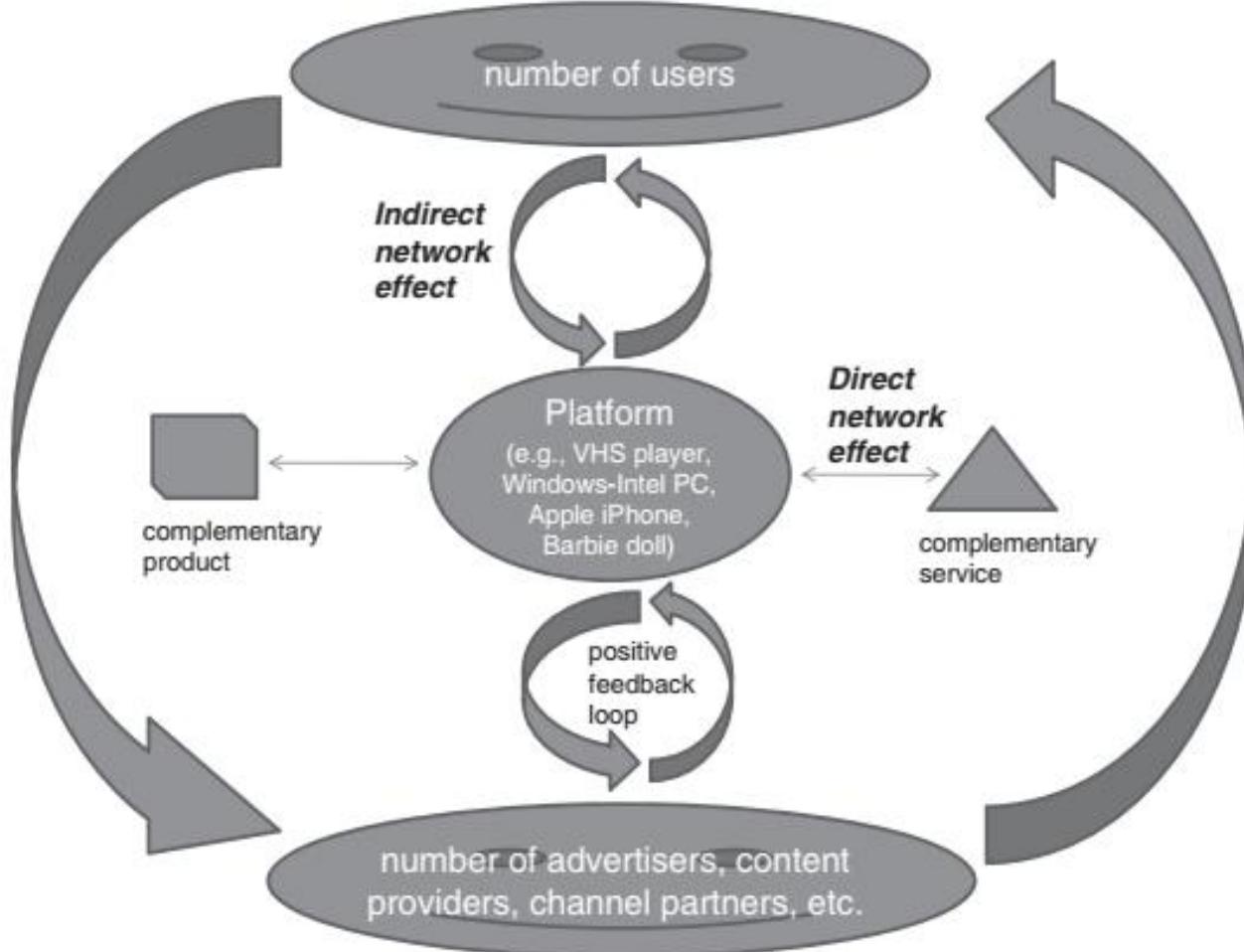


Broader way of thinking about agility and competitive advantage at the ecosystem level



