

Πλατφόρμες: Τεχνολογία και Στρατηγική

Τεχνολογική Στρατηγική

▷ ΔΠΜΣ «Επιχειρηματικότητα»

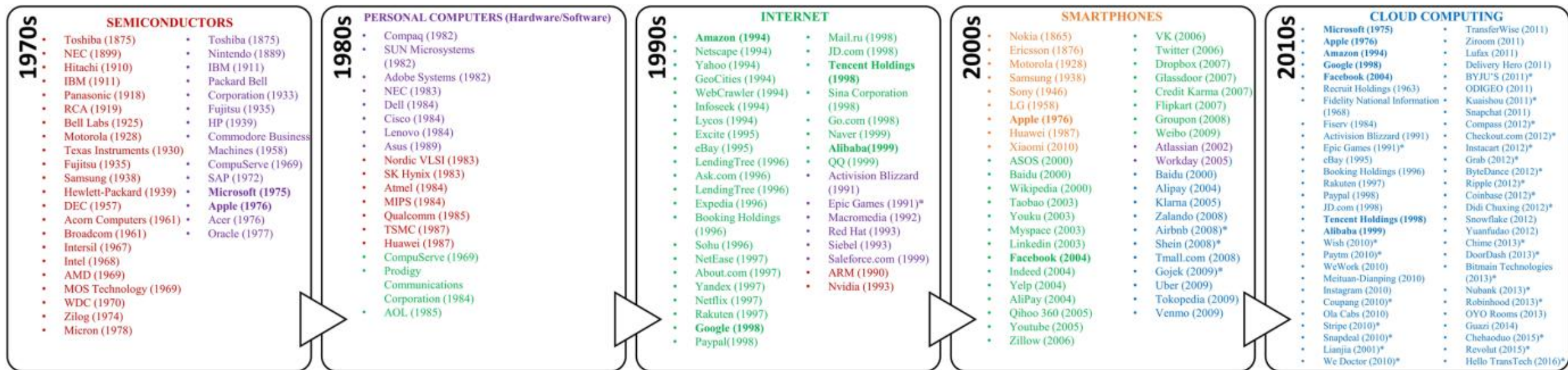
Γεώργιος Σταμπουλής

Τμήμα Οικονομικών Επιστημών

