

› DIGITAL PLATFORMS

An analytical framework for identifying and evaluating policy options

CEPS

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TNO innovation
for life



BACKGROUND

Assignment from Dutch ministry to create analytical framework

Create coherent analytical framework for assessment of policy questions related to digital platforms



DISCLAIMER

This presentation is strongly based on the work for the ministry.

However,

Views expressed here are personal views from the presenter only.

AGENDA

1. What is a platform?

- › Wide variety of platforms, each differs because of underlying business models.
- › A modular approach capturing essential characteristics of the business models
 - › **Basic definition**
 - › **Modular building blocks (characteristics of the business model)**

2. What public interests are at stake?

- › This depends on the platform characteristics...hence our modular approach
- › Example provided

3. Assessing effectiveness of instruments

- › Many existing instruments (can) apply to digital platforms, sometimes we need to adapt or create new ones
- › Analyzing policy effectiveness starts by analyzing impact on platform characteristics and business models.

A MODULAR APPROACH TO DEFINING PLATFORMS

A basic definition for digital platforms is:

- › a (technological) basis for delivering or aggregating services/content...
- › ...that *is* or *can be* operated as a two- or multi-sided platform
 - › **This is a strategic choice to create indirect network effects**
- › ...that *is* or *can* facilitate information exchange between end-users on one side of the platform, or allow them to socially interact.
 - › **This is a strategic choice to create direct network effects**

A MODULAR APPROACH TO DEFINING PLATFORMS

Four basic approaches to operating a platform

1

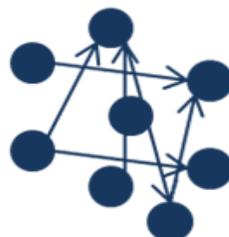
- Single sided
- No network effect
- E.g. Netflix, Zalando



PLATFORM

2

- Single sided
- Direct network effects
- E.g. Whatsapp



PLATFORM

3

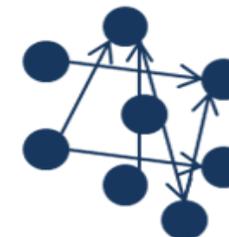
- Two (or multi)-sided
- Indirect network effects
- E.g. Amazon, Youtube, NY Times



PLATFORM

4

- Two (or multi)-sided
- Direct + Indirect network effects
- E.g. Facebook, LinkedIn



PLATFORM

A MODULAR APPROACH TO DEFINING PLATFORMS

A rough typology of platforms

	Reseller / distributor	Marketplaces (peer-to-peer)	Social networks	Platform of platforms
One- or multi-sided	One-sided	Mostly two-sided	Both	Multi-sided
Network effects	No (or limited) network effects	Indirect network effects	Direct and indirect network effects	Indirect network effects (in multiple directions)
<i>Examples</i>		 	 	 

It is 'rough' because

The diversity of platforms is difficult to capture in a typology

Hybrid models are very common

Business models constantly change (tomorrow Netflix might be a social network)

A MODULAR APPROACH TO DEFINING PLATFORMS

Modular building blocks

- › What revenue model is applied?
 - › advertisement, subscription, access to....., acquisition

- › Role of scale and scope economies?
 - › E.g. Scale to create buying power
 - › E.g. Scope to increase the number of veins in the data mine

- › Use of data and user generated content
 - › Internal to increase the user experience
 - › External to serve the revenue model
 - › Curation of content

A MODULAR APPROACH TO DEFINING PLATFORMS

Modular building blocks

- › Horizontal and vertical integration
 - › to create scope economies / pre-empt entry
 - › internalise QoS processes or gain control over bottleneck positions
- › Geographical dependencies
 - › E.g. because of local network effects (e.g. thuisafgehaald.nl)
- › Use of the platform by other apps / platforms (platform of platforms)
- › Creating new markets or disrupting/redefining existing markets

A MODULAR APPROACH TO DEFINING PLATFORMS

Examples

			 WhatsApp
Network effects (direct or indirect)	No	Indirect	Direct
Revenue model (ads, subs, access to...., acquisition);	Subs	Ads	Acquisition
Scale and scope economies	Scale	Scope	None (?)
Use of data and user generated content (internal/external/curated)	Internal	In-/external	Internal (?)
Horizontal and vertical integration	Vertical	Yes	Horizontal
Geographical dependencies	Copyrights	Little	None
Use of the platform by other apps / platforms	No	Yes	No (?)
Creating new markets or disrupting/redefining existing markets	Disrupting	Both	Disrupting

