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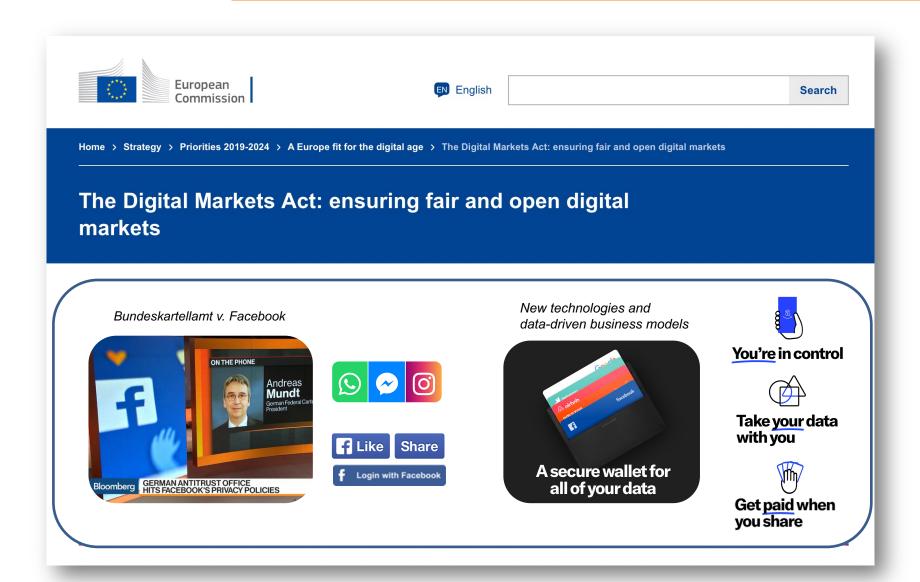
# Regulation of Data-driven Market Power in the Digital Economy

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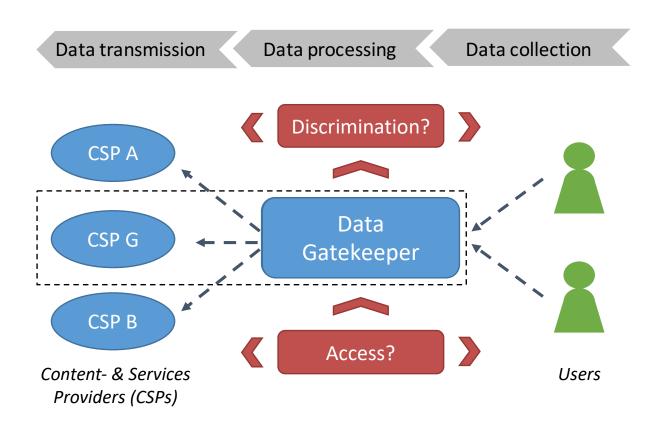
#### Ongoing developments in the data-driven digital economy





#### An effective policy framework for data gatekeepers?





Press release | 15 December 2020 | Brussels

Europe fit for the Digital Age: Commission proposes new rules for digital platforms

Digital Markets Act

Press release | 30 November 2021 | Brussels

Commission welcomes political agreement to boost data sharing and support European data spaces

Data Governance Act

Press release | 23 February 2022 | Brussels

Data Act: Commission proposes measures for a fair and innovative data economy

Data Act

#### Research questions and research approach



### 1 Overview of the empirical evidence on data-driven business value

- Which economic benefits can firms achieve from big data?
- » Literature review of empirical evidence on the business value creation from big data
- » Focus on the internet economy, its predominant use cases and big user data

### 2 Facilitating factors for a competitive advantage from big data

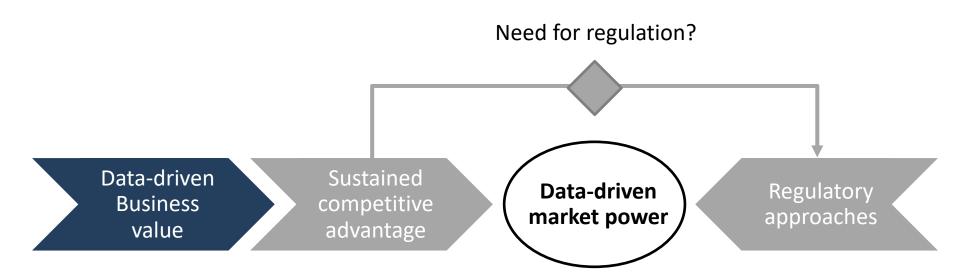
- When does big user data lead to sustained market power?
- » Resource-based view of the firm (Barney, 1991): "Inimitable resources and capabilities" to achieve competitive advantages
- Why and when should regulation of data-driven market power be considered?
- » Outside of scope; see Krämer & Schnurr (2021) for a data-driven theory of harm

