Blockchain and Business Models

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What's the plan for this lecture?
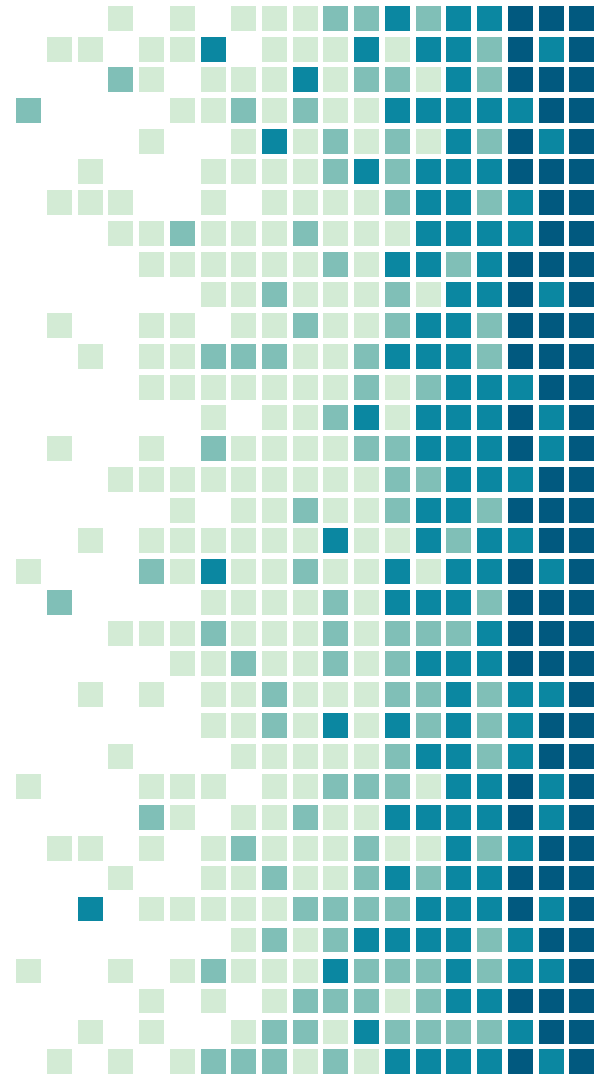
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Business models → Digital transformation → DT and blockchain → Examples
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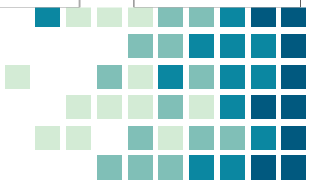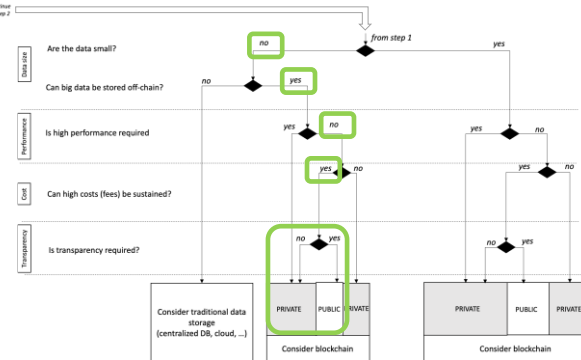# References

[AZ01]   Amit, R., Zott, C. (2001) 'Value creation in eBusiness', Strategic Management Journal, 6 7(22), p493−520. https://doi.org/10.1002/smj.187

[Mag02] Magretta, J. (2002) 'Why business models matter', Harvard Business Review, 80(5), p86−92. Harvard Business School

[OP10] Osterwalder, A., Pigneur, Y. (2010) Business Model Generation. Hoboken: John Wiley & Sons

[Gref15] Grefen, P. (2015) Service-Dominant Business Engineering with BASE/X: Business Modeling Handbook. Eindhoven: Independently Published

[VL04] Vargo, S., Lusch, R. (2004) 'Evolving to a New dominant logic for marketing', Journal of Marketing, 68, p1−17. https://doi.org/10.1509/jmkg.68.1.1.24036

1.
What is a business model

Limitations of "suitability" analysis

Who are the partners involved?

Why should they participate?
(What would be their costs/revenues?)

How is applying blockchain going to change
a business scenario?

Definitions of business model

1. A business model depicts the design of transaction content, structure, and governance so as to create value through the exploitation of new business opportunities [AZ01].

2. The business model tells a logical story explaining who your customers are, what they value, and how you will make money in providing them that value [Mag02].

3. A business model describes the rationale of how an organization creates, delivers, and captures value [OP10].

4. A business model is a setup of a number of collaborating parties to produce and deliver a concrete value-in-use to a specific customer segment [Gref15].
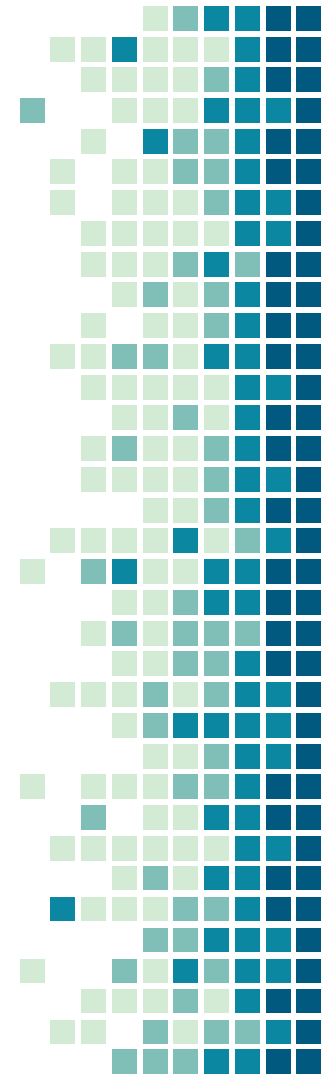
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How to specify a business model?

