



**UNIVERSITÀ
DEGLI STUDI
DI TRIESTE**

Deams

Dipartimento di

**Scienze Economiche, Aziendali,
Matematiche e Statistiche "Bruno de Finetti"**

**UNIVERSITY OF TRIESTE – DEAMS DEPARTMENT
BACHELOR COURSE IN BUSINESS & MANAGEMENT
A.Y. 2022 – 2023**

**BLOCK 1
Management of Innovation**

**INSTRUCTOR
Guido Bortoluzzi (Ph.D)**



WHAT IS INNOVATION?

The need for a managerial perspective on innovation

"The dismal science certainly acknowledges the crucial role played by innovation in **driving economic growth**. But the fact that innovation happens is mostly taken as a given; the how and why of innovation remain largely ignored"

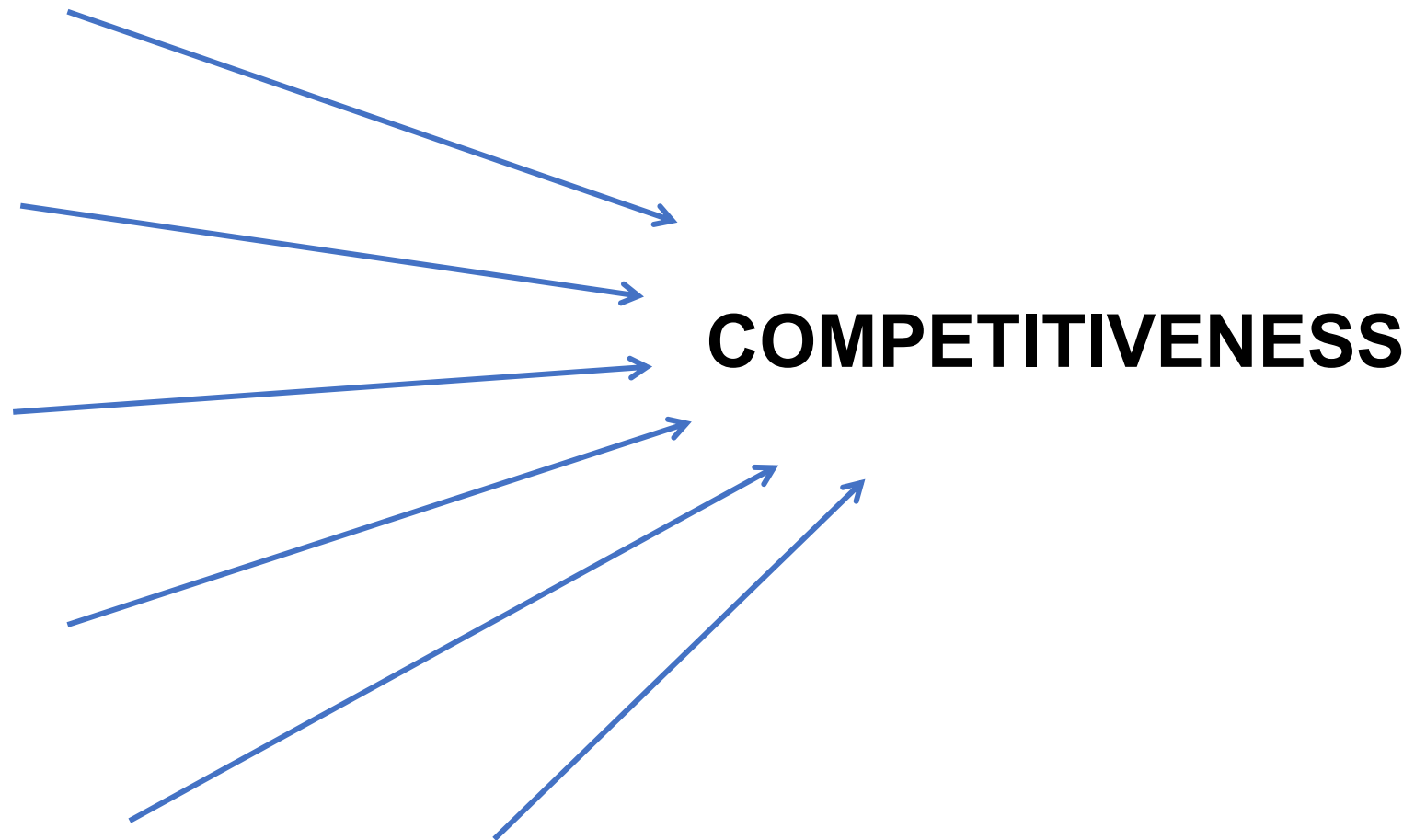
The Economist, "The growth machine"; May 16th 2002

Innovation and competitive advantage

“Companies achieve **competitive advantage** through acts of innovation. They approach innovation in its **broadest sense**, including both new technologies & new ways of doings things”

Michael Porter (1990) The Competitive Advantage of Nations, Macmillan, London.

What drives the competitiveness of a firm?



INNOVATION: A CLASSICAL DEFINITION

According to Joseph Schumpeter (1934) Innovation consists in “The introduction of...

- new goods (product innovation),
- new methods of production (process innovation)
- the opening of new markets (market innovation)
- the conquest of new sources of supply (supply chain innovation).
- And the carrying out of a new organization of any industry”

(Joseph Schumpeter, 1934, “The theory of economic development: an inquiry into profits, capital, credit, interests and the business cycle”, Harvard Economic Studies, Vol. 46, Cambridge, MA)

- In Schumpeter's account, **it is the entrepreneur who creates innovation.** And innovation is not only invention. Driven by competition to improve technology, finance and organization, the Schumpeterian entrepreneur does more than textbook equilibrium theory allowed. Said Schumpeter in 1942, writing in *Capitalism, Socialism and Democracy*:
- «[I]n capitalist reality as distinguished from its textbook picture, it is not [...] competition which counts but the competition from the new **commodity**, the new **technology**, the new **source of supply**, the new **type of organization** (the largest-scale unit of control for instance)—competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives (1950: 82). Innovation, that is, propels the capitalist economy with “gales of creative destruction”.

Schumpeter, Joseph A. (1950) *Capitalism, Socialism and Democracy* (3rd edition). London: Allen and Unwin.

Source: Thomas C. Leonard; *Princeton University*. Book review
(<https://www.princeton.edu/~tleonard/papers/McCraw.pdf>)

- According to Schumpeter capitalist economies evolve discontinuously. «Schumpeterian evolutionary change is punctuated rather than gradual – the disruptions of entrepreneurial innovation occur, as Schumpeter put it, at “irregularly regular” intervals».
- Schumpeterian competition drives innovation, but it also begets imitators, “swarms” of which copy their rival’s innovation, attracting investment, and leading to a boom. When the original innovator’s profit advantage is eliminated, investment moves elsewhere, and the sector may even shrink, until the next disruptive innovation, which restarts the cycle.

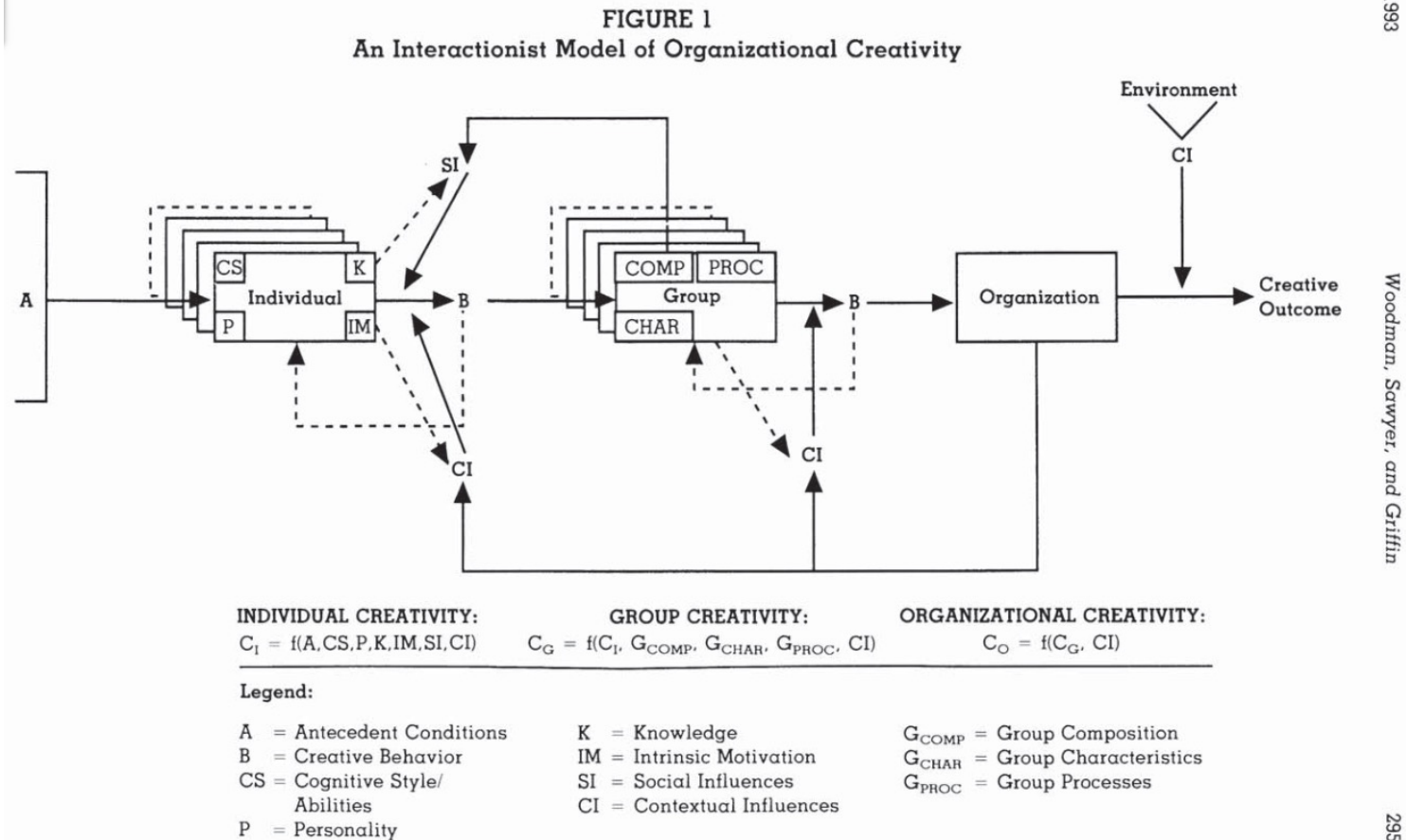
Source: Thomas C. Leonard; *Princeton University. Book review*
(<https://www.princeton.edu/~tleonard/papers/McCraw.pdf>)

INNOVATION AND CREATIVITY

- *Creativity and innovation at work are the processes, outcomes, and products of attempts to develop and introduce new and improved ways of doing things.*
- ***The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products.***
- *Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis.*

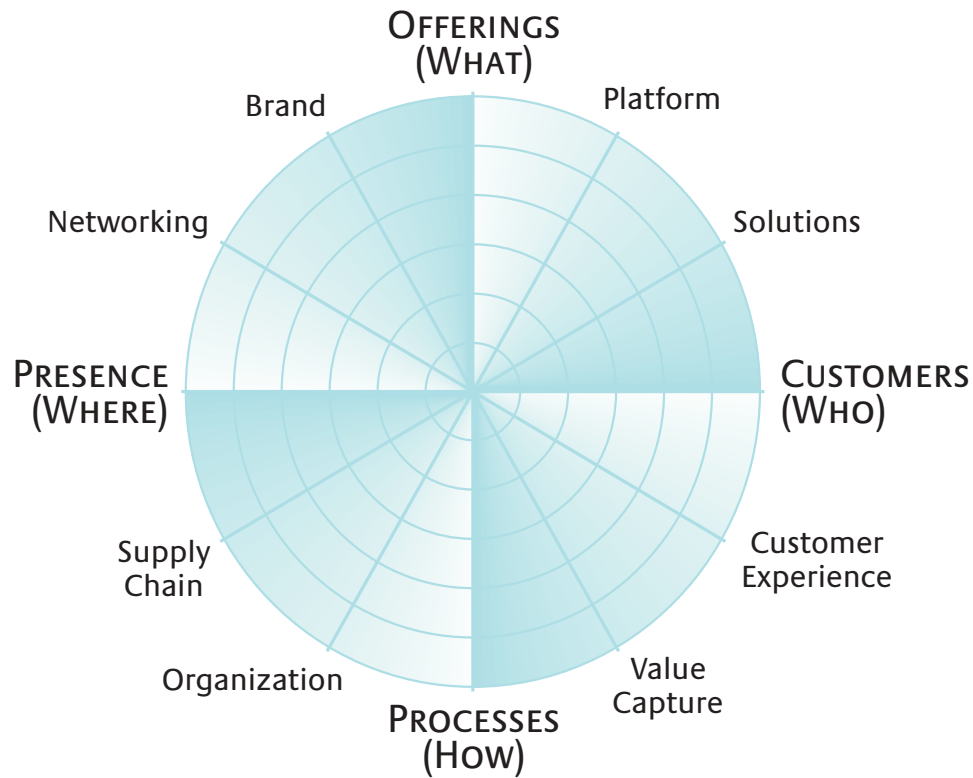
Source: Anderson, N., Potočnik, K. & Zhou, J., 2014. Innovation and Creativity in Organizations. *Journal of Management*, 40(5), pp.1297–1333.

The interactionist theory of Creativity and Innovation



Source: Woodman, R. W., Sawyer, J. E., & Griffin, R. W. 1993. Toward a theory of organizational creativity. *Academy of Management Review*, 18: 293-321.

