Business Ecosystems: Competition or Collaboration?

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“There is an Uber out there just waiting to eat you...”
The Digital Disruption Has Already Happened

• World’s largest taxi company owns no taxis (Uber).
• Largest accommodation provider owns no real estate (Airbnb).
• Largets phone companies own no telecommunication infrastructure (Skype, WeChat).
• World’s most popular media owner creates no content (Facebook).
• Fastest growing bank has no actual money (SocietyOne).
• World’s largest movie house owns no cinemas (Netflix).
• Largest SW vendors don’t write the apps (Apple, Google).
Helena Holmström Olsson

About me:
• Biträdande professor, Malmö University.
• Senior researcher in Software Center.
• PhD in Informatics from University of Gothenburg, 2004.

Research:
• Data-driven development
• Business ecosystems
• Autonomous systems & IoT

Projects:
• Fast Customer Feedback In Large-Scale SE
• Ecosystem Driven R&D Management
• Software Engineering For Smart Systems (WASP)

Success criteria:
• Academic excellence AND industrial impact
Software Center

**Mission:** Improve the software engineering capability of the Nordic Software-Intensive industry with an order of magnitude

**Theme:** Fast, continuous deployment of customer value

**Success:** Academic excellence

**Success:** Industrial impact
Three Key Take-Aways

- Companies are increasingly shifting perspective from internal efficiency to **ecosystem alignment**.

- **Intentionally managing** your ecosystems is superior to taking ad-hoc decisions.

- **Strategic use of the ecosystems** around your systems and services is critical as it allows for agility, risk sharing and allows the company to focus on the key differentiators.
How Do Companies Compete?

• **Efficiency (late 19th century):** To facilitate the production of products and services with the least amount of wasted time, materials, and labor.

• **Scale (1970’s):** Exploit economies of scale that yield lower unit costs and enable sharper pricing of their goods and services.

• **Quality (1980’s):** Quality movement with processes like Six Sigma quality control becoming hugely popular.

• **Network (1990’s):** Companies begin to compete based on how many people (or businesses) use them, e.g. Microsoft, Google, Facebook etc.

• **Ecosystem (today):** Co-opting third parties to build on and leverage your products and services such that they have more total utility to your customers.
Ecosystem-driven competition

- Efficiency
- Scale
- Quality
- Network
- Ecosystem

70's
80's
90's
Business ecosystem

Economic community supported by a foundation of interacting organizations and individuals, which can also be perceived as organisms of the business world (Moore, 1993).

1. **Symbiotic relationship**: Close and often long-term interactions between two or more objects.
2. **Co-evolution**: The change of an object is triggered by the change of a related object.
3. **Co-creation**: Joint production of a mutually valued outcome.
4. **Platform**: Tools, services and technology used in ecosystem to enhance performance
Roles in ecosystems

- **Keystone**: Central firm
- **Complementor**: Provides a product/service that complement the ecosystem product/platform and enhances value (e.g., suppliers, developers etc.)
- **Integrator**: Brings together parts provided by different ecosystem players into an integrated solution for the end-user.
- **Customer** or end-user.
Ecosystem stakeholders

Company X

- Suppliers
- Installers
- Government - authorities
- Vendors and partners
- Customers
- Distributors
- Competitors
- End-users
Why business ecosystems?

• Increase *value* of the core offering to existing users.
• Increase *attractiveness* for new users.
• Accelerate *innovation* through open innovation.
• Collaborate with partners to *share cost and risk* of innovation.
• Collaborate with partners to *reduce development and maintenance* costs.
• “Platformize” functionality developed by partners in the ecosystem (once success has been proven), to *grow* your core offering.
Ecosystem strategies

Two fundamental strategies:

• **Collaborative** – cooperation in communities e.g., Android platform (Google), Wikipedia

• **Competitive** – market driven e.g., Apple app-store, Gore-Tex
  – Gore provides the core “technology”, i.e. the fabric (and rules for its use), and the licensees innovate on that “platform” and sell their applications/products to customers.
3LPM To Three Layer Ecosystem Model

- Creating and capturing *new value* from technological and entrepreneurial initiatives.
- The way in which a company *distinguishes* itself from competitors.
- Functionality that over time has become so *integral* to the product that it is taken as a given by customers.
3LPM: Three Layer Product Model

- Innovation and experimentation layer (optimize for maximum number of experiments)
- Differentiating functionality layer (optimize for maximum customer value)
- Commodity functionality layer (optimize for minimizing total cost of ownership)

Challenges:
- Over time, products lose competitiveness
- Platform becomes competitive disadvantage

Characteristics:
- Each layer releases independently
- Each layer optimizes different metrics
- R&D efforts focus on highly differentiating functionality

Preferred resource allocation
3LPM: Three Layer Product Model

- **Innovation and experimentation layer** (optimize for maximum number of experiments)
- **Differentiating functionality layer** (optimize for maximum customer value)
- **Commoditization of functionality layer** (optimize for minimizing total cost of ownership)

**Ecosystem partners**
- Challenges
  - Over time, products lose competitiveness
  - Platform becomes competitive disadvantage

**New-product transition interface**

**Typical resource allocation**
- Characteristics
  - Each layer releases independently
  - Each layer optimizes different metrics
  - R&D efforts focus on highly differentiating functionality
What % of R&D for Commodity
• Despite allocation the majority of the R&D resources to commodity, companies *don’t* consider this as a problem or view it as a necessary evil.

