

A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS

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SYSTEM DYNAMICS IN TRANSPORTATION MODELLING

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Presenter:

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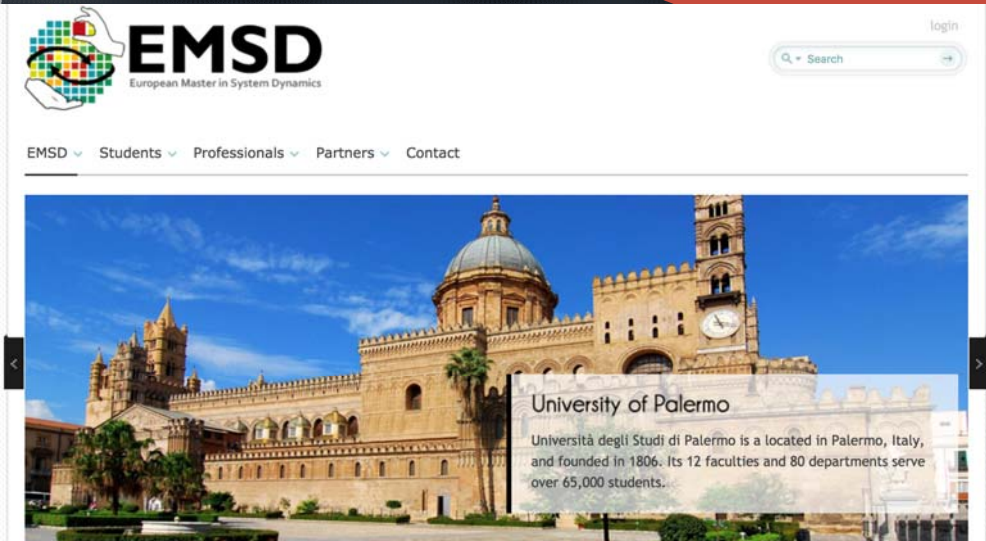
WHERE TO STUDY SYSTEM DYNAMICS IN EUROPE AT MSc LEVEL

<http://europeansystemdynamics.eu/>

Phd program in “Model Based Public
Planning, Policy Design and Management”
University of Palermo - CED4 – SD GROUP

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Challenges for transportation operators and cities sustainability

Higher investments

in technologies and
in more efficient and low CO2
emission vehicles

Urban sustainability

transportation of products and
goods fills more than one third of
the roads of the cities centre

Heavy and unsustainable burden

Not all transportation operators can
afford such investments, which may
result in low customer service

Diseconomies for transportation players

as result of
crowded cities

A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS

Research
Question/s

HOW TO MAKE TRANSPORTATION OPERATORS MORE COMPETITIVE AND TO INCREASE ENVIRONMENTAL SUSTAINABILITY OF URBAN AREAS?

**A web-
based
multi-sided
platform is
suggested!**

**A WEB-BASED MULTI-SIDED PLATFORM
AIMS TO CONNECT DIFFERENT PLAYERS**

**FROM DEMAND (*SEEKER*) AND
SUPPLY (*SOLVER*) SIDE**

**OPERATING IN THE DISTRIBUTION
LOGISTICS**

**It provides an open and participative
infrastructure to facilitate the exchange and
sharing of goods and services among users.**