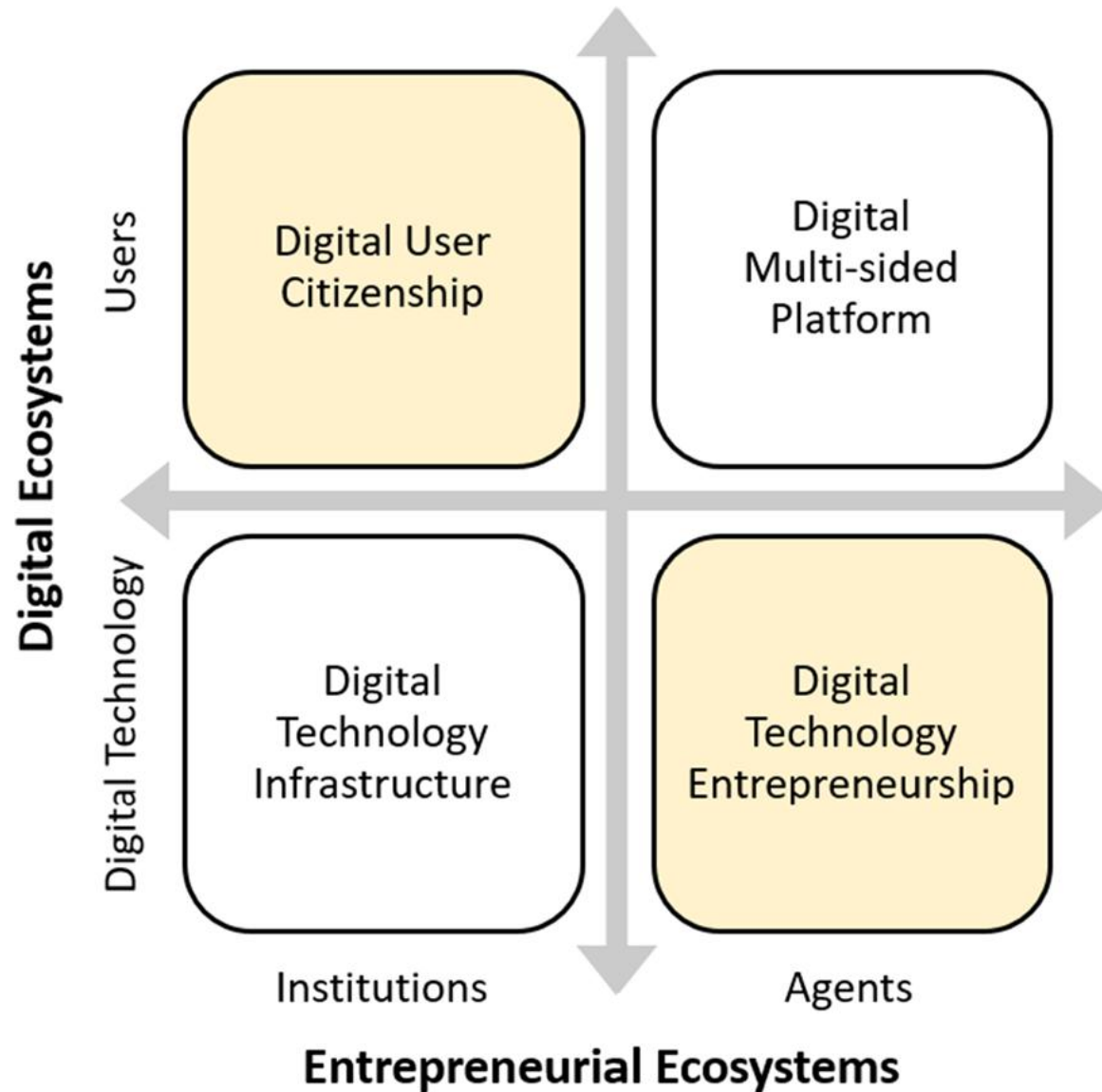


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ΘΕΣΣΑΛΙΑΣ

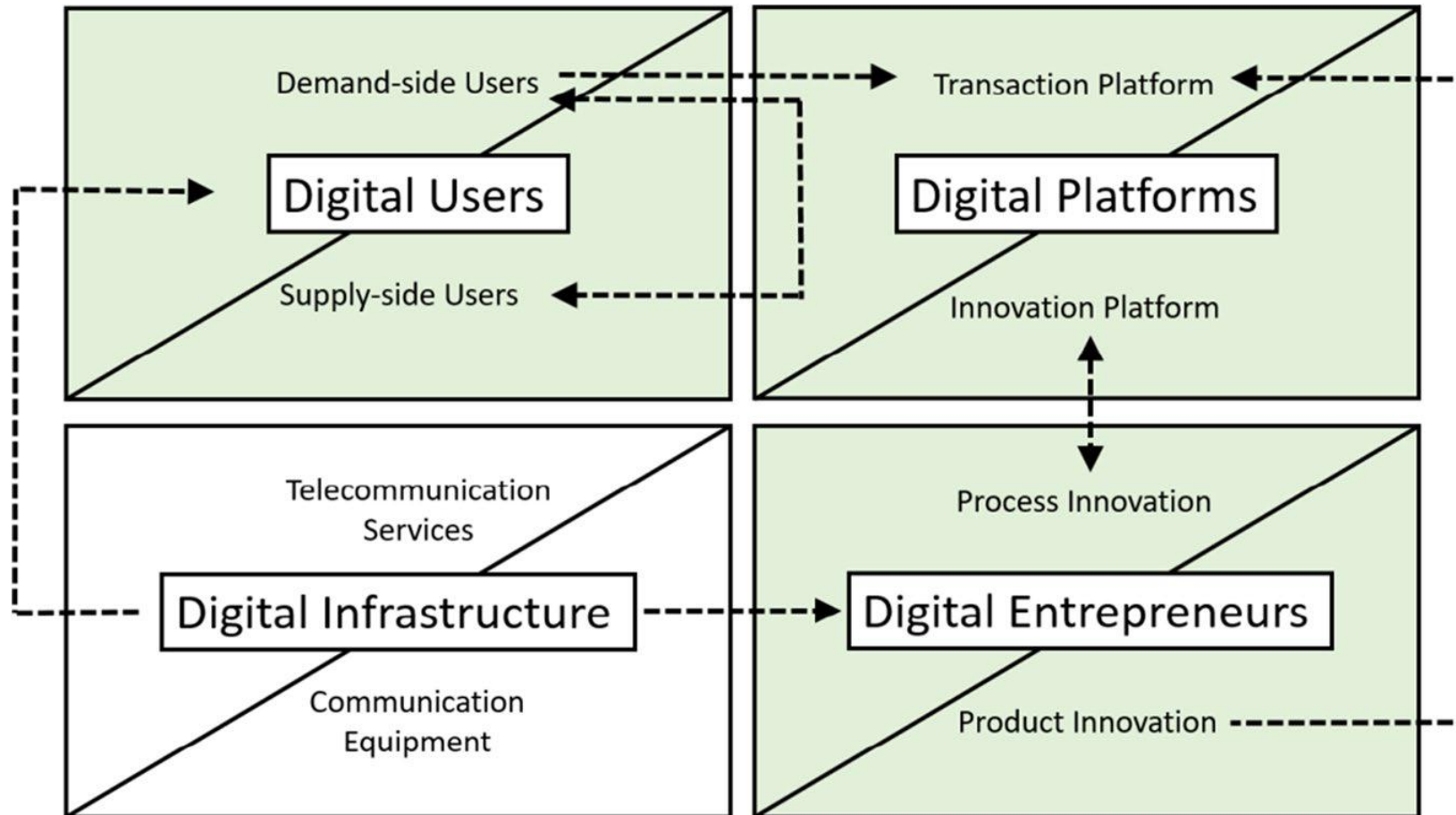
The evolution of the Digital Platform Economy