Inside-out:
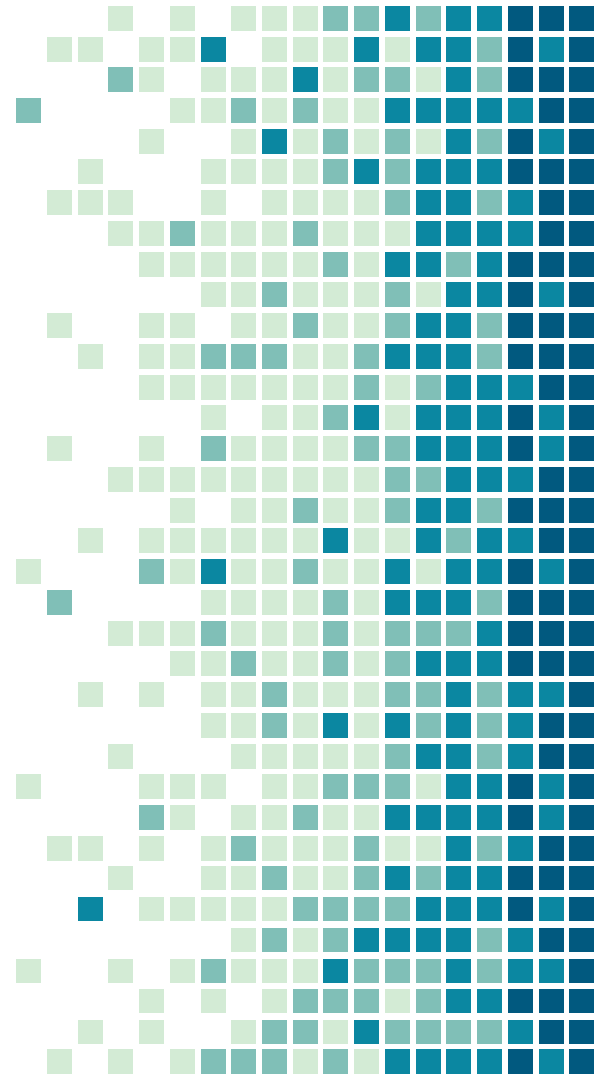Business Model Canvas (BMC)

Outside-in:
Business Model Radar (BMR)
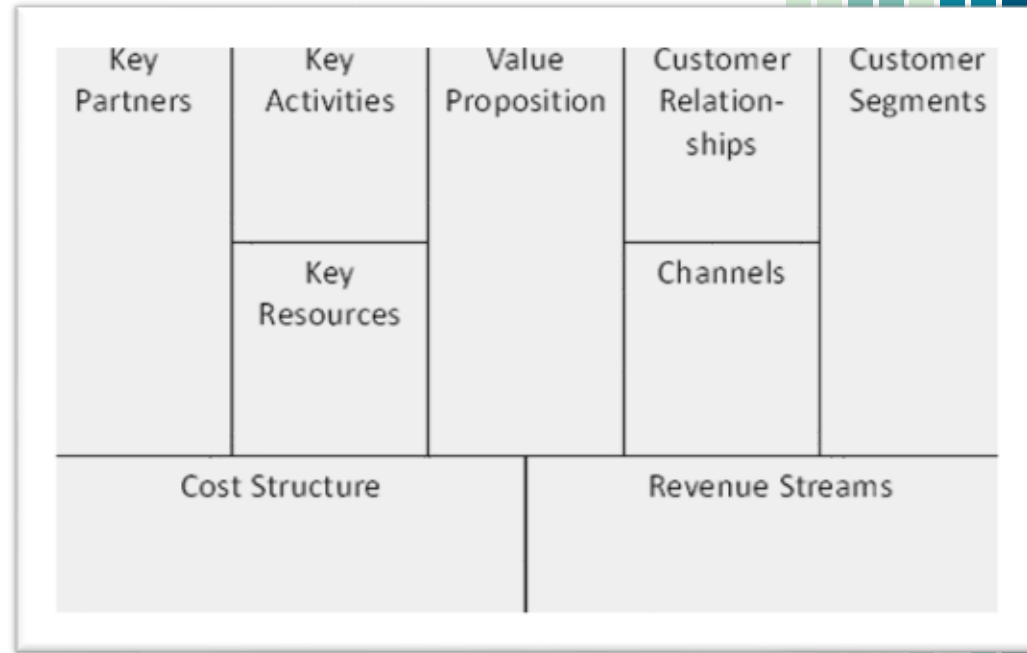
2.
Specifying Business Models

Business Model Canvas (inside-out)

Take the viewpoint of an organization (inside) in a business ecosystem (out)

Starting from the characteristics of an organization, map these to the ecosystem

Based on the work of [OP10]

NETFLIX BUSINESS MODEL

KEY PARTNERS
- Investors
- Media Producers
- Film Maker Guilds
- Cinemas, Theaters
- TV Networks
- Amazon AWS
- Consumer Electronic
  Companies
- Regulators

KEY ACTIVITIES
- Technology R&D
- Content licensing
- Content production
- Content distribution
- Data anlaytics
- Sales and marketing

KEY RESOURCES
- Brand
- Apps/website
- Platform
- Employees
- Film Makers/Producers
- Prizes/Awards

VALUE PROPOSITIONS
- 24/7 On Demand
  Entertainment
- View high-definition shows
  and movies
- Stream content
- Unlimited access
- Netflix Orginal
- 30 Day free trial
- No commercials

CUSTOMER RELATIONSHIPS
- Self service
- On-demand
- Ease of use

CHANNELS
- Any Device
- Netflix App
- Word of mouth
- Online advertising
- Offline advertising
- Social Media

CUSTOMER SEGMENTS
Micro-segmentation
- 2000 preference clusters
Usage
- usage segmentation
Geographical
- content/languages

COST STRUCTURE
- Production
- Research and Development
- Licensing
- Infrastructure - AWS
- Marketing
- Payment Processing Fees
- General/Admin

REVENUE STREAMS
- Subscription Model
- Product Placement
- DVD Rental
- Future Model - licensing Netflix owned content

Business models and the "Service–Dominant Logic"

Service-Dominant (business) Logic [VLO4]

SDL predicates that customers are willing to pay for "services" that serve one or more requirements that they need to be satisfied, rather than "products" (with limited capabilities to address such requirements)

Business should be designed to account for all the partners that fill the "customer need"

Allows to account for all the "co-producers" in a business scenario.