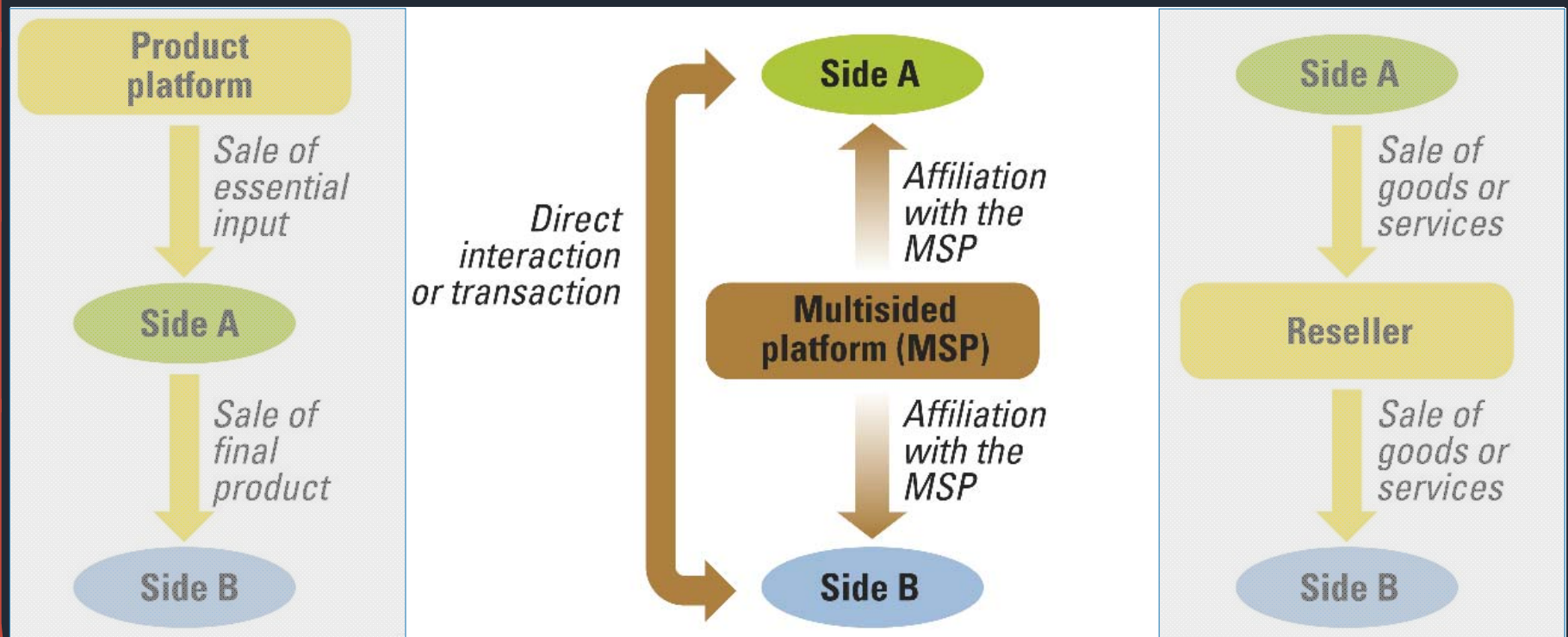
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How do Multi-sided platforms differ from product platform and resellers?

Direct interaction

The two sided are affiliate with the MSP

The interactions generate value



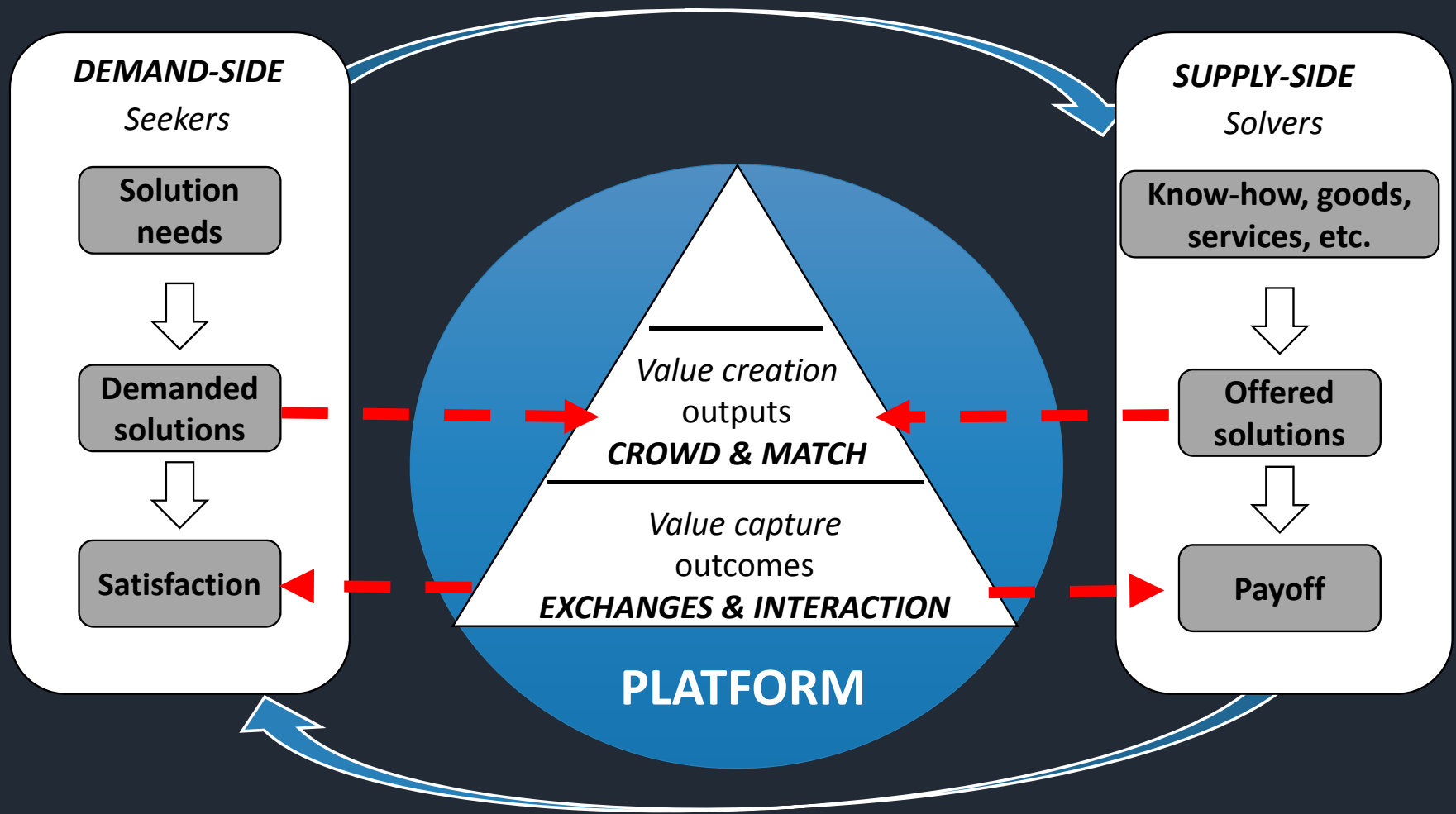
Hagiu Andrei. Strategic decisions for multisided platforms.
MIT Sloan Management Review 2014; 55 (2): 71.

