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Sustainable energy Positive & zero cARbon CommunitieS

Co-design of innovative business model canvas and creation of adaptable emerging business models

Reetta Turtiainen, Business Design Specialist

KONE Research

22.4.2021

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Topic: LC-SC3-SCC-1-2018-2019-2020: Smart Cities and Communities

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Agenda for the session

- Short introduction about KONE
- Design process and mindset for co-creation
- Business model canvases as tools for co-creation
- Discussion and wrap up

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From which city are you joining this webinar?

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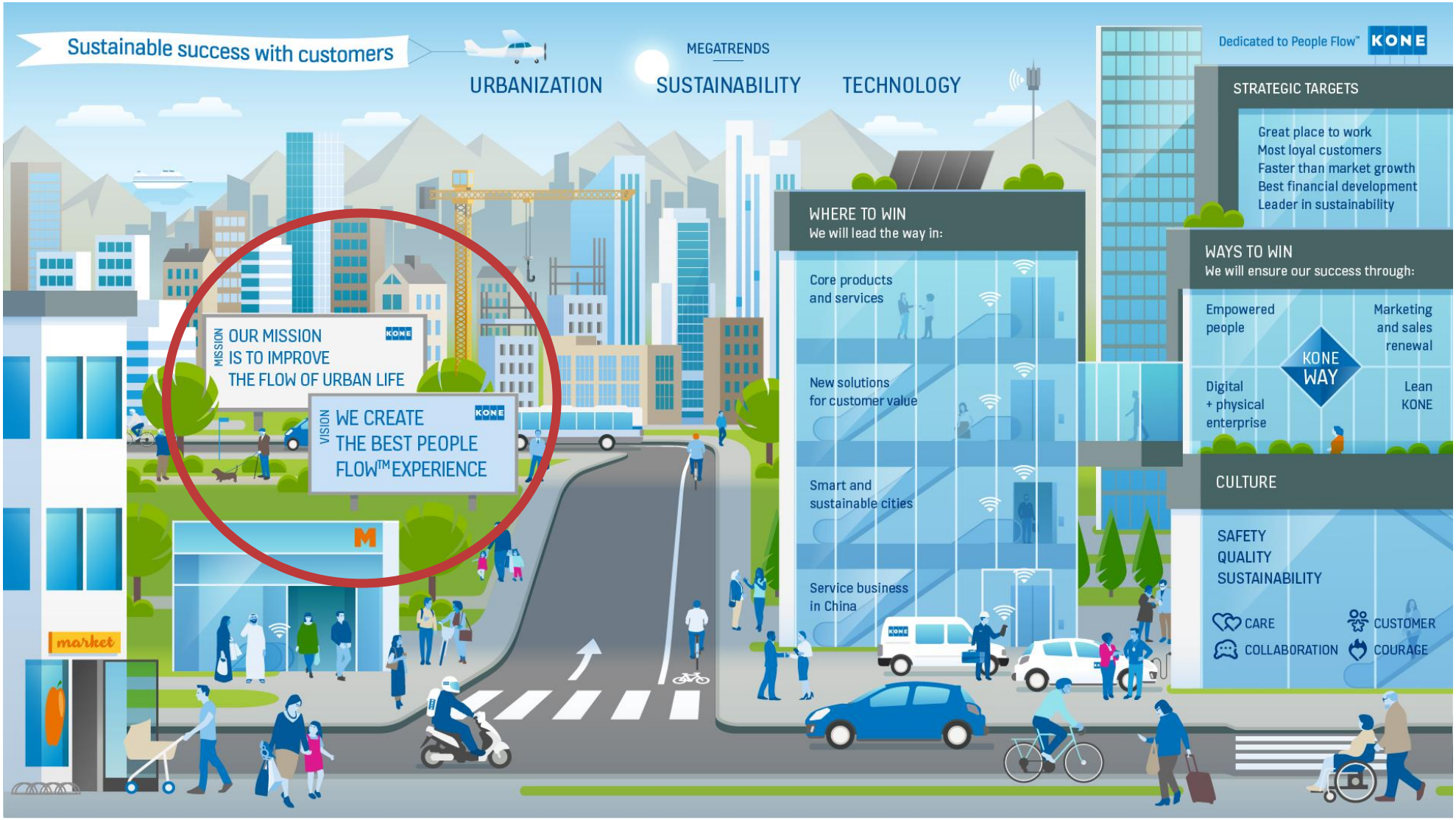

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Design process and mindset for co-creation

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How familiar are you with design process and design methods?

