Innovation Experience 2019

Inspiring your digital transformation in HVAC and Refrigeration

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Business Model 4.0 (and beyond)

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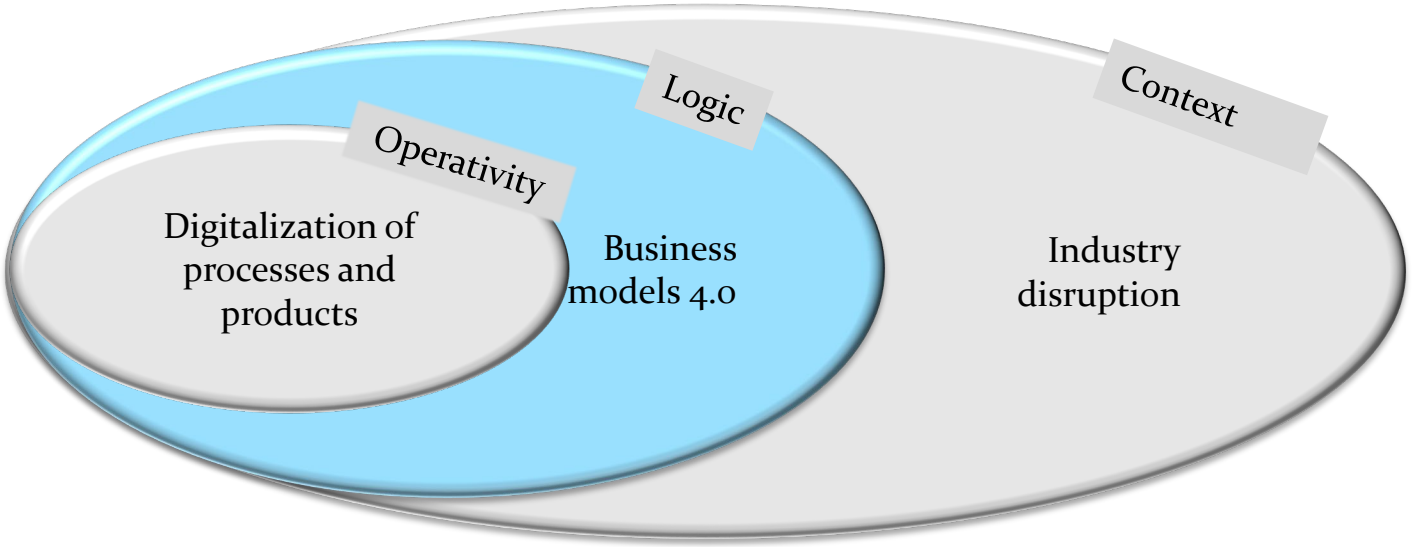
VENETIARUM VNIVERSITAS IN DOMO FOSCARI

STRATEGY INNOVATION

The impact of Industry 4.0

Three levels of analysis



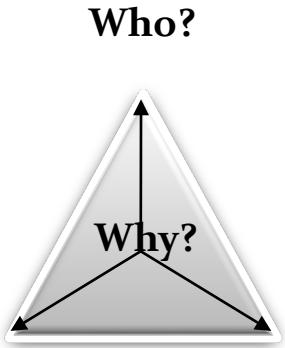
Strategy Innovation implies…

strategic leadership in all dimensions

Competitive Strategy

To be leader in **one** dimension

Innovative Strategy



To be leader in **all** dimensions

The framework

for the re-definition of the business model

To (re)define the business model we should give different answers to the following questions:

Who are our stakeholders?