### Regulation and the role of IT to mitigate data-driven market power

- How to address competitive concerns about dominant data-rich incumbents?
- » A toolbox of regulatory approaches and rules to remedy facilitating factors and an integrated framework for future research

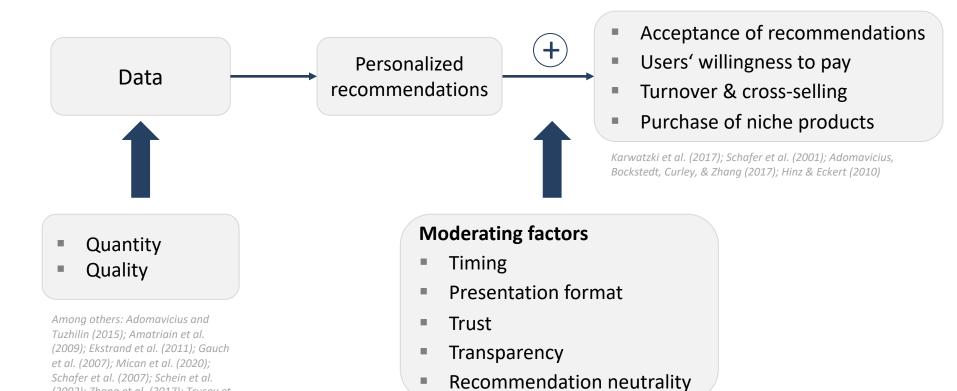
#### **Empirical Evidence on the Business Value of Big Data**





# Personalized recommendations can lead to higher sales, provided that sufficient, accurate and current data are available





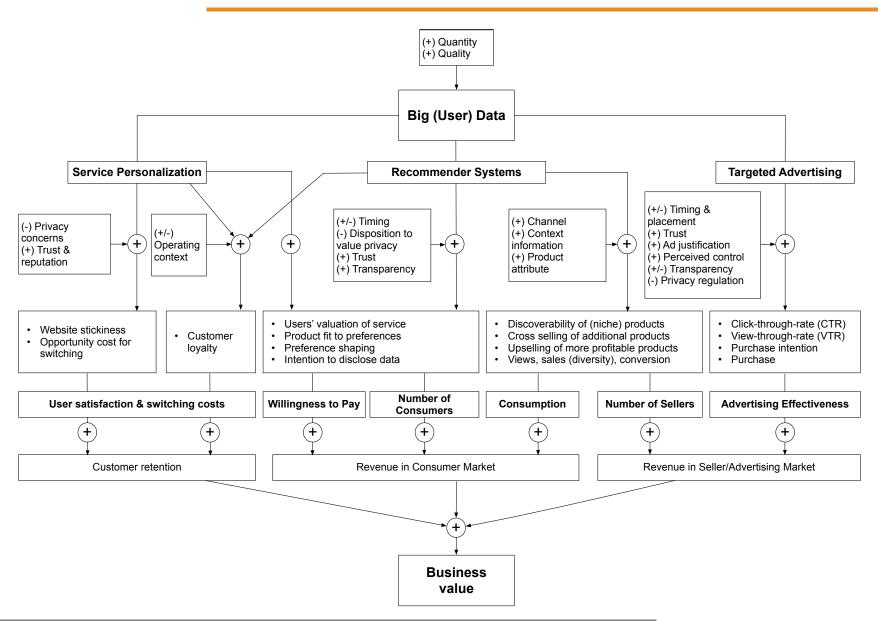
Adomavicius et al. (2013; 2017; 2019); Ho et al. (2011); Karwatzki et al. (2017); Sinha & Swearingen (2002); Wang & Benbasat (2005; 2007); Wang et al. (2018)