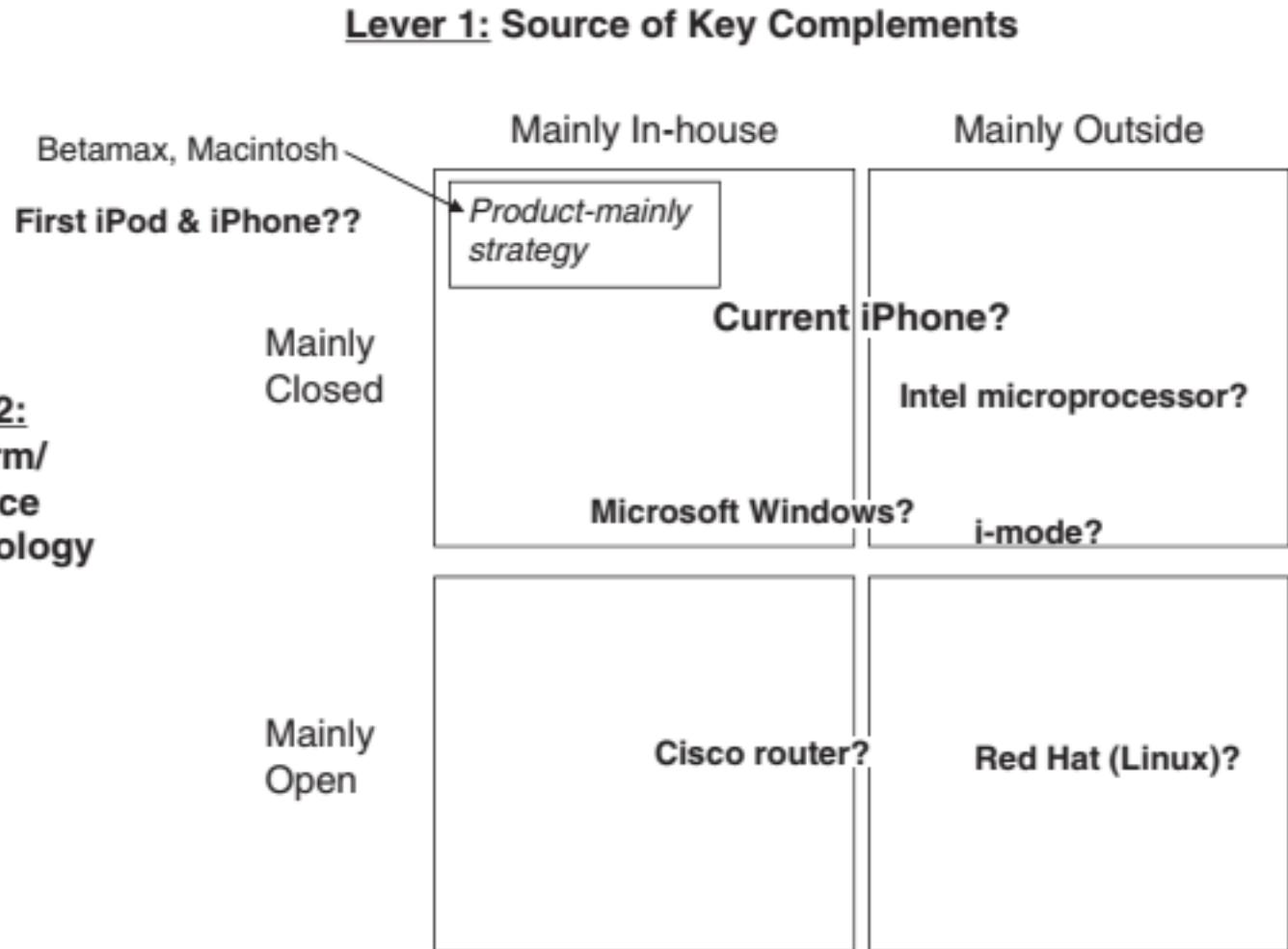
Πηγή: Cusumano (2010)

