

## 报告 7

### 大数据资源治理的概念、框架及参考模型

#### The Concept, Framework and Reference Model for Big Data Resource Governance

黄丽华教授 | 复旦大学信息管理信息系统系教授



#### 报告摘要 Abstract

本报告分析了上海数据交易中心有限公司对大数据资源交易过程关注的几个问题、以及上海市政府数据开放的实践，提出了理解大数据资源治理概念需要注意的几个方面，并定义了大数据资源治理的三大关键域，即治理组织结构和决策权、激励机制和监督机制。其中组织结构和决策权明确大数据资源责权利方面的制度安排；激励机制的设计目标是在大数据应用不同阶段，针对不同的大数据流通方式，鼓励多个责任/权利主体「实现价值」和「管控风险」的期望行为的发生，以降低代理成本和交易成本；监督机制的设计是要保证目标实现的工作机制，在大数据应用的不同阶段，针对不同的大数据流通方式，评估、指导和监控各项工作制度的有效执行。大数据资源流通是指大数据资源的控制权从一方转移到另一方，使资源得以优化和有效配置，从而实现价值的最大化。其主要方式有市场主导下的大数据资源交易、政府主导下的大数据资源开放、以及产业链（网）不同企业之间和政府部门之间大数据共享三种方式。从大数据资源流通实施的视角来看，需要重点关注大数据资源的生命周期、利益相关者及其角色。大数据资源的生命周期可以分为七个阶段，涉及不同的利益相关者主体，包括个人、组织（营利和非营利机构）、政府和社会。他们在大数据资源流通过程中的角色可能是数据生成者、收集者、处理者、整合者、分析者、应用者和监督者。同一个利益主体可能在不同的流通业务中或不同阶段扮演不同的角色，同一个角色可能有多个利益主体。大数据资源流通方式、大数据资源应用生命周期、大数据资源利益相关者组成了大数据资源治理的三维基础架构。在这个三维架构的每个单元中均需要有关于治理组织与决策权、激励机制和监督机制的安排，这样就构成了大数据资源治理的参考模型。

Based on analyzing the problems in the trading process of big data resource issued by Shanghai Data Exchange Corporation, and summing up the practical experience of data open by Shanghai municipal government, this report presents several aspects of the connotation of big data resource governance and defines three key domains of big data governance which are organization structure of governance and decision-making right, incentive mechanism, and supervision mechanism. The organization structure and decision-making right belonging to institutional arrangements is about responsibilities, rights and obligations of big data resources management. The incentive mechanism is to encourage the desired behavior of multiple responsibilities/rights subjects to achieve "value realization" and "risk control" in the different phases and different types of the big data circulation in order to reduce agency cost and transaction cost. The supervision mechanism ensures achieving the management goal in the different phases of the big data circulation process. It includes assessment, directing, and monitoring in order to guide the effective implementation of big data governance. The big data resource circulation refers to transferring control rights from one to the other, so that the resource can be optimized and configured efficiently to maximize its value. The main types of the big data resource circulation are market-oriented trading, government-oriented data openness, and the sharing of big data resources between different departments in a government. In order to promote big data resources exchange, we should focus on three issues which are life cycle of big data resources, stakeholder, and the roles in the data processing procedure, including data generator, collector, pre-processor, aggregator, analyst, user, and data processing supervisor. In the big data resource governance process, one stakeholder could play different roles in different data circulation type or stage, and one role could be consisted of multiple stakeholders. The three dimension framework of big data resource governance is composed of big data resource circulation type, big data resource application life cycle, and big data resource stakeholder. They are the three distinguished features and almost all of the research questions related to big data resource governance should consider them. In the context of these three features, the research issue of big data resource governance should specify three key domains we have mentioned above, which are organization structure of governance and decision-making right, incentive mechanism, and supervision mechanism. Based on the analysis above, we build up the three-dimension framework of big data resource governance, and all the research questions should consider the three external features and focus on the three internal research domains of big data resource governance.