Example:
subscription-based digital services (music, video, etc.)
sell "mobility services" (serving the need to go from A to B), rather than cars or bicycles
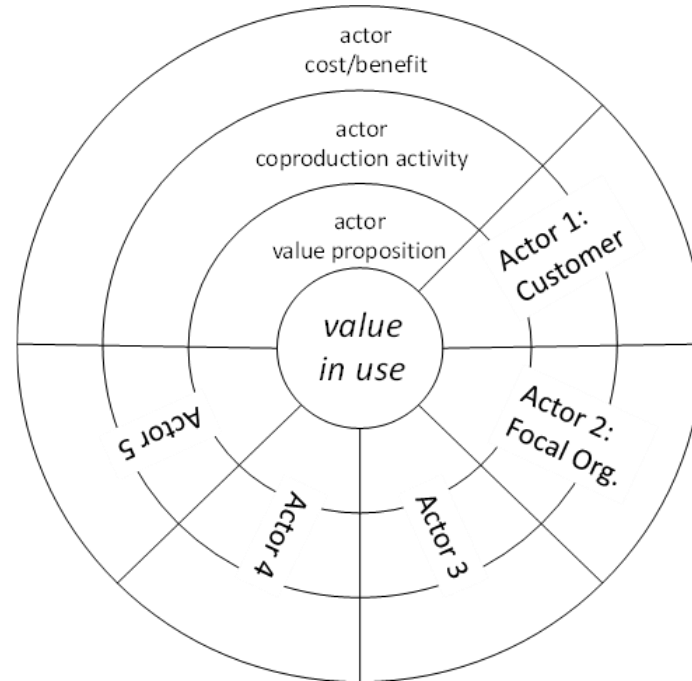
Airbnb for real estate
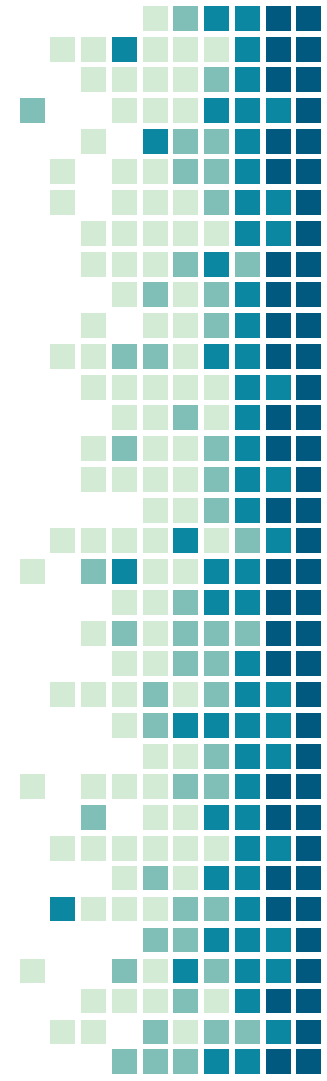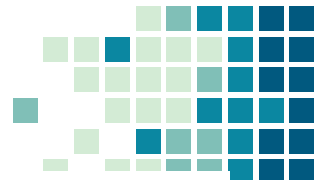
Business Model Radar (BMR)

Take the view point of an ecosystem of collaborating organizations

Focus later on the internal details of each actor

Based on the work of [Grefen 15]
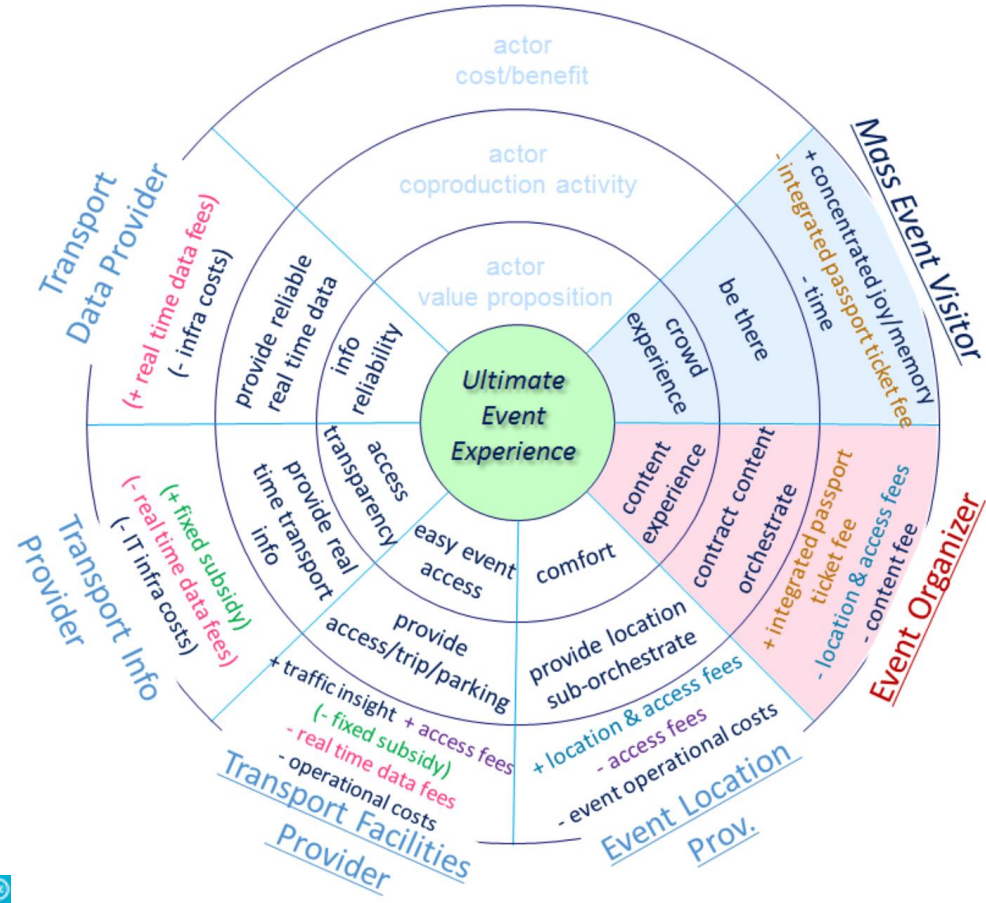
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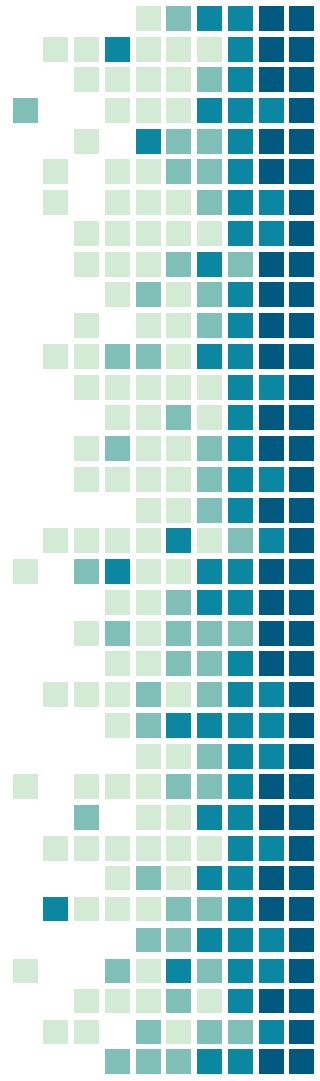
Based on the work of [Grefen 15]

