

# DEMO



SOFIA UNIVERSITY  
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# Digital Business Models

## Value creation & impact of GenAI technologies



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# Agenda

- 1. What is a business model and how we define value creation?
- 2. What are the key elements of a business models?
- 3. What are the differences between digital and traditional business models?
- 4. How digital technologies made business models complex?
- 5. Examples of traditional and digital business models
- 6. Evolution of business models

**HOW AI IS DISRUPTING BUSINESS MODELS?**

## Learning Outcomes

Explore basic definitions: what is a business model

Learn the elements and building blocks of Business Models and value creation;

Explore the differences between pipeline and platform business models

Identify examples of traditional and digital business models

Explore the impact of AI on Business model innovation



# 1. What is a business model?

- "A business model describes the rationale of how an organization creates, delivers, and captures value."

Alexander Osterwalder & Yves Pigneur (2010)



Every company has a business model!

A good business model is essential for any company that wants to succeed in the long term.

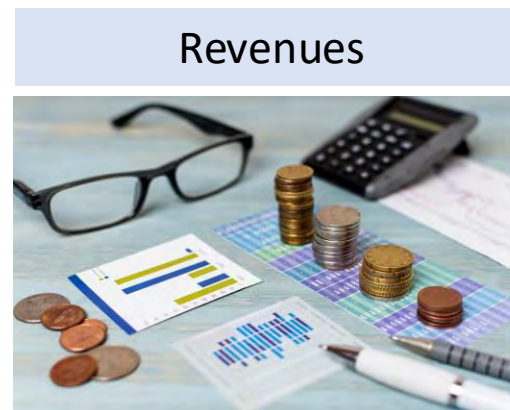
Digital technologies support evolution of more complex business models.

## 1. What is a business model?

- A business model is a strategic framework that describes:
  - (1) how a company **creates value** for its customers and stakeholders
  - (2) how it generates **revenue** from its operations in a long term.



Customers & Stakeholders



Revenues



Long Run

# Business models dimensions

- Teece (2010) refers to three dimensions of a business model:  
**(1) value creation, (2) value delivery and (3) value capture.**
- The business model defines the manner by which company
  - delivers value to customers,
  - attracts customers to pay for the delivered value and
  - transforms those payments into a profit.

Teece (2010)

With changing markets, legal environments, and technological innovations<sup>3</sup>, business models must also change.

# What is behind a business model?

$$\text{REVENUES} - \text{COSTS} = \text{PROFIT}$$

Who will pay and why will pay?

How to deliver value to customers

How to attracts customers to pay for the delivered value

How to transform those payments into a profit



# What is a business model?

## HOW AI IS DISRUPTING BUSINESS MODELS?

$$\text{max REVENUES} - \text{min COSTS} = \text{max PROFIT}$$

Who will pay and why he/she will pay?

How to deliver **more** value to customers?

How to attracts customers to pay **more** for the delivered value?

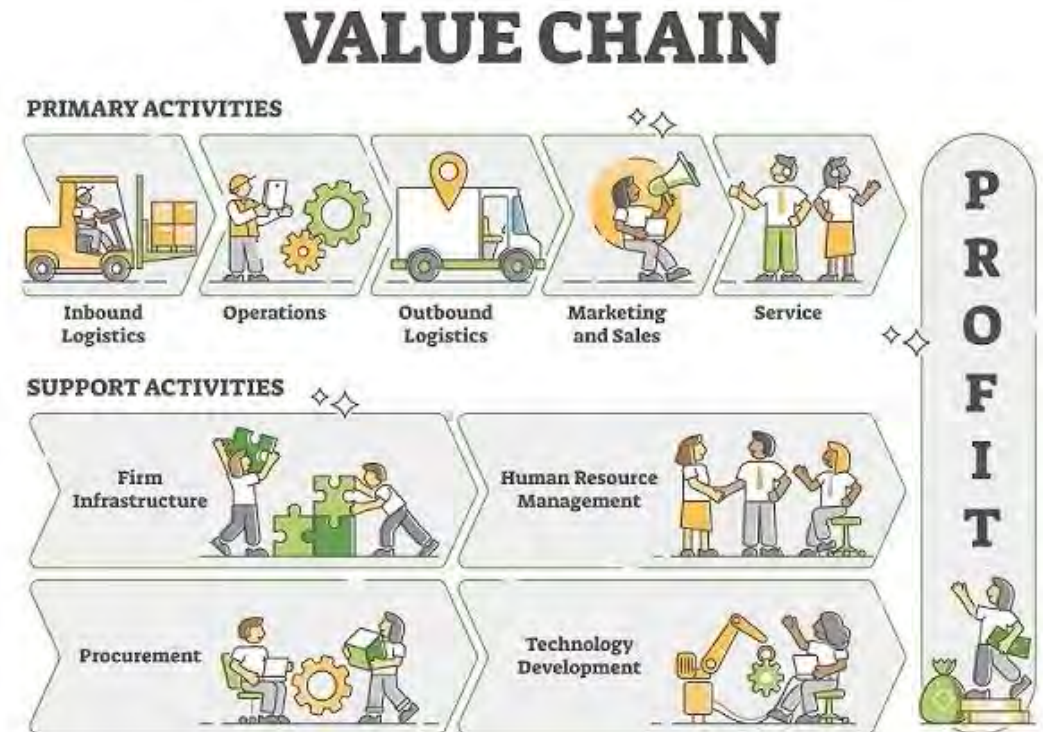
How to transform those payments into **a profit**?