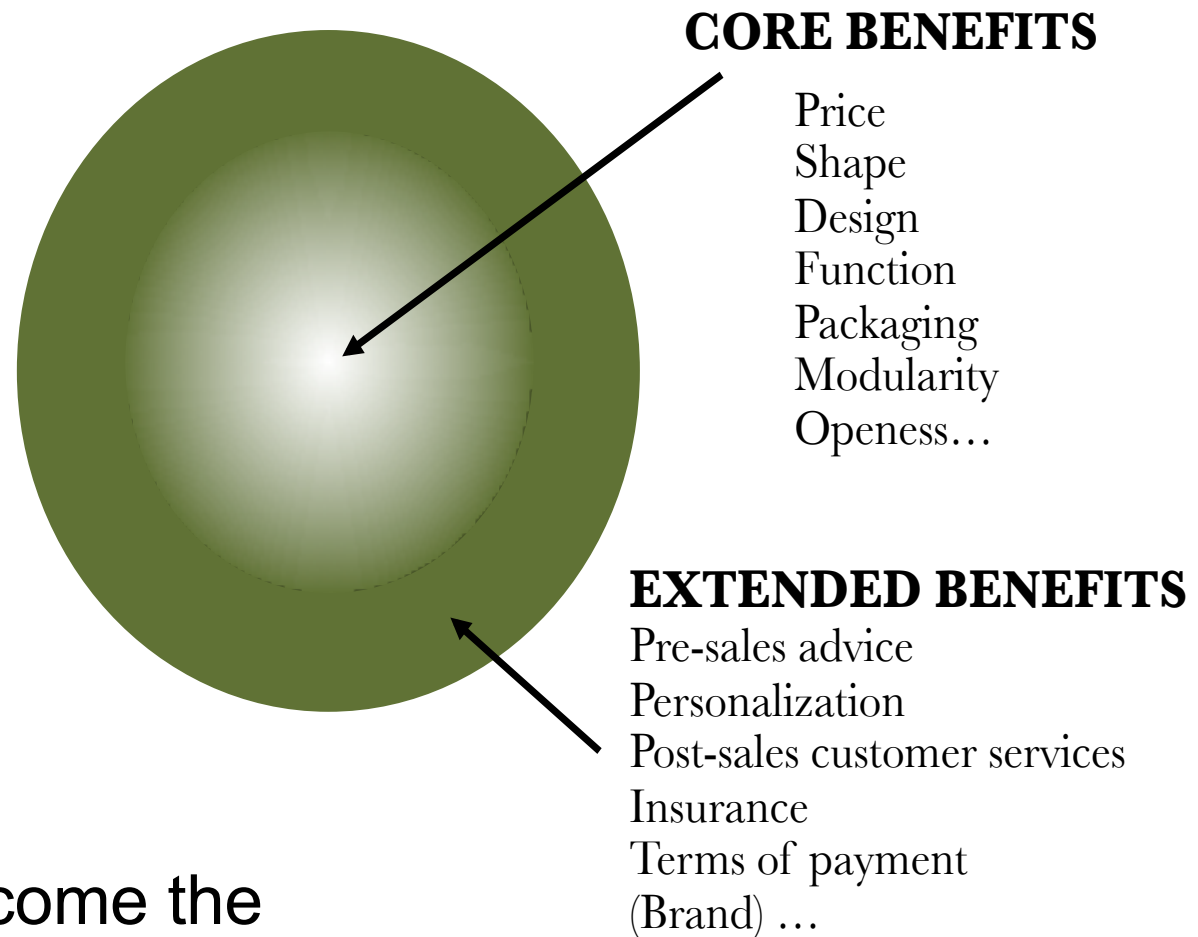
The 12 sides of INNOVATION



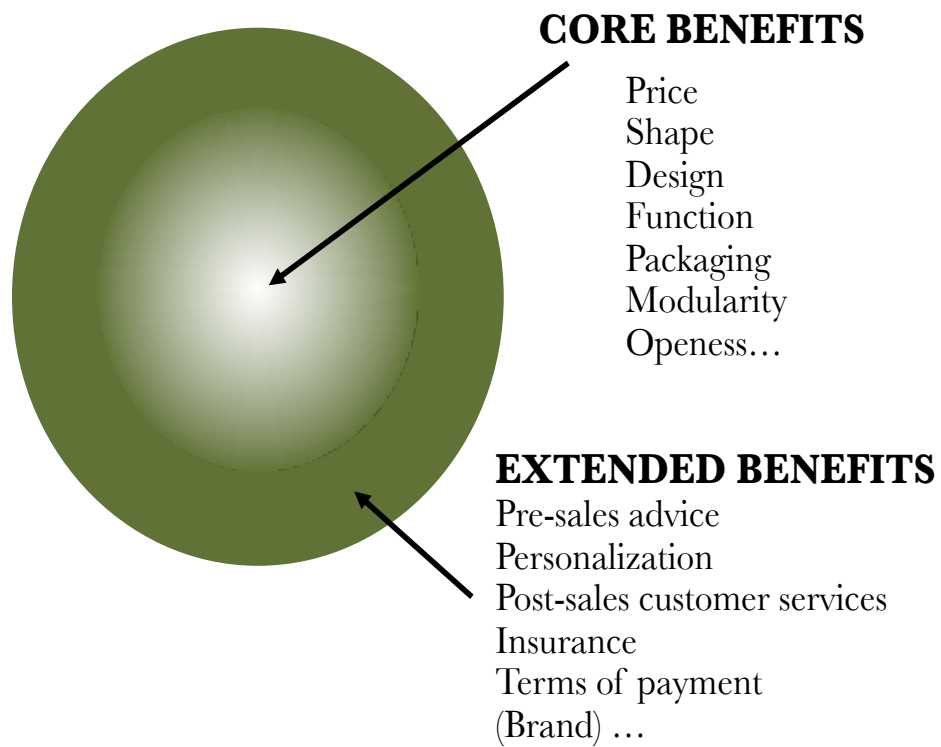
Dimension	Definition
Offerings	Develop innovative new products or services.
Platform	Use common components or building blocks to create derivative offerings.
Solutions	Create integrated and customized offerings that solve end-to-end customer problems.
Customers	Discover unmet customer needs or identify underserved customer segments.
Customer Experience	Redesign customer interactions across all touch points and all moments of contact.
Value Capture	Redefine how company gets paid or create innovative new revenue streams.
Processes	Redesign core operating processes to improve efficiency and effectiveness.
Organization	Change form, function or activity scope of the firm.
Supply Chain	Think differently about sourcing and fulfillment.
Presence	Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers.
Networking	Create network-centric intelligent and integrated offerings.
Brand	Leverage a brand into new domains.

Source: Sawhney, Wolcott and Arroniz
The 12 Different Ways for Companies to Innovate, MIT Sloan Management Review, Vol. 47, N. 3

1. Offering



Each benefit can become the pivotal element of an innovation strategy bringing to differentiation



?

LET'S TRY TO DIFFERENTIATE
A SIMPLE PRODUCT

Anything else is a compromise



PRICE		***	
SHAPE			***
DESIGN			
FUNCTION	***		
PRE-SALES			
POST-SALES	***		
WARRANTY			
TERMS OF PAYMENT			
BRAND			

Where will you focus if you were the Innovation Manager of Miele or Beko or SMEG?

What are you buying here?



Why EXTENDED benefits matter



"In the case of automobiles, General Motors, Ford, and many other **automakers generate the vast majority of their profits from a service activity closely tied to their product offerings** – loans and leasing. The automobile industry overall generates a **large portion of its profits** not only from financing but from other **product-related service activities** such as insurance and repairs"

Michael Cusumano

"**After-sales services and parts**, which contribute **25% of revenues** across all manufacturing companies, "are **responsible for 40-50% of profits**" Source: Accenture

Let's buy a mini. Who wants?



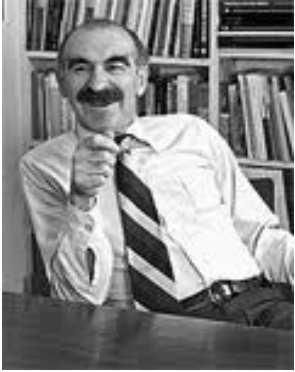
Services are profitable



FURTHER FINANCIAL PERFORMANCE FIGURES

in € million	2017	2018	2019	2020	2021
Total capital expenditure¹	7,112	8,013	7,784	6,222	7,518
Depreciation and amortisation	4,822	5,113	6,017	6,143	6,495
Free cash flow Automotive segment	4,459	2,713	2,567	3,395	6,354
Group revenues²	98,282	96,855	104,210	98,990	111,239
Automotive	85,742	85,846	91,682	80,853	95,476
Motorcycles	2,272	2,173	2,368	2,284	2,748
Financial Services ²	27,567	27,705	29,598	30,044	32,867
Other Entities	7	6	5	3	5
Eliminations ²	-17,306	-18,875	-19,443	-14,194	-19,857
Group profit/loss before financial result (EBIT)²	9,899	8,933	7,411	4,830	13,400
Automotive	7,888	6,182	4,499	2,162	9,870
Motorcycles	207	175	194	103	227
Financial Services ²	2,194	2,172	2,312	1,721	3,701
Other Entities	14	-27	29	36	-8
Eliminations ²	-404	431	377	808	-390
Group profit/loss before tax (EBT)²	10,675	9,627	7,118	5,222	16,060
Automotive	8,717	6,977	4,467	2,722	11,805
Motorcycles	205	169	187	100	228
Financial Services ²	2,207	2,143	2,272	1,725	3,753
Other Entities	80	-45	-96	-235	531
Eliminations ²	-534	383	288	910	-257

What are “products” really?



Levitt Theodore (1960):

“when customers buy 1/4 inch **drills** what they really want are 1/4 inch **holes**”



About Servitization

- “It’s an essential **business model change**. It’s when things that we used to think of as products turn into services, and the **different ways that are created of delivering those services and monetizing them through a wide variety of pricing models**” (M. Cusumano)
- It is not just about adding complementary services to a product (“service infusion”). **It’s about offering an integrated bundle of products and services that require a different revenue/business model (solution)**

“Farming as a service”

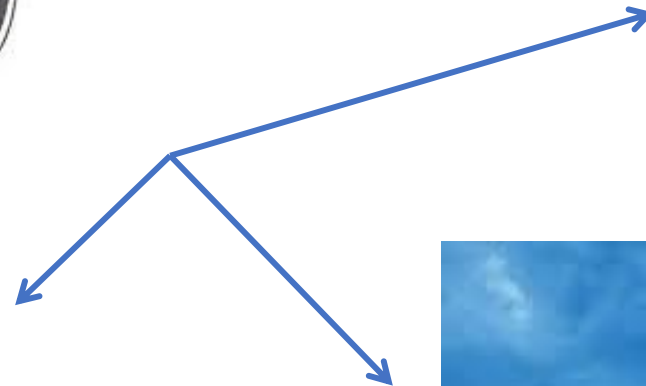
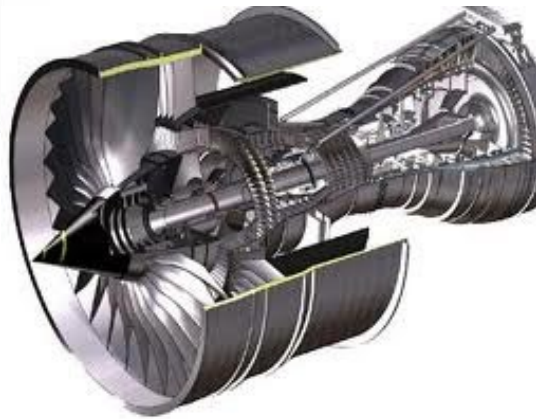


2019
OurCrowd
Global
Investor
Summit

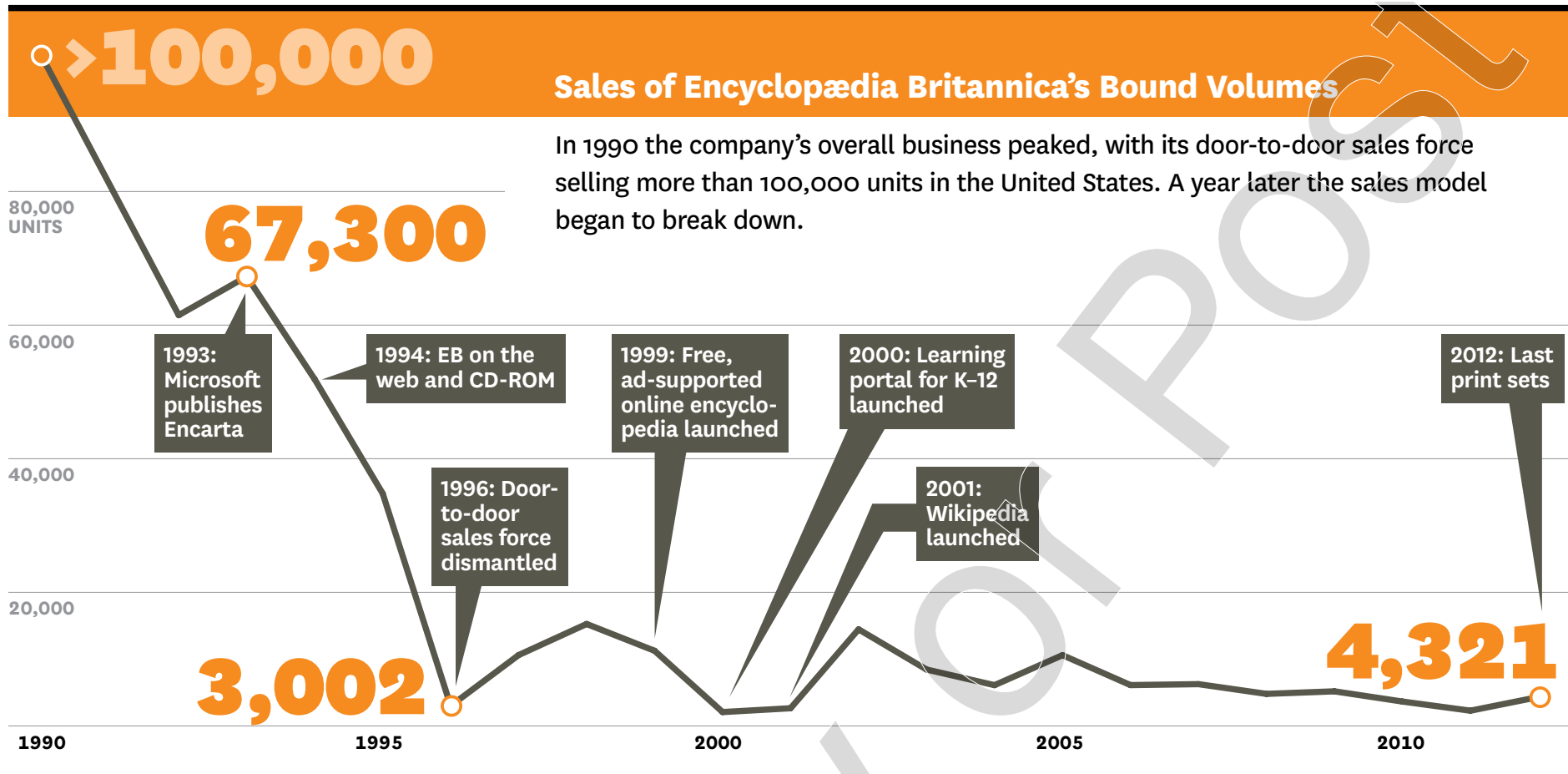


Source: company met in Ourcrowd 2019, Jerusalem

A (current?) trend: the servitization of products



ENCYCLOPÆDIA BRITANNICA



J.Cauz, "Killing of a 244-Year-Old Product"
Harvard Business Review, March 2013

2. Platform

- **Firm platform:** a set of subsystems and interfaces that form a common structure from which a company can efficiently develop and produce a stream of derivative products (corresponds to modularization)
- **Supply chain platform:** extension of the internal platform concept to the entire supply chain that supply intermediate products or components to the platform leader or the final product assembler (that will produce a stream of derivative products)
- **Industry platform:**
 - (INNOVATION) The platform serves as a technological foundation upon which other firms develop complementary innovations
 - (TRANSACTION) The platform serves as an intermediary for direct exchange or transactions, subject to network effects.