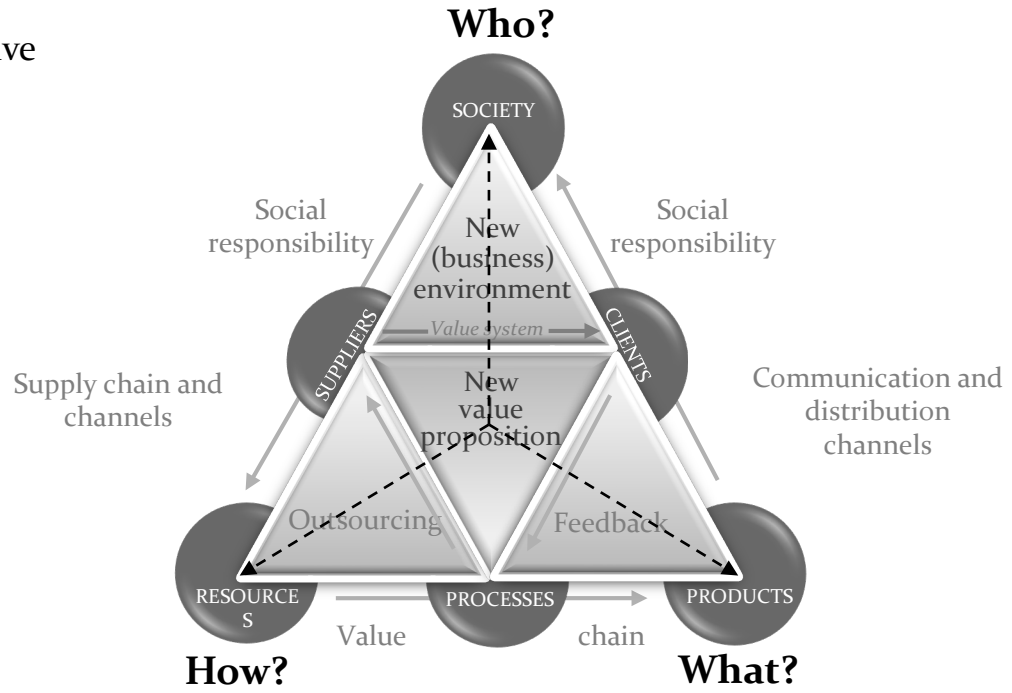
Who are our clients and markets?

Who are our suppliers and partners?

What do we offer them?

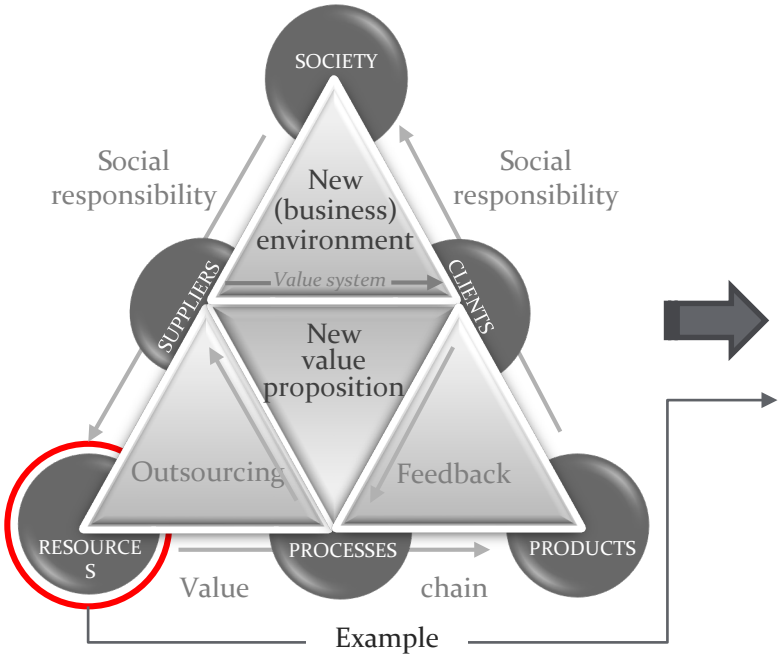
How can we deliver it with effectiveness and efficiency?

How we feed the activities we develop?



The impact of Industry 4.0

at the level of the single bulding blocks of the business model



Building blocks	Nine technologies of Industry 4.0 Operational benefits	Additive manufacturing	Autonomous robots	Augmented reality	Cloud computing	Simulation	Industrial IoT	Big data analytics	Cybersecurity	V. and o. integration
VALUE CHAIN	Resources									
	Increase the security and integrity of data and systems		x		x		x		x	x
	Increase the efficiency of maintenance, repair and training on the field remotely			x	x		x		x	
	Enable advanced analysis processes based on consumer habits and feedback			x	x		x	x		x
	Increase communication between machines, systems, products and people		x	x			x			
	Increase sensitivity to safety issues and the ability to assess risks				x				x	
	Enable universal access to information in real time via decentralized networks		x		x		x			
	Increase information on energy consumption and environmental impact of products					x	x	x		
	Increase the efficiency of virtual inventory management and resource allocation		x			x	x			x
	Enable the procurement of just-in-time material and adaptation of production based on real needs	x				x				
	Enable the correct and secure transmission of data							x	x	
	Increase product quality (lightness, performance) even using innovative materials	x								
	Reduce the number of employees needed to carry out a process		x				x	x		
	Increase material yield by reducing waste and emissions	x					x			
	Reduce capital costs to buy hardware and local data centers				x					
	Reduce the costs of stock	x								
	Increase employees' efficiency and creativity	x	x				x	x		
	Internal processes									
	Enable universal access to information in real time via decentralized networks		x		x		x			
	Increase the ability to make decisions in real time even at a distance			x			x	x		
	Increase production monitoring, analysis and control to enable automatic optimizations and predictive maintenance		x	x	x		x	x	x	x
	Increase coordination and integration between internal processes, logistics and supply chain		x		x		x	x		x
	Reduce or avoid repair times in case of failure							x		
	Enable the evaluation and the choice of optimization criteria autonomously		x			x			x	