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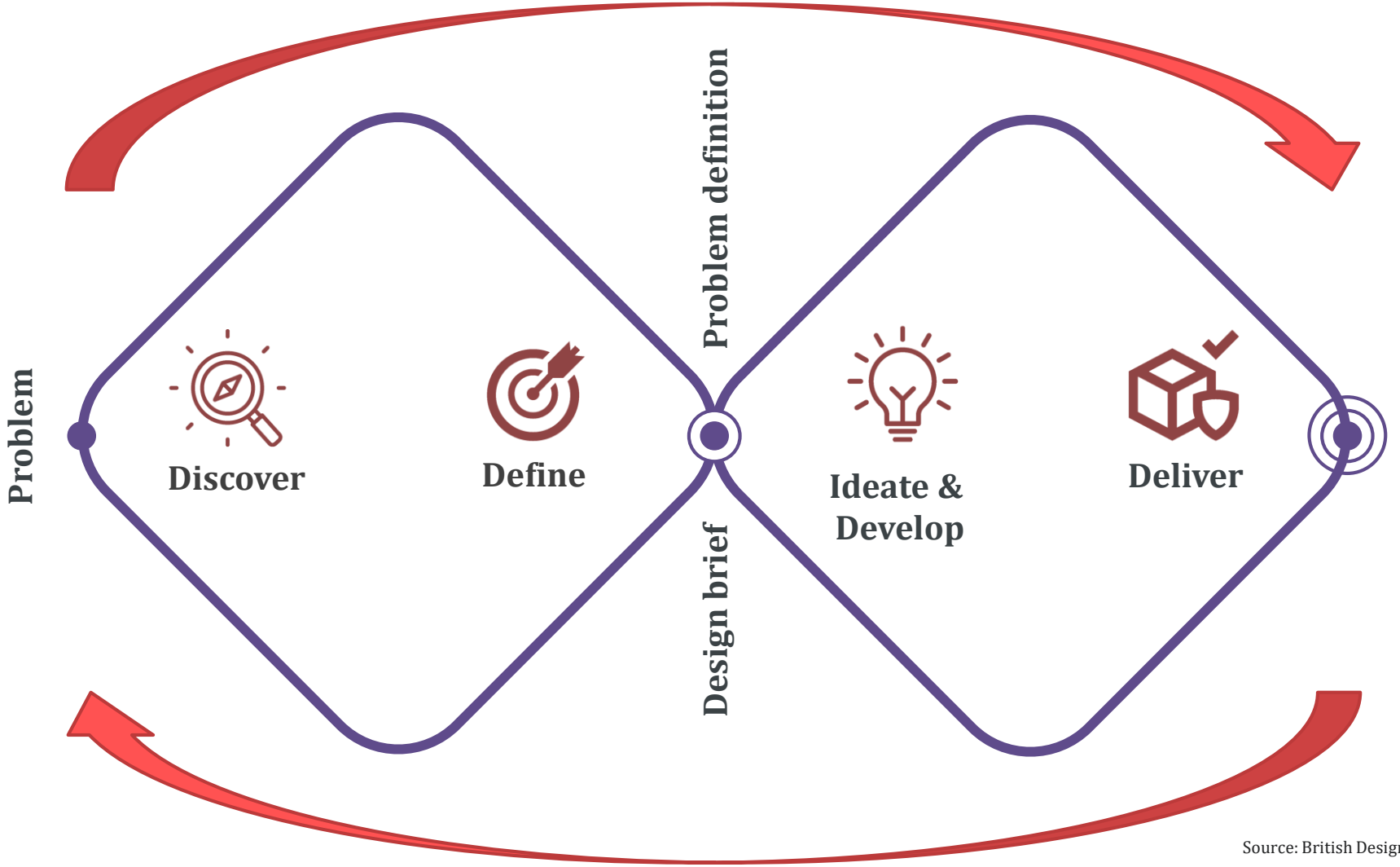
Double diamond design process