Platforms: FIRM and SUPPLY CHAIN level

- Create the preconditions for derivative offerings that can be developed faster and at minor costs
- Typical of software houses

COST SAVINGS

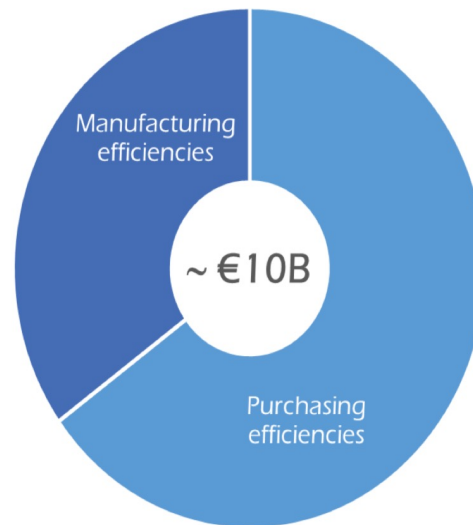
Industrial rationalization delivers cost savings of ~€10B over Plan period



2018 – 2022 COST SAVINGS

Manufacturing efficiencies

- Continued focus on World Class Manufacturing
- Emphasis on process and quality improvements through digital manufacturing initiatives



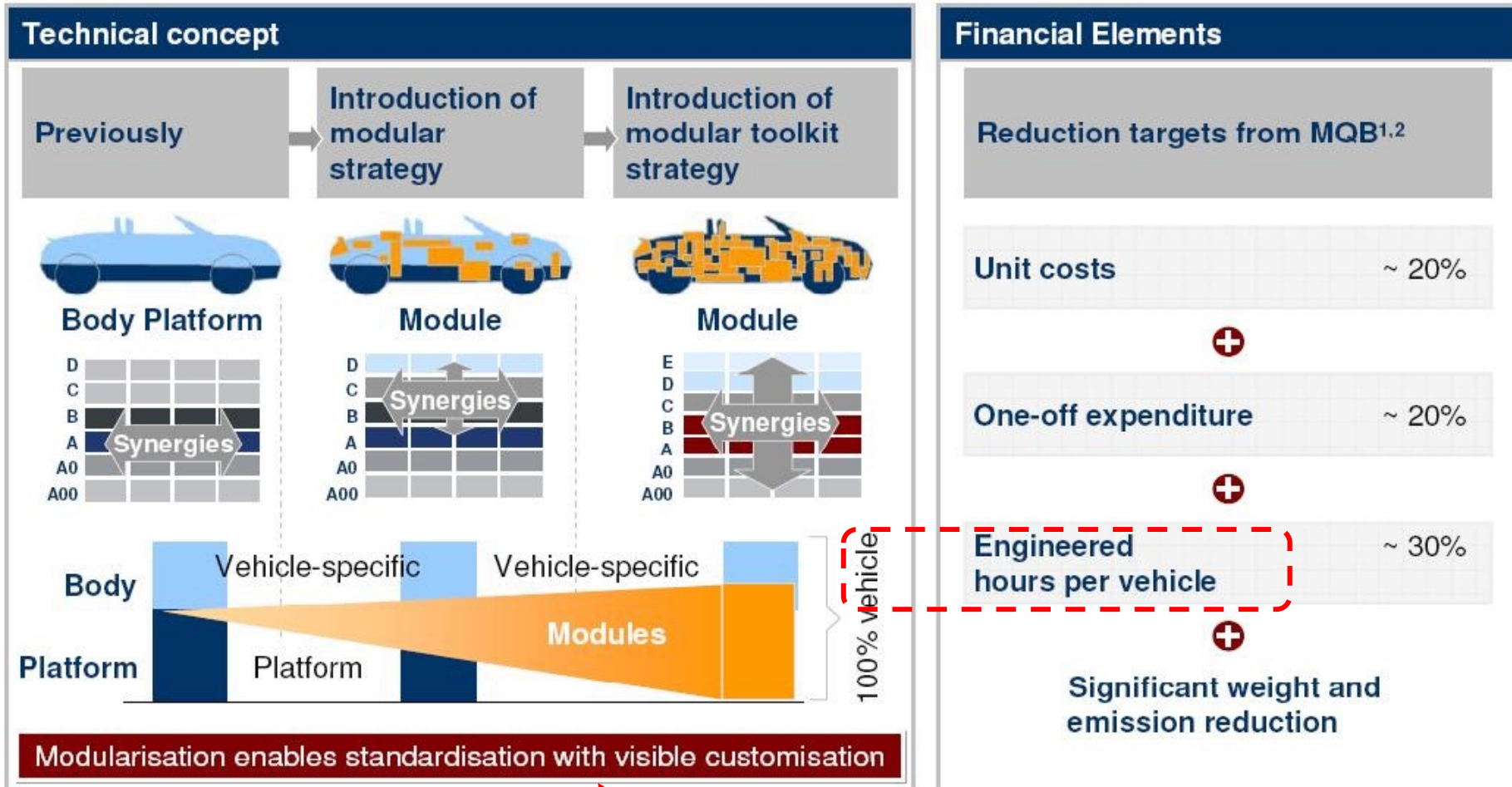
Purchasing efficiencies

- Higher volume of common components from increased architecture sharing
- Focus on cost reduction processes as number of architectures is reduced

ARCHITECTURE CONVERGENCE

	2017	2022E
% of total volume from top 5 architectures	~60%	~80%
Total number of architectures	16	12

2 Significant Competitive Advantages From Modular Toolkit Strategy



¹ MQB: Modularer Querbaukasten

² Reduction targets illustrate benefits from MQB implementation

Source: Volkswagen Group

Now find the differences...



2. Platform

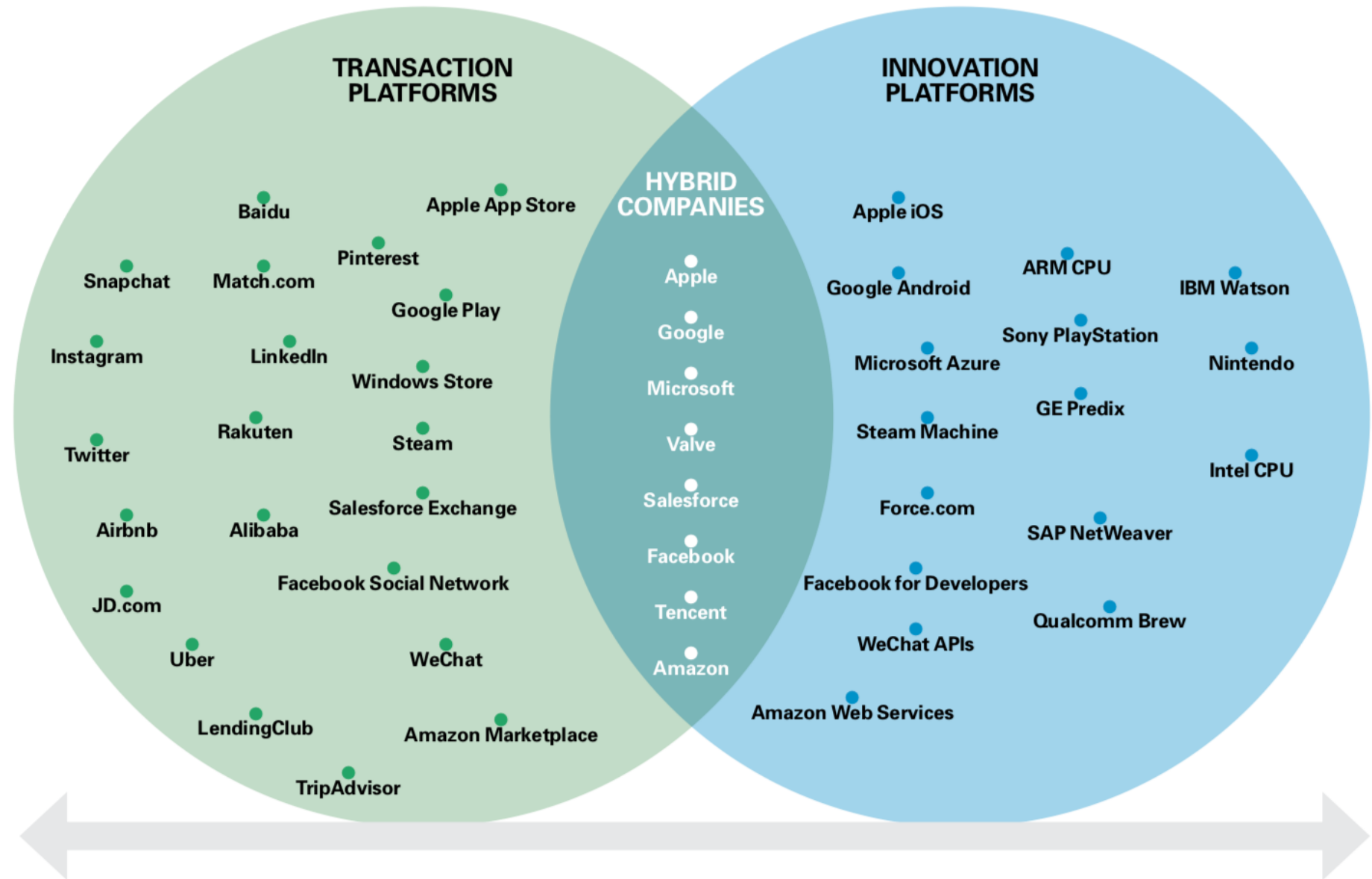
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BASIC PLATFORM TYPES

In the quest for competitive advantage, companies are combining transaction and innovation platforms into a hybrid model.



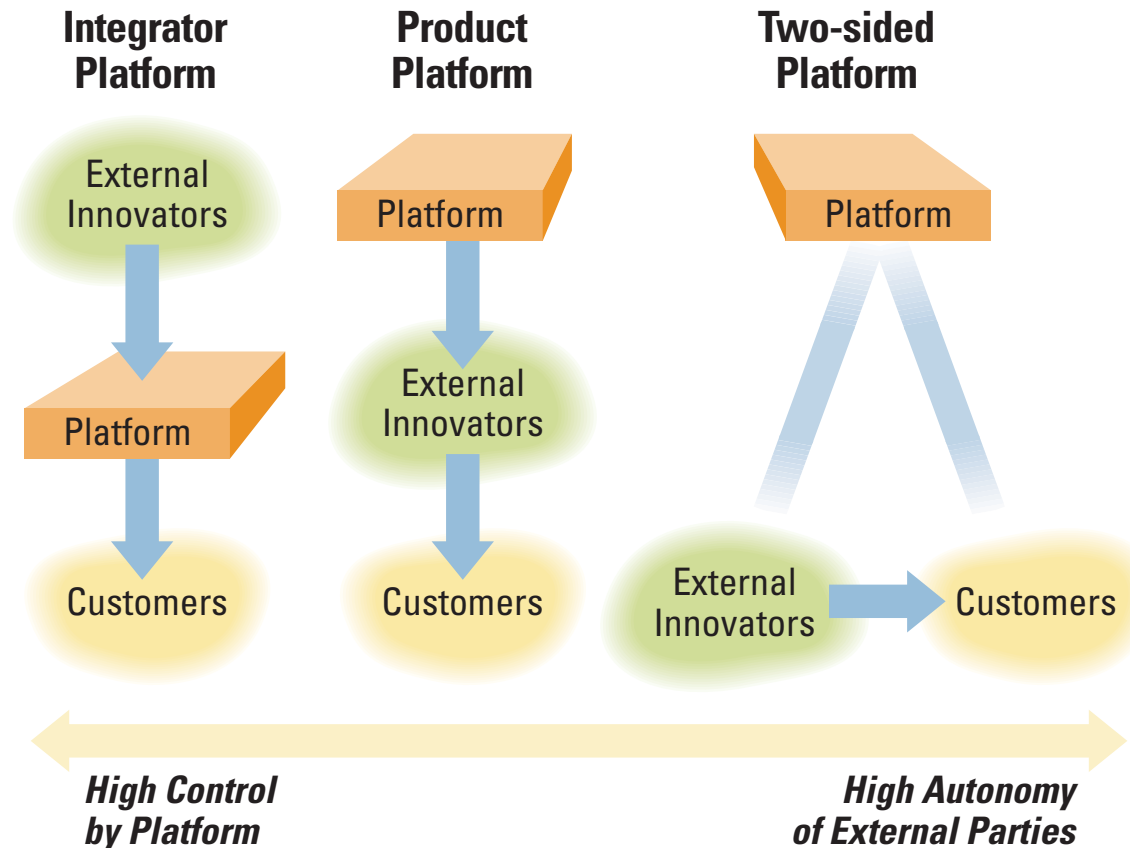
Transactions

The platform serves as an intermediary for direct exchange or transactions, subject to network effects.