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Direct
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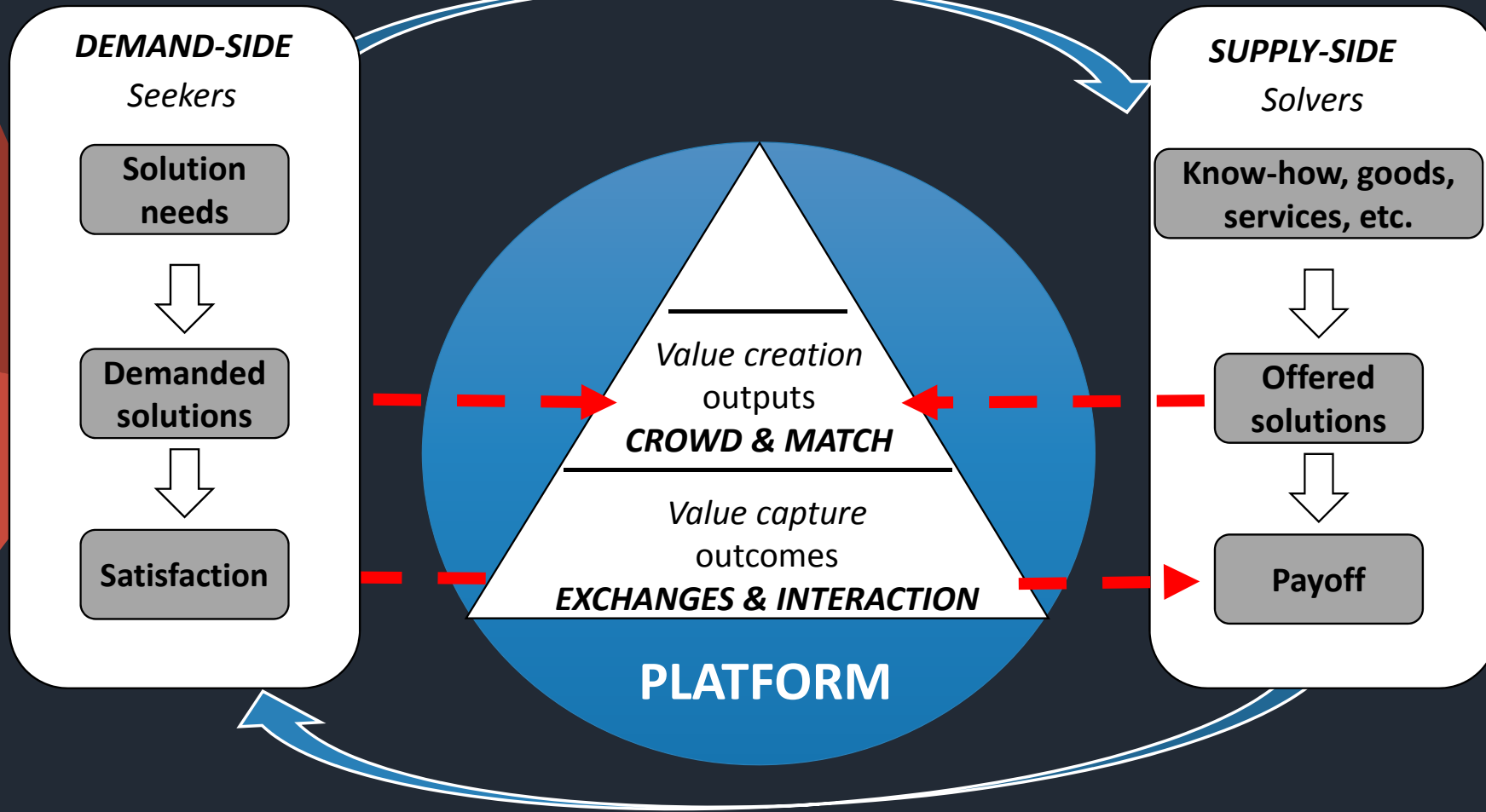
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DEMAND SIDE