Source: British Design Council, 2005

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How we design

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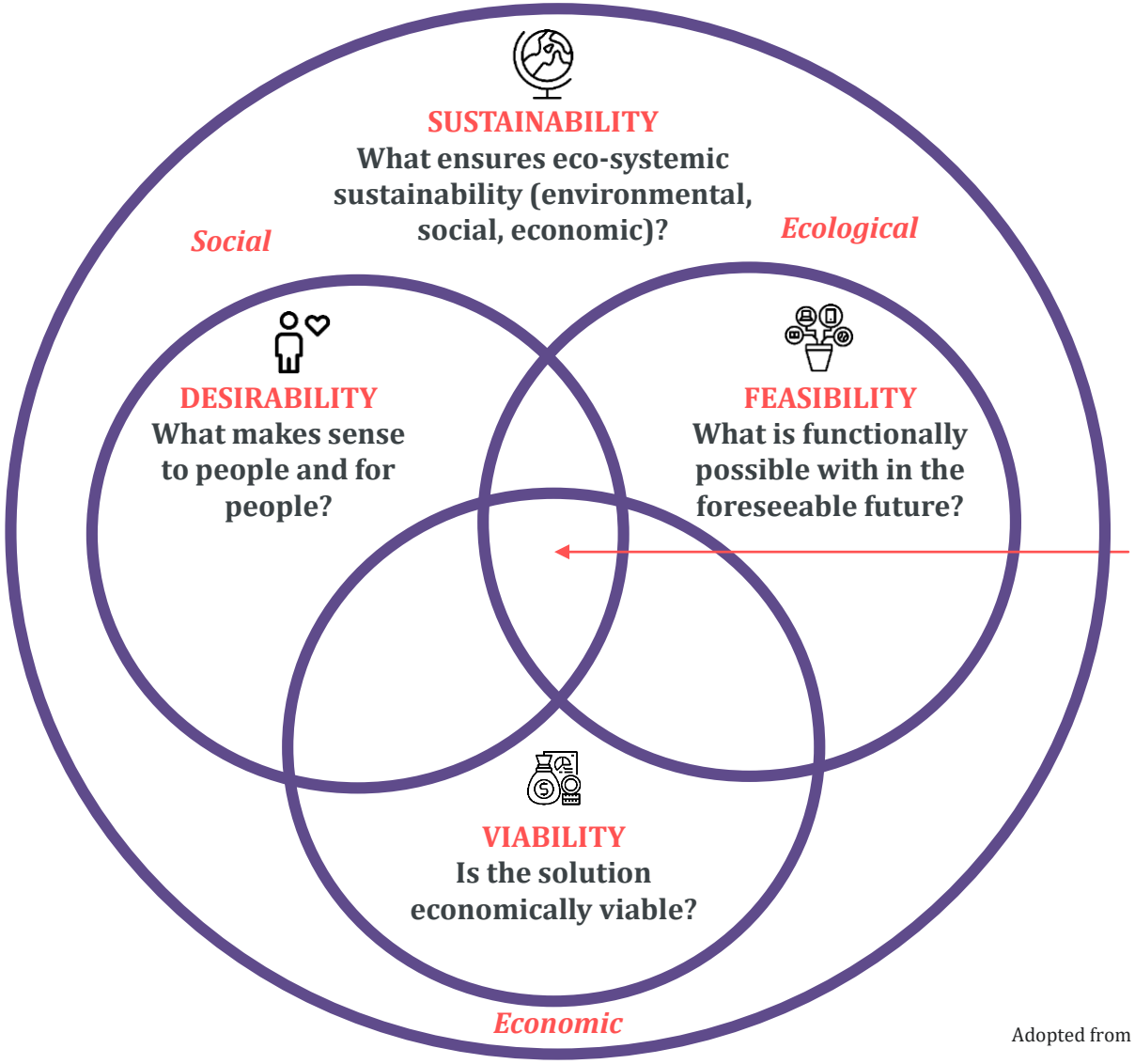
Lenses of innovation



Adopted from Three lenses of Innovation by IDEO

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How can we design business models that are desirable, viable, feasible and sustainable for people, planet and businesses?

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Researching and co-creating sustainable future mobility with Espoo citizens in SPARCS

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Co-creating sustainable mobility

1. Background research & understanding the future of mobility with experts

2. Studying citizens' mobility behaviour (needs and challenges) through mobile probing

3. Analysing the data & co-creating initial mobility concepts

4. Developing the concepts, creating value propositions & understanding partnership models

We are here!

5. Co-creating light prototypes, testing and improving with citizens and stakeholders

6. Developing and testing demonstrations on site

Citizens in the heart of the co-creation

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Initial concepts based on citizens' needs

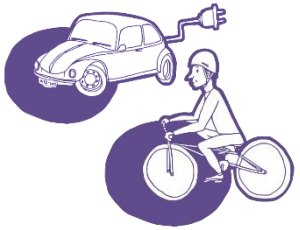
Shared mobility

1. Shared mobility service within a known circle

2. Tailored mass transportation

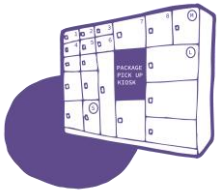
3. Robotic taxi

Hybrid mobility



4. Optimized hybrid mobility

Material logistics



5. Moving goods in everyday life

6. Flexible pick up

Biking & Micromobility

7. Bicycle community service

Characteristics and service models

8. Additional services

9. Sustainable decision making

10. Alternative authentication

11. Citizen-generated content

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“Competition today is not between different products – it’s between different business models.”

Gary Hamel

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How to guide business model co-creation to the right direction throughout the process?

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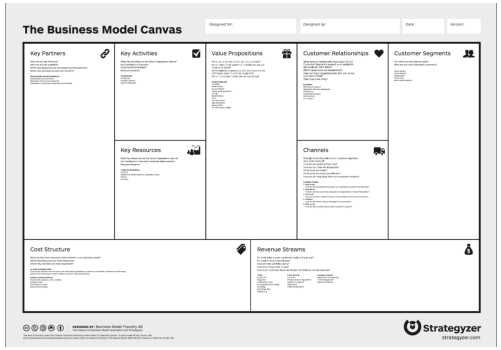