"Digital transformation" business models (e-business)

Most modern businesses involve IT systems (digital transformation)

Digitally **supported** business models

Digitally **enabled** business models
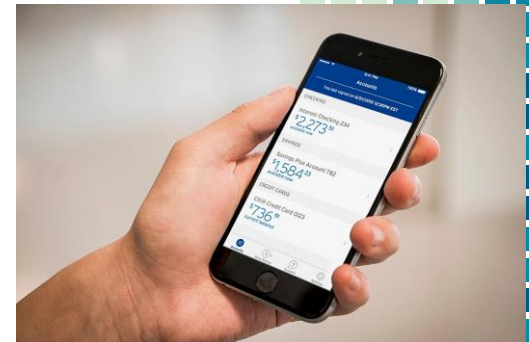
Digitally supported business models

They (can) exist without IT

They can be supported by digital tools
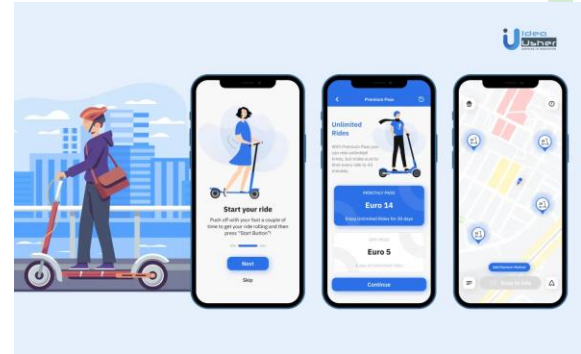- Increase reach
- Increase richness
- Efficiency

Digitally enabled business models

The business may not be fully digital, but…

… the business cannot exist without digital tools

3.
Digital transformation and blockchain
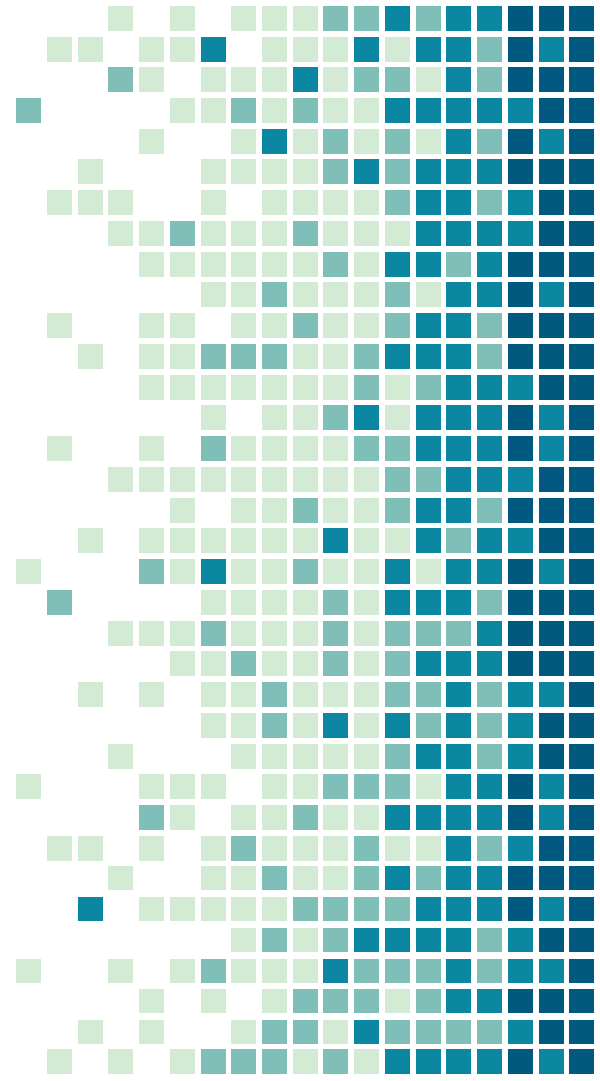
E-business models and blockchain

Object provisioning
Web-based retail in B2c

More complex scenarios in B2B

Intermediation (and disintermediation)
Create new collaborations (e.g. matchmaking)