- Private consumers
- Local businesses
- Couriers

SUPPLY SIDE

- Delivery capacity providers (couriers)
- Parcel lockers



A SYSTEM DYNAMICS MODEL OF A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS

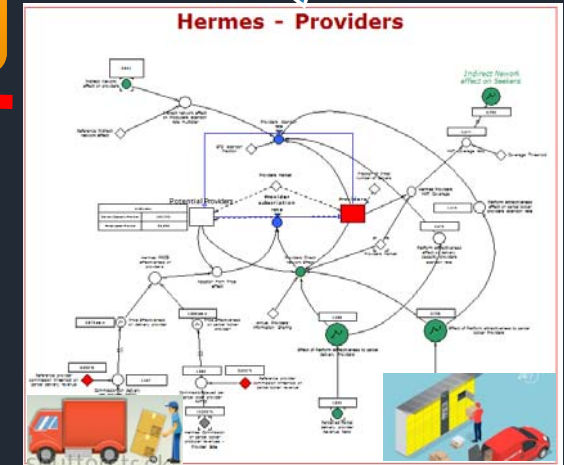
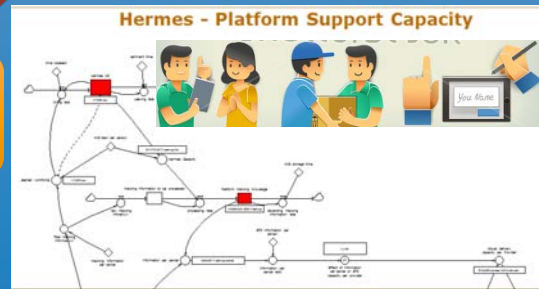
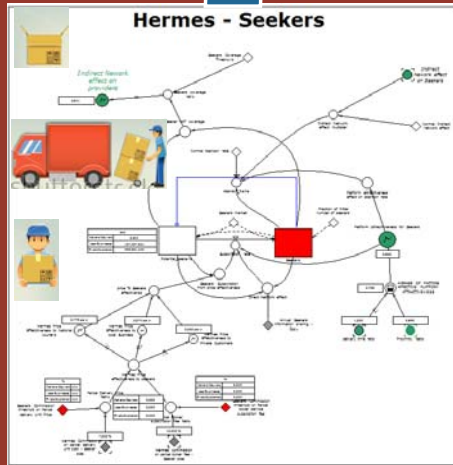
- Delivery time
- Proximity
- Commission fee/threshold level