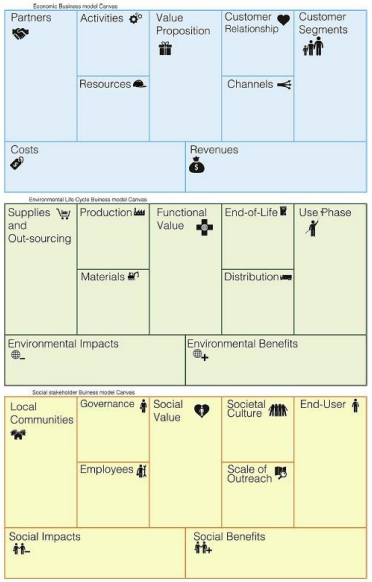

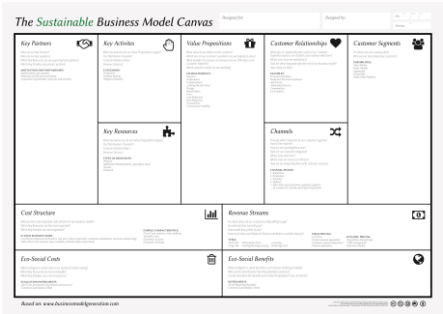

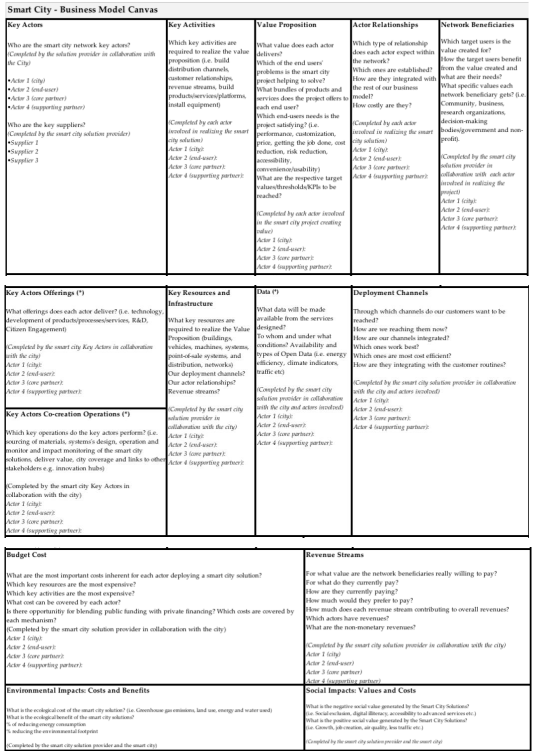

Evolution of business model (canvases)

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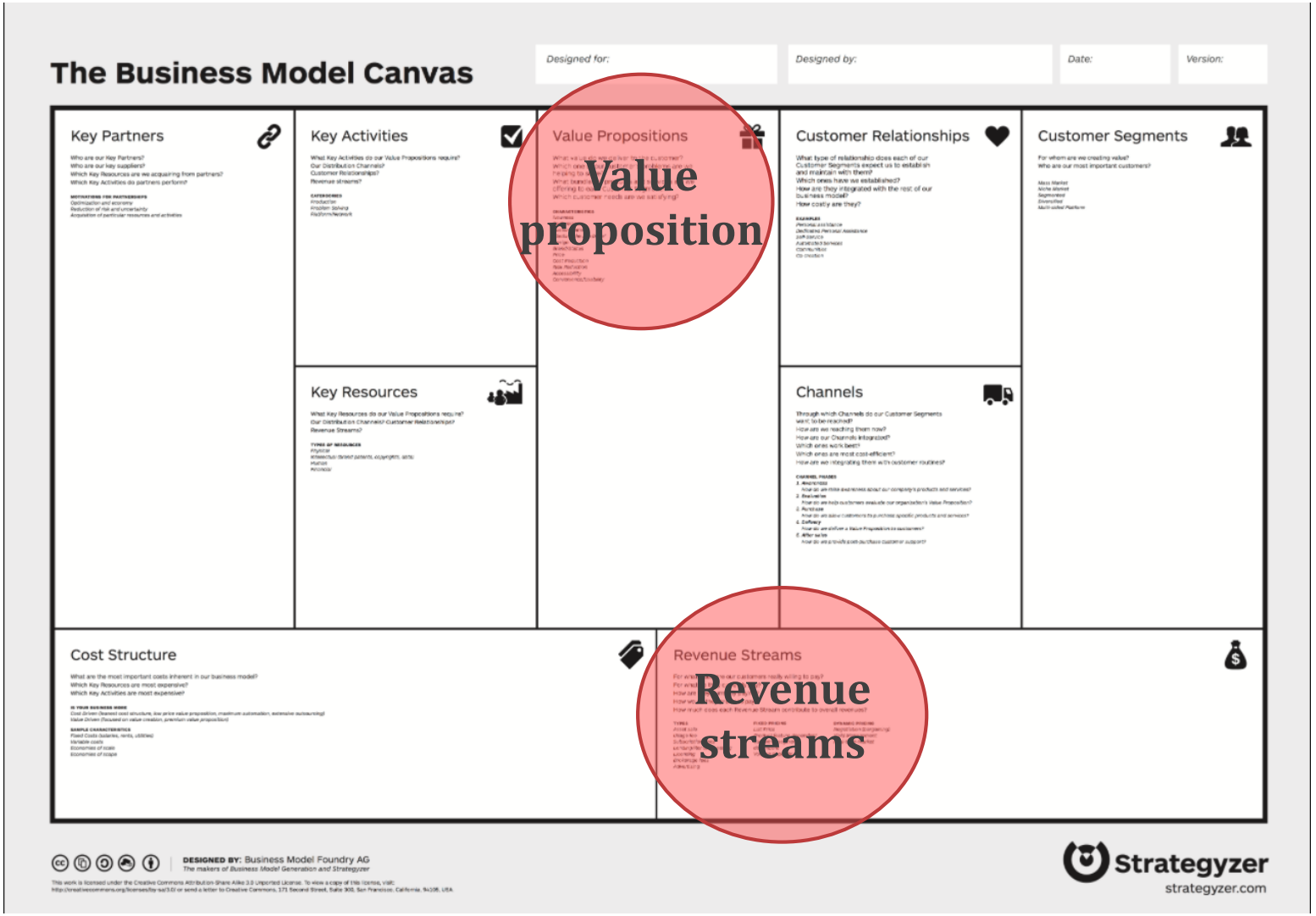