Cooperation support
Help parties to share information and sync business activities
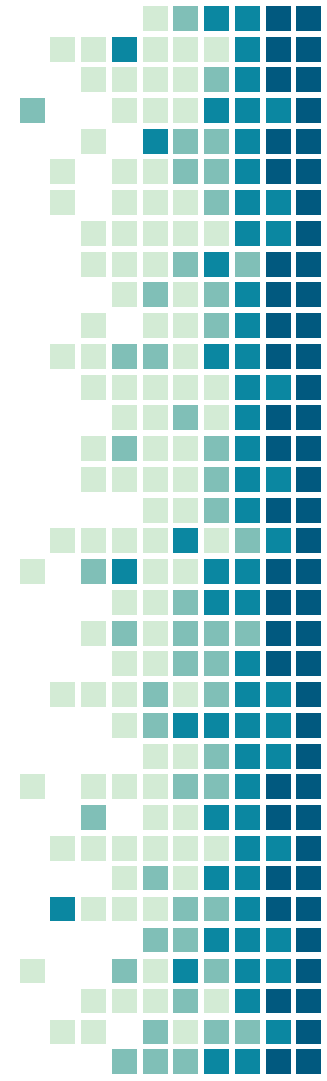
Blockchain for object provisioning

Objective
Trade goods/service with customers in a transactional way

Examples

Create non-disputable trace of object provisioning process
Store quality certificate of a provided object
Manage digital payment of provided objects (cryptocurrency)

Blockchain for intermediation

Objective

Bring e-business parties together to create new collaborations

Examples

Share partner profiles in a reputable way

Share partner certificate (of some business activity) in a reputable way

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Blockchain for cooperation support

Objective

Support e-business parties in the execution of their collaboration with non-repudiation

Examples

Create non-disputable trace of collaboration process

Store collaboration checkpoint data

Store guarantees between partners

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Intermediation and cooperation support

An organization running a private blockchain acts as a new intermediary in a scenario

Usually, the new intermediary creates the "trust" needed to operate a business
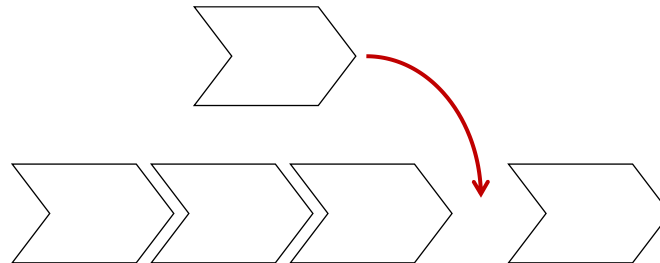
Example: multi-modal logistics

Goods shipped from supplier to customer using different "modes":

Trucks

Ship

Train

Last-mile
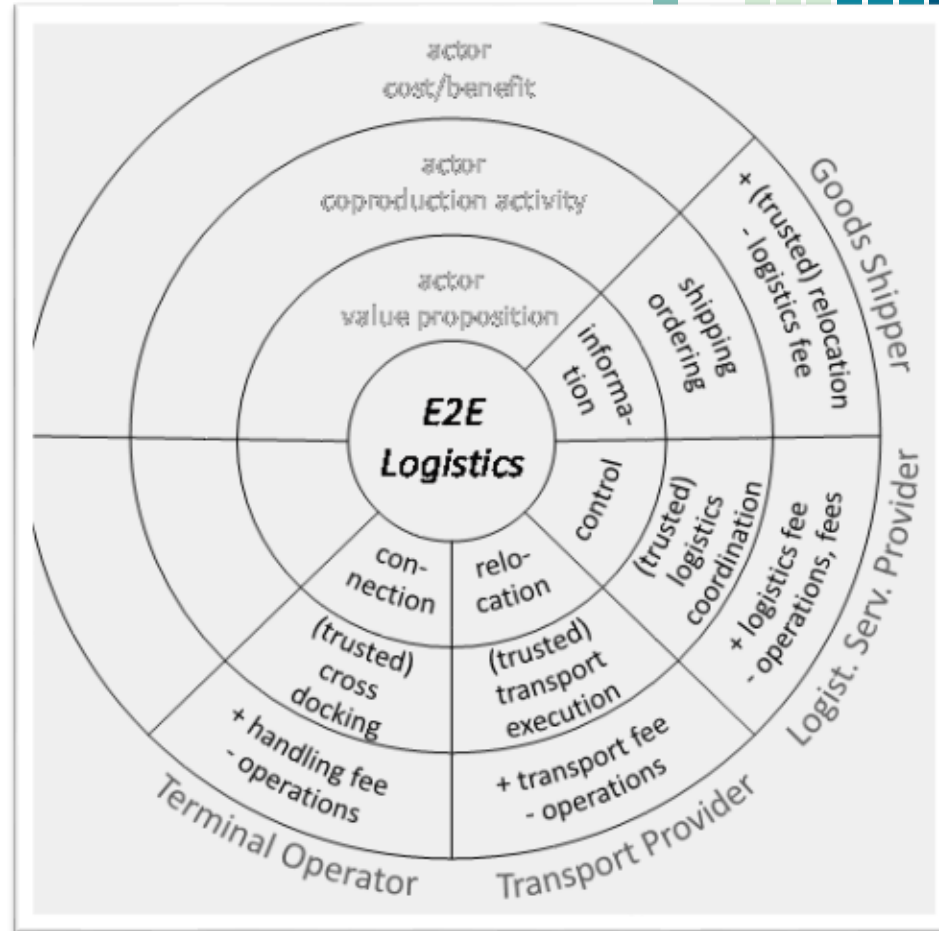
Example: multi-modal logistics

