Data Marketplaces beyond Conceptualization: Business Models, Governance, and Societal Concerns

Data marketplaces play a pivotal role in the emerging data economy by enabling the exchange of data products in data ecosystems (Oliveira et al., 2019; Spiekermann, 2019). Data marketplaces are a subtype of digital platforms that create value through a) matching data providers and consumers, b) providing infrastructure for contract creation, and c) facilitating the transportation and payment of data products (Stahl et al., 2016). Data marketplaces can have numerous forms, ranging from business-to-business (centralized or decentralized) data marketplaces to personal ones (Fruhwirth et al., 2020). While most data marketplaces are commercial platforms, public data spaces offer new vistas for creating public platform ecosystems (Beverungen et al., 2022).

Despite their potential, many data marketplaces fail to become commercially viable due to a variety of challenges, among others, business models, governance, and societal concerns (Abbas et al., 2021; Driessen et al., 2022; Santiago & Laoutaris, 2022). For example, the value creation of data marketplaces for (particular) end-users is typically understudied (Abbas et al., 2021). Furthermore, actor interactions in data marketplaces, including governance for decision-making structures, are not yet clear (Virkar et al., 2019). Another concern is societal harm to data privacy, confidentiality, ownership, or sovereignty (Santiago & Laoutaris, 2022). In all, these challenges hinder the roll-out of data marketplaces for exchanging data products.

To move data marketplaces beyond conceptualization toward the commercialization phase, we call for theoretical, empirical, or design science papers contributing to the broad topic of data marketplaces, including, but not limited to:

- **Business models**
  - What data products and services should data marketplaces create and make available to data providers and consumers (e.g., curated datasets, data-driven insights, analytics modules, smart services)?
  - How are data marketplace business models distinct from similar concepts of data spaces, data platforms, or data collaborative?
  - What are the critical success factors of commercially viable data marketplaces?
  - How can data marketplace participants benefit from current business models?
  - How do data providers and consumers perceive the costs and benefits of exchanging data products through data marketplaces?
  - What transformation path must organizations undergo to reach a sufficient degree of maturity for hosting or joining a data marketplace?
How do contextual characteristics of industries (or business sectors) affect the desired value propositions of data providers and consumers?

How do emerging technologies (e.g., blockchain-based architecture, privacy-preserving technologies) affect the perceived value of data providers and consumers?

What new tensions arise when applying emerging technologies to data marketplaces?

- Governance
  - How do actors interact in data marketplaces?
  - How can centralized and decentralized approaches to governance be balanced?
  - How do governance mechanisms (formal and informal) help different stakeholders achieve particular outcomes (e.g., willingness to participate in data marketplaces)?
  - Considering the increasing demand for interoperability between data marketplaces, what are the reasons (not) to open up data marketplaces to other marketplaces?
  - Can governance mechanisms be substituted by emerging technological paradigms (e.g., smart contracts, federated learning)?
  - How is the design of data marketplaces intertwined with the emergence of business ecosystems, and how can we govern data marketplaces to reach the desired outcomes?

- Societal concerns:
  - How do societal implications of data marketplaces (e.g., data privacy, confidentiality, ownership, or sovereignty) affect the willingness to participate in data marketplaces?
  - How can we leverage digital responsibility on data marketplaces, and what implications do societal goals have for their design?
  - How can we design and manage data marketplaces that create successful ecosystems instead of digital superstars?
  - How to conceptualize or measure the societal implications of data marketplaces?

References