Innovations

The platform serves as a technological foundation upon which other firms develop complementary innovations.

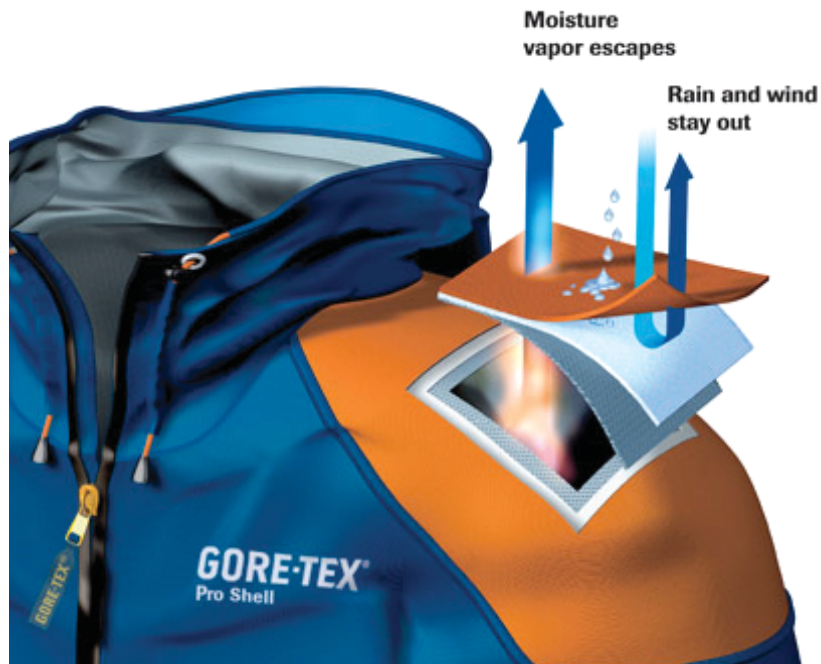
A possible typology of Industry Platform



Source: Kevin J. Boudreau and Karim R. Lakhani (2009), "How to Manage Outside Innovation", Sloan Management Review, Vol. 50, N. 4

Where would you put GoreTex; Innocentive and the AppStore?

Industry platforms



GORE-TEX: waterproof and breathable fabric developed by W.L. Gore & Associates Inc.



APP-STORE



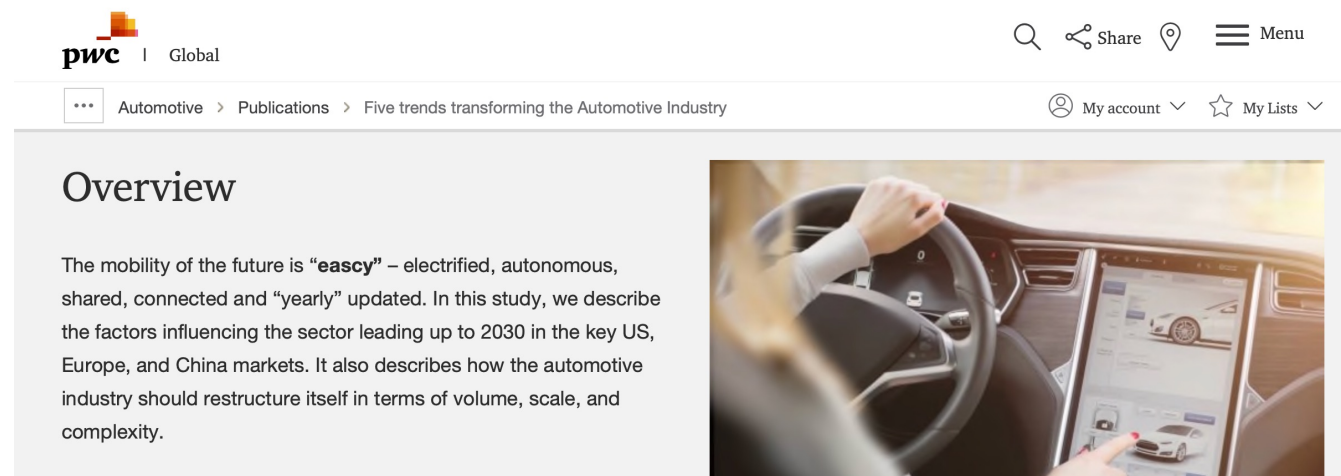
Almost every industry is platformizing causing deep business model changes

- BANKS => Platforms for Fintech companies and services
- INSURANCE COMPANIES => From covering risks to providing wellness at 360° through external providers
- AIR TRAVEL => Platforms for hotels, insurance, car rental + Fidelity cards
- **ONE STOP SHOP STRATEGY!**

Next in line?

Car industry

according to PWC



The screenshot shows a PwC article page. At the top left is the PwC logo and 'Global'. On the right are icons for search, share, location, and a menu. Below the header is a breadcrumb trail: 'Automotive > Publications > Five trends transforming the Automotive Industry'. On the right side of the breadcrumb trail are 'My account' and 'My Lists' dropdown menus. The main content area has a heading 'Overview' and a paragraph of text. To the right of the text is a photograph of a person's hands on a car's steering wheel and a large infotainment screen displaying a car interface.


pwc | Global

Automotive > Publications > Five trends transforming the Automotive Industry

My account My Lists

Overview

The mobility of the future is “eascy” – electrified, autonomous, shared, connected and “yearly” updated. In this study, we describe the factors influencing the sector leading up to 2030 in the key US, Europe, and China markets. It also describes how the automotive industry should restructure itself in terms of volume, scale, and complexity.



WHY ARE PLATFORM STRATEGIES SO EFFECTIVE?



ECONOMICAL LOCK-IN

Past investments in a platform or accumulated advantages from the use of a platform



TECHNOLOGICAL LOCK-IN

Use of complementary technologies and services that make difficult to unlock and to switch to another platform



PSYCHOLOGICAL LOCK-IN

Learning time and effort, easiness to use of a platform

AND WHEN IT HAPPENS?

- “Jump on the bandwagon” strategy.
Simply use existing and “winning” platform
- “Embrace-and-extend” strategy.
Embrace existing winning platforms, as far as they go, but then extend them with proprietary features.
- Create new/alternative platforms strategy.
Join forces if possible
- Avoid platforms (strategy or desperation?)
Niche market solution

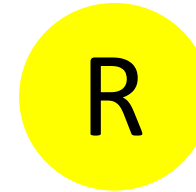
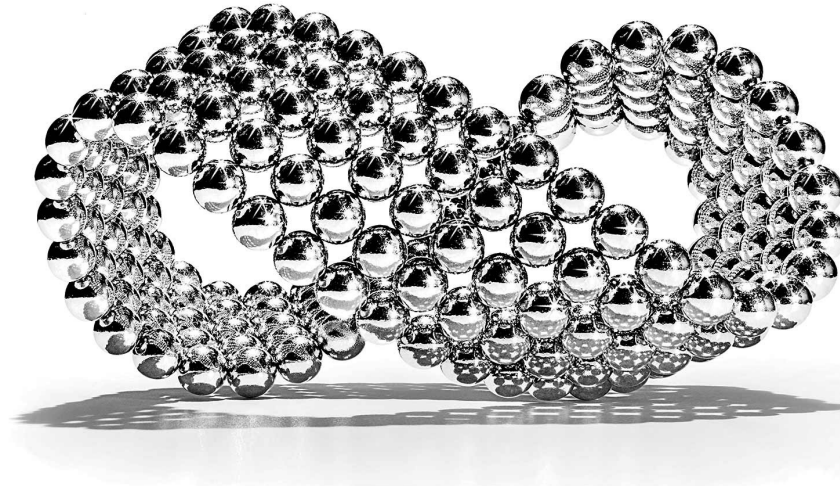
From Platform to (Digital) Ecosystems

R

A white cable is shown looping across a dark, textured surface, possibly a road or a track. The cable is the central focus, curving from the top left towards the bottom right. The background is a dark, granular material with some lighter specks. The overall image has a high-contrast, somewhat abstract feel.

**How Smart,
Connected Products
Are Transforming
Competition**

by Michael E. Porter and James E. Heppelmann



CUSTOMERS

The Age of Continuous Connection

by [Nicolaj Siggelkow](#) and [Christian Terwiesch](#)

FROM THE MAY-JUNE 2019 ISSUE




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COMPETING ON PLATFORMS


Companies must find new competitive strategies to
succeed on dominant internet platforms.

BY DONATO CUTOLO, ANDREW HARGADON, AND MARTIN KENNEY

3. Solutions

Create integrated and customized offerings that solve end-to-end customer problems





What's the conceptual difference between a servitization strategy and a “solution”?
Can they overlap?

The case of DANIELI

- <http://www.danieli.com/en/worldwide/turnkey-plants.htm#>

THE AUXILIARY PLANTS AND SYSTEM:



fumes
treatment plant



compressed
air plant



rollshop



firefighting
pumping
station



water
treatment plant



laboratories



air
separation
plant

4. Customers

- A) Discover unmet customer needs
- B) Identify new customer segment
- C) Innovate in the positioning

A) Discover unmet customer needs



- ReD has some curious methods. It hires ex-academics, largely **anthropologists** and **ethnologists**, to **study customers' motivations intimately**. ReD trained a group of Adidas design staff in basic techniques, and sent each of them to spend 24 hours with a customer: to have breakfast, run and do yoga with them, and find out what made them exercise [...] **The company had assumed that most customers were training to be good at specific sports; in fact for many, fitness itself was their “sport”**.
- Spending weeks with both the professional and amateur divisions of Bayern Munich football club, ReD's researchers asked not how long the studs on their boots should be, but **what would determine the success of a footballer in ten years' time**. They learned that top European clubs had all become proficient at teaching the necessary skills. **The thing that could not be taught**, and could only to a small extent be trained, **was speed**. So Adidas adapted one of its track shoes into an **exceptionally light football boot**. When released in 2010 it became an instant hit—and it scored far and away the most goals in that year's World Cup.

A key theoretical framework: the “Jobs To Be Done Theory”

- “What [FIRMS] really need to home in on is the progress that the customer is trying to make in a given circumstance—what the customer hopes to accomplish. This is what we’ve come to call the *job to be done*.”
- “When we buy a product, we essentially “hire” it to help us do a job. If it does the job well, the next time we’re confronted with the same job, we tend to hire that product again. And if it does a crummy job, we “fire” it and look for an alternative.”
- “The fundamental problem is, most of the masses of customer data companies create is structured to show correlations: *This customer looks like that one, or 68% of customers say they prefer version A to version B*. While it’s exciting to find patterns in the numbers, they don’t mean that one thing actually caused another. And though it’s no surprise that correlation isn’t causality”

SOURCE: Know Your Customers’ “Jobs to Be Done” by Clayton M. Christensen, Taddy Hall, Karen Dillon, and David S. Duncan – HBR September 2016

R

Know Your Customers' “Jobs to Be Done”

Is innovation inherently a hit-or-miss endeavor? Not if you understand why customers make the choices they do.

BY CLAYTON M. CHRISTENSEN, TADDY HALL, KAREN DILLON, AND DAVID S. DUNCAN

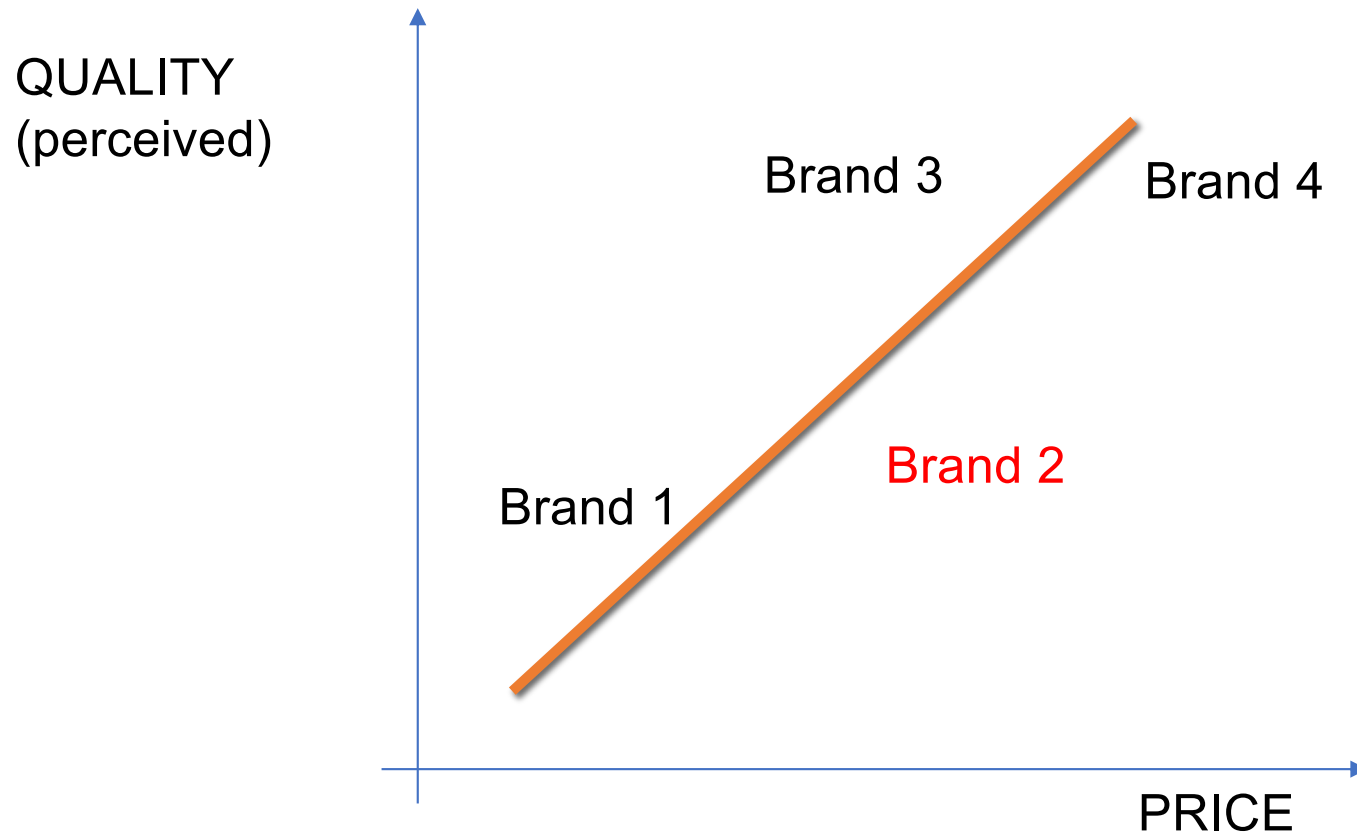
B) Identify new customer segment...