The Business Model Canvas, Osterwalder (2005)

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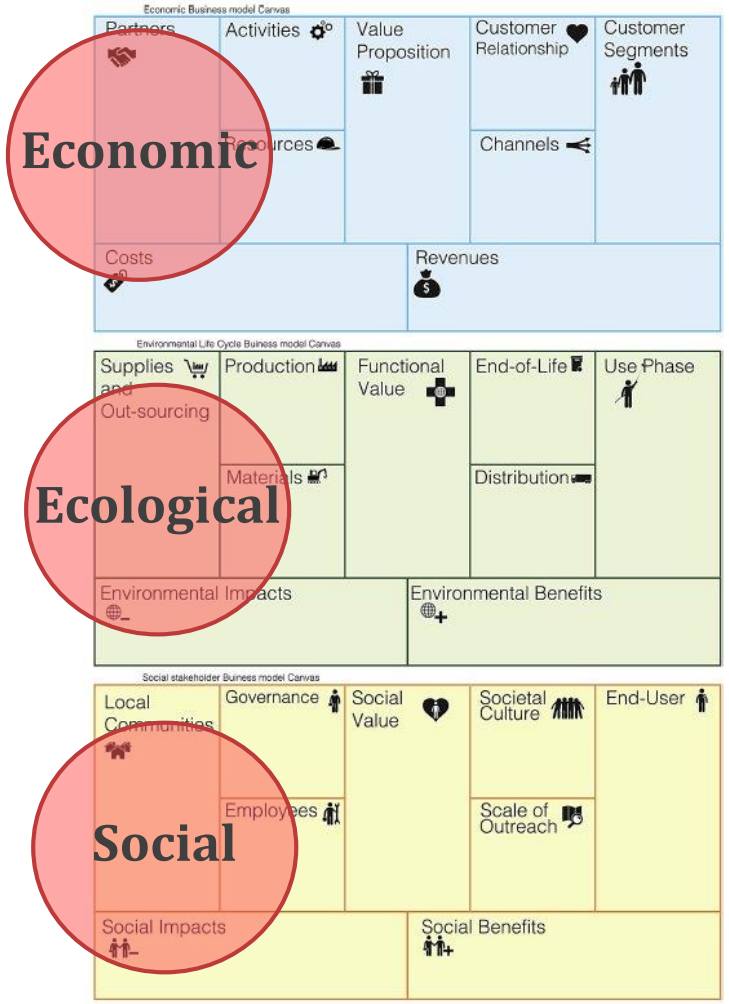