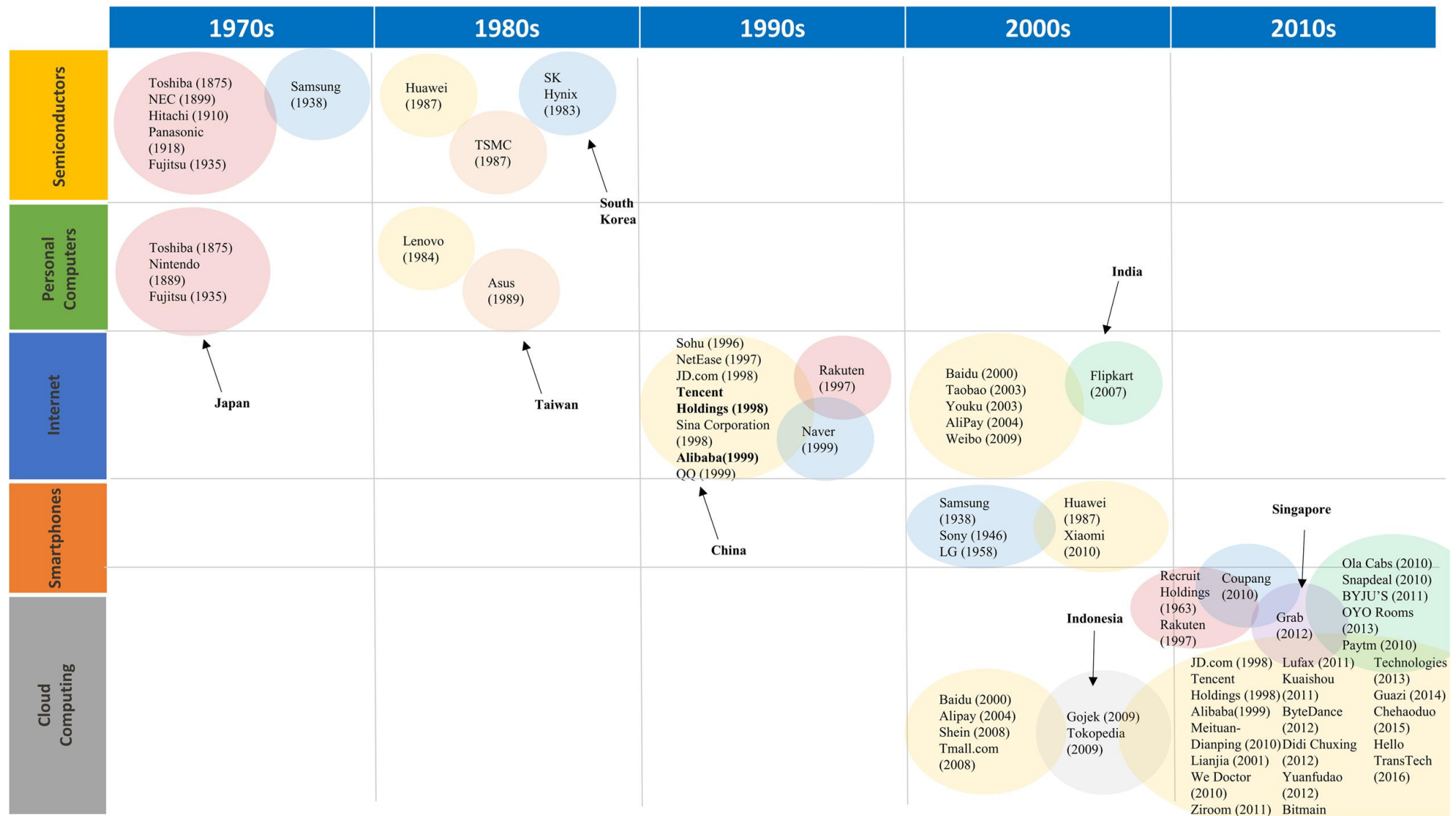
The digital entrepreneurial ecosystem



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)

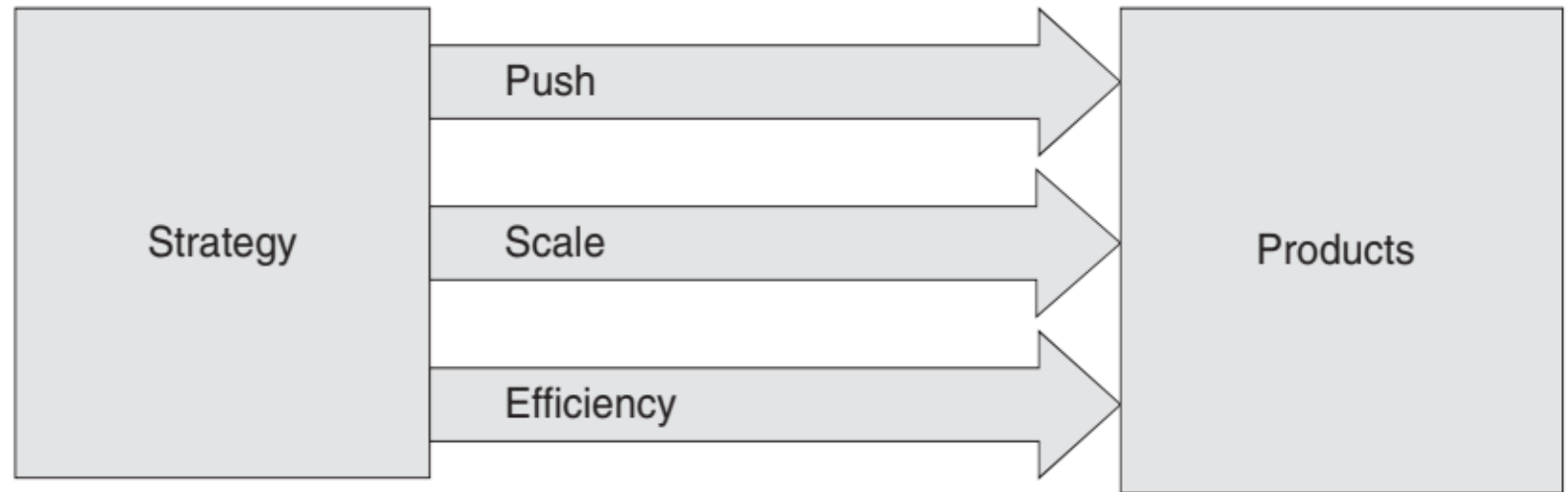
Strategic Options for Platform-Leader Wannabes