... to increase the potential market. The use of segmentation techniques can be beneficial:

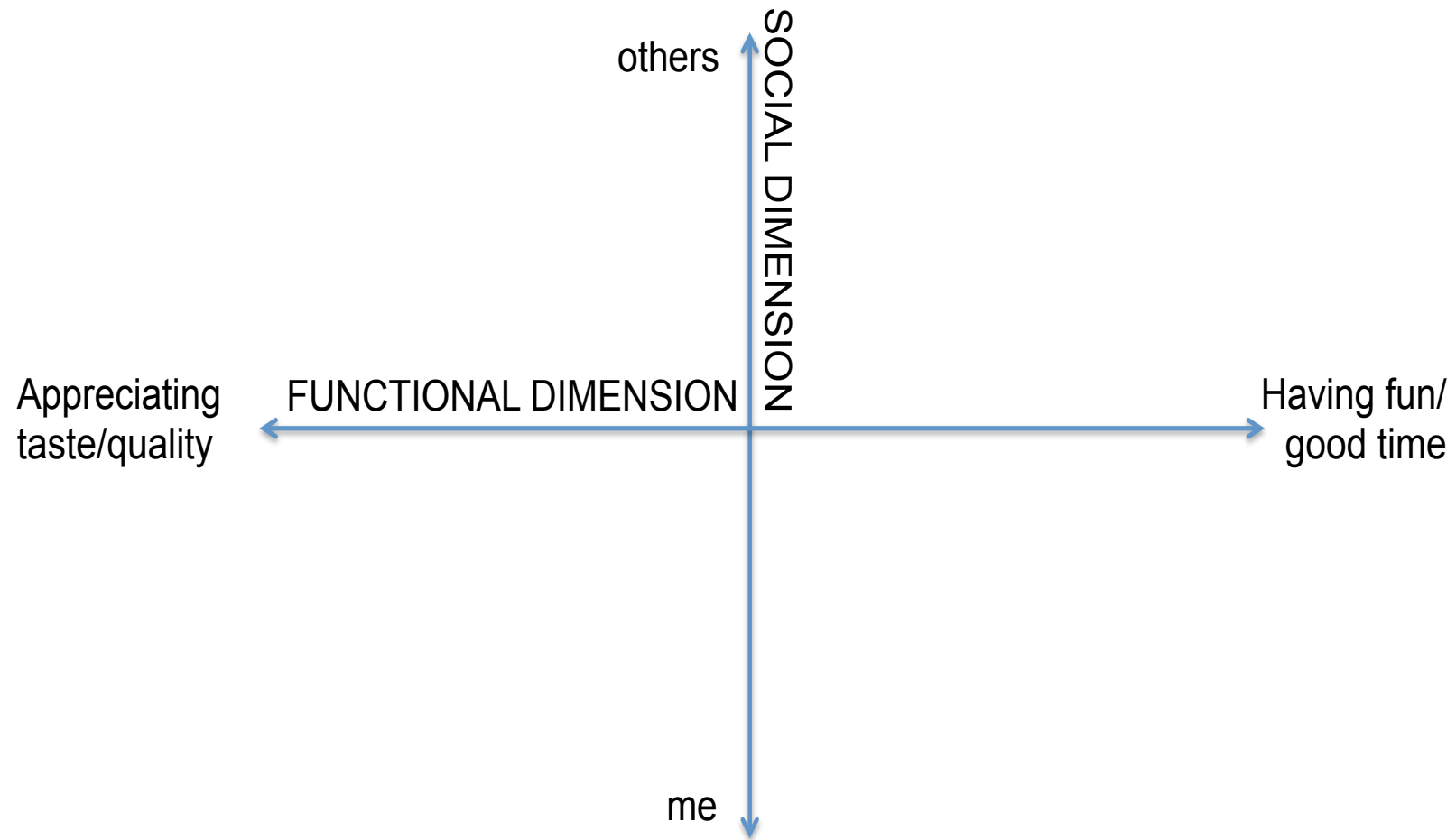
- DEMOGRAPHICS (Age, Sex, Marital Status, Income, Education, Culture, etc.)
- BEHAVIORAL (Benefits, Usage rates, etc.)
- GEOGRAPHICS (Local, Regional, National, International)
- PSYCOGRAPHICS (Personality, Values, Attitudes, Lifestyles, etc.)

C) Innovate the market positioning

...to meet more promising and profitable segments



SPIRITS



5. Customer Experience

Redesign customer interactions across all touch points and all moments of contact



Graphic: BusinessWeek, 2005

Source: Pine and Gilmore, The Experience Economy, 1999

6. Value Capture

Redefine how the company gets paid OR create
(additional) innovative revenue streams

Additional revenue streams



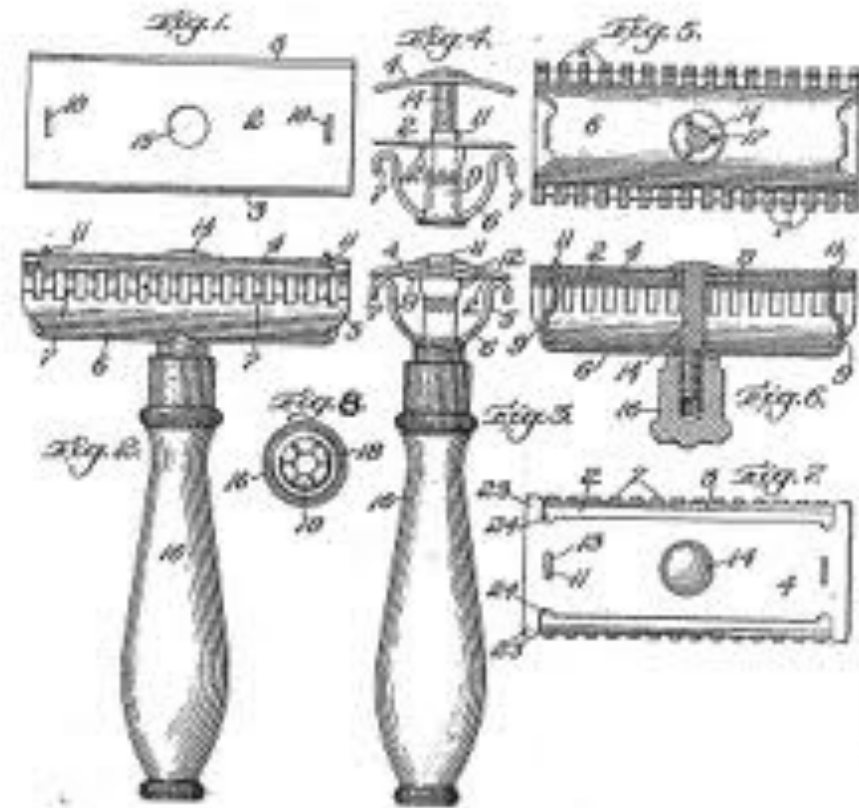
New pricing strategies




First
Business
Premium Economy
Economy
Discounted

“Razor and Blades” Revenue Model (RM)

- A complete product is composed of one main item (Razor) with one or more complimentary items (Blades)
- The main item (Razor) is given for free or sold at a very low price
- The complimentary items (Blades) are highly priced and require replacement after some uses





Could you name other industries where the Gillette's Razor and Blades RM has been applied?

What about an INVERSE Razor and Blades RM?
(main ITEM highly priced, complementary items cheap)

The “Freemium” RM

FREE

FREEMIUM

PREMIUM

FREE:

Feature limited

Capacity limited

Number of users limited

Effort limited

Support limited

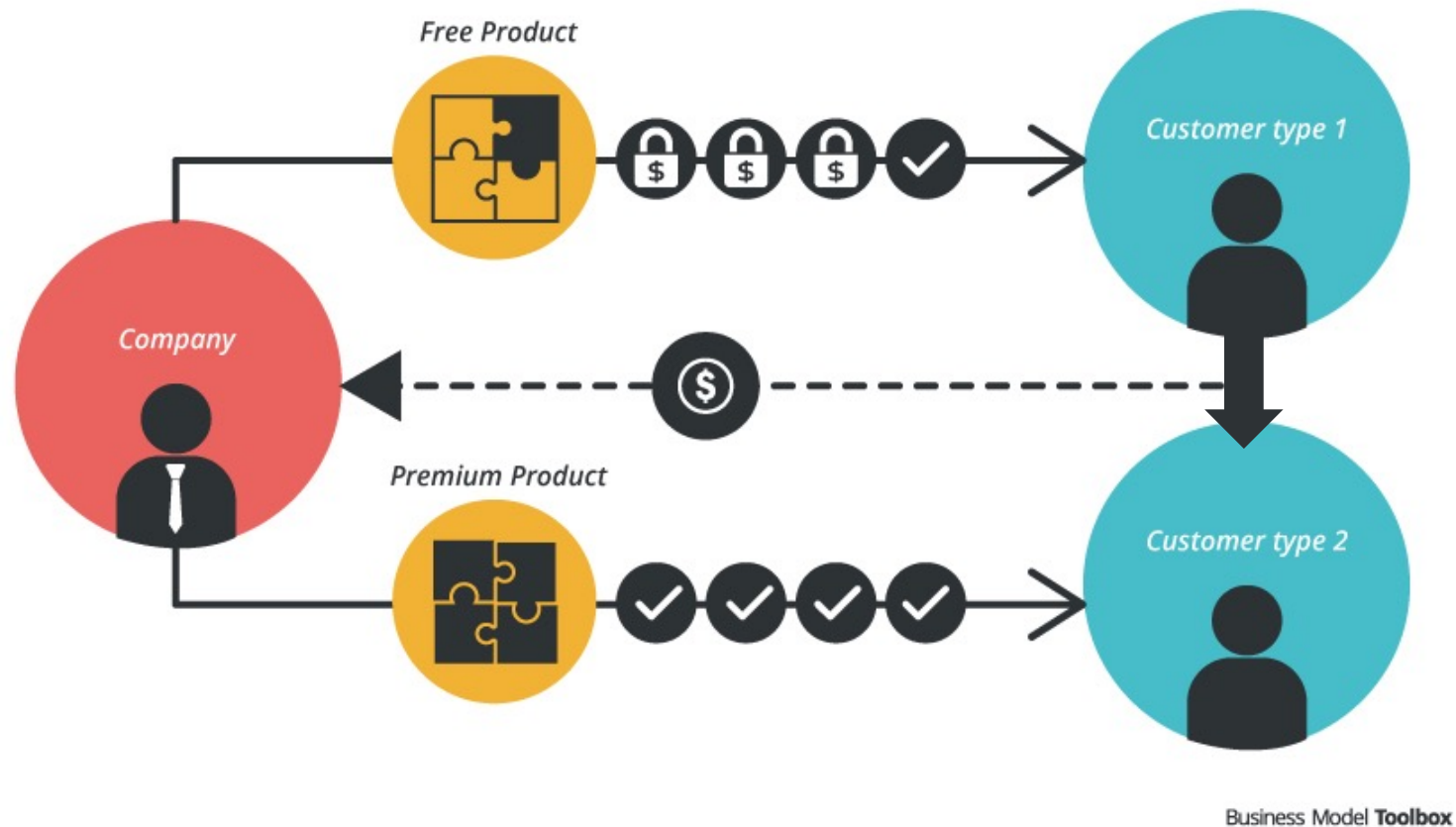
Time or bandwidth limited

Storage Space Limited

PAY TO UNLOCK ALL THE ABOVE

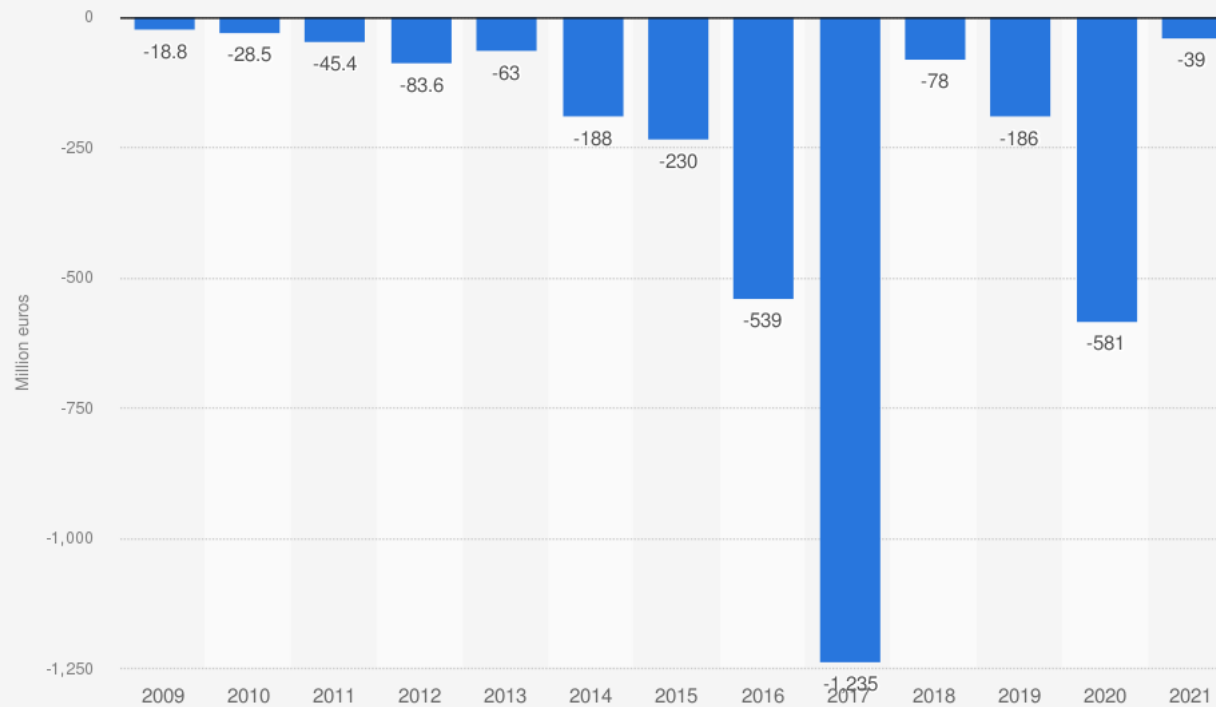
A fast-expanding revenue model beyond the gaming industry