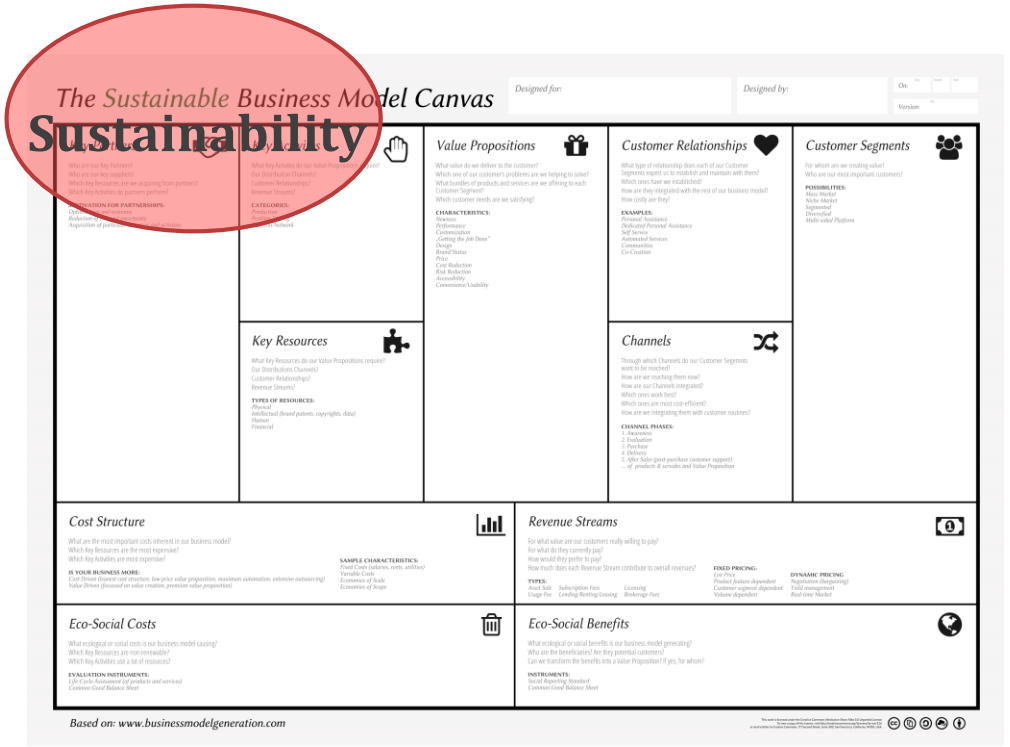

The triple layered business model canvas,
Joyce & Paquin (2016)

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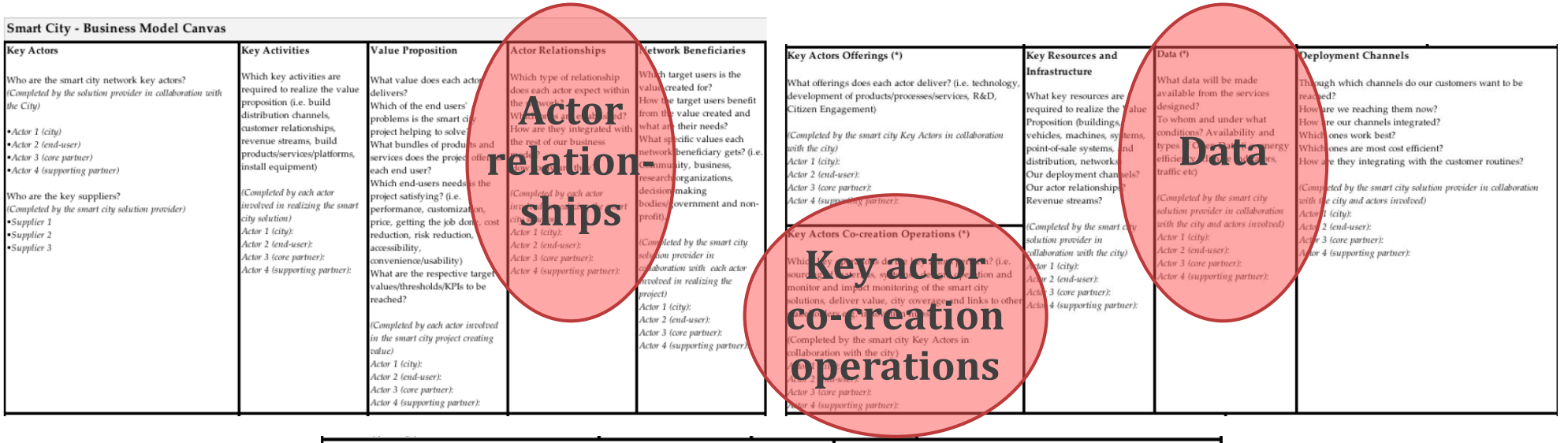

Smart City - Business Model Canvas

Key Actors	Key Activities	Value Proposition	Actor Relationships	Network Beneficiaries
Who are the smart city network key actors? *(Completed by the solution provider in collaboration with the City)* •*Actor 1 (city)* •*Actor 2 (end-user)* •*Actor 3 (core partner)* •*Actor 4 (supporting partner)* Who are the key suppliers? *(Completed by the smart city solution provider)* •*Supplier 1* •*Supplier 2* •*Supplier 3*	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) *(Completed by each actor involved in realizing the smart city solution)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	What value does each actor delivers? Which of the end users' problems is the smart city project helping to solve? What bundles of products and services does the project offer for each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? *(Completed by each actor involved in the smart city project creating value)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	Which type of relationship does each actor expect within the [illegible]? How are they integrated with the rest of our business [illegible]? *(Completed by each actor involved in the smart city project creating value)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. community, business, research organizations, decision-making bodies/government and non-profit) *(Completed by the smart city solution provider in collaboration with each actor involved in realizing the project)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*

Actor relation-ships

Key Actors Offerings (*)	Key Actors Co-creation Operations (*)	Key Resources and Infrastructure	Data (*)	Deployment Channels
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) *(Completed by the smart city Key Actors in collaboration with the city)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	Which [illegible] do [illegible]? (i.e. sourcing [illegible], [illegible] and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other [illegible] (Completed by the smart city Key Actors in collaboration with the city) *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, [illegible] distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? *(Completed by the smart city solution provider in collaboration with the city)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	What data will be made available from the services designed? To whom and under what conditions? Availability and types [illegible] energy efficiency [illegible], traffic etc) *(Completed by the smart city solution provider in collaboration with the city and actors involved)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	Through which channels do our customers want to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost efficient? How are they integrating with the customer routines? *(Completed by the smart city solution provider in collaboration with the city and actors involved)* *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*

