Collaborative Innovation: A Strategy Selection Framework

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Three Key Take-Aways

- Companies are increasingly shifting from internal and technology-driven innovation towards **collaborative innovation** in which they co-create value through alliances and partnerships.

- **Innovation initiatives** typically involve a mix of internal, external and collaborative elements and the **collaborative element** is becoming increasingly important for companies to accelerate new product development.

- **Intentionally managing** your ecosystem is superior to taking ad-hoc decisions. **TeLESM** provides an effective framework for the selection of strategies for engaging with ecosystem partners.

"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 accomodation provider owns **no** real estate (Airbnb).
- Largets phone companies own **no** telecommuncation 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).

Ecosystem-Driven Competition

Efficiency → Scale → Quality → Network → Ecosystem

Business ecosystem: Definition

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

Ecosystem stakeholders

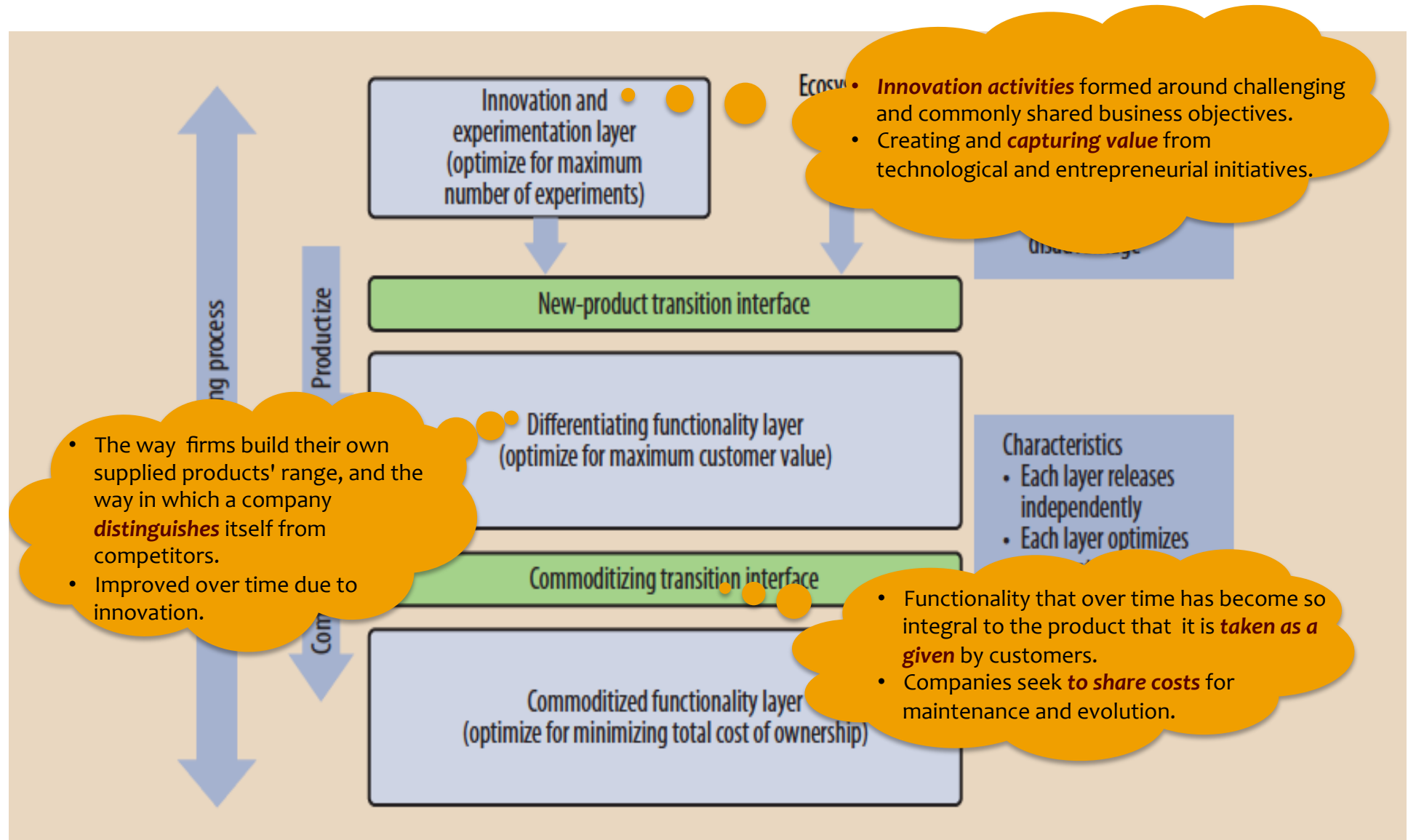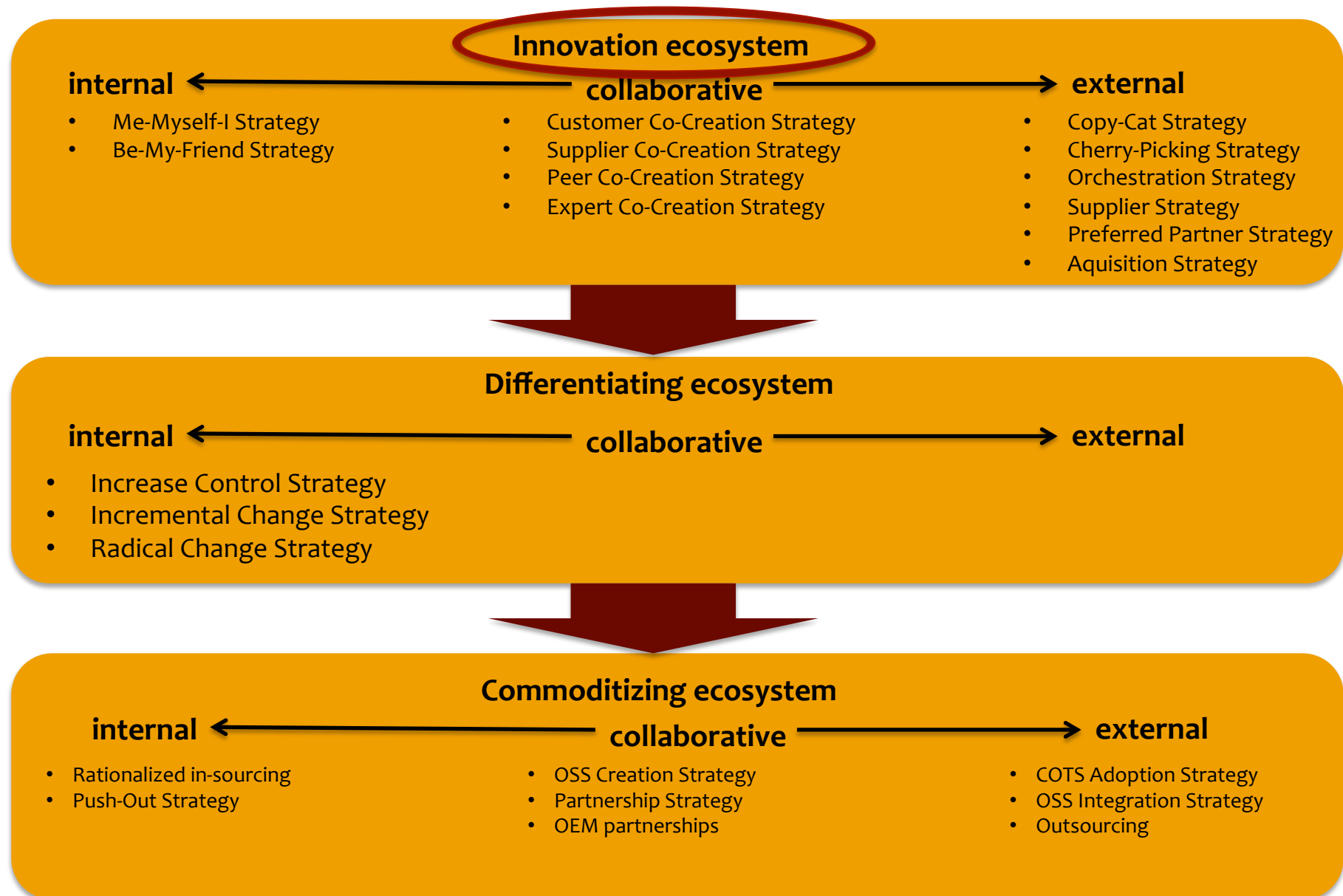# 3LPM: Three Layer Product Model
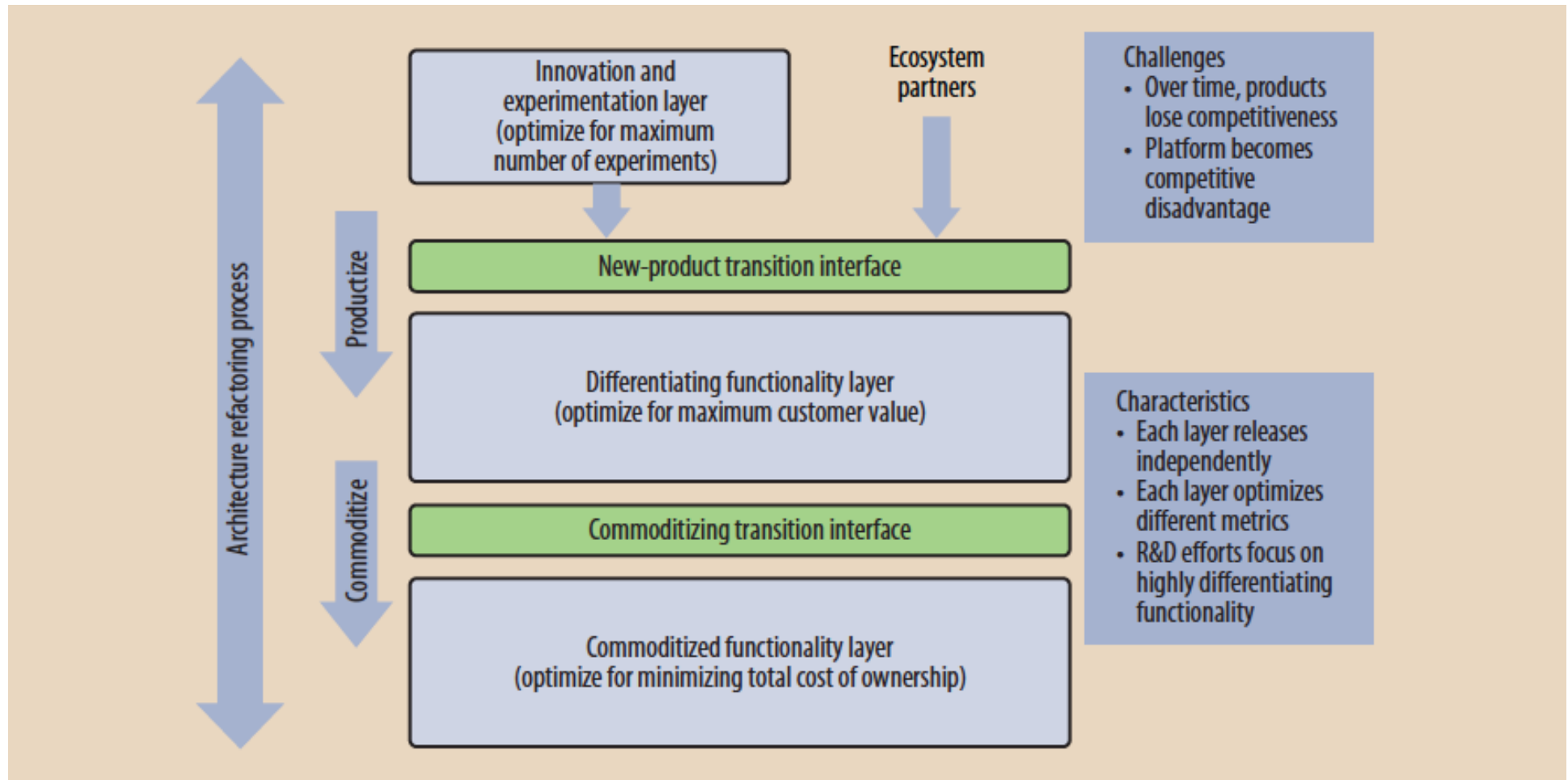
Bosch, J. (2013). Achieving Simplicity with the Three-Layer Product Model, *IEEE Computer*, Vol. 46 (11), pp. 34-39.