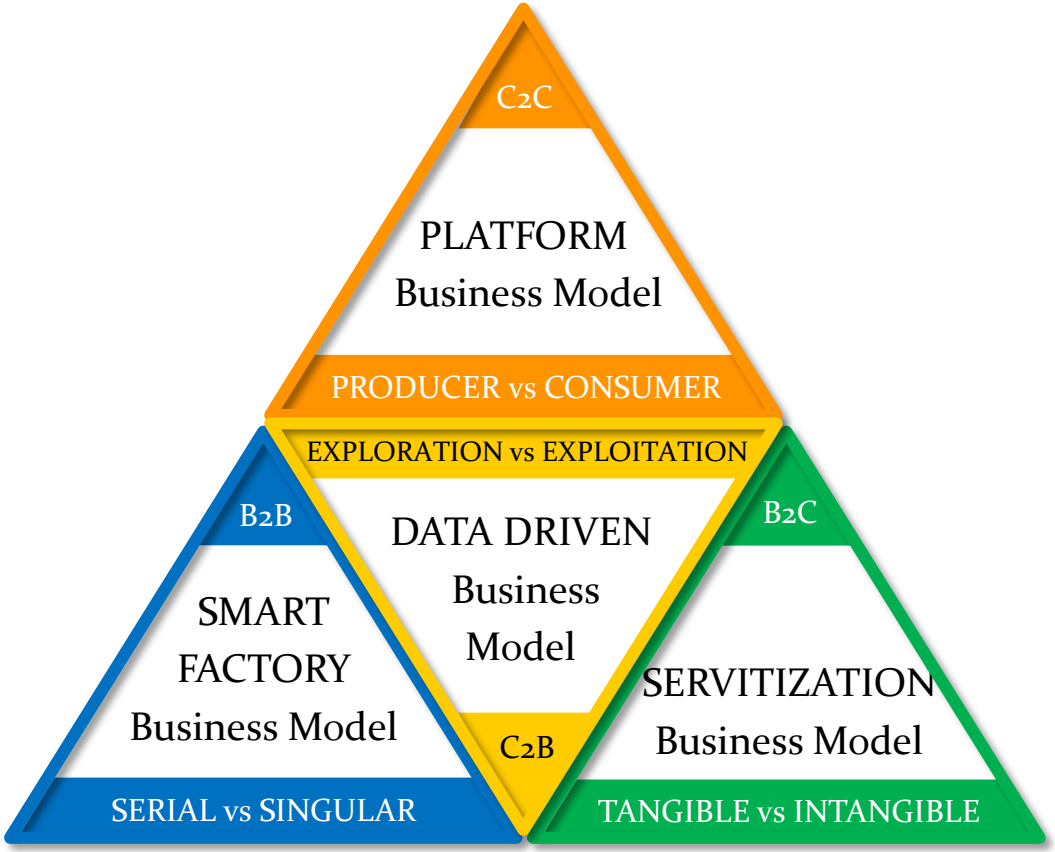
The impact of Industry 4.0

at the level of the value proposition and of the business models 4.0

		Business Model 4.0	Smart manufacturing	Mass Customization	Hub & Spoke	Smart products	Add - on hardware and software	Everything as-a-service	Smart customer experience	Indirect monetization of data	Direct monetization of data	New partnership network	Smart innovation	Broker & technology platforms
		Meta Business Model 4.0	***Smart factory***			***Servitization***			***Data driven***			***Platform***		
		Value disciplines	**Operative excellence**			**Product leadership**			**Customer intimacy**			**Ecosystem leadership**		
		Value proposition	Price	Reliability	Availability, accessibility, rapidity	Material quality	Newness	Performance	Immaterial quality	Involvement and sharing / Product range and customization Complementary goods, service and experiences		Life (work) style		Price
VALUE CHAIN	Resources	Increase the security and integrity of data and systems		X										
		Increase the efficiency of maintenance, repair and training on the field remotely			X						X			
		Enable advanced analysis processes based on consumer habits and feedback									X			
		Increase communication between machines, systems, products and people		X	X									
		Increase sensitivity to safety issues and the ability to assess risks		X										
		Enable universal access to information in real time via decentralized networks		X	X									
		Increase information on energy consumption and environmental impact of products						X	X					