Key actor co-creation operations

Data

Budget Cost	Revenue Streams
What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunitiy for blending public funding with private financing? Which costs are covered by each mechanism? (Completed by the smart city solution provider in collaboration with the city) *Actor 1 (city):* *Actor 2 (end-user):* *Actor 3 (core partner):* *Actor 4 (supporting partner):*	For what value are the network beneficiaries really willing to pay? For what do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues? *(Completed by the smart city solution provider in collaboration with the city)* *Actor 1 (city)* *Actor 2 (end-user)* *Actor 3 (core partner)* *Actor 4 (supporting partner)*
Environmental Impacts: Costs and Benefits	**Social Impacts: Values and Costs**
What is the ecological cost of the smart city solution? (i.e. Greenhouse gas emissions, land use, energy and water used) What is the ecological benefit of the smart city solutions? % of reducing energy consumption % reducing the environmental footprint (Completed by the smart city solution provider and the smart city)	What is the negative social value generated by the Smart City Solutions? (i.e. Social exclusion, digital illiteracy, accessibility to advanced services etc.) What is the positive social value generated by the Smart City Solutions? (i.e. Growth, job creation, air quality, less traffic etc.) *(Completed by the smart city solution provider and the smart city)*

Smart City Business model canvas, Giourka et al. (2019)

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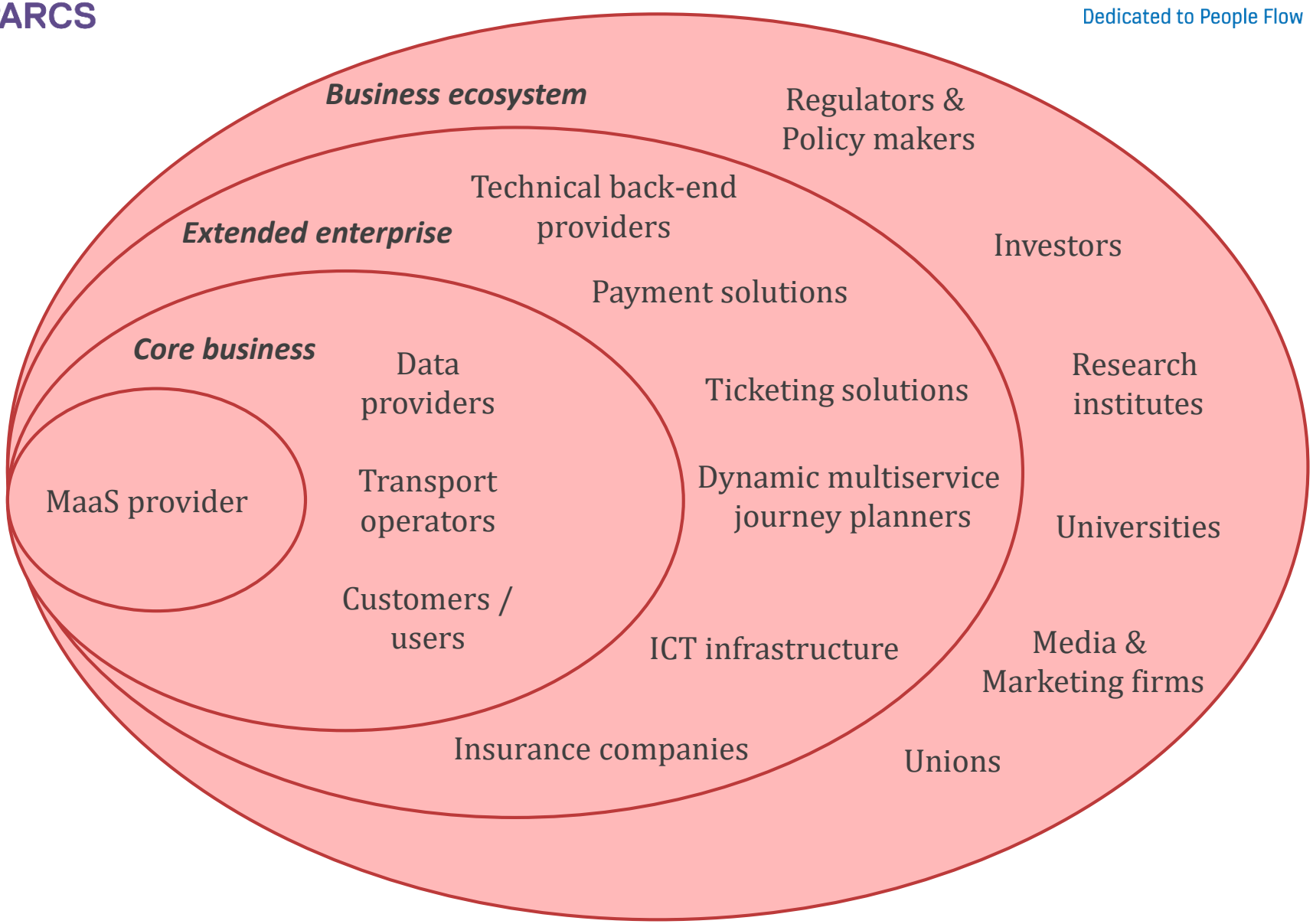

The Mobility-as-a-Service ecosystem, Kamargianni & Matyas (2017)

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Four lenses of innovation tool

Sustainability

Do we know the origin of the materials used and that they are produced in sustainable ways?