2. LINKING PLATFORM CHARACTERISTICS TO PUBLIC INTERESTS

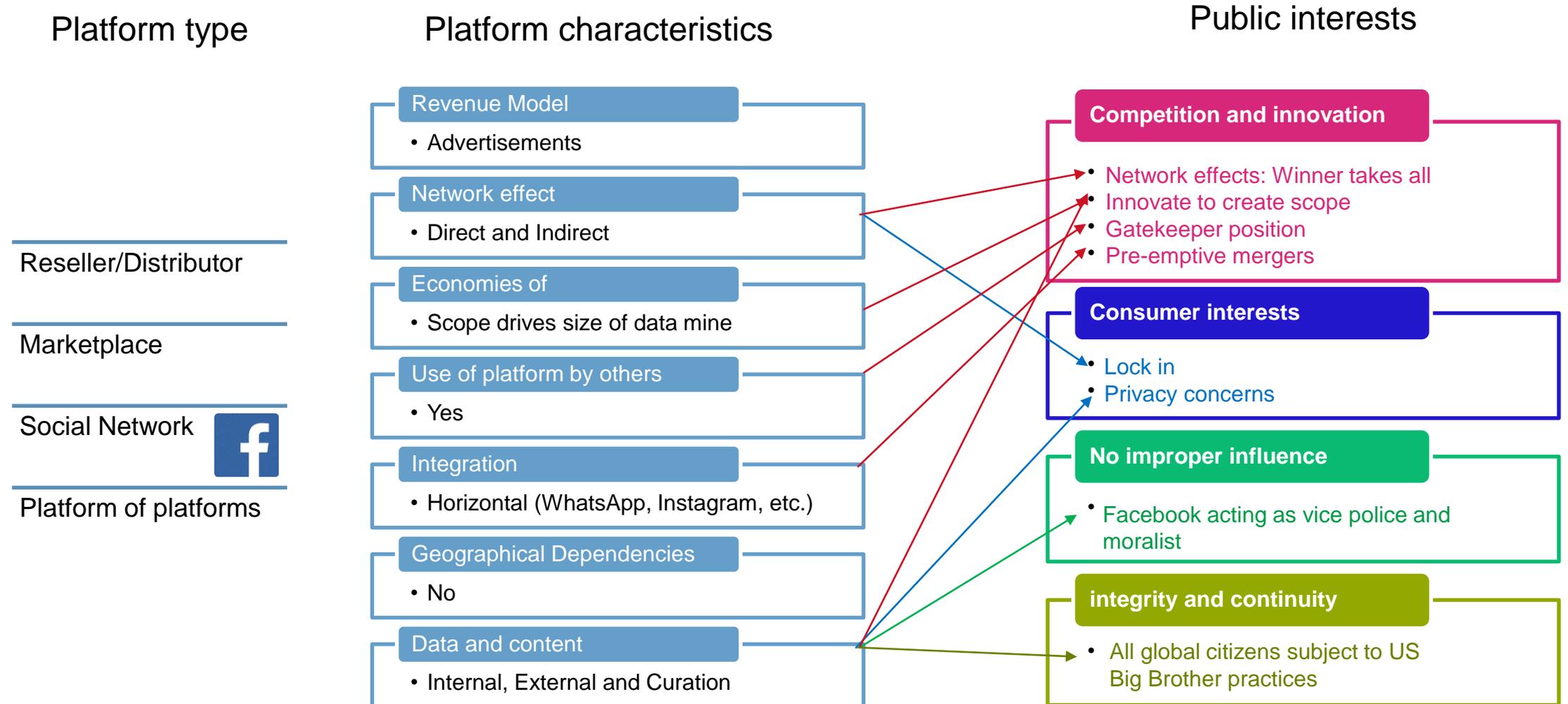
PUBLIC INTERESTS – BASED ON EARLIER WORK

Public interest	Interpretation in this study
Sufficient competition and innovation	Ensuring static and dynamic efficiency through competition and innovation
Safeguarding consumer interests	Promoting consumer choice, offering sufficient levels of consumer protection and safeguarding fundamental rights.
Freedom from improper influence	Avoiding unnecessary restrictions by governments or companies
Providing integrity and continuity	Market players, consumers and government need to be able to rely on safe and reliable digital communications provided by networks and services

Platform characteristics determine which public interests are potentially at stake

EXAMPLE: facebook

MY PERSONAL VIEW



3. POLICY INSTRUMENTS

Policy effectiveness runs through impact on platform characteristics and business models