Business models 4.0

Specialization vs Integration



Smart Factory business model

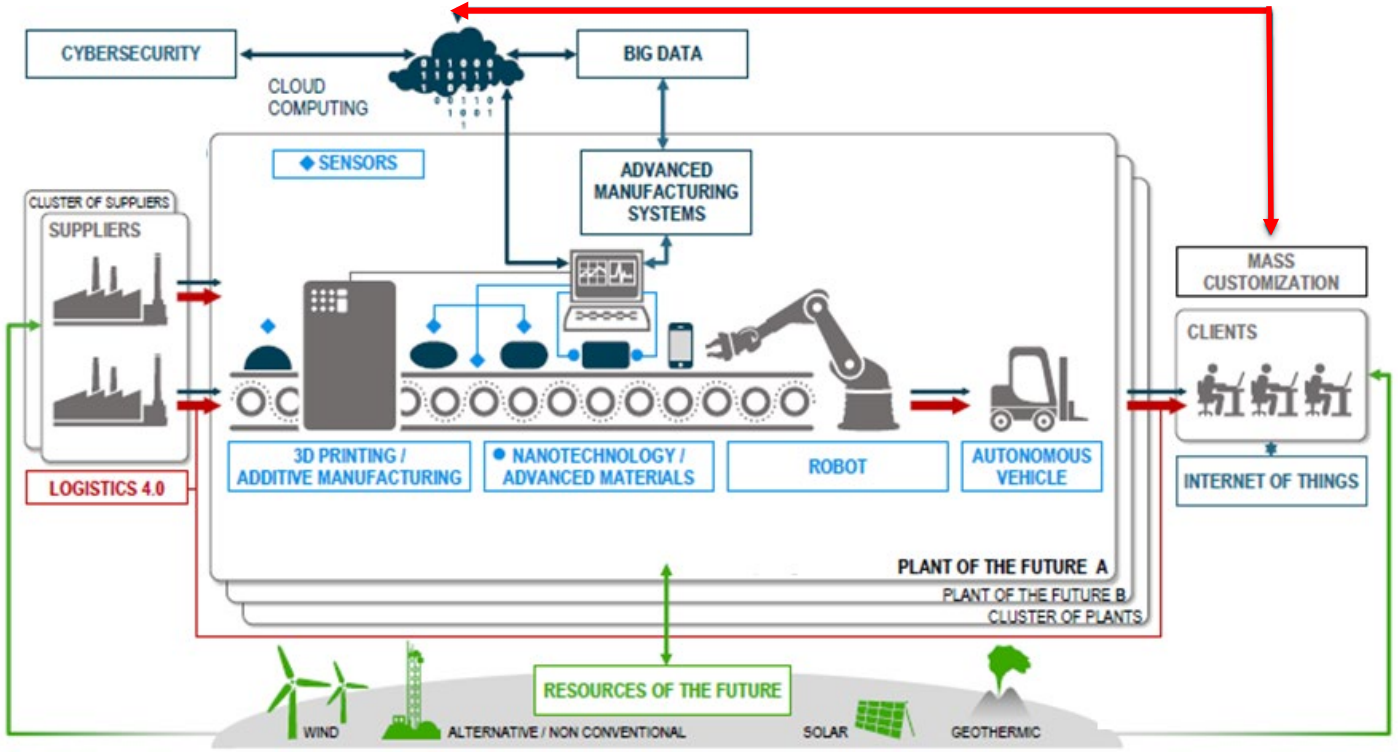
The smart factory allows the mass customization that consists in the personalization of mass products with limited stocks through the dynamic production model and on request.

Fundamental Concepts:

- Intelligent network of interconnected machines, ICT systems, smart products and people throughout the value chain and the entire product life cycle;
- CPS: Interaction between the "physical and virtual" world;
- Customization: Customized products and services at mass production costs, overcoming the traditional contrast between large-scale production and high cost craftsmanship.