• Companies are *poor* at removing commodity functionality even if the vast majority of customers consider it obsolete.
• ”We try to innovate commodity – that’s why we’re so slow”.
• ”We do incremental innovation, while the ones we look at – the Googles – do disruptive innovation. We have big difficulties to handle disruptive innovation and new business models”.
• ”When having new service innovations you run into interesting issues of responsibility... who is to blame when Spotify doesn’t work in my car...?”.
• ”Like with ’Apple CarPlay’ we ”give away” product differentiation. We risk a lower quality of the user experience but we gain other things. So the question becomes when should we have our own applications and when should we trust someone else to develop them for us...?”.
• ”Our challenge is to understand the concept of open source... that you actually build and give away....!!”.
<table>
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<tr>
<th>Ecosystem characteristics</th>
<th>Ecosystem type</th>
<th>Ecosystem strategies</th>
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| **Innovation ecosystem**  | - Who: Customers, 3rd party developers, suppliers  
                          - What: New functionality with customer value  
                          - Why: Share/minimize innovation costs/risks  
                          - When: High market uncertainty  
                          - How: Open innovation, co-opetition, partnerships  
                          - Mechanisms: Idea competitions, customer involvement, collaborative design, innovation networks  
                          - Characteristics: Collaborative, explorative, risk prone, less control-driven | - Me-Myself-I Strategy  
                          - Be-My-Friend Strategy  
                          - Customer Co-Creation Strategy  
                          - Supplier Co-Creation Strategy  
                          - Peer Co-Creation Strategy  
                          - Expert Co-Creation Strategy  
                          - Copy-Cat Strategy  
                          - Cherry-Picking Strategy  
                          - Orchestration Strategy  
                          - Supplier Strategy  
                          - Preferred Partner Strategy  
                          - Aquisition Strategy |
| **Differentiating ecosystem** | - Who: Keystone player  
                          - What: Functionality with proven customer value  
                          - Why: Turn innovations into core product offerings, keep internal control over value-adding functionality, optimize for maximum customer value  
                          - When: When innovative functionality has proven valuable for customers  
                          - How: Innovation transfer, R&D management, monetizing strategies  
                          - Mechanisms: Patents, contracts, licenses etc.  
                          - Characteristics: Competitive, efficient, risk averse, control-driven | - Increase Control Strategy  
                          - Incremental Change Strategy  
                          - Radical Change Strategy |
| **Commoditizing ecosystem** | - Who: Suppliers, competitors, developers  
                          - What: Non value-adding functionality  
                          - Why: Share/minimize maintenance costs  
                          - When: Functionality that has become so integral to the product that it no longer offers differentiating customer value  
                          - How: OSS, COTS, inner source, standardization, shared supplier  
                          - Mechanisms: Open platforms and API’s, connecting services  
                          - Characteristics: Collaborative, cost-efficient, risk averse, less control driven | - COTS Adoption Strategy  
                          - OSS Integration Strategy  
                          - OSS Creation Strategy  
                          - Partnership Strategy  
                          - OEM partnerships  
                          - Rationalized in-sourcing  
                          - Outsourcing  
                          - Push-Out Strategy |
TeLESM: Three Layer Ecosystem Strategy Model

**Innovation ecosystem**
- **internal**
  - Me-Myself-I Strategy
  - Be-My-Friend Strategy
- **collaborative**
  - Customer Co-Creation Strategy
  - Supplier Co-Creation Strategy
  - Peer Co-Creation Strategy
  - Expert Co-Creation Strategy
- **external**
  - Copy-Cat Strategy
  - Cherry-Picking Strategy
  - Orchestration Strategy
  - Supplier Strategy
  - Preferred Partner Strategy
  - Acquisition Strategy

**Differentiating ecosystem**
- **internal**
  - Increase Control Strategy
  - Incremental Change Strategy
  - Radical Change Strategy
- **collaborative**
- **external**

**Commoditizing ecosystem**
- **internal**
  - Rationalized in-sourcing
  - Push-Out Strategy
- **collaborative**
  - OSS Creation Strategy
  - Partnership Strategy
  - OEM partnerships
- **external**
  - COTS Adoption Strategy
  - OSS Integration Strategy
  - Outsourcing
Conclusions

- Companies engage in different types of ecosystems in relation to development of innovative functionality, differentiating functionality and commodity functionality.
- To distinguish between the different ecosystems is critical as these require fundamentally different strategies.
- Companies that fail in distinguishing between the different ecosystems risk having resources tied up in commodity with the result that development of differentiating and innovative functionality suffers.
- Effective ecosystem management requires the use of both collaborative and competitive strategies.
- Ecosystems are dynamic in nature and change over time. This requires continuous and conscious transfer of functionality between ecosystems – and a constant assessment and evaluation of what strategies are used.
Three Key Take-Aways

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• **Strategic use of the ecosystems** around your systems and services is critical as it allows for agility, risk sharing and allows the company to focus on the key differentiators.
Thank you!

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