## 1. What is a business model?

The BM explains:

- what is the value chain of the company
- how to develop a strong and sustainable business model
- how company can succeed in **the long term.**



# What is a business model?

- a) A plan for how a company will make a profit.
- b) A blueprint for a company's organizational structure.
- c) A set of legal documents required to start a business.
- d) A marketing strategy for a company's products.

## Q&A

## HOW AI CAN DISRUPT A BUSINESS MODEL?

## 2. What are the key elements of a business model?

### VALUE PROPOSITION – the center of the Business model

- “Value Proposition is an overall view of .. products and services that together represent **value** for a specific customer segment. It describes the way a firm differentiates itself from its competitors and is the reason why customers buy from a certain firm and not from another.”

Osterwalder (2004)

- This is the unique benefit or solution that a company offers to its customers. It should address a customer need or problem and differentiate the company from its competitors.



# 2.1 VALUE PROPOSITION

What is the **role** of the company?

**HOW AI CAN DISRUPT THIS ROLE?**

	Role description
<b>Creator</b>	Buys raw materials or components from suppliers and then transforms or assembles them to create a product sold to buyers. Predominant business model in manufacturing.
<b>Distributor</b>	Buys a product and resells essentially the same product to someone else. The Distributor provides additional value by additional services: transporting, repackaging the product, customer service and others.
<b>Landlord</b>	Sells the right to use, but not own, an asset for a specified period of time. Provide not only temporary use of physical assets (like houses and airline seats), but also lenders who provide temporary use of financial assets (like money), and contractors and consultants who provide services produced by temporary use of human assets.
<b>Broker</b>	Facilitates sales by matching potential buyers and sellers. Broker does not take ownership of the product being sold, but receives a fee (or commission) from the buyer, the seller, or both. This business model is common in real estate brokerage, stock brokerage, and insurance brokerage.

Lai, Weill, and Malon "Do Business Models Matter?" Information Systems Research journal 2006.

# 2.1 VALUE PROPOSITION



What are the assets?

**HOW AI CAN INCREASE VALUE-IN-USE?**

	Types description
<b>Physical assets</b>	<ul style="list-style-type: none"><li>• durable items (houses, computers, machine tools)</li><li>• nondurable items (food, clothing, and paper).</li></ul>
<b>Intangible assets</b>	<ul style="list-style-type: none"><li>• include legally protected intellectual property (such as patents, copyrights, trademarks, and trade secrets)</li><li>• digital assets, software algorithms</li><li>• other intangible assets like knowledge, goodwill, and brand image.</li></ul>
<b>Financial assets</b>	<ul style="list-style-type: none"><li>• cash and other assets like stocks, bonds, and insurance policies that give their owners rights to potential future cash flows.</li></ul>
<b>Human</b>	<ul style="list-style-type: none"><li>• include people's time and effort.</li><li>• People are not "assets" cannot be bought and sold, but their time and knowledge can be "rented out" for a fee.</li></ul>

Lai, Weill, and Malon "Do Business Models Matter?" Information Systems Research journal 2006.



## 2.1 VALUE PROPOSITION

What is the offering?

**HOW AI CAN INCREASE THE OFFERING?**

	Selling the right of
<b>ownership of an asset</b>	Customers buy the right of ownership of an asset have the continuing right to use the asset in (almost) any way they want, including selling, destroying, or disposing of it= the seller of an asset transfers residual rights to the buyer
<b>use an asset</b>	Customers buy the right to use the asset in certain ways for a certain period of time, but the owner of the asset retains ownership and can restrict the ways customers use the asset. And, at the end of the time period, rights revert to the owner.
<b>to be matched with potential buyers or sellers</b>	A Broker facilitates sales by matching potential buyers and sellers. Unlike a Distributor, a Broker does not take ownership of the product being sold. Instead, the Broker receives a fee (or commission) from the buyer, the seller, or both.

Lai, Weill, and Malon "Do Business Models Matter?" Information Systems Research journal 2006.

# Elements of a business model

## HOW AI CAN ADD VALUE?

	Physical assets	Intangible assets	Financial assets	Human
Creator	Manufacturer (GM)	Inventor (Lucent Bell Labs)	Entrepreneur (Kleiner Perkins)	Not applicable
Distributor	Wholesaler/ Retailer (Wal*Mart)	IP Trader (NTL Inc.)	Financial Trader (Merrill Lynch)	Not applicable
Landlord	Physical Landlord (Hertz)	IP Landlord (Microsoft)	Financial Landlord (Citigroup)	Contractor (Accenture)
Broker	Physical Broker (eBay)	IP Broker (Valassis)	Financial Broker (Charles Schwab)	HR Broker (EDS)

Lai, Weill, and Malon "Do Business Models Matter?" Information Systems Research journal 2006.