The "Trust provider" uses blockchain to create the trust

Allow more actors to participate

Smoother operations
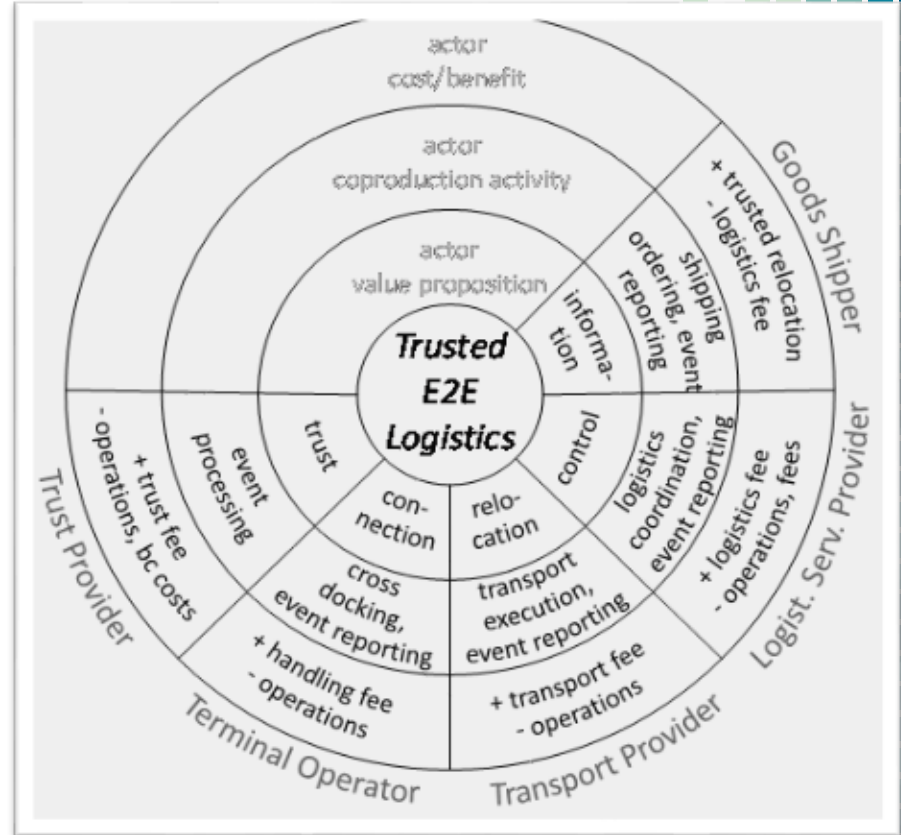
Certified Spare Parts

Easy to get a spare part for our bicycle or our car

Much more complex for airplanes or high-tech medical devices

Every spare part must be certified

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Certification of spare parts: airplane

New spare part

Manufacturer, date, time, type of certification(s)

Used spare part

History required
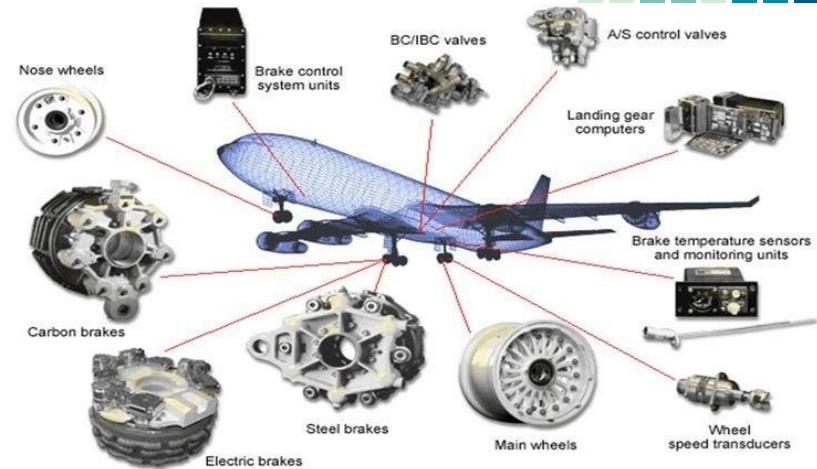
Paperwork for used landing gear certification

Usage record

How many take offs and landings?

Ownership record

To assess maintenance record

Repair records

To ensure the quality of repairs

Retraction actuators

Rotation actuators

Trunnion

Forward trunnion braces

Axle beam fold and compensating actuator

Brake assembly

Tyres and wheels

Downlock and drag brace

Metering pin extension

Rotation lockpins

Aft braces

Oleo cylinder

Oleo piston

Axle beam assembly

Sensing wheel
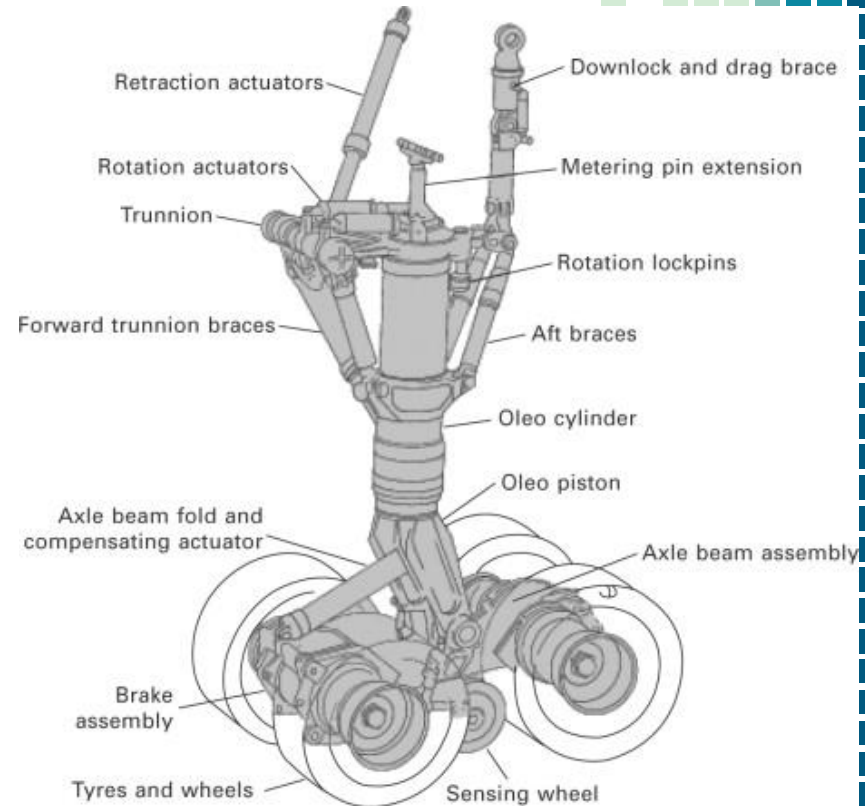
Certification of spare parts: airplane

Lots of documents required to
use a part

Often, the part logistics is
negligible compared to the
document logistics

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Blockchain for spare parts certification?