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

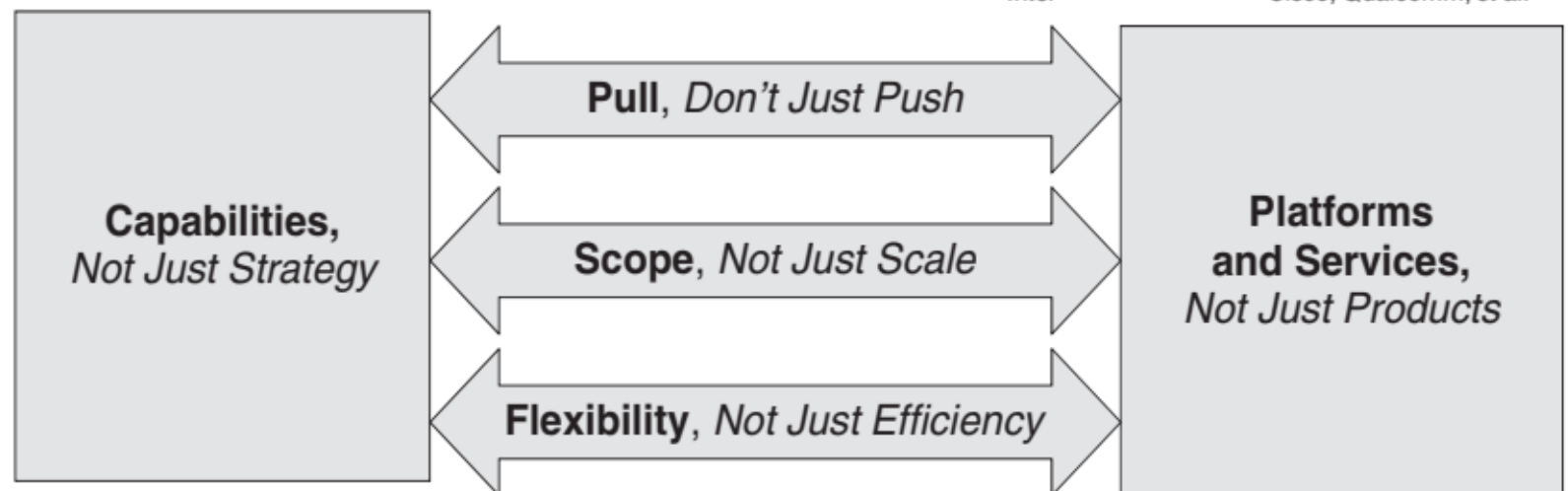
Narrow way of thinking about focus and competitive advantage at the product level



Examples:

- Ford in Model T Era
- GM in the 1920s
- Sony in Betamax era
- IBM before Open Source
- Apple before mid-2000s

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

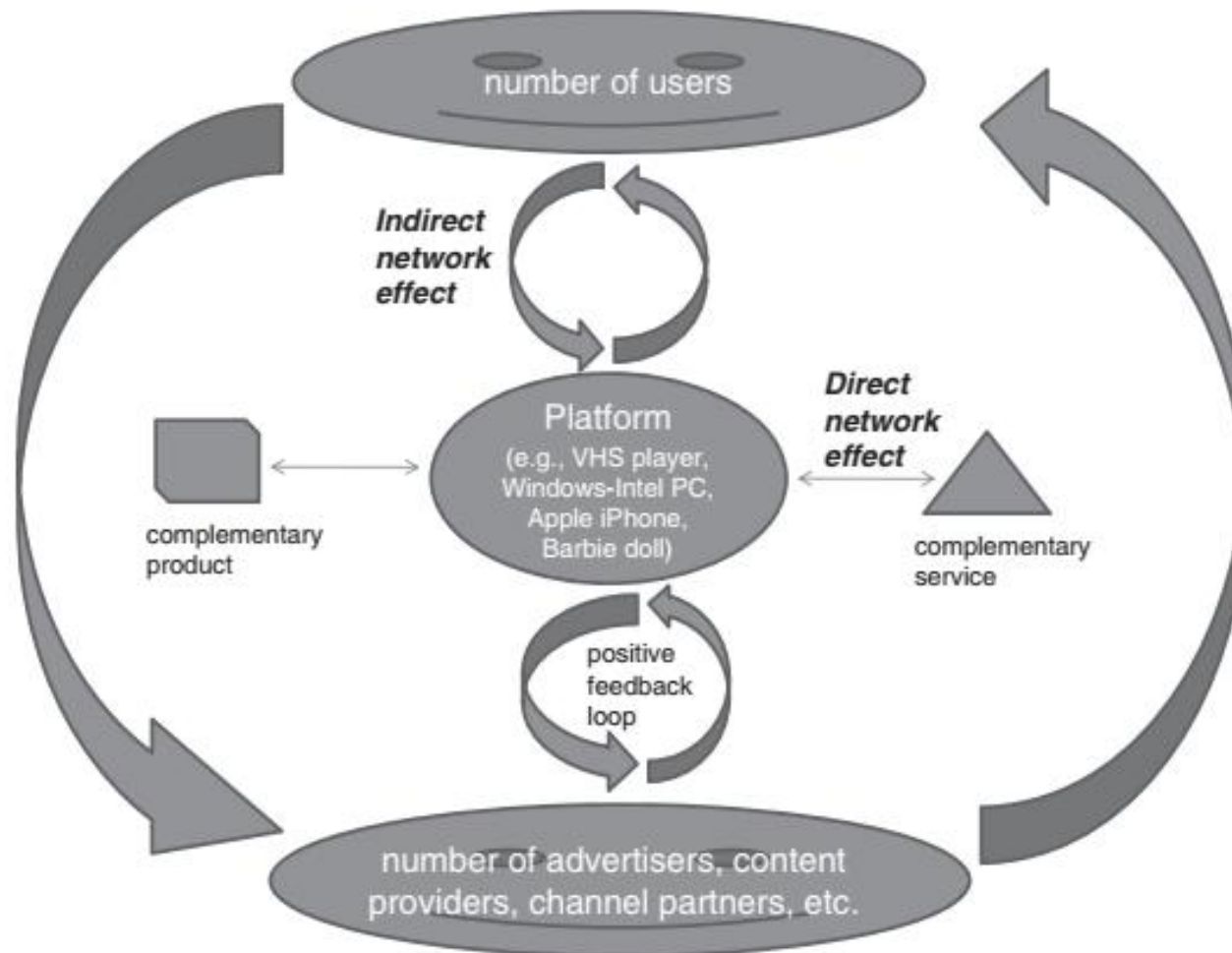


Examples:

- Toyota
- Microsoft
- Intel
- JVC in VHS Era
- Apple after mid-2000s
- Google, Adobe
- Cisco, Qualcomm, et al.