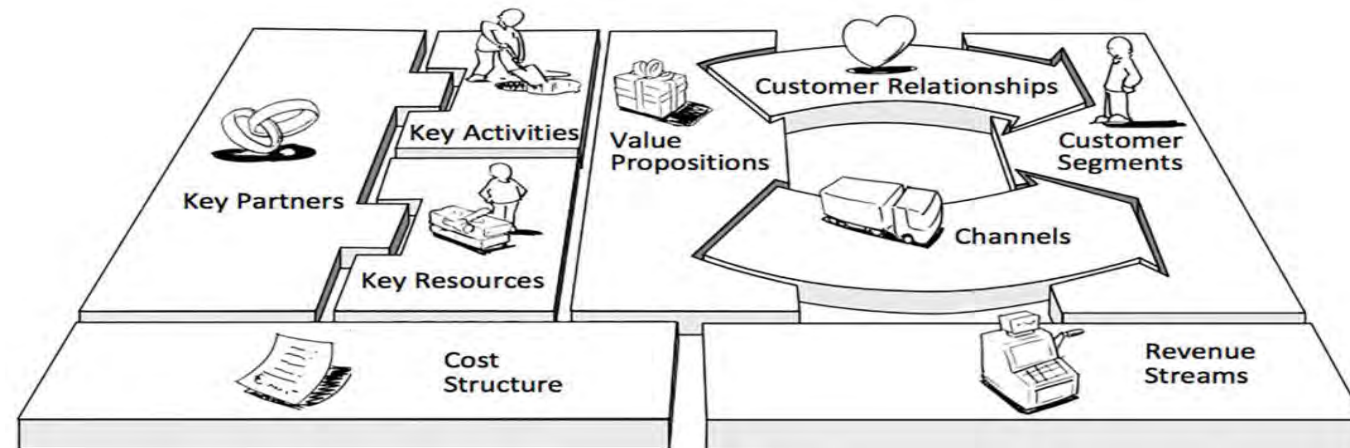
# What is a value proposition?

- a) A statement that explains why a customer should buy a company's product or service.
- b) A statement that explains the company's operational structure.
- c) A statement that explains the company's marketing strategy.
- d) A statement that explains the company's revenue streams.

**Q&A**

## 2. What are the key elements of a business model?

- The **Business Model Canvas (BMC)** is a tool which helps to map existing business models, improve them and invent new ones. It has 9 building blocks and is proposed by Osterwalder (2004).



### HOW AI CAN DISRUPT A BUSINESS MODEL?



Adapted from 'Business Model Generation', Alexander Osterwalder, Wiley 2012.  
www.businessmodelgeneration.com  
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## 2. The key elements of a business model



- **Customer Segments:**

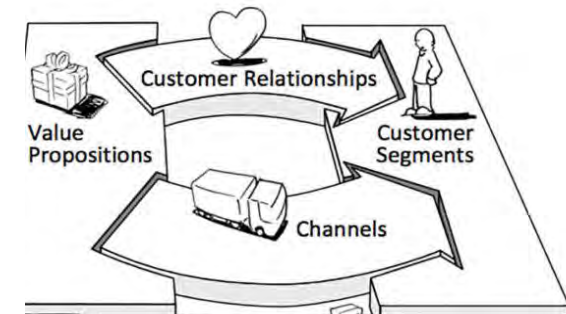
- The specific groups of customers that a company targets with its products or services. Different customer segments may have different needs and require different value propositions.

- **Channels:**

- The ways in which a company reaches and communicates with its customers. Channels can include physical storefronts, online platforms, social media, and more.

- **Customer Relationships:**

- Describes how a company interacts with its customers and builds relationships with them. It can include things like customer service, personalization, and community building.



## 2. What are the key elements of a business model?

- **Key Resources:**

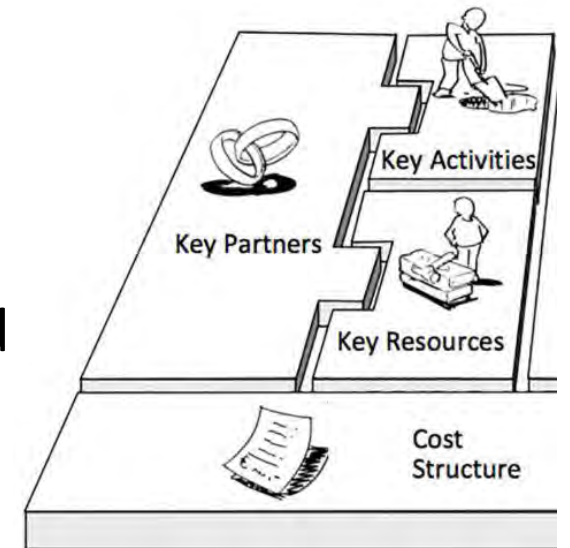
- Include the resources that a company needs in order to create and deliver its products or services. This can include physical assets like equipment and facilities, as well as intangible assets like intellectual property and brand reputation.

- **Key Activities:**

- Specific actions that a company must take in order to create and deliver its products or services. Key activities can include things like manufacturing, marketing, and customer service.

- **Key Partners:**

- These are the external parties that a company relies on to create and deliver its products or services. This can include suppliers, distributors, and other strategic partners.



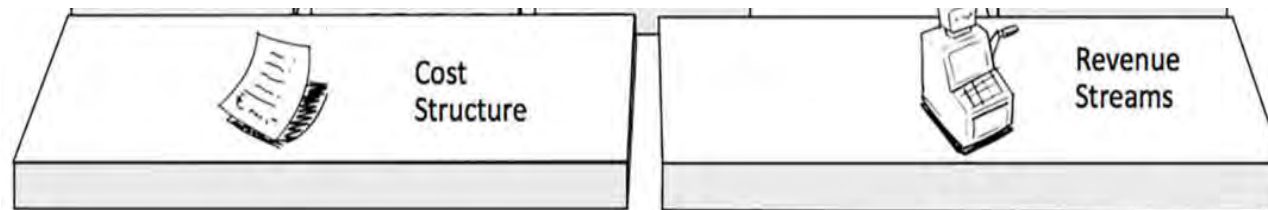
## 2. What are the key elements of a business model?