Paper-based documents and certificates during the lifetime of an airplane part may become by digital documents on a **blockchain**.

The **owner** of a part registers all main events of a part in the blockchain, such that a complete history of the part is available when it is to be sold.

The **potential buyer** of a spare part can inspect the complete historic specification of a spare part to assess whether it is usable for a given repair context.

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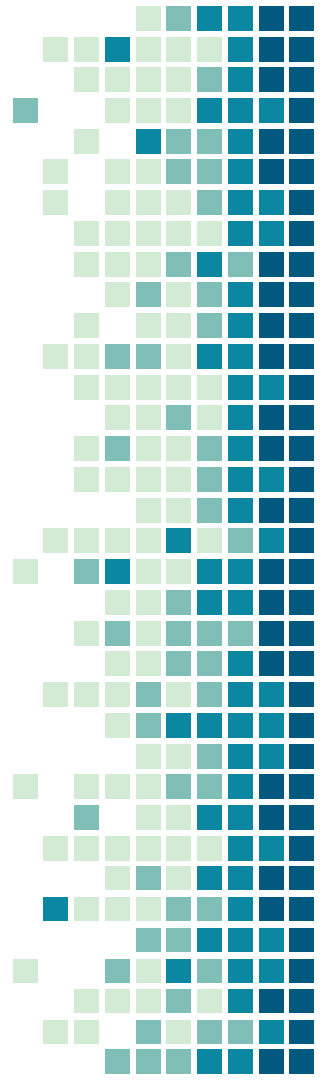
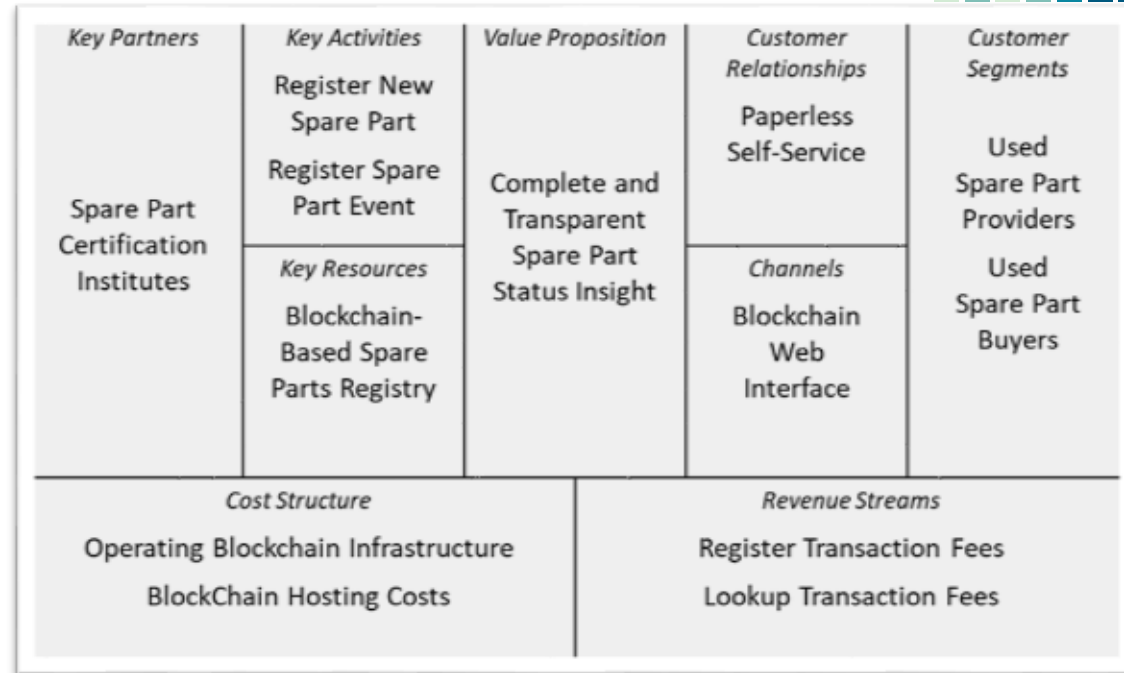# Business model

Viewpoint: intermediary between buyer and sellers of spare parts

Private blockchain?

Buyers and sellers pay to access the records enabled by blockchain adoption

| Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Spare Part Certification Institutes	Register New Spare Part / Register Spare Part Event	Complete and Transparent Spare Part Status Insight	Paperless Self-Service	Used Spare Part Providers / Used Spare Part Buyers
	Key Resources: Blockchain-Based Spare Parts Registry		Channels: Blockchain Web Interface	
Cost Structure: Operating Blockchain Infrastructure / BlockChain Hosting Costs			Revenue Streams: Register Transaction Fees / Lookup Transaction Fees	

Blockchain as a disintermediator

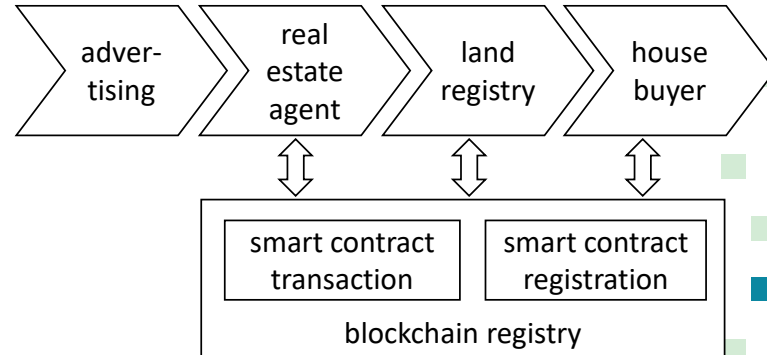Actors are often involved in a business scenario only to provide "trust"
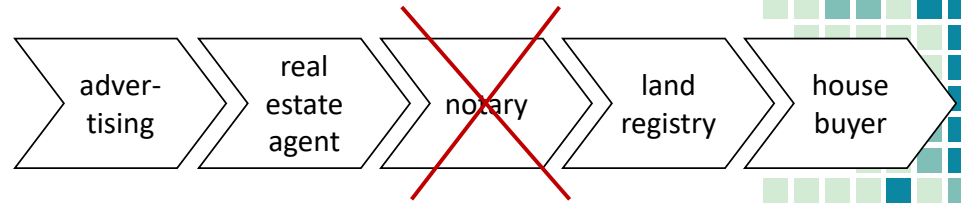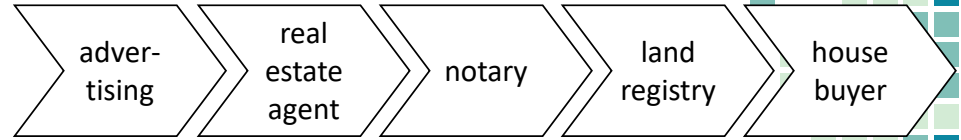
Example: notaries in real-estate