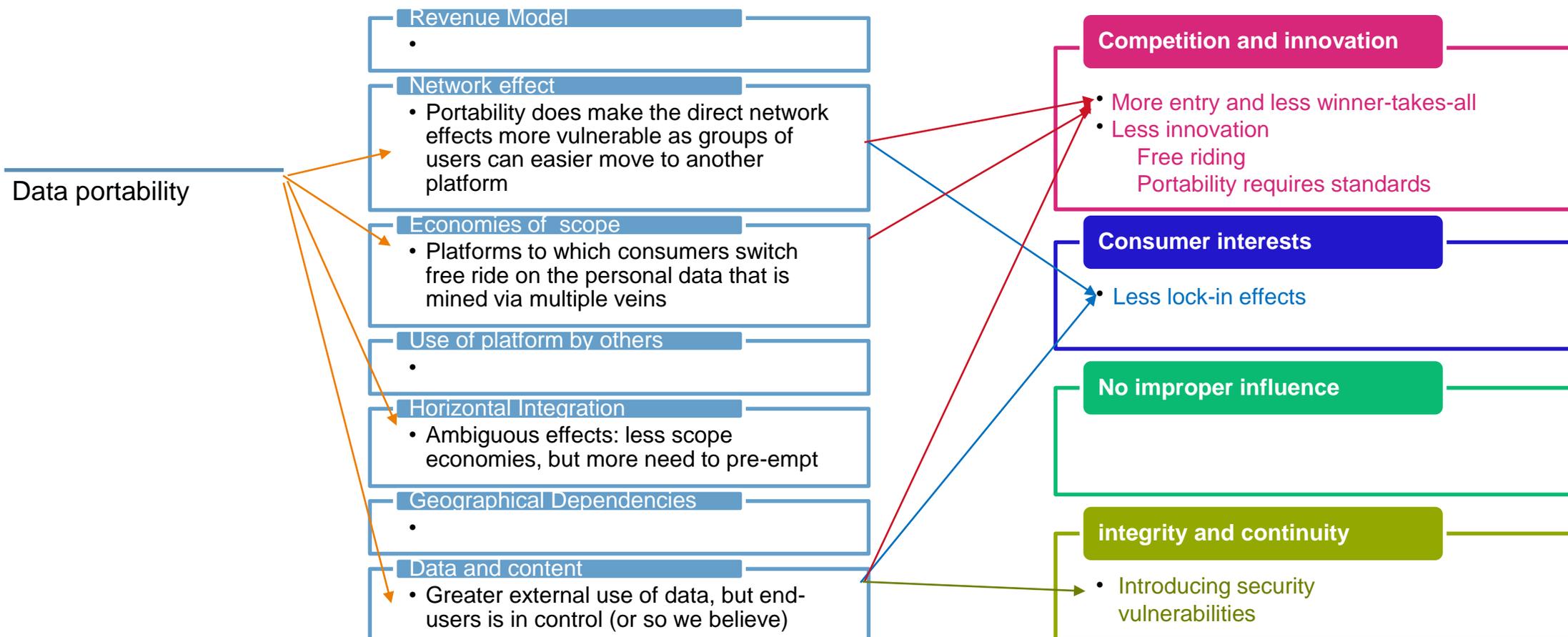
EXAMPLE: INTEROPERABILITY BETWEEN SOCIAL NETWORKS

MY PERSONAL VIEW

Intervention

Platform characteristics

Public interests



Policy question on weights to be attached to certain public interests.

MANY EXISTING INSTRUMENTS (CAN) APPLY TO DIGITAL PLATFORMS

Considerations in application of instruments to digital platforms

Topic	Considerations
Existing/new instruments	<ul style="list-style-type: none"> • What generic or sector specific regulation/instruments are already in place? • Do they need to change? • Are areas not covered and should they be covered?
Application and enforcement	<ul style="list-style-type: none"> • Are regulatory frameworks implemented, and are regulators actively enforcing, or attempting to enforce, regulation to digital platforms?
Static/Dynamic	<ul style="list-style-type: none"> • Digital platforms are in transition and require a more normative/functional approach instead of overly detailed regulation common to static markets.
Risk/harm Ex ante/ex post	<ul style="list-style-type: none"> • Weights to certain public interests can be based on a risk/harm approach.

CONCLUSIONS

Key observations used in development of framework

- › Use platform characteristics rather than a definition of digital platforms as a starting point
- › Policy effectiveness goes through the impact on platform characteristics
- › Many existing instruments can already be applied to digital platforms.
 - › For this reason we put some emphasis on opportunities to update and re-interpret available instruments

Thank you for you attention



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