# 3LPM To Three Layer Ecosystem Model

TeLESM: Three Layer Ecosystem Strategy Model

Innovation ecosystem

internal ← — — → collaborative — — → **external**

internal	collaborative	external
• 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

internal ← — — → collaborative — — → **external**

- Increase Control Strategy
- Incremental Change Strategy
- Radical Change Strategy

Commoditizing ecosystem

internal ← — — → collaborative — — → **external**

internal	collaborative	external
• Rationalized in-sourcing • Push-Out Strategy	• OSS Creation Strategy • Partnership Strategy • OEM partnerships	• COTS Adoption Strategy • OSS Integration Strategy • Outsourcing

Innovation Ecosystem: Strategies

- **(I) Me-myself-I:** Select most promising internal innovation (internal idea generation), and bring it to the market (internal idea validation).
- **(I) Be-my-friend:** Select most promising internal innovation (internal idea generation), and look for an external partner(s) to bring it to the market (external idea validation).
- **(C) Customer co-creation:** Collaboration with downstream actors to create new or improved products.
- **(C) Supplier co-creation:** Collaboration with upstream actors to create new or improved products.
- **(C) Peer co-creation:** Collaboration with other internal units to add to each others' solutions.
- **(C) Expert co-creation:** Collaboration with expert networks to create new or improved products.
- **(E) Copy-cat:** Copy promising external innovation and build it yourself.
- **(E) Cherry-picking:** Pick promising external innovations and include them in your product portfolio.
- **(E) Orchestration:** Orchestrate external innovation nework(s) to maximize the value created in order to capture a portion of this.
- **(E) Supplier:** Select external partners from the innovation layer and turn them into "supplier-like" relationships in order to monetize through joint platform development.
- **(E) Preferred partner:** Create alliances with selected external stakeholders to increase control and, over time, have them become part of the differentiation ecosystem.
- **(E) Aquisition** Buy companies with promising innovations and integrate these into the company.
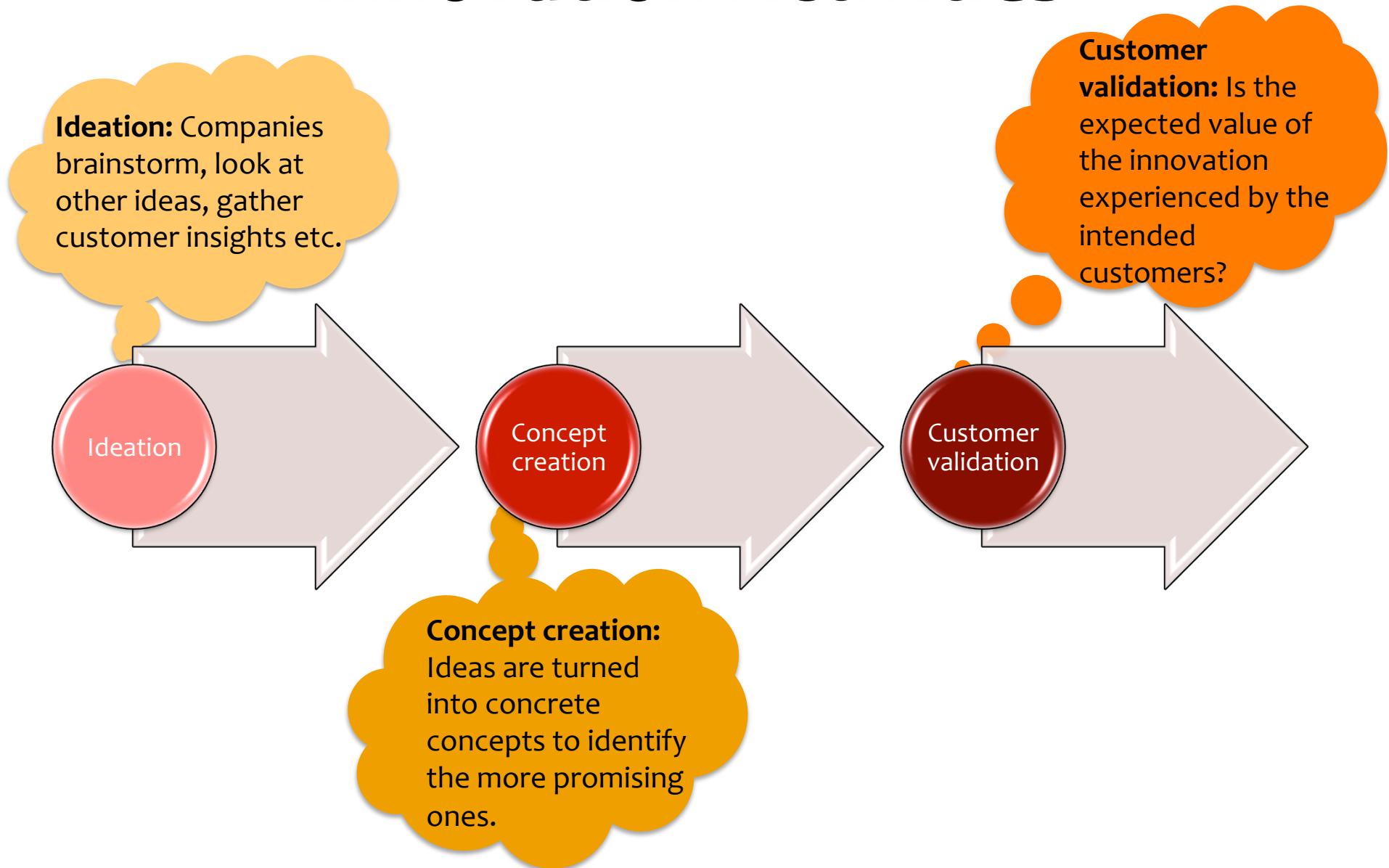
Innovation Ecosystem