Freemium



Source: <http://bmttoolbox.net/patterns/freemium/>

Spotify's net income/loss from 2009 to 2021 (in million euros)



Source
Spotify
© Statista 2022

Additional Information:
Worldwide; 2009 to 2021; net loss attributable to owners of the parent



Our ability to grow depends on [...] attract new users, retain existing users, and **convert users of our Ad-Supported Service (“Ad-Supported Users”) to subscribers to our Premium Service (“Premium Subscribers”)**

Source: Spotify 2020 Yearly Report

Premium Subscribers (end 2021): 180 millions
Ad-supported listeners (same): 236 millions

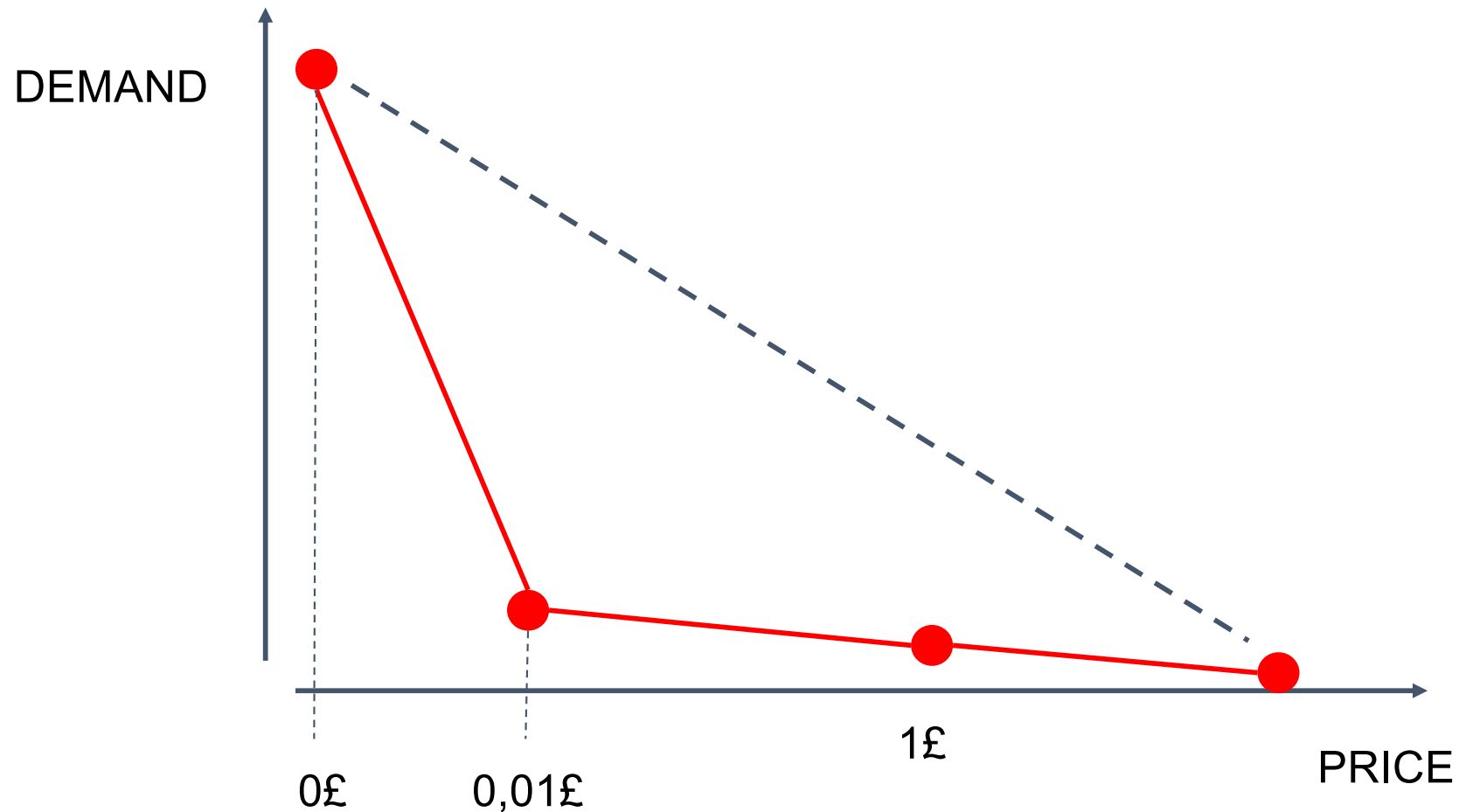
ANNUAL REPORT (F.Y. 2021) HERE:

https://s29.q4cdn.com/175625835/files/doc_financials/2021/AR/2021-Spotify-AR.pdf



	2021	2020	2019
	(in € millions)		
Premium			
Revenue	8,460	7,135	6,086
Cost of revenue	5,986	5,126	4,443
Gross profit	2,474	2,009	1,643
Ad-Supported			
Revenue	1,208	745	678
Cost of revenue	1,091	739	599
Gross profit	117	6	79
Consolidated			
Revenue	9,668	7,880	6,764
Cost of revenue	7,077	5,865	5,042
Gross profit	2,591	2,015	1,722

Free (and premium) business models and the “1 penny effect”



Pros and cons to consider before applying a freemium strategy...

PROS	CONS
REDUCE ADOPTION BARRIER (MORE PROSPECT CLIENTS USING YOUR PRODUCT)	ALSO FREE USERS MAY NEED SUPPORT (NOT FOR FREE FOR YOUR BUSINESS)
EASIER TO CREATE A LARGE (FREE) USER BASE	CONVERTING FREE USERS MAY INVOLVE SUBSTANTIAL COSTS
DIFFERENTIAL PRICING (FREE USERS CAN BECOME LESS FRUGAL AND BUY AT LEAST SOMETHING THAT IS MORE THAN 0)	REVENUES (advertising) HARDLY COVER THE COSTS OF USE OF FREE USERS

Is it possible to monetize FREE USERS?

Not easy, but not impossible

- Up-selling, of course (unlock features)
- Target2Target: invite advertisers to target your users
- Sell intelligence about users' behaviours to other players in the industry or outside.
- Build a community from the users and leverage the community to provide some services, like personalized support (like Apple community and first-level support).
- Sell your platform logic to other players in the industry or outside
- Donations

7. Process

Redesigning core operating processes to improve efficiency and effectiveness

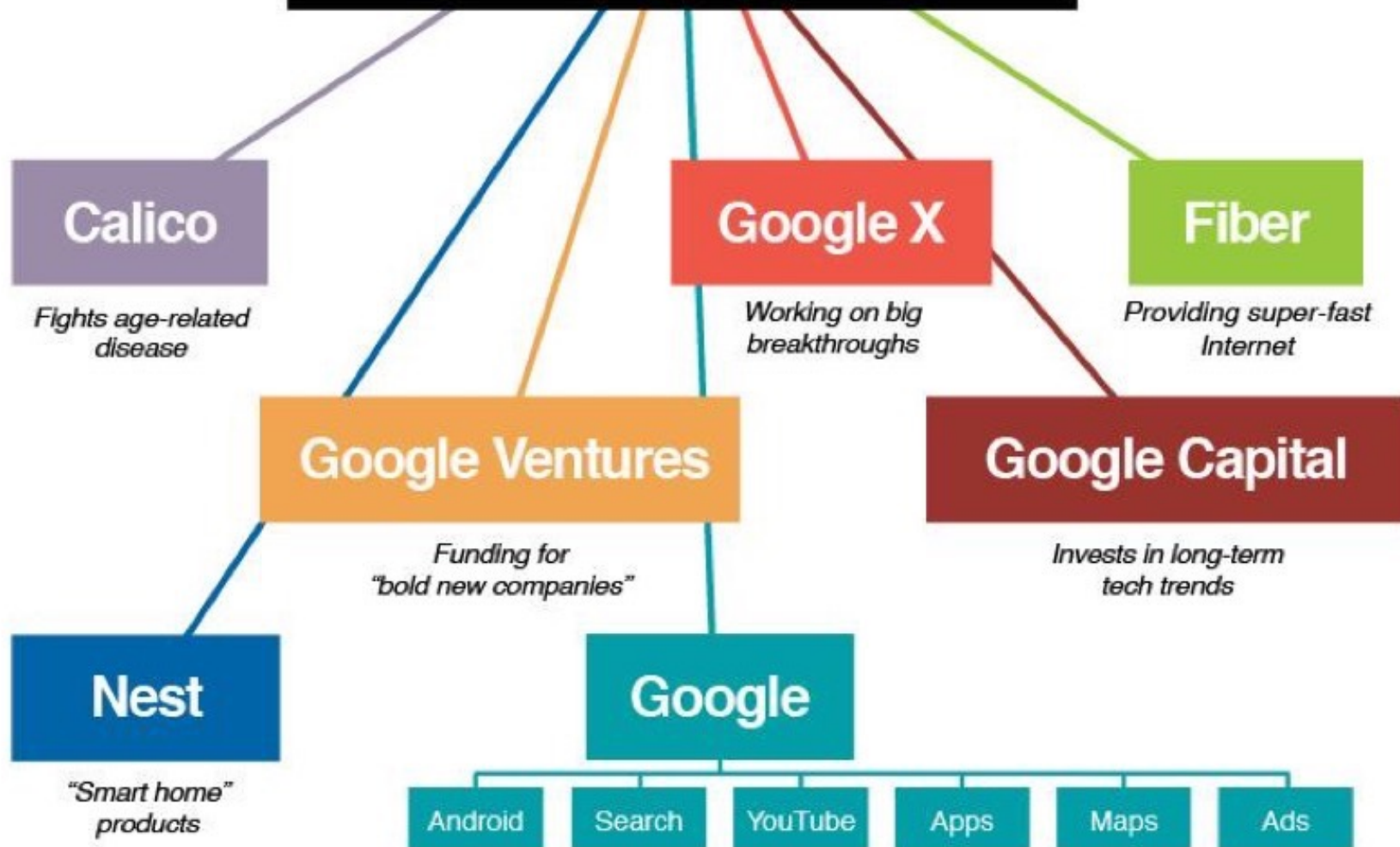
- Production processes
 - Increase efficiency and reduce lead time (ex: Toyotism; Lean Manufacturing)
 - Reduce costs: (ex: Automation and Robotics)
 - Improve quality (ex: Zero defects; Six Sigma)
 - Etc.
- Knowledge intensive processes
 - 3D and multi-dimensional design
 - Simulation Software
 - AI based solutions
 - Etc.

8. Organization

Redefine the way a firm is structured, teams are organized, duties and responsibilities are spread across people

Typical examples include a functionally-organized company that adopt a divisional structure or a company that lighten its structure by reducing hierarchical levels (but increasing the span of control)

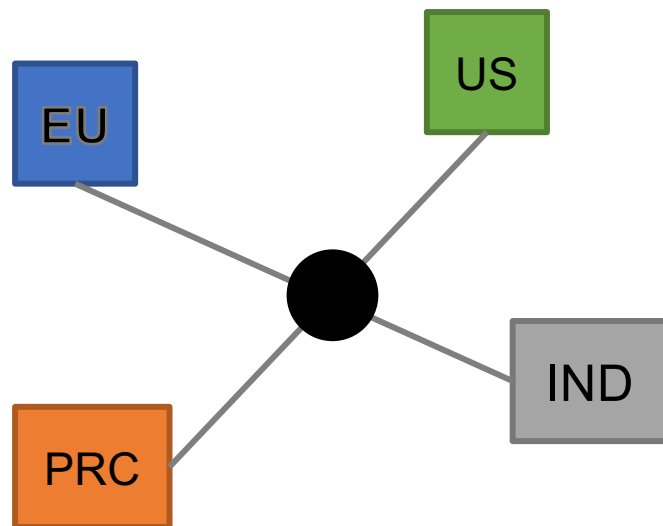
Alphabet



THE ORGANIZATIONAL SIDE OF GLOBAL INNOVATION

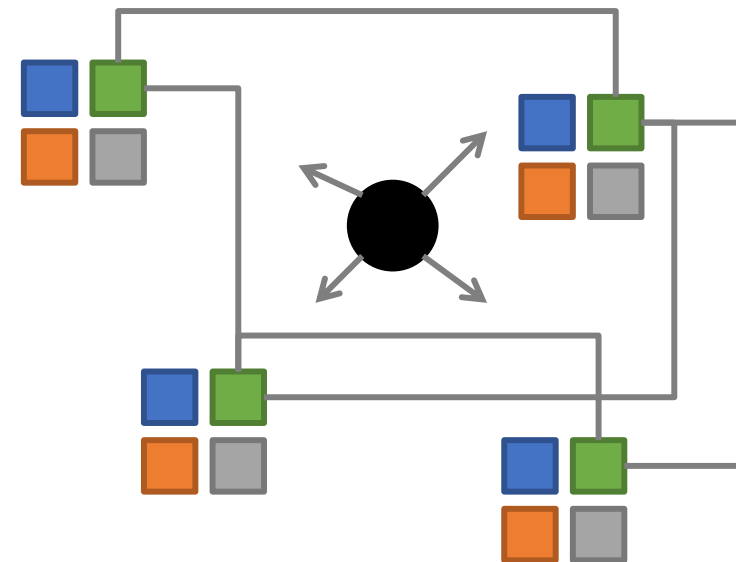
SPECIALIZATION-BASED MODEL

Firms develop global centers of excellence in different fields, which are globally responsible for the development of a specific product/process/ technology



INTEGRATION-BASED MODEL

Different units around the world each contribute to the development of technology projects



SPECIALIZATION-BASED MODEL

ADVANTAGES:

- + **critical mass** of human and financial resources and knowledge is **easily achieved**
- + **coordination** is easier
- + **specialized research units** can be allocated in **global innovation cluster**

RISKS:

- **global centers too much isolated (difficult to govern)** and far from **emerging needs in the market**

INTEGRATION-BASED MODEL

ADVANTAGES:

- + rely on **different cultures, capabilities** and **international perspectives** on the **same subjects**
- + **encourage competition** among centers

RISKS:

- higher **coordination costs**
- **duplication and inefficient use of scarce resources** risks

9. Supply Chain

Think differently about sourcing and fulfillment.