- Commission fee/threshold level
- Revenue per parcel locker/Expected revenue

PLATFORM

PLATFORM
ATTRACTIVENESS

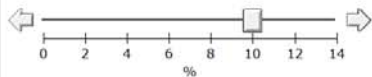
PLATFORM
ATTRACTIVENESS



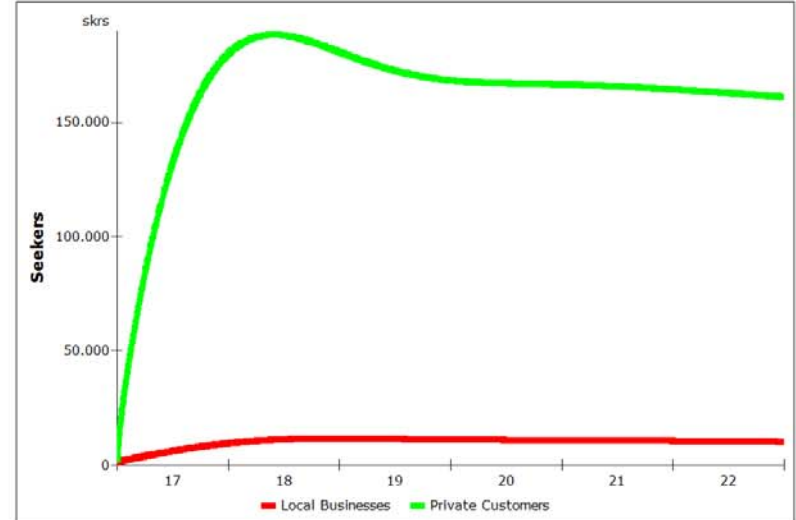
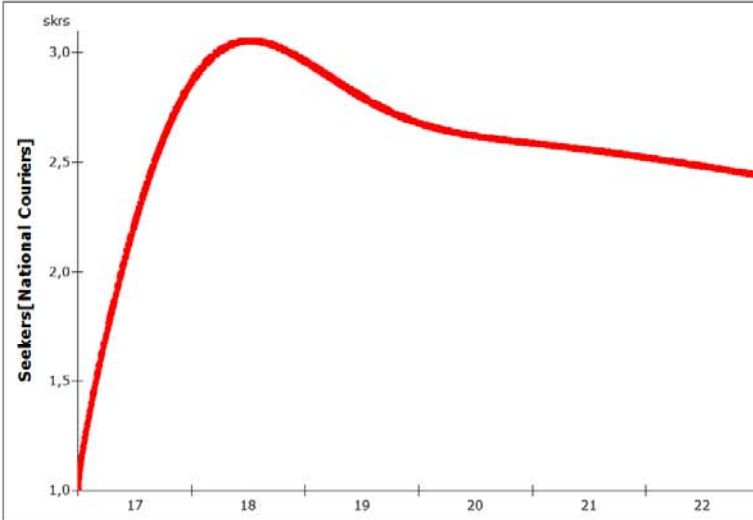
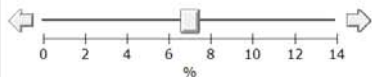
A SYSTEM DYNAMICS MODEL OF A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS: *Base Run*

Seekers side

Hermes commission on parcel locker fee - Seeker side

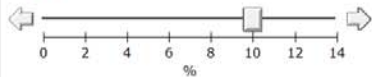


Hermes Commission on parcel delivery unit cost - Seeker side

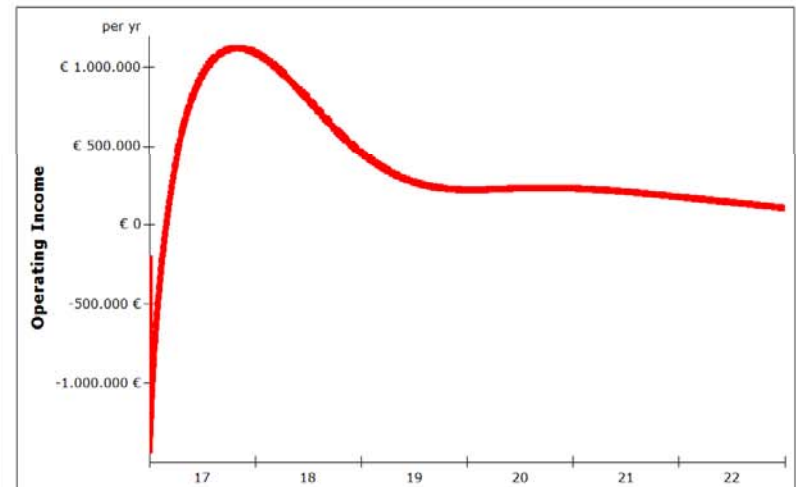
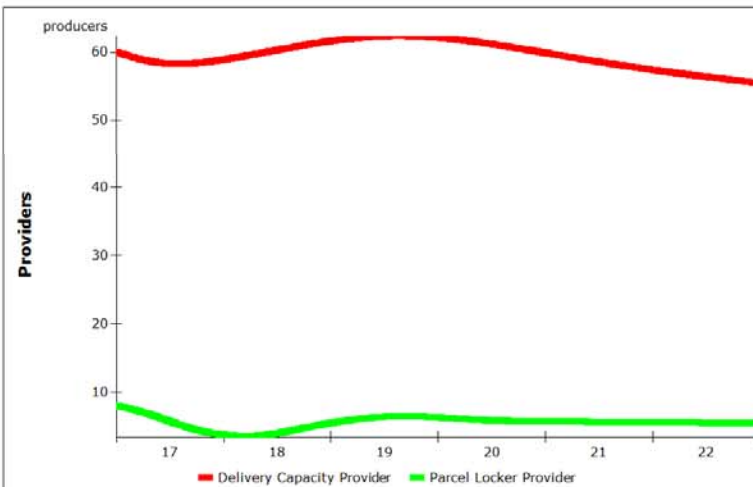
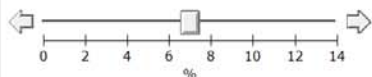