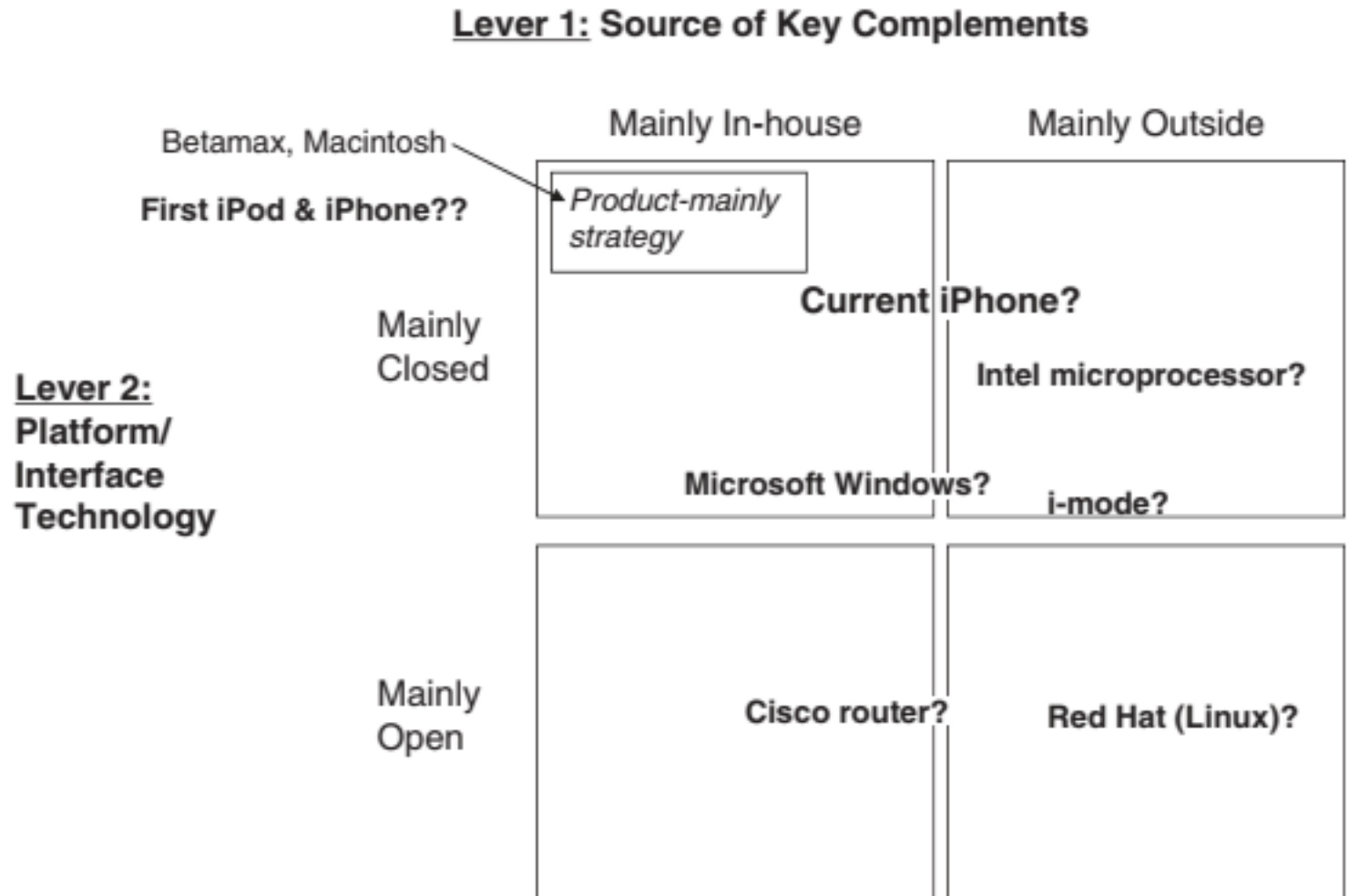
Πηγή: Cusumano (2010)