From

UNITED COLORS
OF BENETTON.

...and a “captive” (arm-lengths)
subcontracting system to...

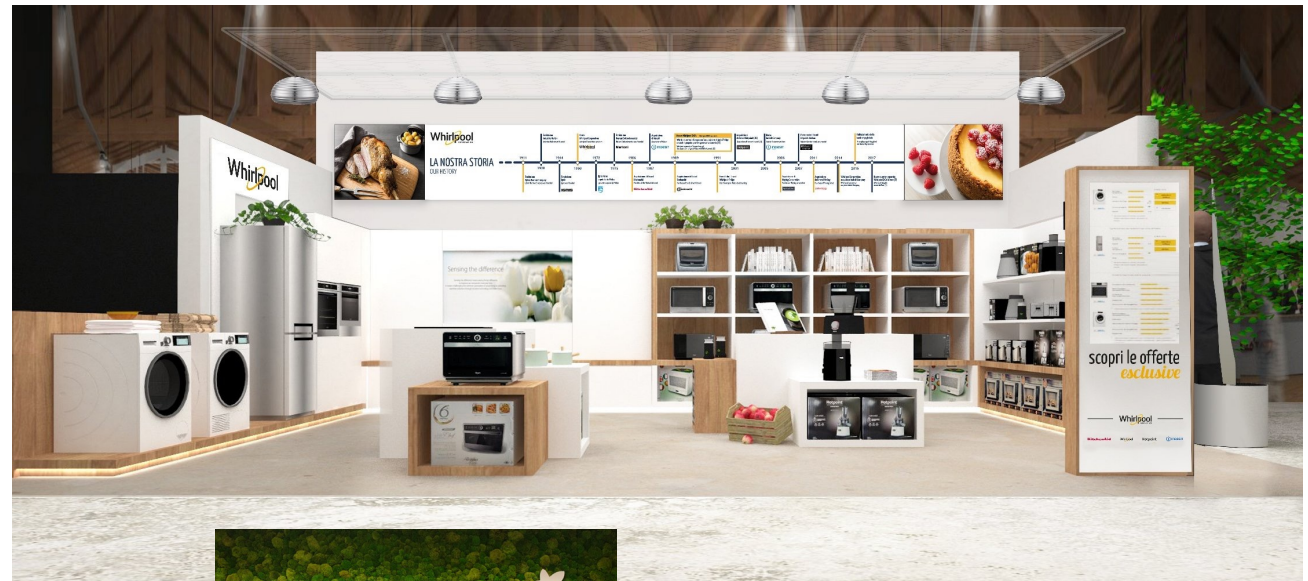
ZARA

...and “fast-fashion”: from design to retailing
in 3 weeks

10. Presence

Create new distribution channels or innovative points of presence (can overlap with experience)

Shop-in-shop vs.
Shop-corner



11. Networking

Create network-centric intelligent and integrated offerings



Companies as “Network Orchestrators” or also “Empty companies” which main activity (“key activity”) consists in orchestrating external information, data and logistic streams while the main resource (“key resource”) is the network itself

12. Brand

Leverage a brand into new domains



Virgin
HOTELS



Virgin Active Health Clubs



Virgin
mobile



virgin
care



Innovation types

- Incremental vs. Radical innovation
- Component vs. Architecture innovation
- Discontinuous innovations
- Disruptive innovation

Incremental vs. Radical innovation

- **Incremental innovations** refer to day-to-day changes (marginal improvements in products or optimizations in production processes). They develop over “solid basis” (already existing products or processes).
- **Radical innovations** represent a radical step change in a product or process.

New? Not New? Radically new? Who decide?

- There are not objective or standardized measure for determining the degree of novelty of an innovation
- If related to product and positioning, well “novelty is very much in the eye of the beholder”. Consumers have different perspectives
- If related to process and business model, we normally refer to a "radical" innovation as a complete new way to organize the operations and the business as a whole

About radical innovations

- Radically new products are more frequent than radical changes in production processes
- Radical process innovations generally take more time to spread (think at Toyotism and Lean Production!). However they normally have a longer life (than products) because they involve assets and knowledge that will be applied to multiple products

DISCONTINUOUS INNOVATIONS

- Technological innovation normally develop along predictable trajectories
- Discontinuous innovations represent a rift in such trajectories that change the “rules of the game” for all the companies and can force incumbents to revise their business model to avoid competitive irrelevance

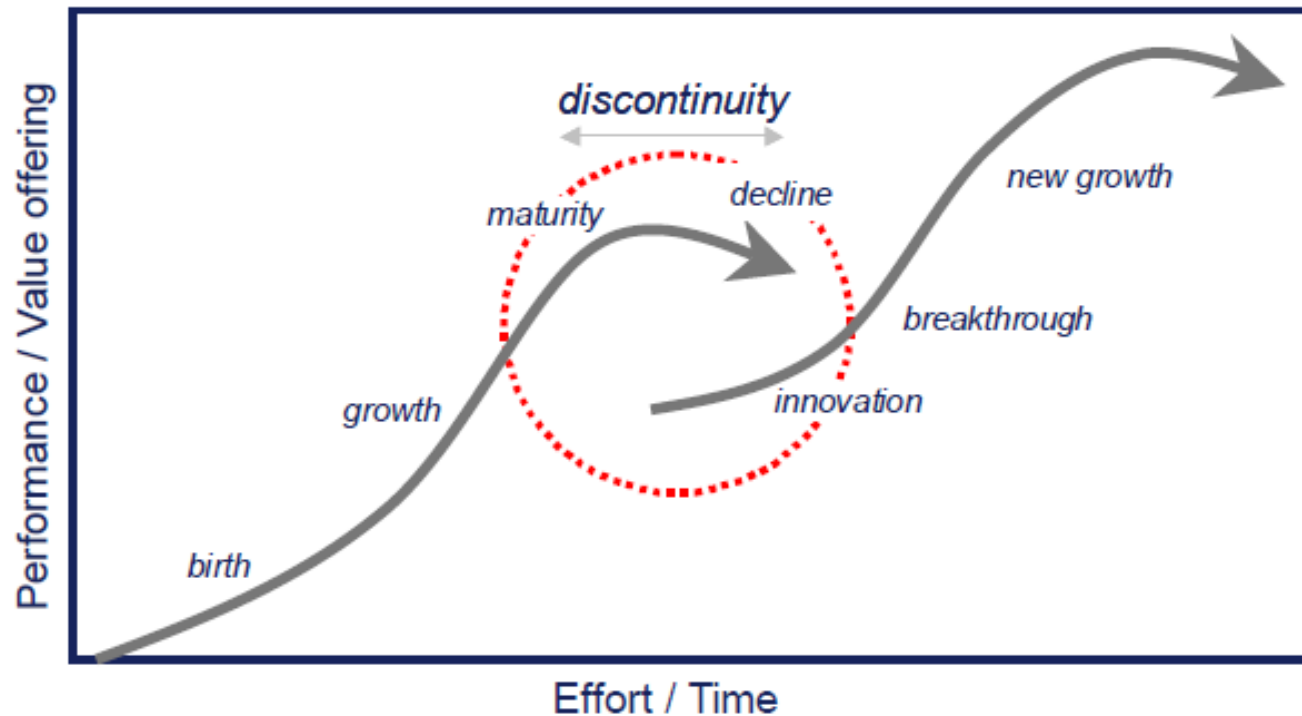
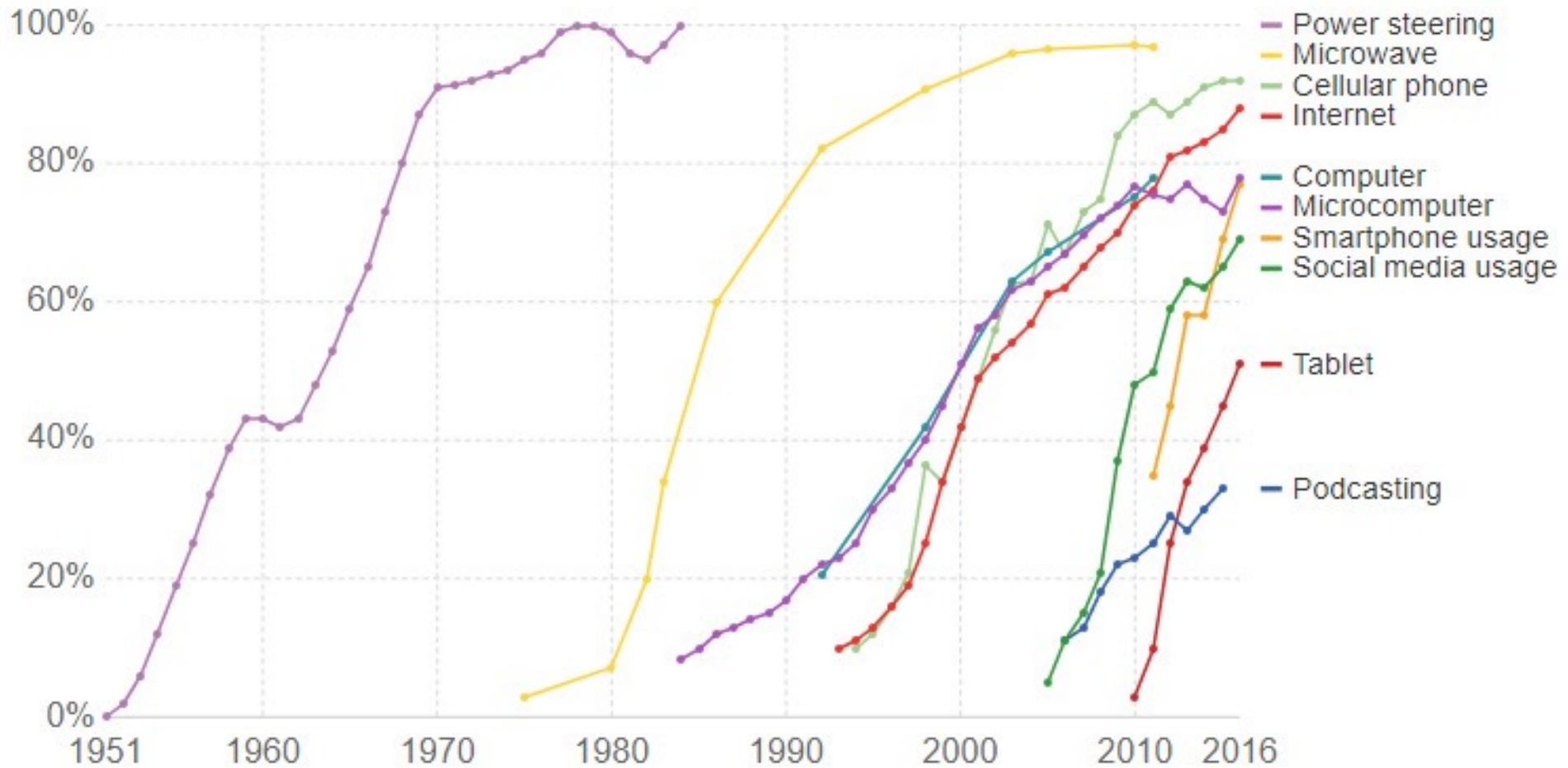


Figure 4. Discontinuity brought on by disruption and “jumping the curve”³

Source: <http://innovisio.blogspot.com/2012/12/capturing-opportunity-in-disruption.html>

The pace of DISCONTINUOUS INNOVATIONS is accelerating



<http://www.visualcapitalist.com/rising-speed-technological-adoption/>

Sources of discontinuity:

- **New market segments** (i.e. Emerging markets and specific needs)
Build a dashboard for analyzing systematically markets trends (i.e., through industry reports) and competitors (be aware of their moves ASAP) systematically and discuss periodically such trends
- **New technologies** (i.e. Superefficient wind turbines for domestic energy production)
Encourage curiosity, Read, remain informed about new technologies (i.e. MIT Tech Review; Books)
- **New political rules / A shift in regulatory regimes**
(i.e. EC reduction of CO emissions for the Car Industry; Ban to diesel-fueled cars circulation; Incentives to adoption of clean technologies)
Follow preparatory works. Prepare in advance and lobby. Then look at them as innovation opportunities, not constraints
- **New consumers' behaviors** (i.e. Environmental conscious consumers)
Monitor consumers' trends and behaviors (i.e., Management journals, Industry reports) to be informed about emerging trends
- **New business models** (i.e., Google NEST)
Look with curiosity at emerging business models, especially outside your industry. Use analogy to understand whether something similar could ever happen in your industry.