Solvers side

Hermes Commission on parcel locker producer revenues - Provider Side



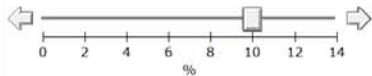
Hermes commission on parcel delivery revenues - Provider side



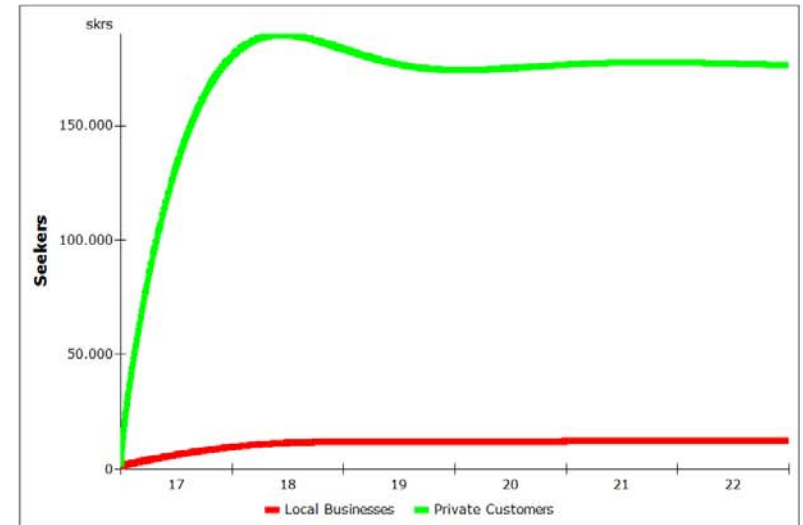
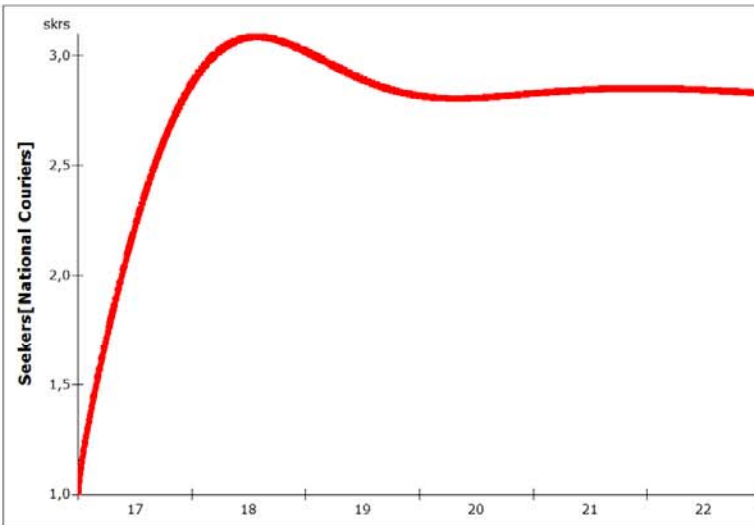
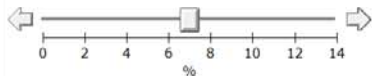
A SYSTEM DYNAMICS MODEL OF A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS: *1-side subsidies*