- **Revenue Streams:**

- This refers to the ways in which a company generates income from its products or services. Revenue streams can include one-time purchases, subscriptions, advertising, and more.

- **Cost Structure:**

- This describes the costs that a company incurs in order to create and deliver its products or services. This can include things like manufacturing costs, marketing expenses, and employee salaries.



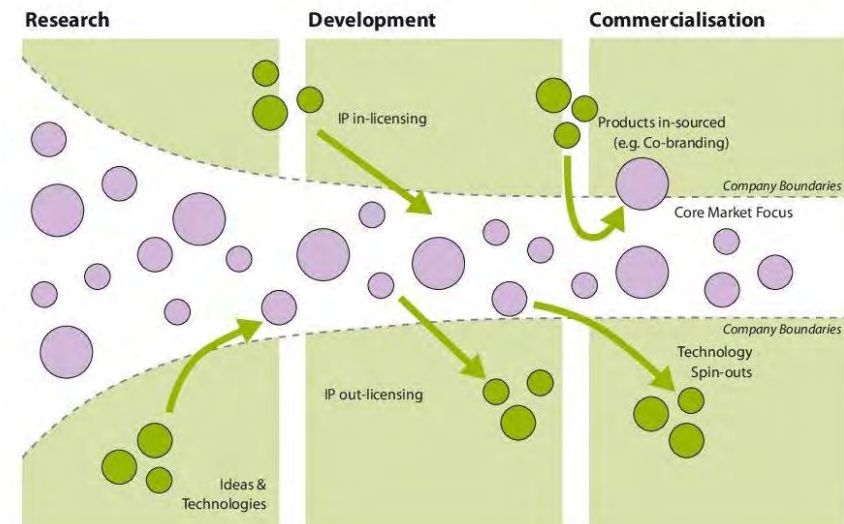
## Revenue model

- What is the difference between a direct and an indirect revenue model for a Business model?
  - Generating revenue from the sale of products or services,
  - Generating revenue from sources other than the sale of products or services.

DATA      EXPERIENCES  
 ADVERTISEMENTS  
 NETWORKING

Products  
 Services  
  
 Phygital

**HOW AI CAN DISRUPT A BUSINESS MODEL?**



# AI Business model Canva

## The new considerations for AI business models:

- Where is the data today? What form is it in?  
*(the data is everything in AI!)*
- What outputs do you want from this AI technology?  
*(what problem are you solving?)*
- What AI "skills" we need?  
*(what partners your business might work with, or what open source libraries you might use)*
- What new skills will we need to *Train, Sustain and Maintain* any AI?
  - *(ethics, audit, forensic analysts, hardware robotics engineers ...)*

<https://www.linkedin.com/pulse/ai-business-model-canvas-christopher-lomas/>

## The AI Business Model Canvas

Designed by: <input type="text"/>	Designed for: <input type="text"/>	Version: <input type="text"/>
		Date: / /

Key Partners	Inputs	Value Proposition	Skills	Users and Buyers	Key Resources
	Outputs		Trainers		Channels
Costs			Revenue		

**HOW AI IS DISRUPTING BUSINESS MODELS?**

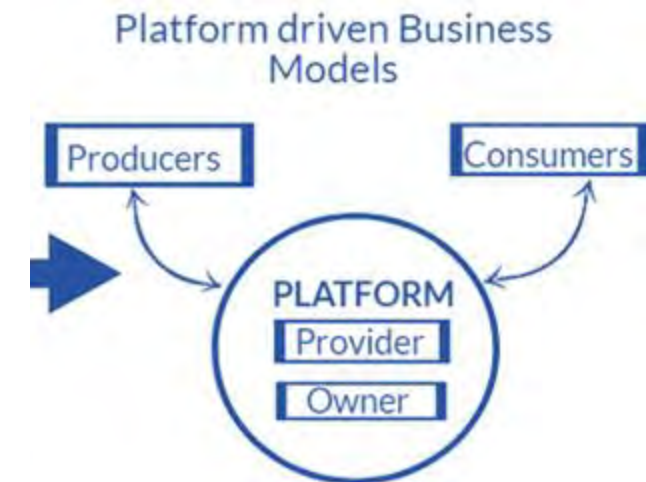
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## 3. Digital business models

- **Digital business models** leverage technology to create new and innovative products or services, transform existing industries and create new markets.
- **Platform thinking** offers many benefits and better models to connect to third parties, to facilitate transactions and efficiency in company assets management and innovations.



One of the most influential definitions of platform business models was proposed by Parker, Van Alstyne, and Choudary in the 2016 HBR article "Platform Revolution."

### 3. Platform Business model

- **A platform business model** is a type of business model where the company creates value by **facilitating exchanges** between different groups of users on a digital platform.
- Platform business models represent a more networked and decentralized approach to creating and capturing value than pipeline business models.