Source: Roland Berger

Smart Factory business model



Source: Roland Berger

Servitization business model

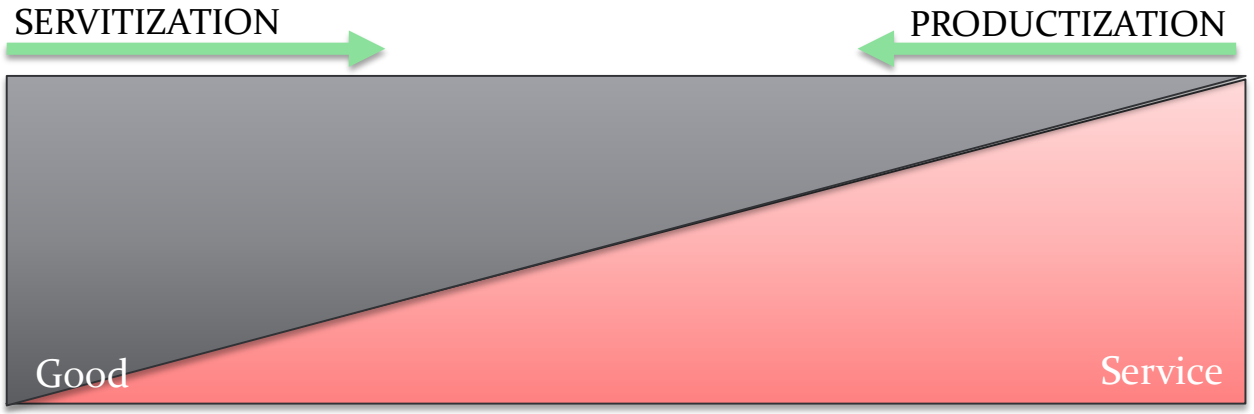
The Servitization consists in transforming the offer of a product and/or service into a value proposition where the product is sold through a service or as a service.

Fundamental concepts:

- Product-oriented: selling the product that becomes the property of the consumer, including, if necessary, complementary services such as the guarantee (e.g. car sales) at the time of the original sale;
- User-oriented: selling the use or availability of a product that does not become the property of the consumer (e.g. car leasing);
- Result-oriented: selling a result or a capacity through the exploitation of a product that does not become the property of the consumer (e.g. cost per km).

Source: Thompson, A. W.: Integrating a strategic sustainable development perspective in Product-Service System innovation – doctoral dissertation, Blekinge Institute of Technology, 2012

Servitization business model

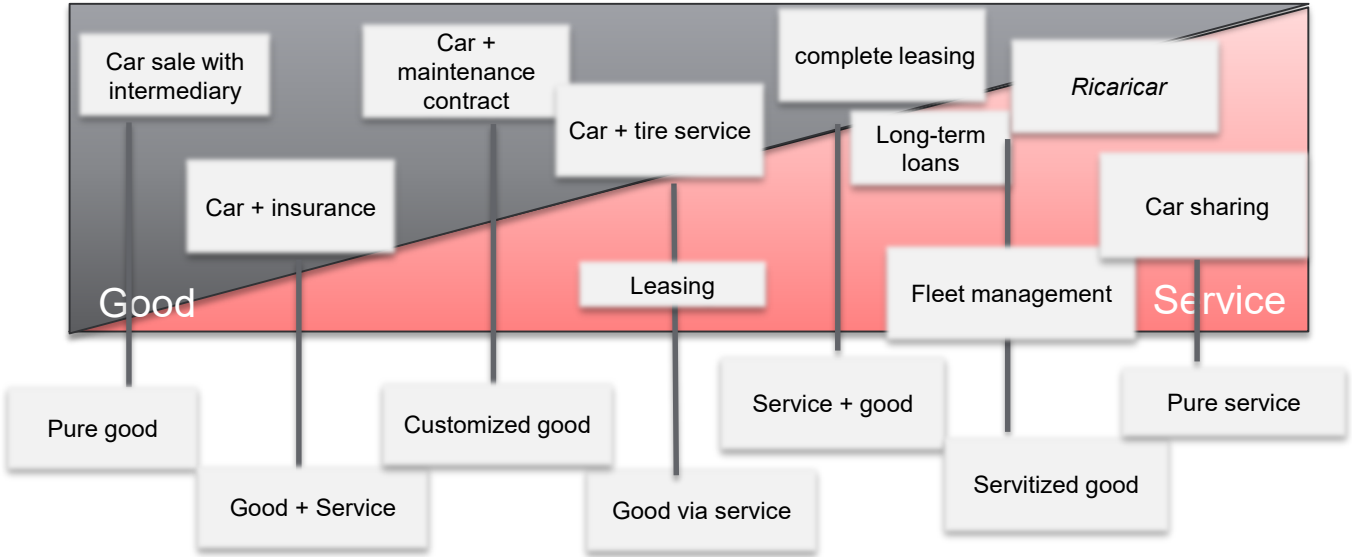


Higher integration of the product with the service

Higher integration of the service with the product

Source: own elaboration from Baines T, Loghtfoot H. (2013), Made to serve. How Manufacturers can compete through servitization and product-service systems