The ecosystem of platforms, complements, and network effects



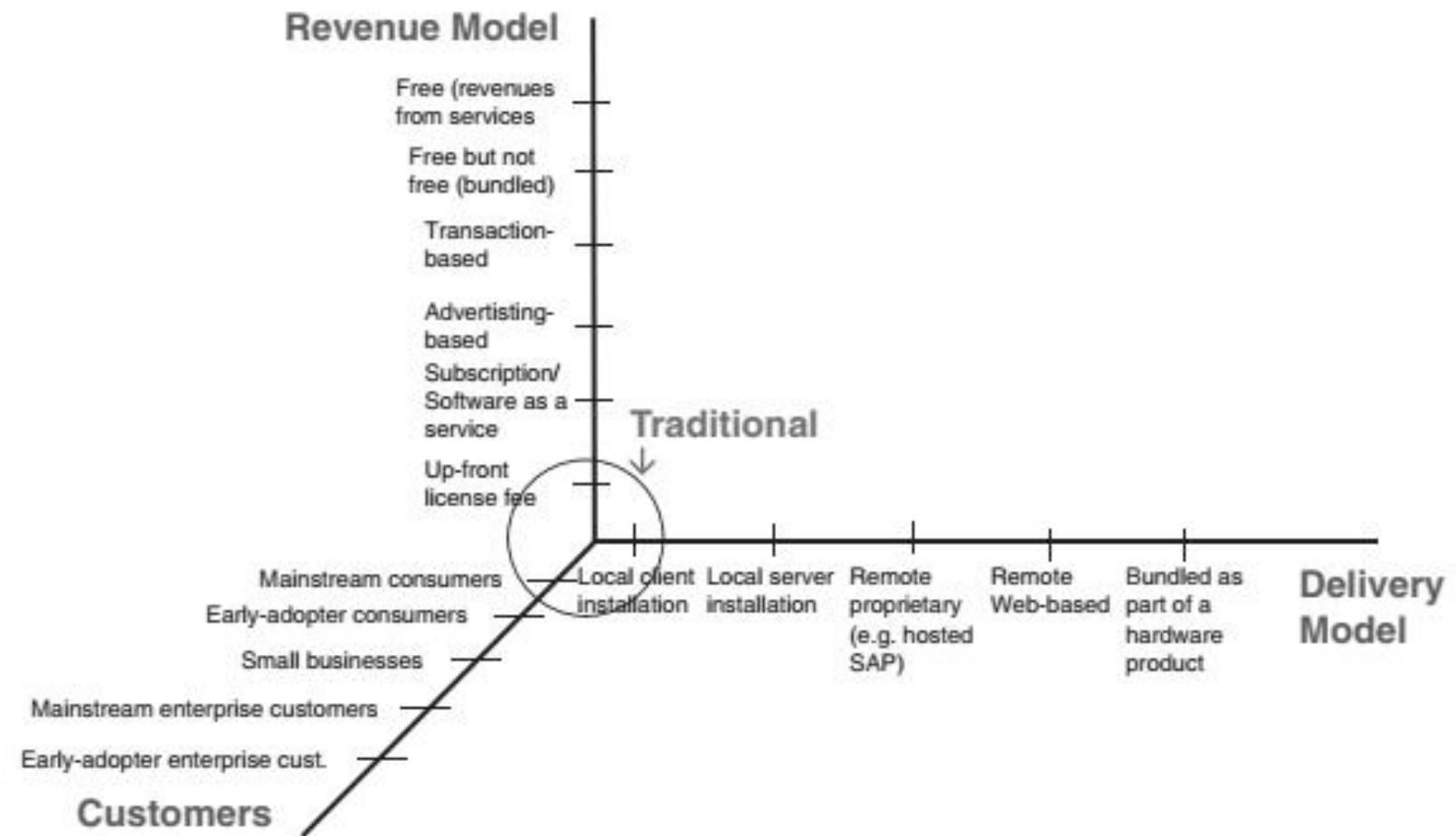
The ecosystem of platforms, complements, and network effects

Lever 2:
Platform/
Interface
Technology



Πηγή: Cusumano (2010)