(2002); Zhang et al. (2017); Trusov et

al. (2016)

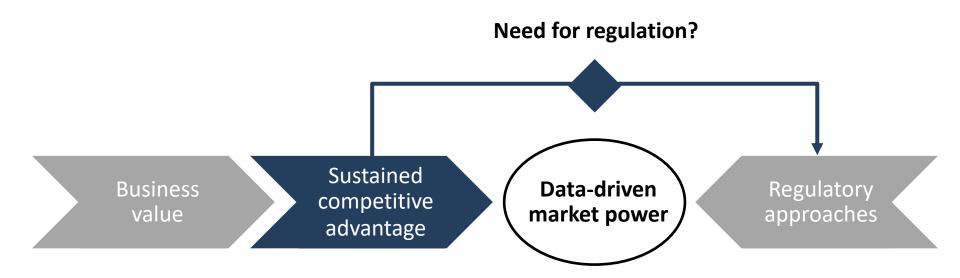
#### Big picture view: From big (user) data to business value





# **Competitive Advantages from Big Data and the Rationale for Regulation**





#### Facilitating factors for a data-driven competitive advantage



#### **Sustained competitive advantage** (Barney, 1991):

"inimitable resources and capabilities" (Wamba et al., 2017, p. 357)

#### Set of six facilitating factors for a competitive advantage from big (user) data:

Exclusive data access

Economies of scale

Data-induced switching costs

Exploitative data access

Digital ecosystems & economies of scope

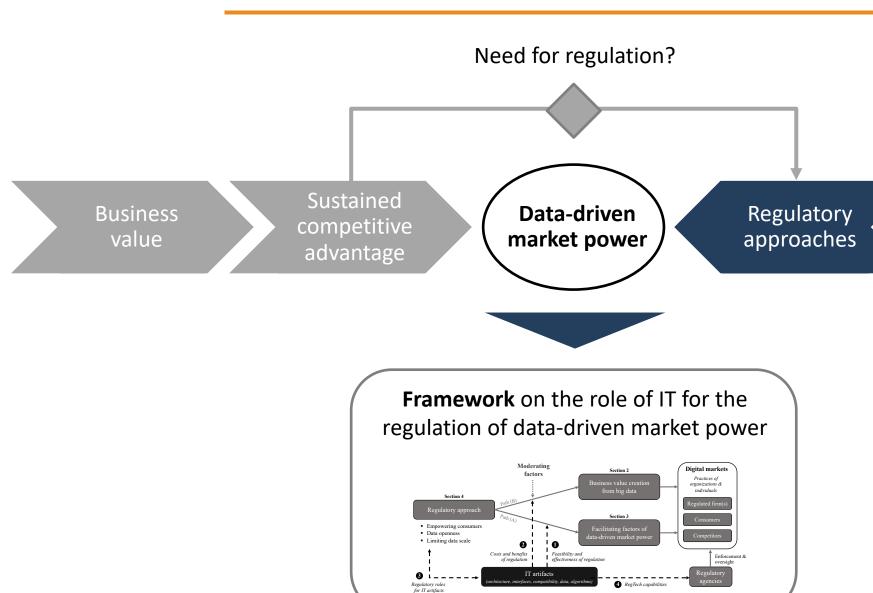
Network effects & platforms



A sustained competitive advantage enables firms to establish **data-driven market power** in the long run

#### Regulatory approaches to remedy data-driven market power





# The effects of regulatory rules in digital markets are moderated by the underlying IT artifacts



Facilitating factors:

Data-induced switching costs

Network effects & platforms

Exclusive data access

Exploitative data access

Economies of scale

Digital ecosystems & economies of scope

Regulatory approach:

**Empowering consumers** 

Data openness

Limiting data scale

Rules:

Data Portability & Transparency

Access obligations & Mandated data sharing

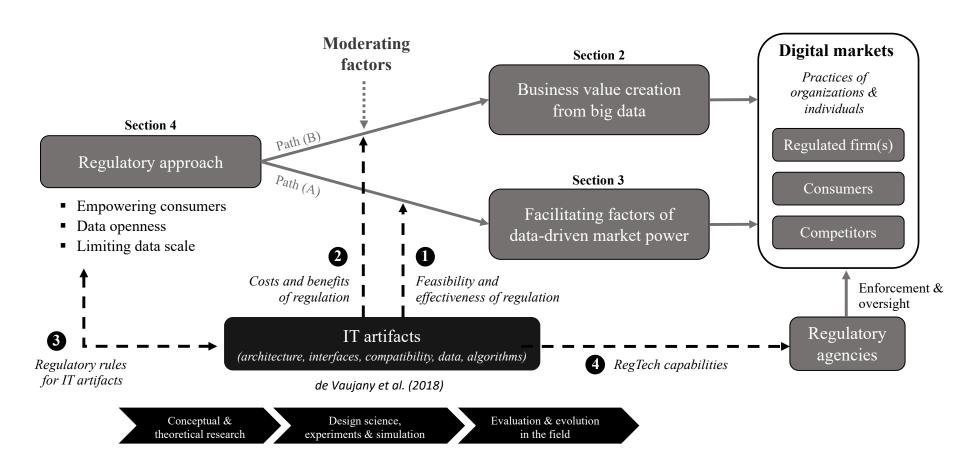
Data silos & structural separation

IT artifacts:

- User interfaces
- Personal Information Management Systems
- Data portability APIs and data exchange protocols
- B2B-APIs for large-scale data transfers
- PETs for data sharing
- Security and compatibility of information systems
- Decentralized and disintegrated information systems
- Data access control and user consent management
- RegTech capabilities for monitoring and auditing

# An integrated framework on the role of IT for regulation of data-driven market power





#### **Conclusions and outlook**



### 1 Big (user) data can promote market power of digital gatekeepers

- » Data can create a sustained competitive advantage if additional facilitating factors protect an incumbent from competitors' imitation of business value creation
- 2 Economic regulation of user data involves novel phenomenon and trade-offs
  - » Consumers as the original data providers move into the focus of competition regulation
  - » But: Behavioral effects and biases in individuals' privacy decisions (Acquisti et al., 2015)
  - » Competitive ramifications of privacy regulation (cf. Jin & Wagman, 2021)
- 3 Information technology design needs to be considered for effective data policies
  - » Technology enables new regulatory approaches and offers new tools for compliance and enforcement (RegTech)
  - » Technology design will determine effectiveness and unintended side-effects of policies



## **BACK-UP**

#### Discussion of current policy proposals: Digital Markets Act



#### **Digital Markets Act proposal**

- Asymmetric regulation: based on a broad notion of power and gatekeepers
  - Recognizes "data-driven advantages" as a key characteristic and source of market power (Recitals 2 and 3)
- Combines different regulatory approaches to achieve "contestability" and "fairness"
- Data access remedies for "core platform services" of gatekeepers
  - Limiting data scale:
    - Data siloing by default: no combination of personal data between core platform services without an end user's consent (Art. 5a)
    - Siloing of any non-public data generated by business users when competing with these users (Art. 6a)
  - Data openness:
    - Bulk data sharing for online search engine providers subject to anonymization (Art. 6j)
  - Empowering consumers: Continuous and real-time data access and data portability for end users (Art. 6h) and business users (Art. 6i), but possibly provided as anonymized and/or aggregated data (Art. 11 (2))
    - Broad scope: must also be ensured by emerging gatekeepers (Art. 15 (4))

#### Discussion of current policy proposals: Data Act



#### **Data Act proposal**

- Symmetric regulation focused on the "Internet of Things"
  - Universal scope: manufacturers of "connected products" and providers of "related digital services" irrespective of market position
  - Only exception for SMEs (Art. 7 (1))
- Regulatory approaches
  - Empowering consumers (!): easy, immediate and free-of-charge access to data was generated by the use of products or related services, where applicable, continuously and in real-time (Art. 4 (1))
    - Fair, reasonable and non-discriminatory data access for third parties on users' request (but cannot be used for competing products Art. 4 (4), Art 6 (2e))
    - SMEs cannot be charged beyond the actual administrative cost for access (Art. 9(2))
  - Limiting data scale:
    - No firm is allowed to make data available to its subsidiaries on preferential terms (Art. 8(3))
    - Gatekeepers (as designated under the DMA) are not allowed to access data made available by end users (Art. 5 (2))