The ecosystem of platforms, complements, and network effects

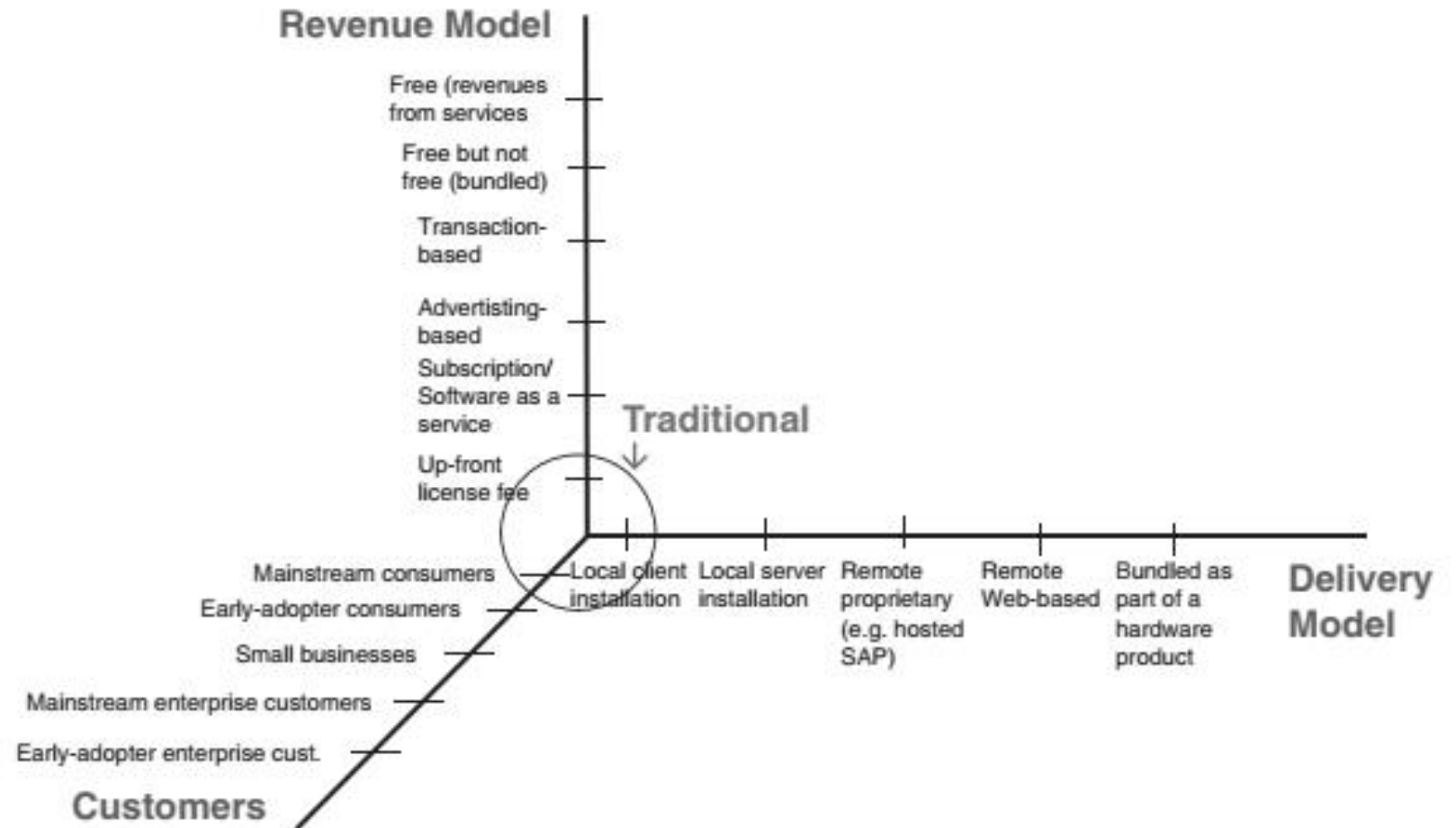


The ecosystem of platforms, complements, and network effects

Πηγή: Cusumano (2010)