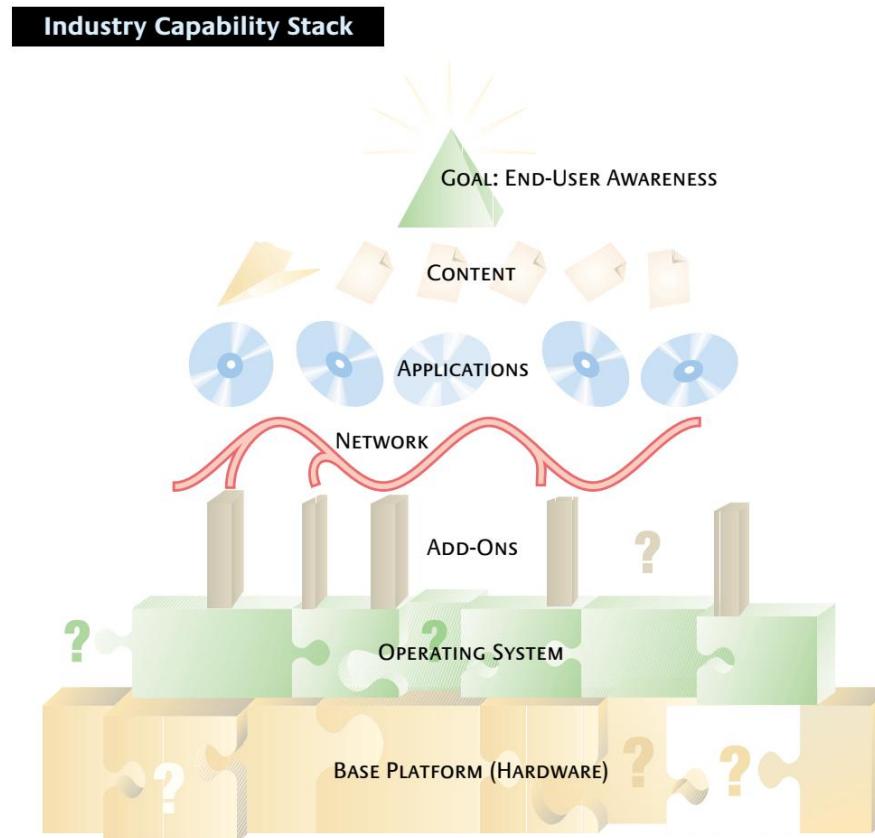
Dimensions of business models



“Servitizing” the automobile

- Financing (loans, leasing)
- Insurance (lifetime, term)
- Life-cycle management (warranty, maintenance)
- Repair (remote diagnostics)
- Customization (tailored or special features, from the factory or dealer)
- Telematics platform
 - Internet access (personal communications)
 - Navigation (GPS)
 - Communications (satellite radio)
 - Entertainment content (music, games, movies for back seat, etc.)

