

# Chapter 5

## Bibliometric Analysis of Personal Data, User Privacy, and Personal Data Market(s)

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### **ABSTRACT**

*The personalized services provided to the customers in their day-to-day lives in the form of social circle, shopping experience, and health checkups, have caused a collection of enormous amounts of personal data intruding the user's privacy, and hence creating personal data markets and economy. These personal data markets are operating while the users or customers are busy living their daily lives. Is the academic world keeping pace with these developments? To find out, it is hence important to analyze academically the progress in this field so far. The purpose of this study is to provide a thorough bibliometric analysis using the keywords of personal data, user privacy, and personal data market(s) and bring forth the volume and document citation by time, contribution based on countries, top journals contributions, intellectual structure of the knowledge base, key concepts, and the nature of collaboration(s) achieved till date to help in identifying the research strengths and weaknesses.*

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## **INTRODUCTION**

The authors provide in this section a theoretical and conceptual background on personal data, user privacy and personal data markets. Discussions and proposals of different academics are provided with a brief discussion on different areas of privacy - Private, personal or company-based privacy (Palos-Sanchez et al., 2019).

Personal data is now commonly conceived as a tradable asset. Markets for personal information have emerged and new and different ways of valuating individuals' data are being proposed. Meanwhile, legal obligations over protection of personal data and individuals' concerns over its privacy exist, but the clarity to the common man is an illusion.(Spiekermann et al., 2015b) The increasing appetite of society for personal data is driving the emergence of data markets. This is allowing data consumers to launch customized queries over the datasets collected by a data broker from data owners. The data brokers can maximize their cumulative revenue by posting reasonable prices for sequential queries. Contextual dynamic pricing mechanism is being proposed with the reserve price constraint.(Niu et al., 2020b; (Ribeiro-Navarrete et al., 2021)

In this era of the digital economy, data has become a new key production factor, and personal data is the monetary value of a data-driven economy. Both the public and private sectors want to use these data for research and business. However, due to privacy issues, access to such data is limited, but not impossible. Given the business opportunities that have gaps between demand and supply, many have considered establishing a private data market to resolve supply and demand conflicts and to get access to data otherwise not accessible. While there are many challenges to maintaining such a data market, academics have focused on technical challenges and academic questions like ensuring a fair-trading mechanism between data providers and data platforms, consumer's attitude toward privacy data, and the pricing of personal data to maximize the profit of the data platform (Barbosa et al., 2022). Researchers have come up with a compensation mechanism based on the privacy attitude of the data provider and analyzed consumer self-selection behavior and established a non-linear model to represent consumers' willingness to pay (WTP) (Yang & Xing, 2019b).

As personal data is becoming a valuable asset for IT industries, the need for data ecosystems with personal data trading methodologies is increased, and as we discussed above, the concept of data brokers is now widely used in the market. In order to avoid and prevent malicious behavior, academics have proposed a deposit decision model for data brokers in distributed personal data markets using blockchain. The academics proposed a profit model with deposits depending on their behavior for handling contracts and a credit level model that puts fewer deposits for a data

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