Seekers side

Hermes commission on parcel locker fee - Seeker side

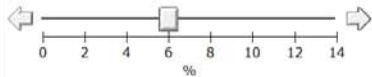


Hermes Commission on parcel delivery unit cost - Seeker side

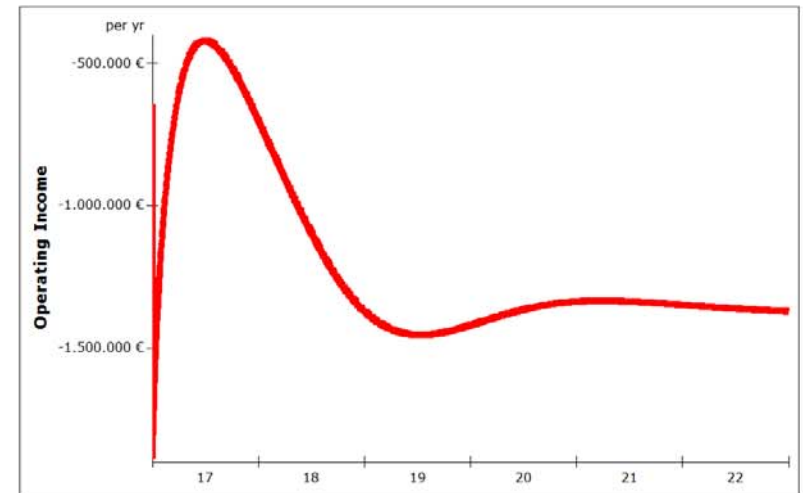
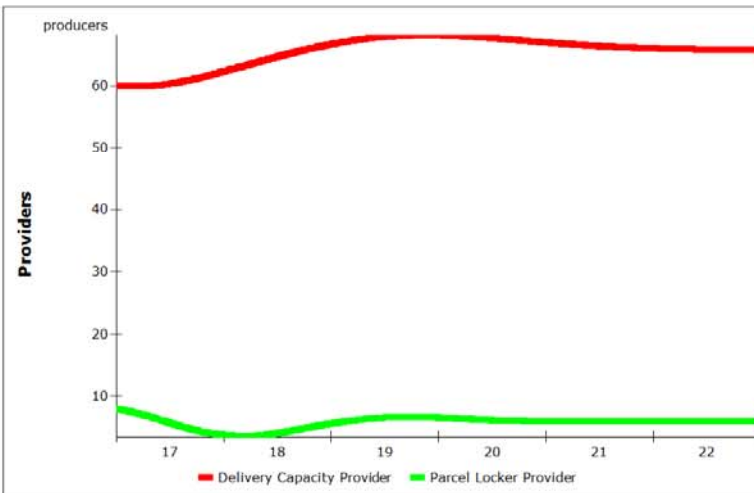


Solvers side

Hermes Commission on parcel locker producer revenues - Provider Side



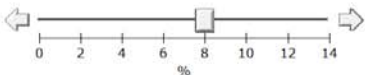
Hermes commission on parcel delivery revenues - Provider side



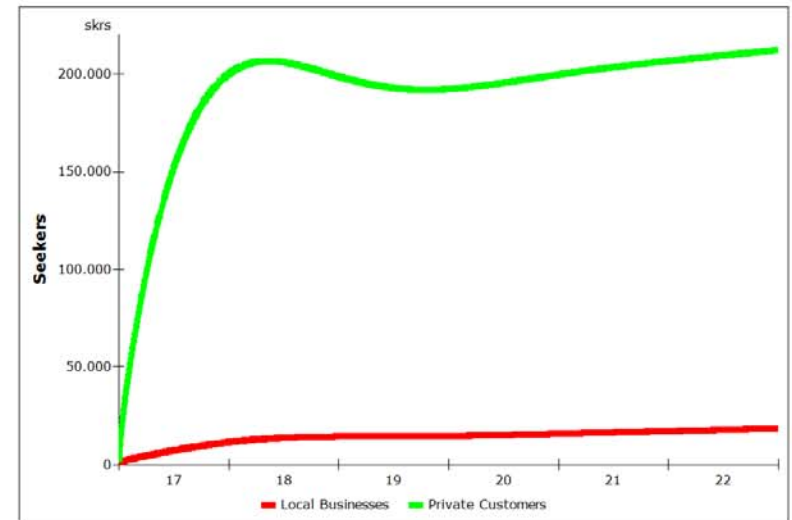
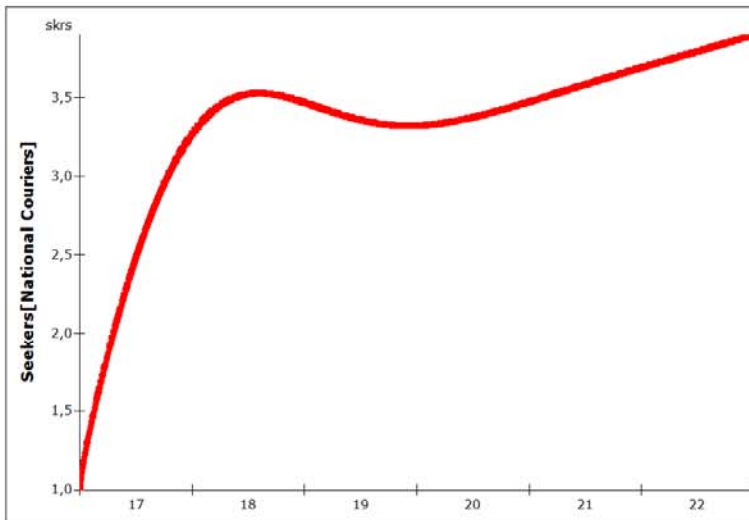
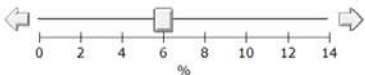
A SYSTEM DYNAMICS MODEL OF A MULTI-SIDED PLATFORM TO SUPPORT TRANSPORTATION OPERATORS: 2-sides subsidies