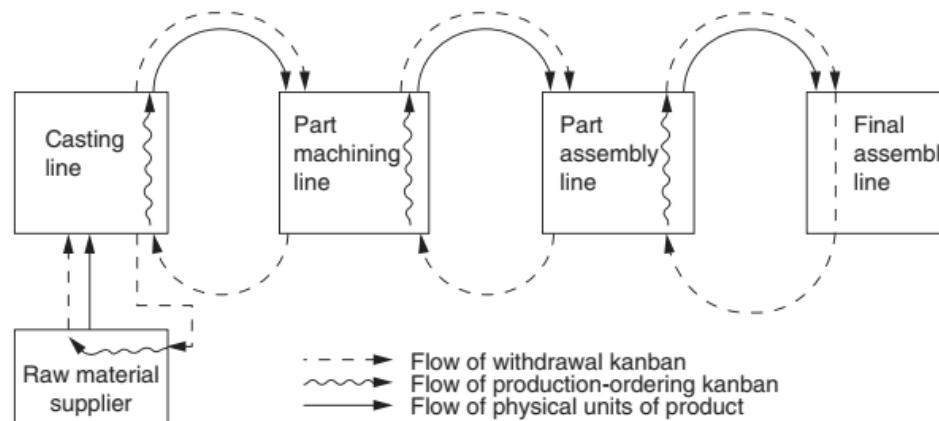
Intel platform



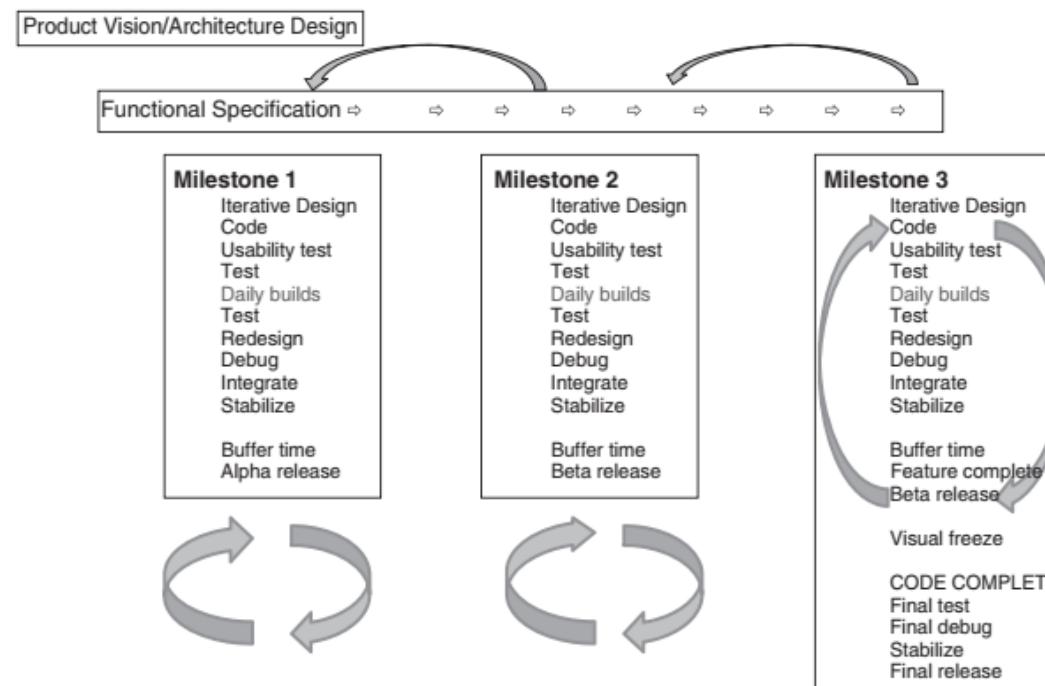
Source: Intel in-house materials. Used with permission.

Πηγή: Cusumano and Gawer (2002)