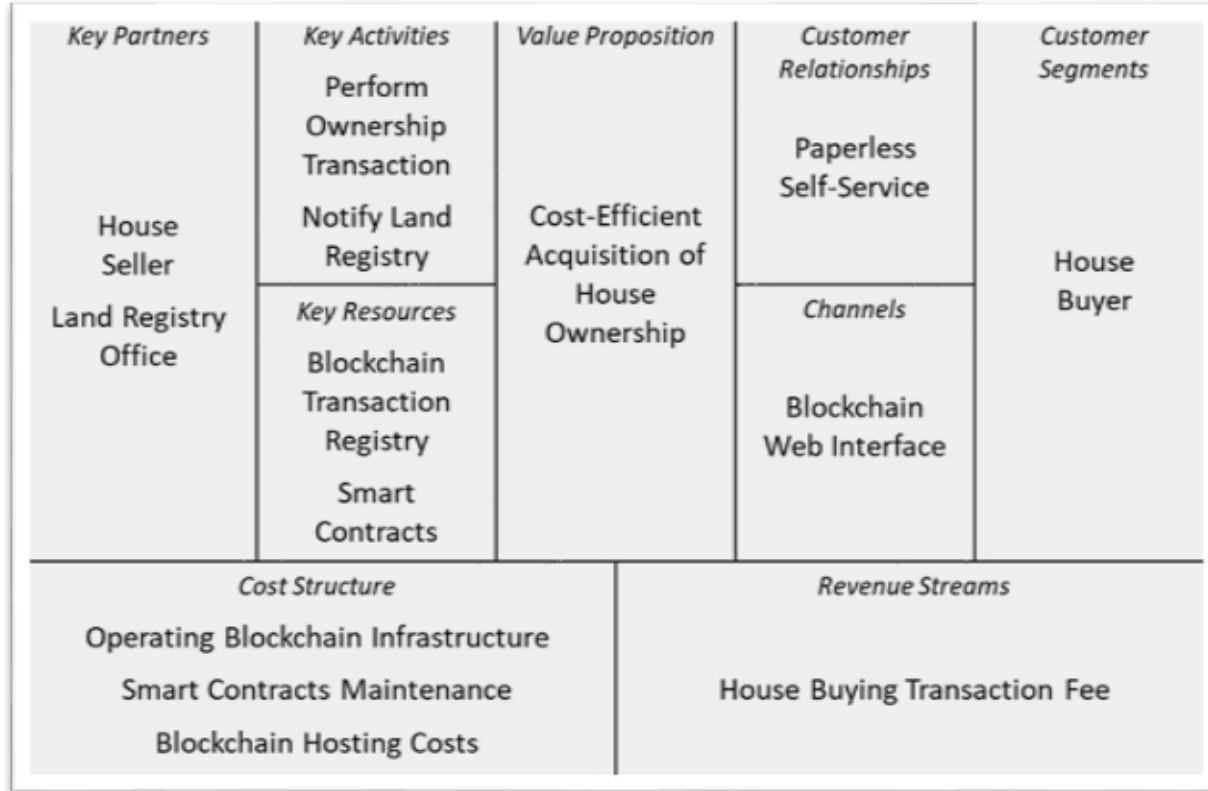Blockchain allows to remove this intermediary, creating trust by design…
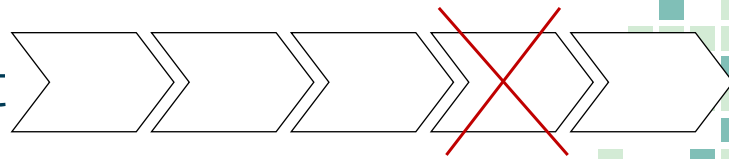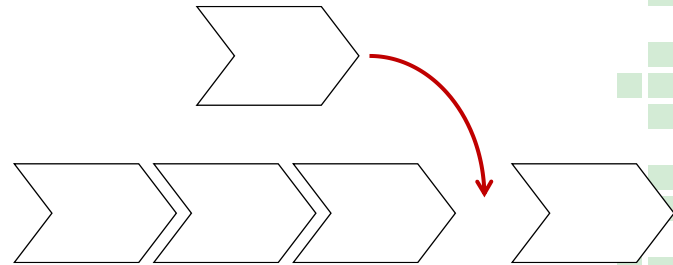
Blockchain as a disintermediator

A notary can be n principle substituted by a "well-designed" smart contract

Blockchain as a disintermediator

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
House Seller Land Registry Office	Perform Ownership Transaction Notify Land Registry	Cost-Efficient Acquisition of House Ownership	Paperless Self-Service	House Buyer
	Key Resources Blockchain Transaction Registry Smart Contracts		**Channels** Blockchain Web Interface	

Cost Structure	Revenue Streams
Operating Blockchain Infrastructure Smart Contracts Maintenance Blockchain Hosting Costs	House Buying Transaction Fee

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In your assignment

Think first of a business model [this lecture…]

Then dig deeper into the need for blockchain (public or private? Smart contracts?…) [previous lecture]

Then lay out the details of how the blockchain solution will work

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THANKS!

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