Collaborative innovation

Internal innovation

Product Portfolio

External innovation
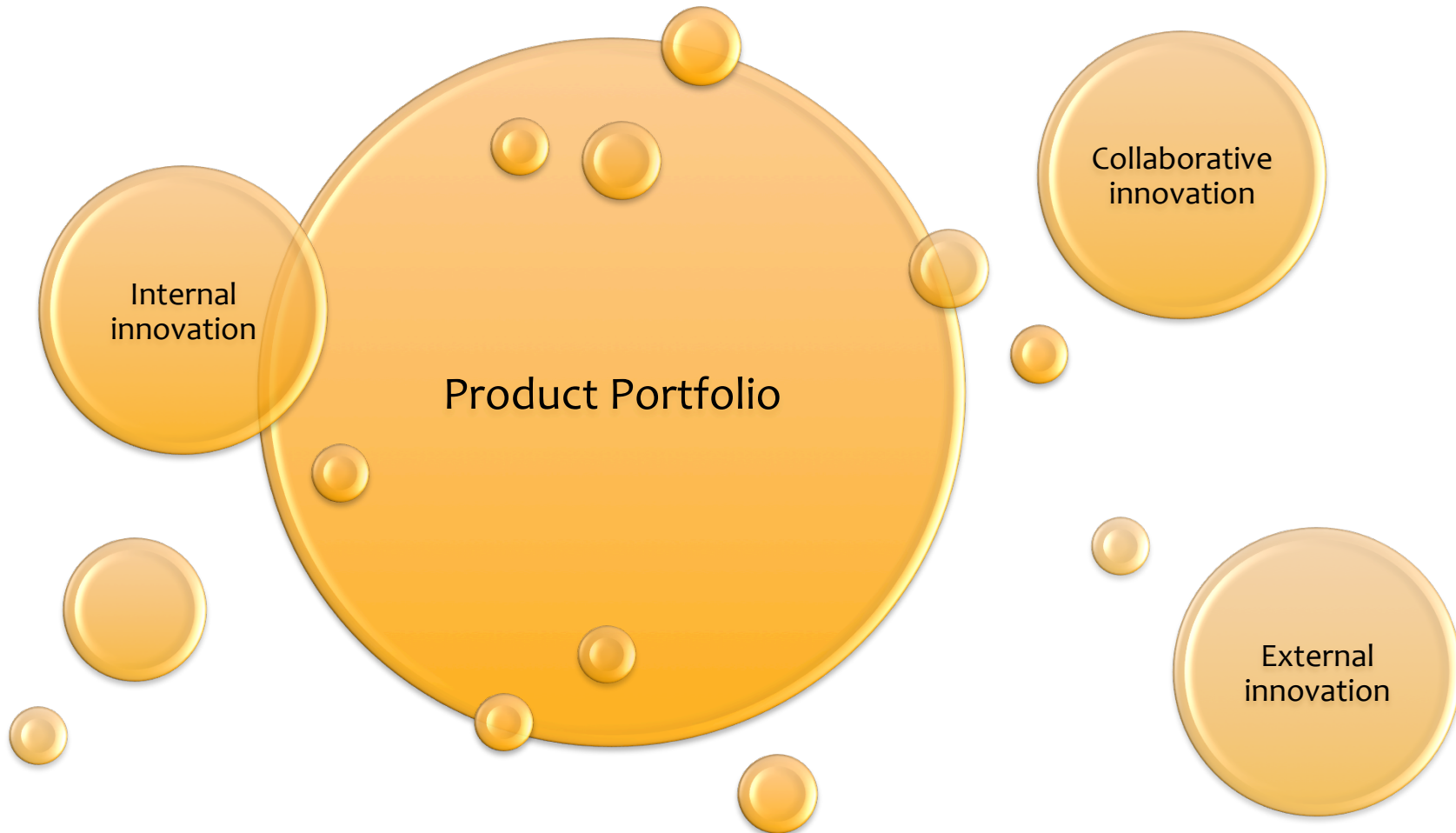
Innovation Ecosystem

- Generating ideas, hypothesizing about future differentiating functionality and experimenting with new concepts to evaluate if the add **value to customers.**

- "The interaction of a number of actors, on top of a common technological platform, that results in software solutions and/or services." *(Manikas and Hansen 2013)*

Innovation Activities

Ideation: Companies brainstorm, look at other ideas, gather customer insights etc.

Customer validation: Is the expected value of the innovation experienced by the intended customers?

Ideation

Concept creation

Customer validation

Concept creation: Ideas are turned into concrete concepts to identify the more promising ones.