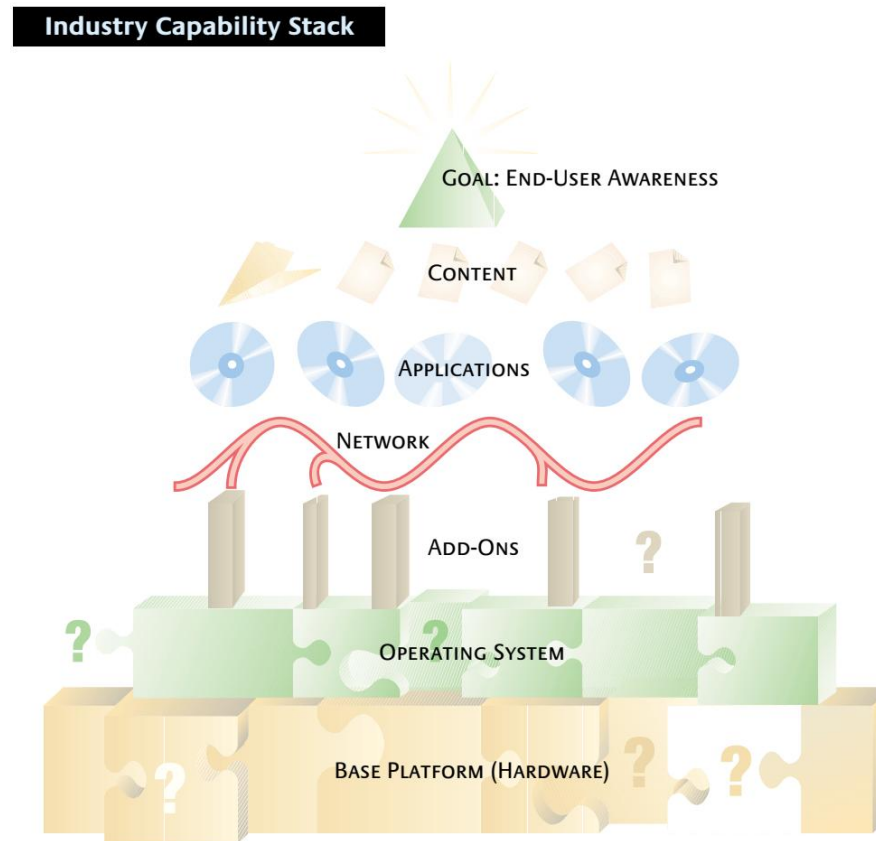
Dimensions of business models



“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.)
-

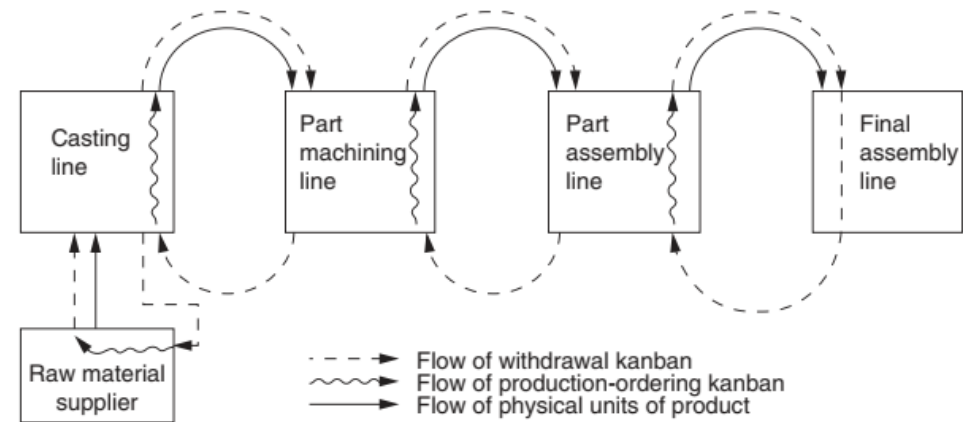
Intel platform



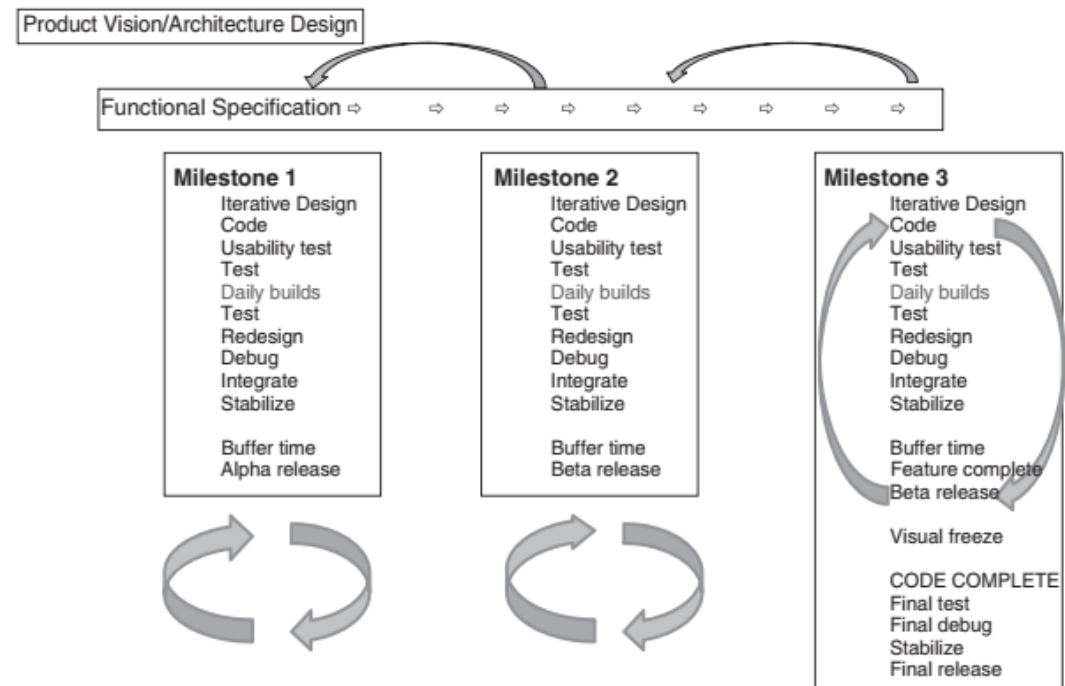
Source: Intel in-house materials. Used with permission.

Πηγή: Cusumano and Gawer (2002)