Pull



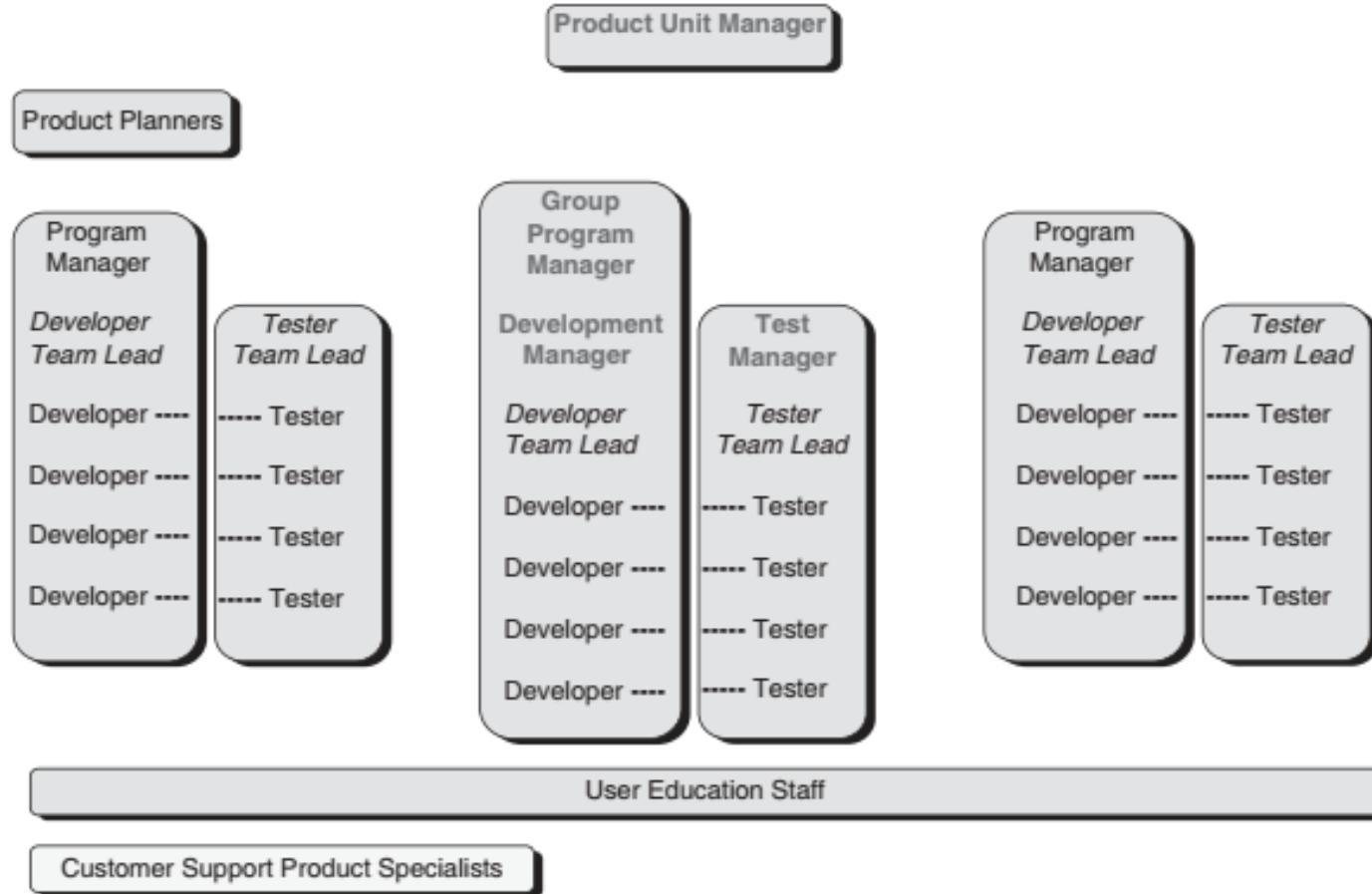
Kanban flow



Πηγή: Cusumano (2010)

