



## **Big Data Applications for Official Statistics: Methodologies and Challenges**

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**Abstract** Our society is becoming more complex and there is a growing demand for more relevant, timely and new official statistics to support policy formulation. While the traditional survey approach collects data which are tailor-made for the purpose and thus should be more relevant, the cost is significant to both the Government and the respondents. At the same time, there has been an increasing emphasis on big data applications for producing official statistics. Among the various big data sources, administrative data is considered to be the most relevant and useful to the production of official statistics. Administrative data is usually a more cost-effective and timely data source than survey data, particularly when the target population is rare. On the above background, the Census and Statistics Department of Hong Kong has recently explored the feasibility of making use of the administrative data for conducting additional analyses to support policy formulation. This paper outlines the background in applying administrative data in producing new statistics. Cases are discussed in this paper to illustrate the methods that have been adopted. In addition, the advantages and challenges encountered in the process, as well as measures to overcome the difficulties are also addressed.

**Key words:** Big data, Administrative data