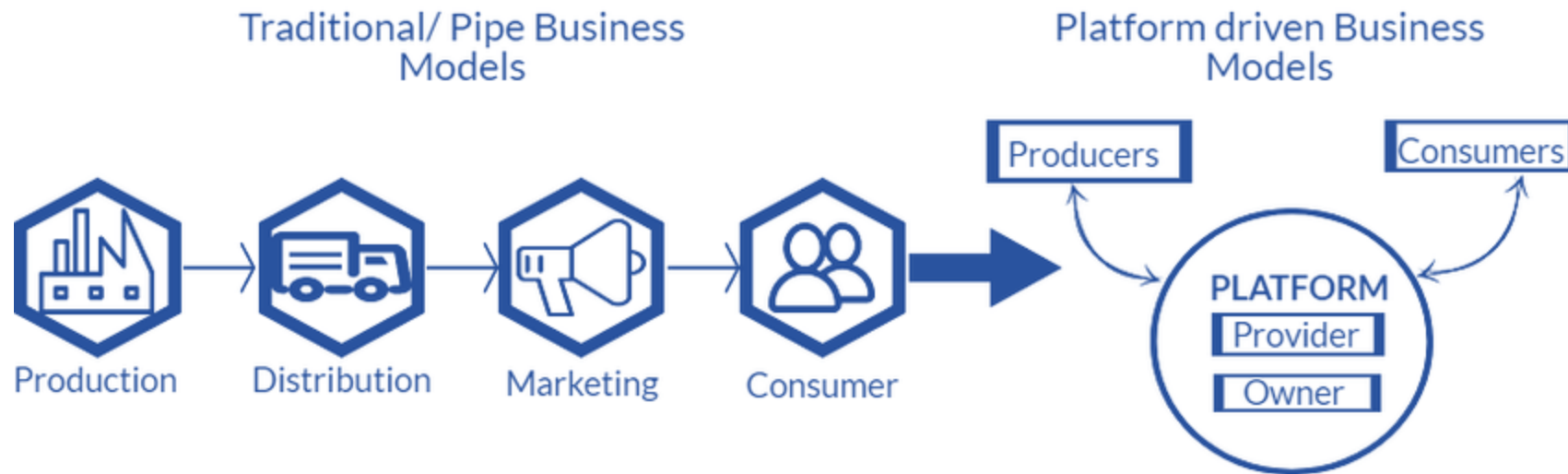


### 3. What is Platform Business Model

- The **platform business** model is an infrastructure that facilitates interactions among users.
  - Brynjolfsson and McAfee (2017); Devereux and Vella (2017), Parker and Alstyne (2014),
- The **platform business model** sets the rules of mutual interactions between participants and is an environment in which social and economic interactions are mediated online.
  - Kenney and Zysman (2016),
- The **platform business models** are based on enabling value-creating interactions between third-party (external) participants. These interactions take place within the framework of rules set by the platform, with the objective of enabling value creation by facilitating the exchange of goods or services
  - Papadopoulos (2019); UNCTAD11 (2019); Parker, Alstyne and Choudary (2016)

## 3. Platform Business model

Platform business models and pipeline business models represent two distinct ways of creating and capturing value in business.



Examples of pipeline businesses include manufacturing companies, while examples of platform businesses include Uber, Airbnb, and Amazon Marketplace.

# 3. Key characteristics of Platform digital business models

## Digitally enabled value proposition

How to leverage technology to offer a unique value proposition that is not easily replicable by traditional competitors.

## Data-driven decision making

Rely on data analysis for making informed decisions about product development, marketing, and operations.

## Scalability

Potential to scale rapidly and reach a large customer base at a low cost.

## Network effects

Benefit from network effects, where the value of the product or service increases as more users join the platform.

## Disruptive innovation

Potential to disrupt traditional industries and create new markets by offering innovative solutions to customer needs.

## 4. How platform business models are complex?

- The platform business models differentiate from pipeline business mainly by:
  - network effects,
  - increasing value by adding more users,
  - self-reinforcing cycle of growth;
  - digital technologies - capturing, transmitting, and monetizing data over the Internet;
  - economy of scale,
  - and lock-in effects.

(Gawer, 2014)

How do digital platform business models enable pipeline businesses to reach new customers?

- a) By providing a wider range of physical products to choose from.
- b) By creating a personalized and engaging customer experience.
- c) By leveraging the power of social media and digital marketing.
- d) By offering exclusive discounts and promotions to customers who shop on the platform.

# What are network effects?

- a) The positive feedback loop that occurs when a product or service becomes more valuable as more people use it.
- b) The negative consequences of relying too heavily on technology in a business model.
- c) The legal protections that prevent competitors from copying a company's products or services.
- d) The process of segmenting a target market into smaller groups based on specific characteristics.

# What is a two-sided market?

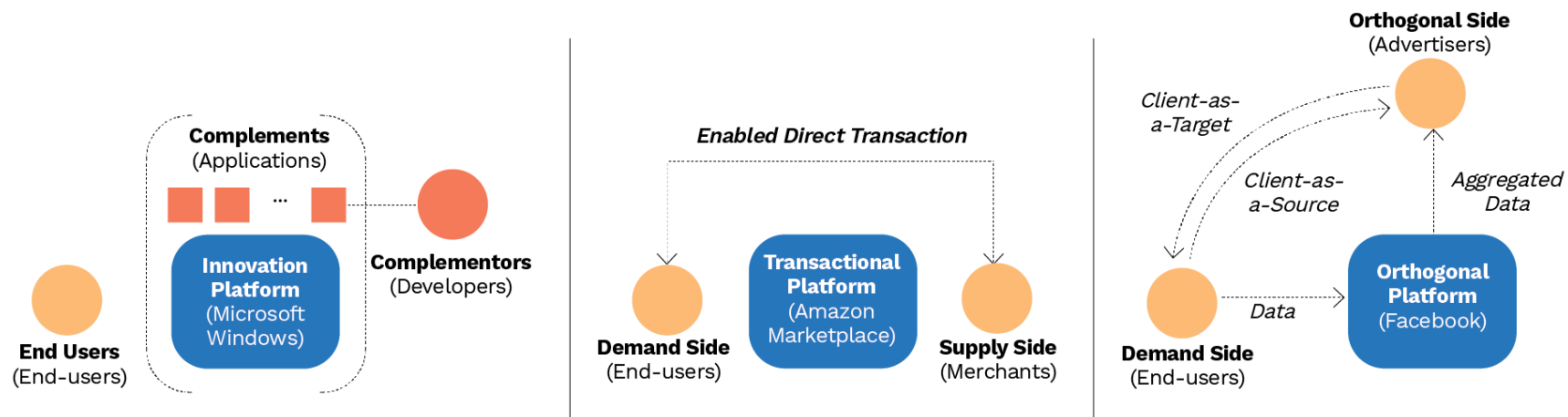
- a) A market in which there are two dominant competitors.
- b) A market in which a company operates both online and offline.
- c) A market in which a company serves two distinct groups of customers who provide value to each other.
- d) A market in which a company produces two different types of products or services.