Servitization business model



Source: EFESO (2017), Digitalizzazione e industria 4.0. Strategie… non solo tecnologie!

Data Driven business model

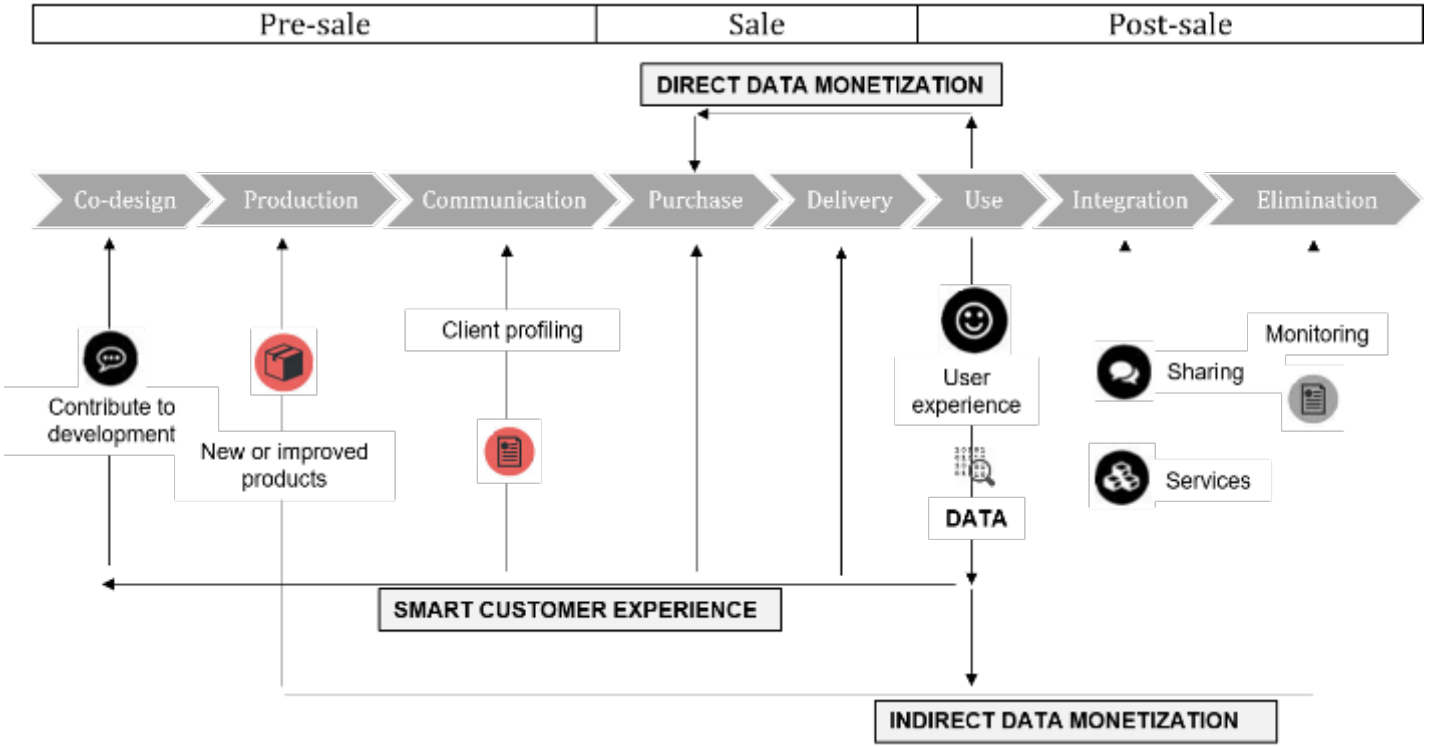
The Data Driven business model consists of exploiting the knowledge represented by the data collected from the customer for the generation of high added value services, shared experiences and co-creation logics to transform the user experience.