Research Method

- Multiple *case study* research
- Software-intensive companies in the *embedded systems* domain
  - Six of the SW Center companies
- Initiated in January 2014 and *on-going*
  - Literature review
  - Interviews (50+)
  - Cross-company workshops (20+)

Case Example: Company A

- **Company A:**
  - The ***company initiated an innovation initiative*** to improve calculation and validation of crew fatigue. The idea was internally generated, but the company used ***crowd sourcing*** as the approach to take development forward.
  - The initiative involved ***four external stakeholders*** that were actively involved for development and validation purposes. Also, due to strict regulations within the domain, a number of ***transport agencies and regulators*** were actively involved throughout the initiative.
  - Based on ***internal idea generation*** but ***collaborative and external concept and customer validation,*** the company succeeded in bringing a new product offering to the market.

Case Examples: Company B

- ***Company B:***
    - The ***company initiated an innovation initiative*** to improve a certain type of protecting systems. Due to current systems being costly to inspect, maintain and difficult to monitor, the company started a ***collaborative innovation initiative*** to engage a number of different stakeholders in developing a digital solution.
    - The ***idea was internally generated***, but due to the characteristics of the innovation, the company had to re-organize the innovation network.
    - Due to strict regulations, a number of authorities were ***actively involved*** throughout the initiative. Also, internal units as well as distribution partners and external consultants were involved in ***concept creation and customer validation***.

Case Example: Company C

- ***Company C:***
    - The ***company initiated an innovation initiative*** to reduce storage and reduce bandwidth requirements for their products.
    - The ***idea was internally generated*** based on input from customers and product management, and the concept creation and validation of this were conducted by having ***internal units collaborate***.
    - Due to a very strong position in the ecosystem, Company C either ***orchestrates partnerships*** with external stakeholders, or they benefit from ideas that ***are externally generated*** and that they can develop and validate within different internal units before including them in their product offerings.

Summary: Case Examples

Company	Innovation Initiative		
	Focus	*Innovation approach*	*Innovation strategy*
A	Product offering	Internal - Collaborative	Be-my-friend
B	Stakeholder network	Internal - Collaborative	Orchestration
C	Product offering	Internal – Internal collaboration	Peer co-creation
D	Process improvement	Internal - Collaborative	Preferred partner
E	Infrastructure	External - Internal	Cherry-pick
F	Product standard	Internal - Collaborative	Orchestration

Innovation Strategy Elements

Strategy	Innovation Activities		
	Ideation	*Concept creation*	*Customer validation*
Me-Myself-I	I	I	I/C
Be-My-Friend	I	I/C	C
Customer co-creation	I/C	C	C
Supplier co-creation	C/E	C	I
Peer co-creation	I	I/C	I
Expert co-creation	C	I	I
Copy-cat	E	E	I
Cherry-pick	E	I	I
Orchestration	I	C	C
Supplier	I	E	I
Preferred partner	I	C	I
Acquisition	E	E	I

Findings (1/2)

- Ideation is conducted *internally*.

- Concept creation is shifting towards *collaborative practices*.

- Early *customer validation* helps companies to efficiently push innovative functionality to their core product offering to make it available for a larger customer base.

- Companies adopt collaborative innovation strategies *to learn from customers* and to "fail faster".

Findings (2/2)

- Companies select *internal innovation* strategies for mature markets and technology, when they have a strong position in the ecosystem and when technological know-how is superior.

- Companies select *collaborative innovation* strategies when entering new markets/new technology, to share risks and costs and for functionality with non-proven customer value.

- Companies select *external innovation* strategies to complement existing offerings, to minimize development investments and for functionality that has proven customer value.

Strategy Selection Framework

Innovation strategy	Innovation activities		
	Ideation	*Concept creation*	*Customer validation*
Internal	• Mature markets/technology • Keystone player • Superior know-how		
Collaborative	• Emerging markets/technology • Sharing of risks and costs • Non-proven customer value		
External	• Complement existing offerings • Minimize development investments • Proven customer value		

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- **Intentionally managing** your ecosystem is superior to taking ad-hoc decisions. **TeLESM** provides an effective framework for the selection of strategies for engaging with ecosystem partners.

Thank you!

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