# What is the difference between a platform and a marketplace?

- a) A platform provides a set of tools and services for creating and managing digital products, while a marketplace is a platform for buying and selling goods or services.
- b) A platform is designed for businesses, while a marketplace is designed for consumers.
- c) A platform provides a platform for companies to compete with each other, while a marketplace allows companies to cooperate with each other.
- d) A platform charges users for access to its tools and services, while a marketplace charges a commission on transactions.

# Types of platforms BM

**FIGURE 1** The main typologies of platforms



	Innovation Platforms	Transactional Platforms	Orthogonal Platforms
<b>Defining characteristics</b>	<ul style="list-style-type: none"> <li>Two customers: demand side + complementors</li> <li>Bi-directional cross-side network externalities</li> </ul>	<ul style="list-style-type: none"> <li>Two customers: demand side + supply side</li> <li>Bi-directional cross-side network externalities</li> </ul>	<ul style="list-style-type: none"> <li>Two customers: demand side + orthogonal side</li> <li>Uni-directional cross-side network externalities</li> </ul>
<b>Examples</b>	<ul style="list-style-type: none"> <li>Windows, iOS, Android</li> </ul>	<ul style="list-style-type: none"> <li>Amazon Marketplace, Airbnb, Uber</li> </ul>	<ul style="list-style-type: none"> <li>Facebook, Google Search Engine, Newspapers</li> </ul>

How can digital platform business models help pipeline businesses improve their agility and adaptability?

- a. By providing a more stable and predictable revenue stream.
- b. By enabling faster response times to changes in customer demand and market trends.
- c. By eliminating the need for physical inventory and reducing the risk of overstocking.
- d. By providing access to a network of suppliers and partners who can quickly adapt to changes in demand.

## 5. Business models innovations

- Business model innovation involves creating new business models or modifying existing ones to better meet customer needs and capture value.
- Researchers have identified several types of **business model innovation**, including product-based innovation, service-based innovation, technology-based innovation, and business-process innovation.

## 5. Business models evolution - History

- In the 1950s, new business models came from McDonald's Restaurants and Toyota.
- In the 1960s, the innovators were Wal-Mart and Hypermarkets.
- The 1970s saw new business models from FedEx and Toys R Us;
- the 1980s from Blockbuster, Home Depot, Intel, and Dell Computer;
- the 1990s from Southwest Airlines, Netflix, eBay, Amazon.com, and Starbucks.




- Examples
- Digital Business Models

## Infomance

### Internet Is CHANGING THE GAME

 **Amazon** has almost no stores.

 **Uber** owns almost no cars.

 **Facebook** creates no content.

 **Alibaba** has no inventory.

 **Netflix** is not a channel.

 **Bitcoin** has no physical coin.

CONTINUE THIS...

[www.infomance.com](http://www.infomance.com)

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# 5. Business models examples

BUSINESS MODEL	DESCRIPTION	EXAMPLES
SUBSCRIPTION	Takes a product/service traditionally purchased on an ad hoc basis and locks in repeat customers by charging a subscription fee	NETFLIX, APPLE MUSIC
FREEMIUM	Users pay for product/service with their data rather than their money, then are charged to upgrade to a full offer	SPOTIFY, LINKEDIN, DROPBOX
FREE	Involves selling personal data or 'advertising eyeballs' harvested by offering consumers a free product/service	GOOGLE, FACEBOOK
MARKETPLACE	Provides a digital marketplace that brings together buyers and sellers in return for a transaction/placement fee or commission	eBAY, ITUNES, APP STORE, UBER, AIRBNB
ACCESS-OVER-OWNERSHIP	Provides temporary access to goods/services traditionally only available through purchase; includes 'sharing economy' disruptors	ZIPCAR, PEERBY, AIRBNB
HYPERMARKET	'Brand bombing' using sheer market power and scale to beat competition, often by selling below cost price	AMAZON, APPLE
EXPERIENCE	Disrupts by providing a superior experience, for which people are prepared to pay	TESLA, APPLE
PYRAMID	Recruits an army of resellers and affiliates who are often paid on a commission-only model	AMAZON, MICROSOFT, DROPBOX
ON-DEMAND	Monetises time and sells instant access at a premium; includes taking a commission from people with money but no time who pay for goods/services delivered by people with time but no money	UBER, OPERATOR, TASKRABBIT
ECOSYSTEM	Sells an interlocking and interdependent suite of products/services that increase in value as more are purchased, creating consumer dependency	APPLE, GOOGLE