Seekers side

Hermes commission on parcel locker fee - Seeker side

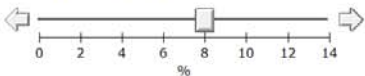


Hermes Commission on parcel delivery unit cost - Seeker side

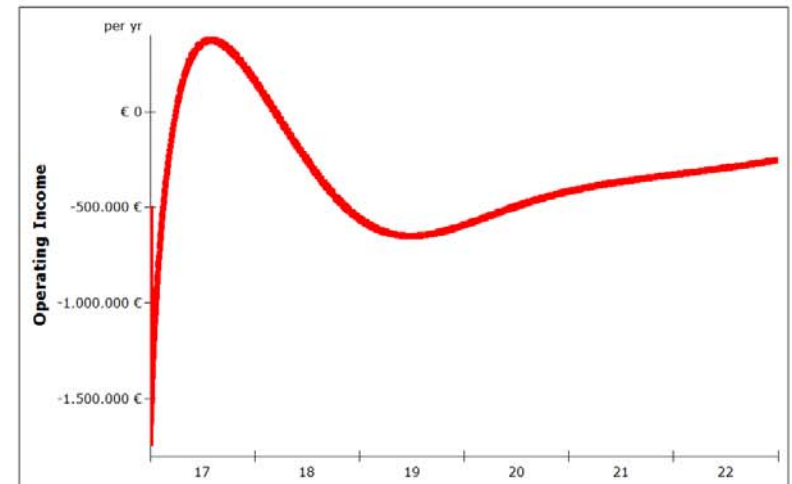
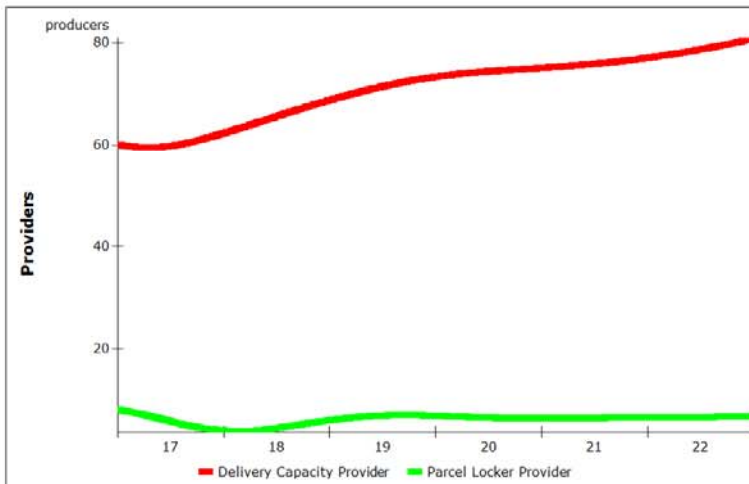
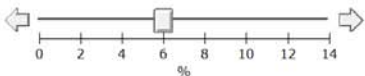


Solvers side

Hermes Commission on parcel locker producer revenues - Provider Side

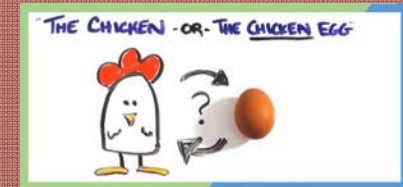


Hermes commission on parcel delivery revenues - Provider side



1

HOW TO OVERCOME THE
CHICKEN-EGG PROBLEM?



2

HOW TO SET SOUND COMMISSION
FEES TO MATCH USERS EXPETATIONS?

DIGITAL PLATFORM
STRATEGY

3

HOW TO DESING PLATFORM
FINANCIAL SUSTAINABLE POLICIES?



SOME ISSUES TO BE ADDRESSED

THANK YOU

Q&A