Fundamental concepts:

- Digital first products: able to collect, transmit and process data, and therefore, to make choices and act independently;
- Customer Intimacy 4.0: adaptive products that reconfigure themselves independently based on the use of the same by the individual customer;
- Emerging expectations: when technologies change the experiences of use in a sector, people generate expectations about the extension of new habits also in other areas and/ or sectors.

Source: Baban A., Cirrincione A., Mattiello A., (2017), MIND THE CHANGE. Capire il cambiamento per progettare il business del futuro. Guerini NEXT

Data Driven business model



Platform business model

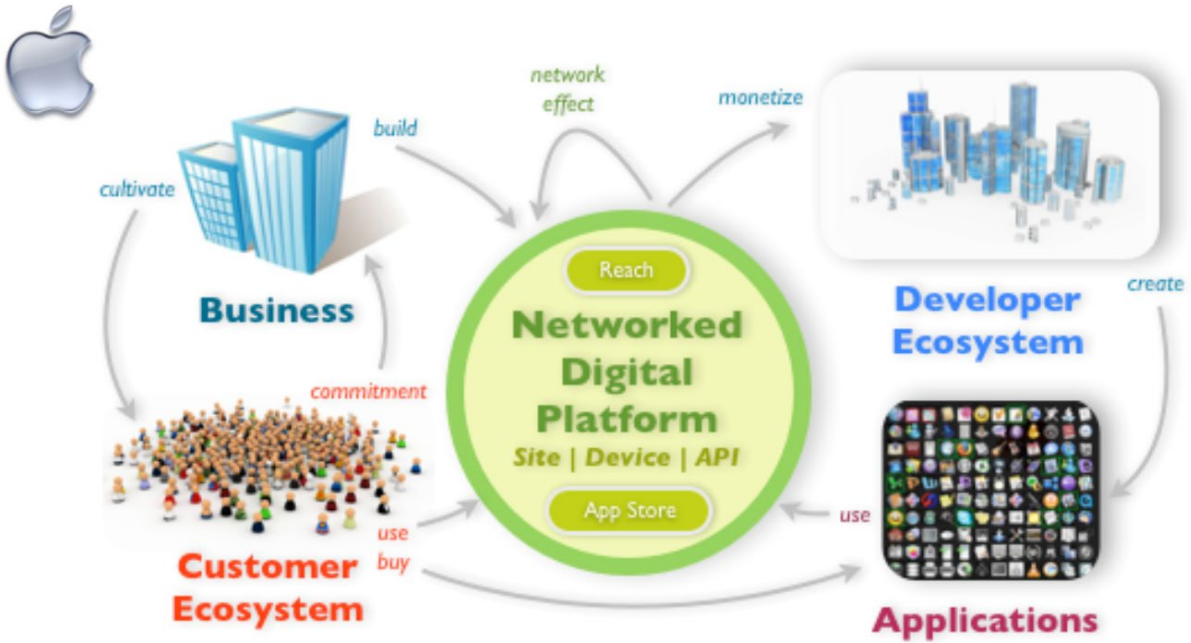
The Platform business model consists of an *interaction-first* approach in which it is assumed that the interaction between producers and consumers is the main mechanism for creating and exchanging value on platforms.

Fundamental concepts:

1. The ecosystem is the new warehouse
2. The ecosystem is also the new supply chain
3. The network effect is the new driver for scale
4. Data is the new dollar
5. Curation and reputation are the new quality control
6. User journeys are the new sales funnels
7. Behavior design is the new loyalty program
8. Data science is the new business process optimization
9. Algorithms are the new decision makers
10. Social feedback is the new sales commission
11. Real-time customization is the new market research
12. Plug-and-play is the new business development

Source: Choudary S. P. (2015), Platfrom Scale. How an emerging business model helps startups build large empires with minimum investment

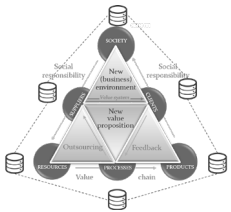
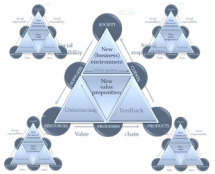
Platform business model