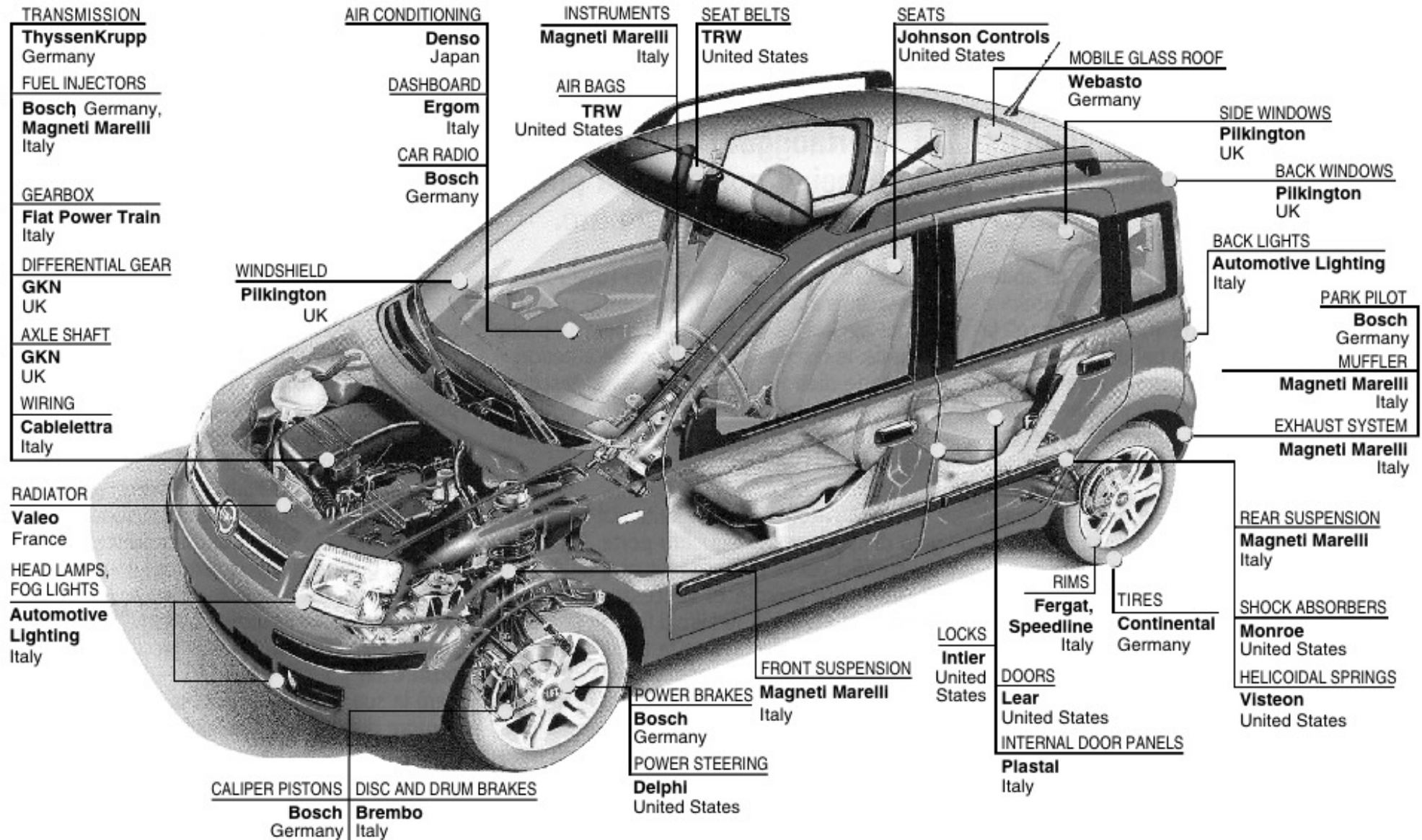
AND WHEN IT HAPPENS?

- If you are an Incumbent
 - In the short-term: adopt a wait-and-see behavior; limit the “sailing ship effect” through price tactics
 - In the long-term: shift to the winning technological trajectory (also through M&A and JV)
- If you are a new comer
 - In the short-term: gain as much market share as possible
 - In the long-term: prepare for tough competition coming from “converted” incumbents. Consider M&A or JV

Component vs. Architecture innovation

- Architecture: products composed by a multitude of components and sub-components
- Most common sit.: Innovation processes at lower levels (component and subcomponents) are constrained by innovation processes at the Architecture level
- Less common sit.:
component innovation -> architecture innovation

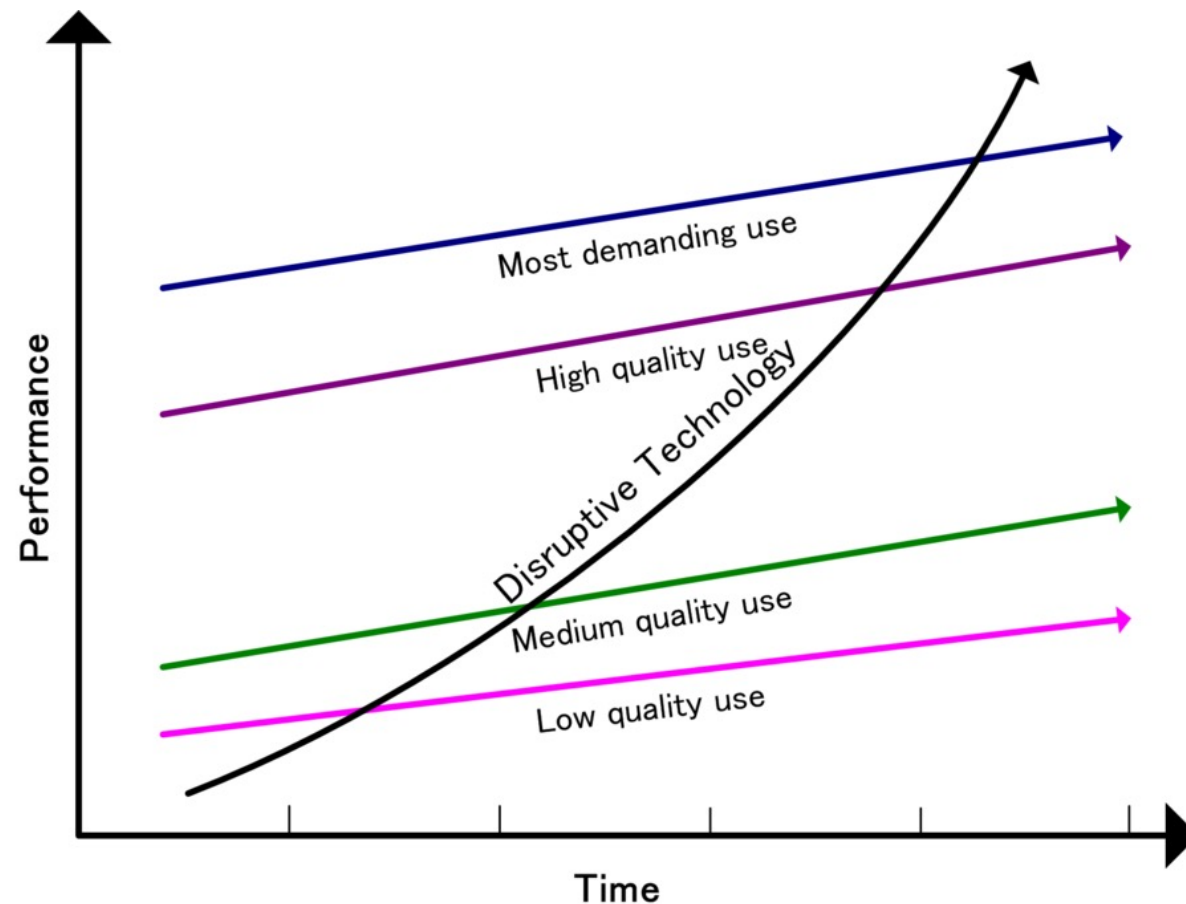
FIAT Panda Suppliers (first level)



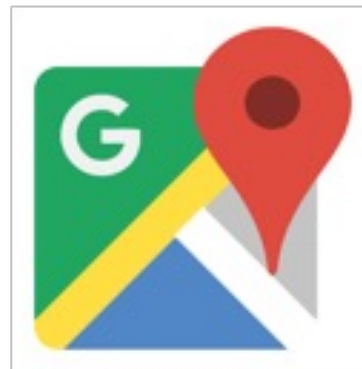
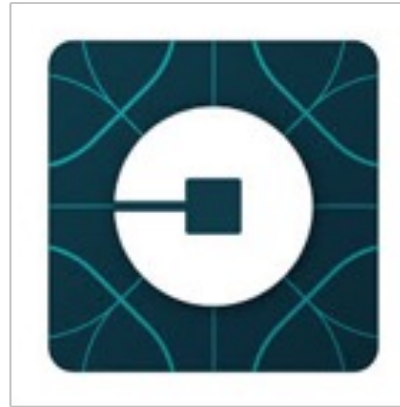
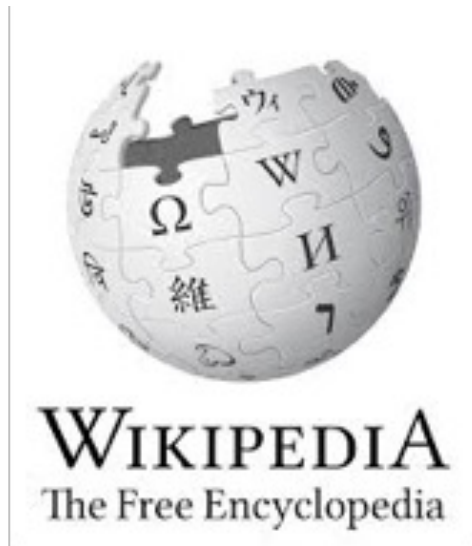
Note. Reprinted courtesy of AUTO magazine.

Disruptive Innovation

- Disruptive innovation is a term coined by Clayton Christensen, that describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors

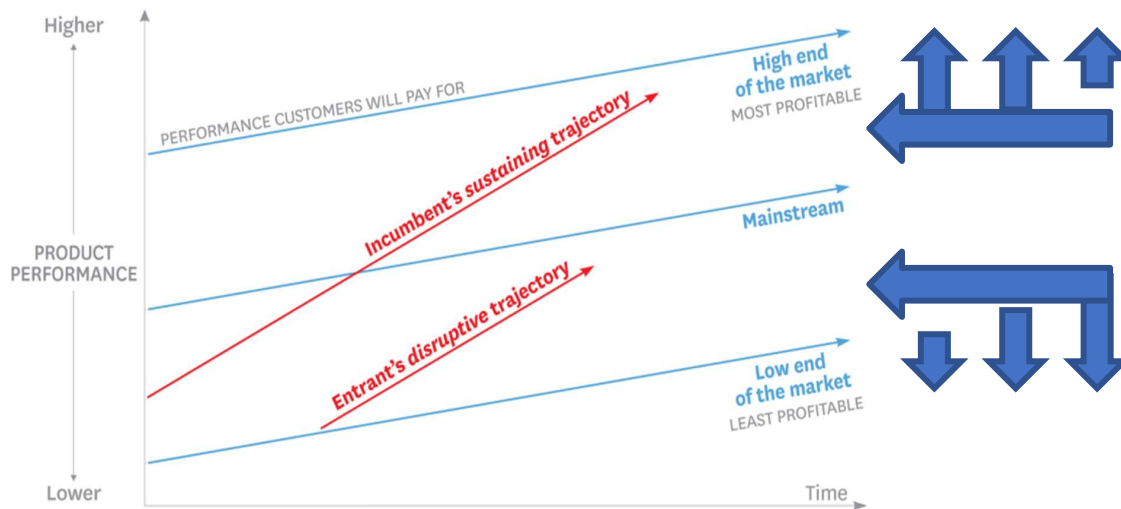


Examples of disruptive innovators



AND WHEN IT HAPPENS?

- Going up and up (being aware of the “quality trap”)
- Repositioning down
- Dual positioning strategy (even through M&A)

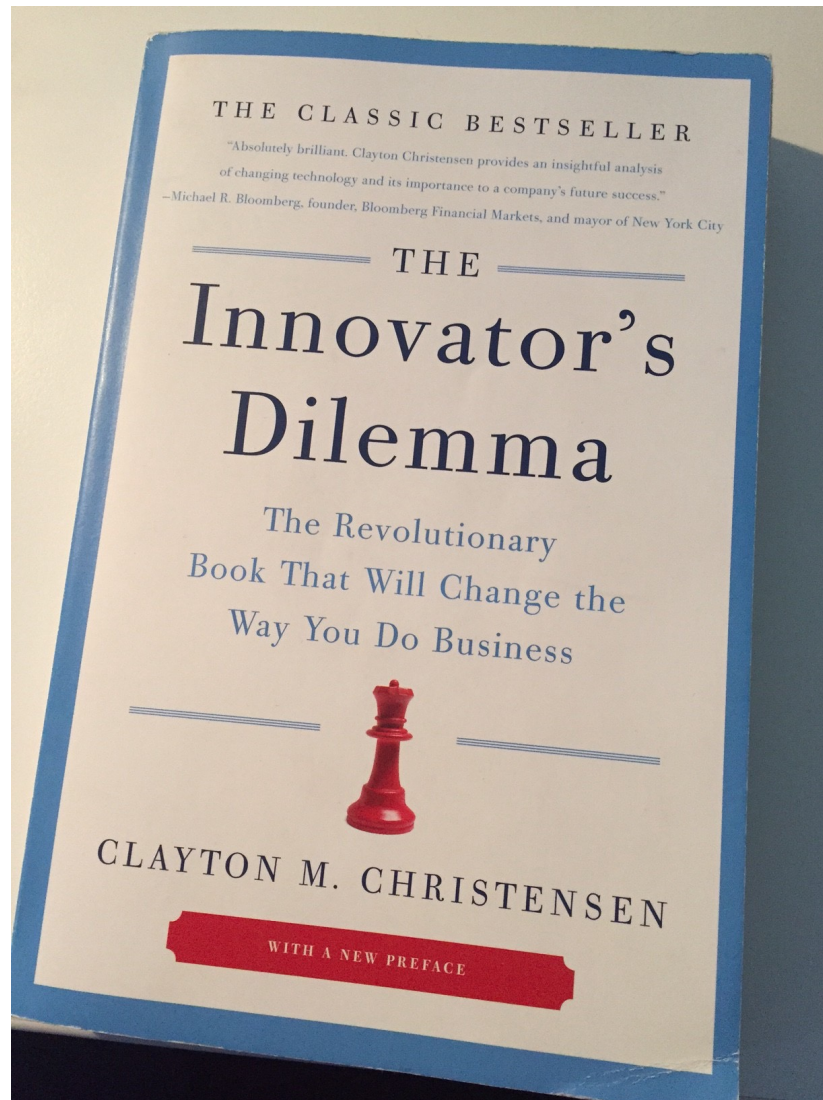


SOURCE CLAYTON M. CHRISTENSEN, MICHAEL RAYNOR, AND RORY MCDONALD
FROM "WHAT IS DISRUPTIVE INNOVATION?" DECEMBER 2015

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- Servitize the business
- Provide “solutions” to your clients
- Join forces (also with competitors)

A classic on disruptive innovation



...plus some recent development