Integration of Data and Interfaces To Enhance Human Understanding Of Government Statistics: Toward the National Statistical Knowledge Network

Public access to government statistical data is accelerating as web-based services proliferate. However, new users with diverse skills struggle as they seek answers to their questions by tediously accessing information from multiple government agencies in varied formats. Partial solutions by individual agencies cannot solve this problem, but an integrated approach can succeed. We will expand on our successful work with five government agencies, clarify our understanding of user needs, and work cooperatively to develop realistic solutions. Standardization and documentation of shared data formats, including metadata, is a starting point. Technical solutions based on XML tags will be combined with social processes to ensure that search results can be combined, and that users can get ample explanations. Interface solutions will be scalable to deal with large complex data sets, and flexible to provide access from diverse hardware/software platforms. We will accommodate broadband users with large desktop machines as well as mobile users with small displays. The same software architecture will enable us to accommodate users with disabilities and other universal usability needs. Interface designs based on improved cognitive models and usability testing will provide graceful evolution strategies that enable novices and experts to succeed. At every point, close collaboration with government agencies will give us current information, feedback on our proposals, and close contact with implementers of production systems.