From http://blogs.zdnet.com/Hinchcliffe

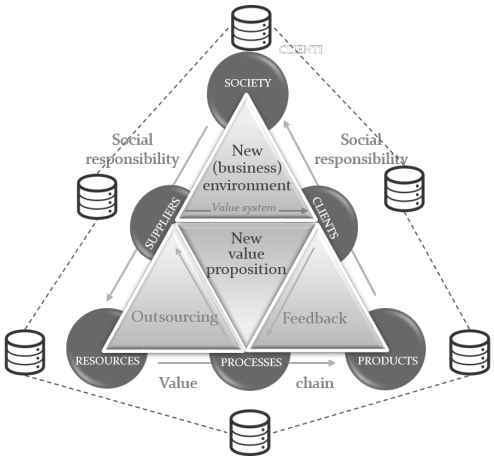
From Business model 4.0 to Business model digital first

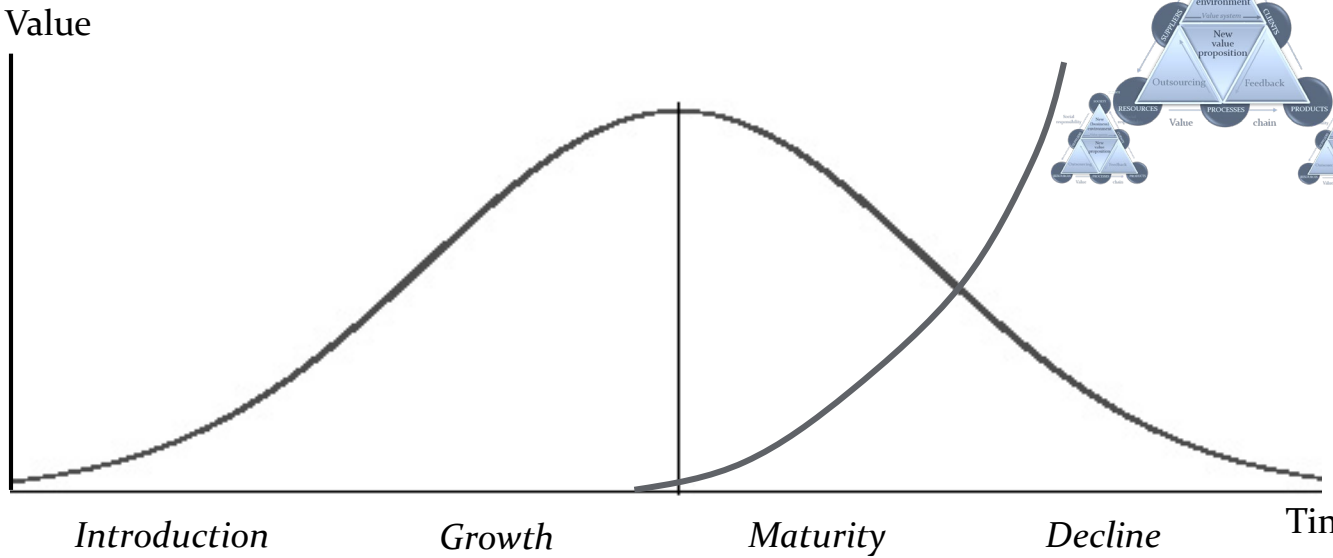
Algorithmic spin-off, algorithmic re-starup, algorithmic startup

Business model		Business	
		Existing	New
	Existing	**Digitalized firm** 	**Algorithmic spin-offs** 
	New	**Algorithmic re-startup** 	**Algorithmic startup** Lack of connection with the existing business model

Algorithmic spin-off

can sustain the existing business model over time

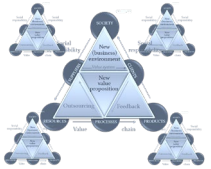




Algorithmic spin-off

The case of Tesco Bunnhumby

Business model		Business: Existing	Business: New
	Existing	**Digitalized firm** TESCO	**Algorithmic spin-off** dunnhumby With a mix of technology, software and consulting, Dunnhumby democratizes customer data science, allowing companies to compete and prosper better by putting customers first.
	New		



Algorithmic re-startup

The case of Walmart Retail Link

Business model		Business	
		Existing	New
	Existing	**Digitalized firm** Walmart	
	New	**Algorithmic re-startup** Walmart Retail Link Retail Link is an online hub for data, documentation, reports and special applications that suppliers use to manage their business with Walmart.	

Algorithmic startup

The case of Unox Exever

Business model		Business: Existing	Business: New
	Existing	**Digitalized firm**  Unox data-driven cooking monitors performance and sets goals to increase the use and profitability of your ovens.	
	New		**Algorithmic**  Exever is a technology for storing cooked food and cooking at low temperatures, allowing you to reach high quality levels.

Lack of connection with the existing business model