Source: Digital Intelligence Today, Syzygy/WPP 2015

## 5. Business models examples

### BRICK & MORTAR

**E-COMMERCE** *vs* **BRICK & MORTAR**

24/7 SERVICE	24/7 OPENING HOURS	HUMAN CUSTOMER SERVICE
DISCOUNTED PRICES	DISCOUNTED PRICES	INSTANT GRATIFICATION
QUICK PRODUCT DISCOVERY	QUICK PRODUCT DISCOVERY	PARTICIPATION IN PROMOTIONS
FLEXIBLE RETURNS	FLEXIBLE RETURNS	TRUST AND LEGITIMACY
COMPARISON SHOPPING	COMPARISON SHOPPING	SENSORY SHOPPING EXPERIENCE
LARGE SELECTION	LARGE SELECTION	ONE-ON-ONE SALES
FREE SHIPPING	FREE SHIPPING	LOCATION, LOCATION, LOCATION

**EMERGE**

## 5. Business models examples

### FREEMIUM MODEL

#### Why Customers Like the Freemium Model



##### 1. It costs nothing.

Simply put, people like the principle of "free." And the truth is, over the years, many have grown accustomed to accessing a lot of online content without having to pay for it.



##### 2. It allows testing.

With free services, users can test and become familiar with an otherwise unknown product. If they later become interested in the more advanced features, they'll have already had the opportunity to try the core product.



##### 3. It's just right.

Most consumers have only basic needs and are perfectly satisfied with the free features that freemium businesses offer. At the same time, if they did want to start paying for the premium upgrade at any time, the option is available.



##### 4. Simplicity.

The process to start using a freemium product or service is easy and quick. Usually, the product works on a wide variety of platforms so all the customer would have to worry about is downloading or signing up for the free service. Luckily, many freemium businesses also have short tutorials on the site to explain how it all works.

## 5. Business models examples

### SUBSCRIPTION



### KEY ADVANTAGES AND DISADVANTAGES

SUBSCRIPTION BUSINESS MODELS



#### VENDOR'S PERSPECTIVE

CUSTOMER RETENTION  
BUSINESS PREDICTABILITY  
CUSTOMER FEEDBACK LOOP  
HIGH OVERALL REVENUE

**PROS**

INNOVATION PRESSURE  
COMPLEX METRIC / KPI  
PROCESS STREAMLINING  
RISK OF CHURN

**CONS**

#### CUSTOMER'S PERSPECTIVE

CUSTOMER CONVENIENCE  
EXCLUSIVITY  
AFFORDABILITY  
INFLUENCE ON THE VENDOR

**PROS**

REPETITIVE, BORING PRODUCT  
LOSS OF PURCHASE CONTROL  
SUBSCRIPTION ADVERSITY

**CONS**



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## 5. Business models examples