Have we considered what happens to the solution after its usage?

Is a solution' life cycle producing as little CO2 emissions as possible and have we counted it?

Is a concept valuable and usable for diverse users (gender, disability etc.) and enhancing wellbeing?

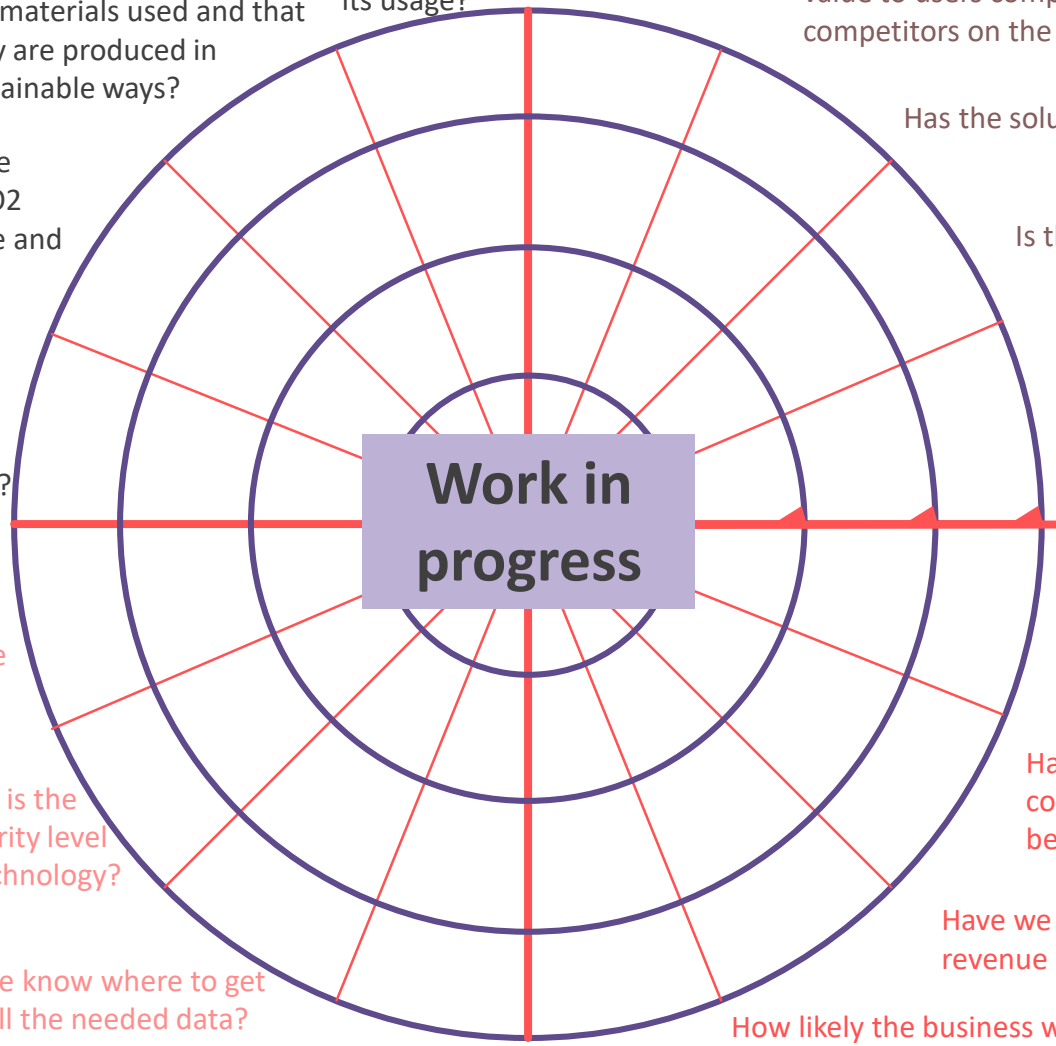
Desirability

Does a solution bring additional value to users compared to the competitors on the market?

Has the solution been tested with the users?

Is the solution solving the real user needs?

How likely would the users choose and recommend our solution for others?



Do we have all the resources available that we need?

Do we know who are the potential paying customers and what would they pay?

Feasibility

What is the maturity level of technology?

Have we benchmarked the competitors and found the best partners in the market?

Viability

Have we consireded different revenue models and tested them?

Do we know where to get the all the needed data?

How likely the business will be alive in eg. 5 years?

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What are the most important questions to ask and criteria to achieve under the four lenses of innovation (sustainability, desirability, feasibility, viability)?

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- Filling in one business model canvas does not guarantee a good business
- Co-creation process requires constant development, testing and validating with users and the ecosystem stakeholders
- Design and business challenges are complex and solutions require systematic change

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How could you use co-creation and business model tools in your own organization?

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Questions, thoughts or comments? You can also leave questions during the break.

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