Agile or iterative product development

Microsoft project and feature team structure



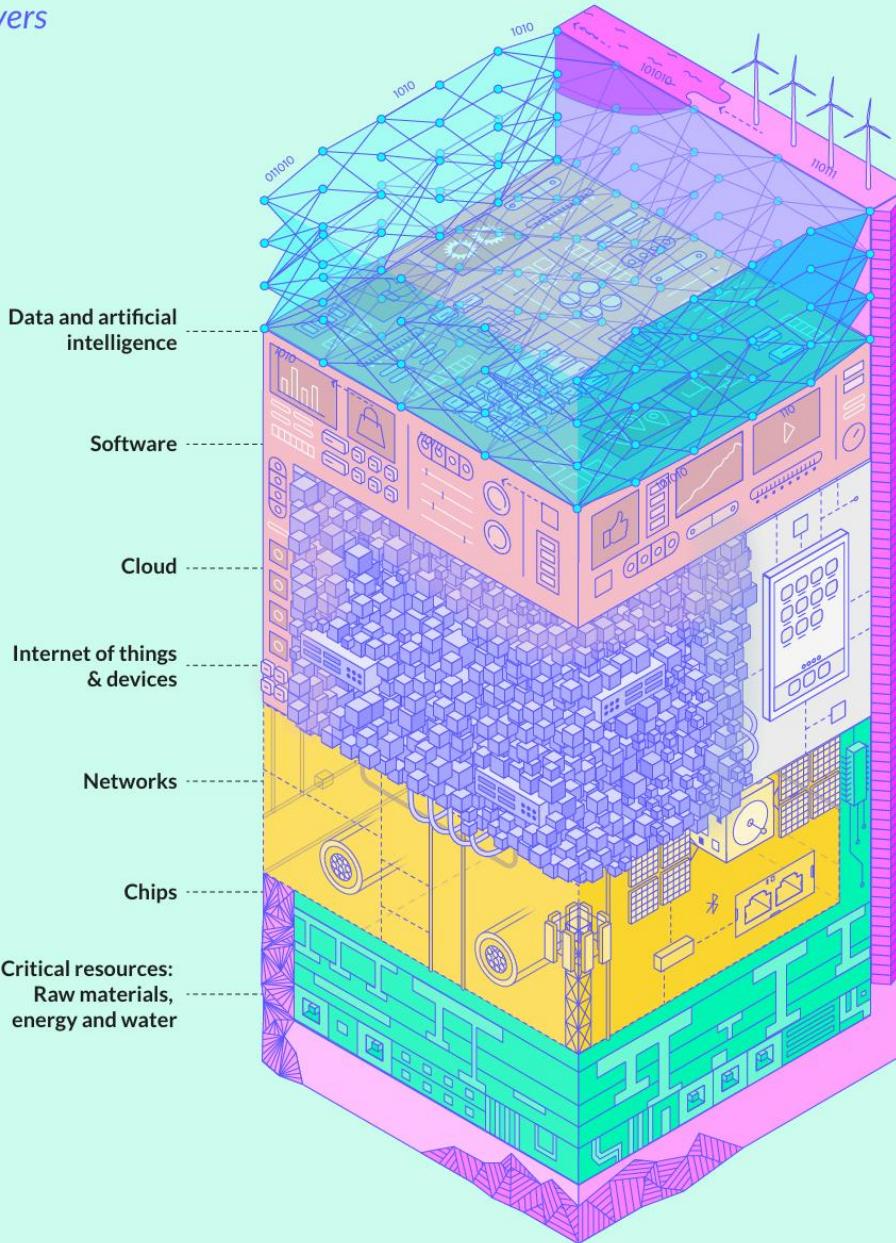
Process comparison of Toyota and Microsoft

Toyota-style “lean” production	Microsoft-style “agile” development
<i>Manual demand-pull with kanban cards</i>	<i>Daily builds with evolving features</i>
JIT “small lot” production	Development by small-scale features
Minimal in-process inventories	Short cycles and milestone intervals
Geographic concentration—production	Geographic concentration—development
Production leveling	Scheduling by features and milestones
Rapid setup	Automated build tools and quick tests
Machine/line rationalization	Focus on small, multifunctional teams
Work standardization	Design, coding, and testing standards
Foolproof automation devices	Builds and continuous integration testing
Multi-skilled workers	Overlapping responsibilities
Selective use of automation	CA tools but no code generators
Continuous improvement	Postmortems, process evolution

The AI stack

The current digital stack

The layers



Key Sources

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The evolution of markets, hierarchies, and networks

Category	nineteenth century	twentieth century	twenty-first century
Coordinator	The invisible hand of the market	The visible hand of management	The digital hand of platforms
Organizational form	The factory	The corporation	The platform
Institution	The market	Hierarchy	Networks
Governance	Entrepreneur	Managerial authority	Ecosystem governance
Technology and knowledge	Knowledge in community	Knowledge in physical capital	Knowledge in human capital
Geography	Local	National	Global
Economic theory	General equilibrium theory	Transaction cost economics and institutional economics	Two-sided markets, network theory and complex systems
Engine	Steam	Internal combustion	Microprocessor
Energy	Coal	Oil	Wind and solar
Transportation	Goods	People	Information

Note: See Chandler (1977) on the visible hand of management

Πηγή: Z. J. Acs et al (2021)