Pull



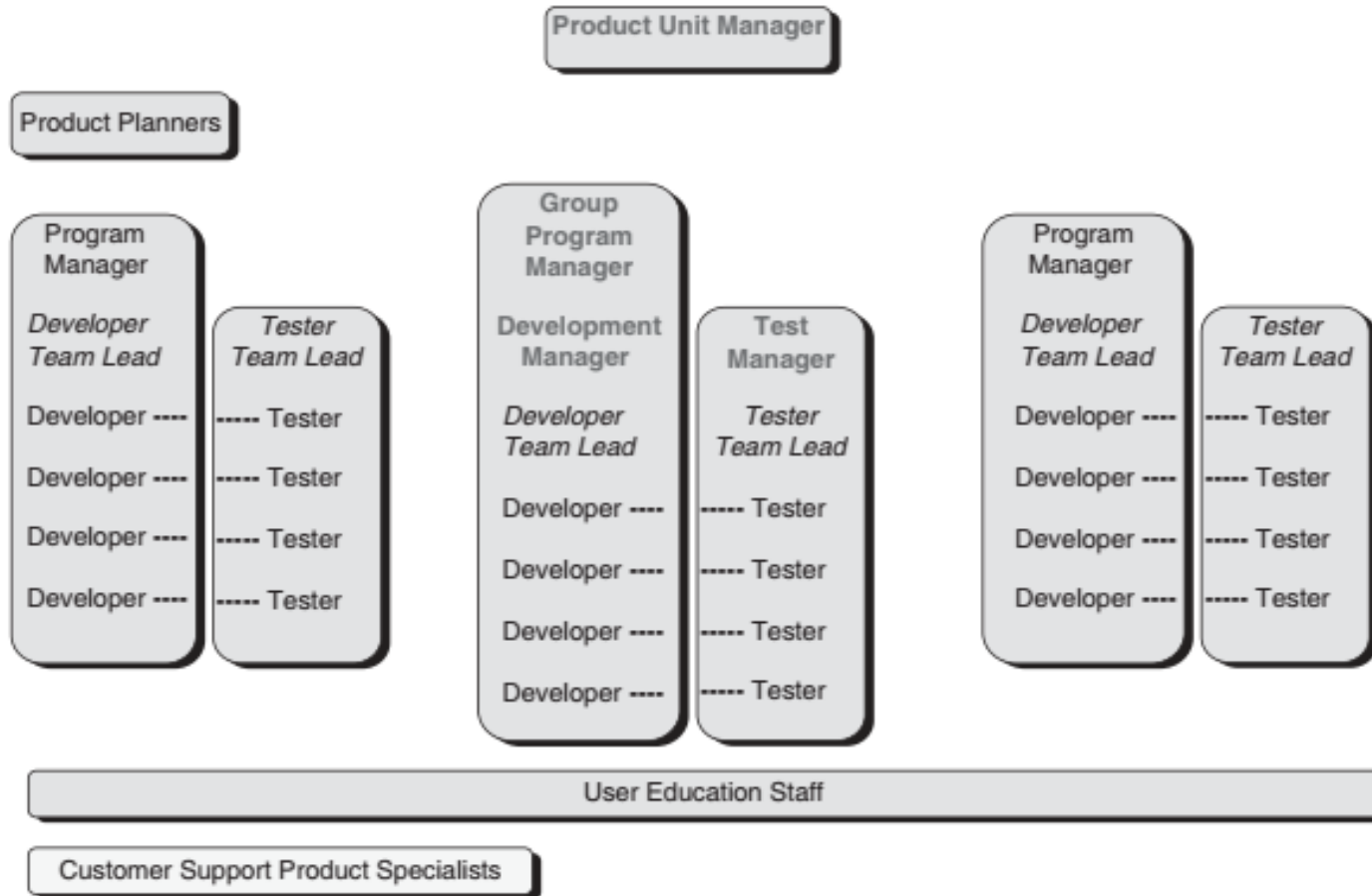
Kanban flow



Πηγή: Cusumano (2010)

Agile or iterative product development

Microsoft project and feature team structure

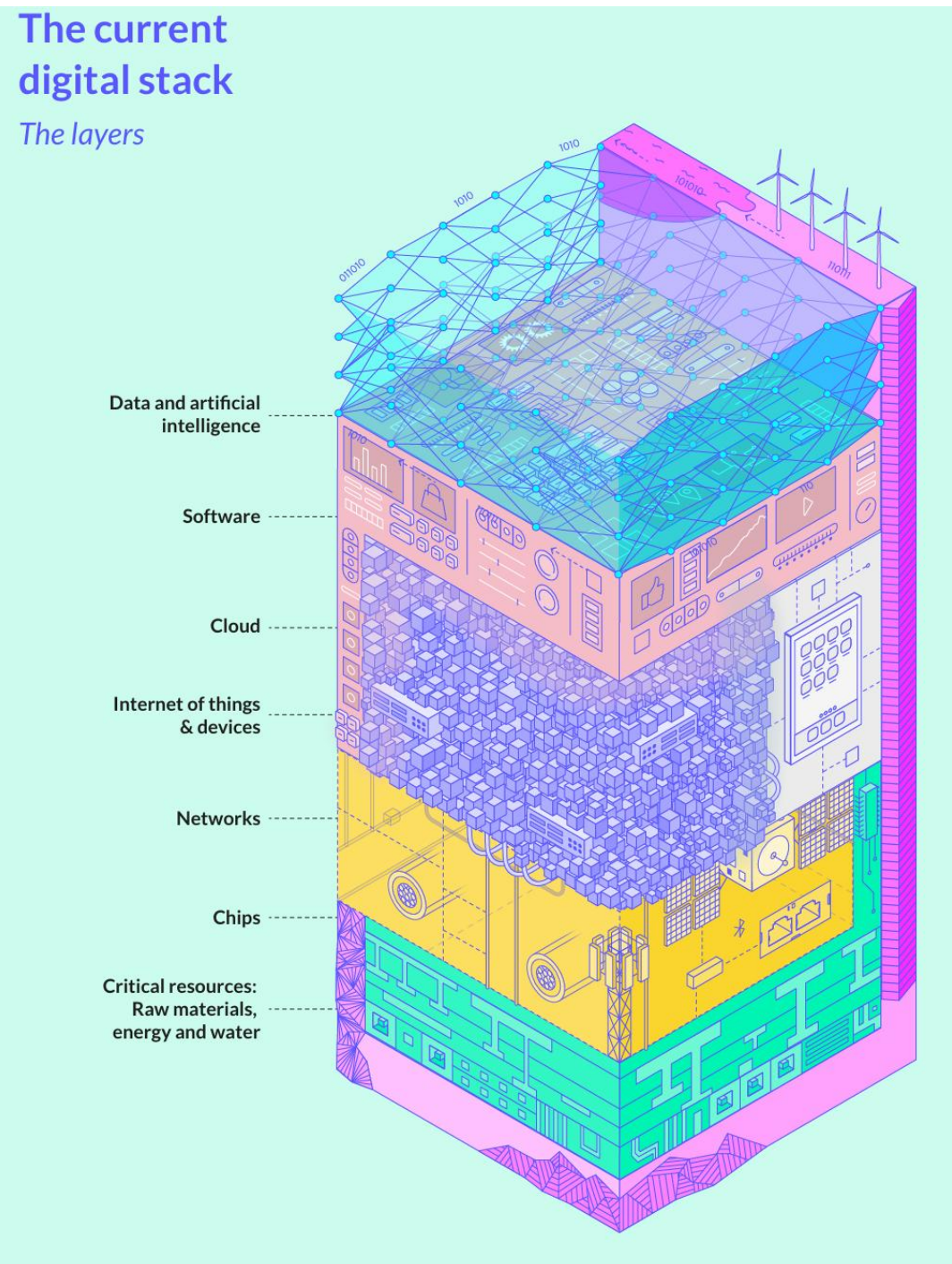


Process comparison of Toyota and Microsoft

| 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

Bria, F; Timmers, P. and Gernone, F. (2025)



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)