

## 创新统计学以支持现代治理

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各国政府越来越多要求更快速、更精细、和更可靠的统计数据来帮助治理。然而，20 世纪的统计思想和方法将不足以解决 21 世纪的需求，例如如何提供动态跟踪系统和实时统计报告。统计学会否因此而式微衰落？大数据时代带来了另一个挑战。如果整体的数据都能被收集，而且可以同样有效率地被分析，随机抽样调查还有必要吗？这份报告提议，历史亦多次证明，统计与科技不断互动创新，大数据替统计迎来了前所未有的好机会，使其作用和價值可以远远超过目前的界限。如能配搭上中国的体制和社会改革，例如户籍制度、代码系统、和国家基础数据库，统计 2.0 支持现代管理和多领域的应用，是自然和必要的。顶层系统设计、数据整合和质量、基於非随机收集数据的统计推论、支持和监督智慧城市建设等等，都是一些重要、创新应用研究项目，帮助统计 2.0 起步。

**关键词：**大数据，治理，创新，统计 2.0

## Innovate Statistics to Support Modern Governance

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Governments are increasingly looking for faster, more detailed, and more reliable statistics to assist governance. However, 20<sup>th</sup> century statistical thinking and methods will not be adequate to meet 21<sup>st</sup> century needs, such as how to provide dynamic monitoring systems and real-time statistical reporting. Is this the demise of statistics? The Big Data era poses another challenge. If data for an entire population can be collected and analyzed just as cost-effectively as a survey, will random sampling be still needed? This presentation proposes, and history provides repeated evidence, that statistics and technology interact continuously to innovate. Big Data introduce unprecedented opportunities for statistics to reach well beyond the current boundaries in function and value. If matched with ongoing systematic and social reforms in China, such as household registration, identification codes, and national basic data systems, it is both natural and necessary for Statistics 2.0 to support modern governance and other fields of application. Top-level design of systems, data integration and quality, statistical inference based on non-randomly collected data, and support and monitoring of Smart City development are some of the important, innovative research and application topics to launch Statistics 2.0.

**Key words:** Big Data, Governance, Innovation, Statistics 2.0