### RAZOR & BLADE vs BAIT & HOOK

Gillette Business Model



### Razor & Blade



iTunes  
Additional product  
– Apps, Music



Base product - Ipod

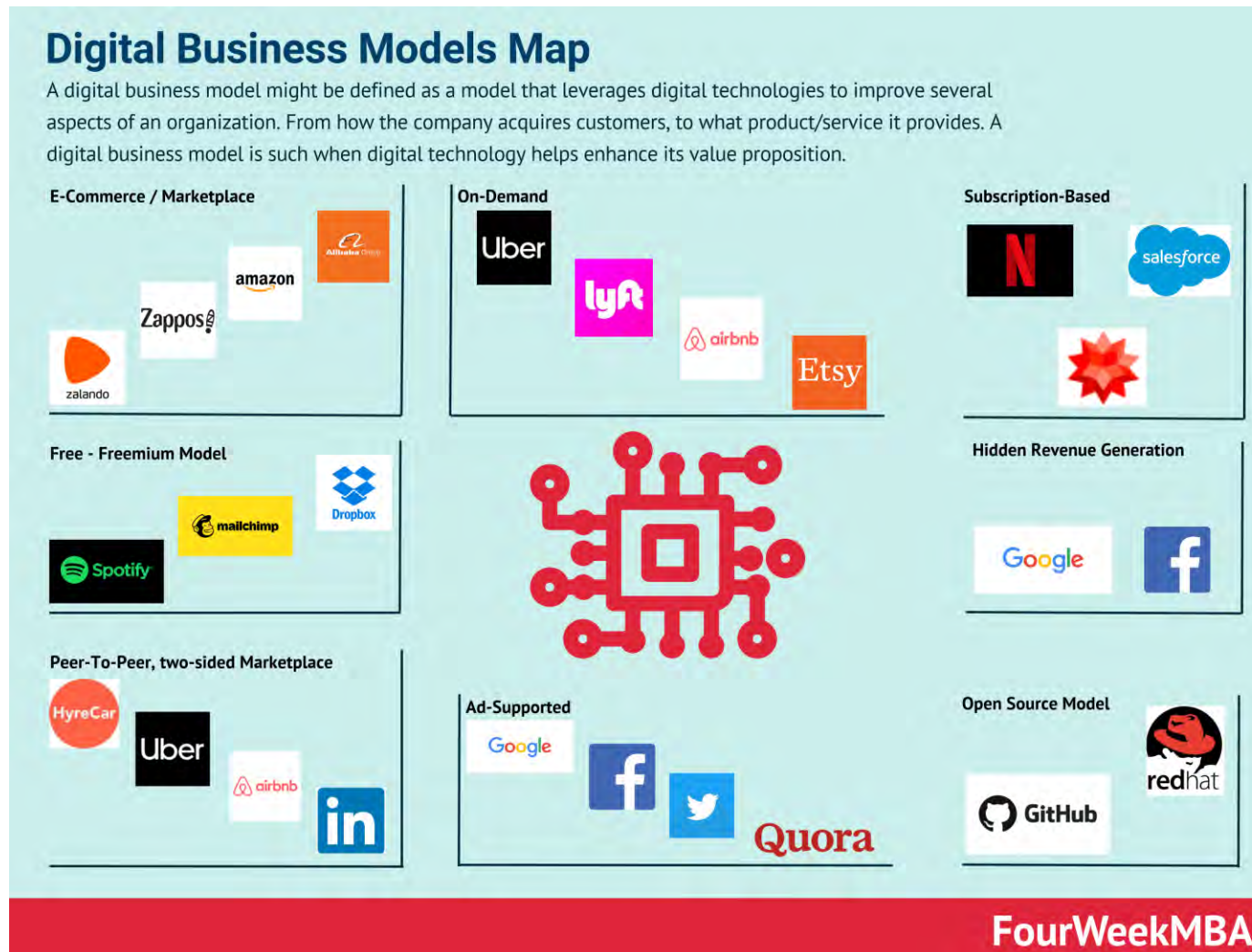


Additional product  
– Coffee Capsules



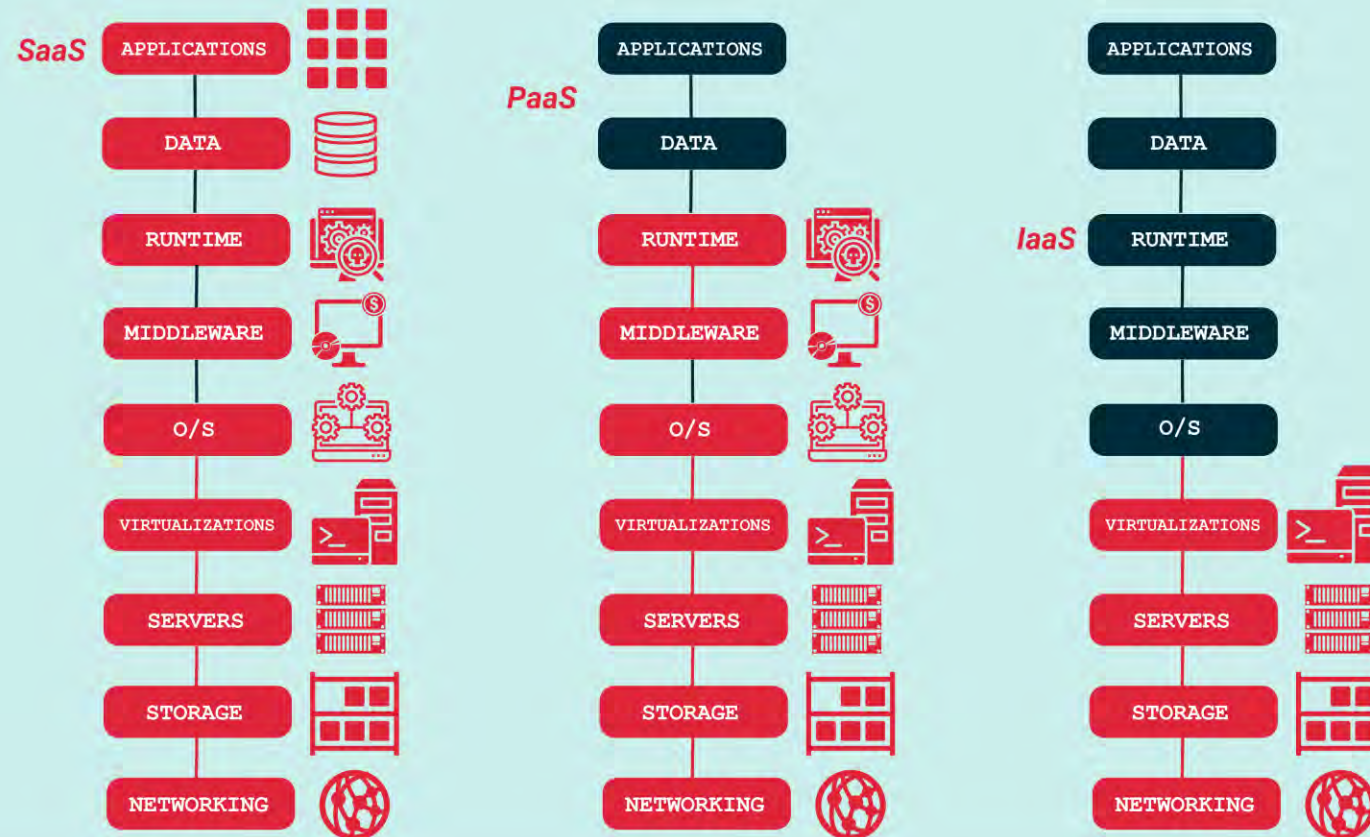
Base product – Coffee Machine

## 5. Emerging Digital Business models



## AI Business Models

AI business models have exploded, as companies like DeepMind and OpenAI have created large-scale generative models, which are propelling an entire industry of AI software developed on top of those models.



Graphic inspired by - IaaS, PaaS, IaaS Features: Red Hat - What Is PaaS?

FourWeekMBA

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- Thank you for your attention!

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