



## Big Data Governance Framework: The Case of Mobile Positioning Data for Official Tourism Statistics In Indonesia

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**Submission ID:** 413

**Format:** CPS Paper

**Reference Number:** 413

### Presentation File

[abstracts/ottawa-2023\\_c7b45184567c98a57ec7191e5da1ed1f.pdf](#)

### Files/Uploads

[CPS0036\\_EkoRahmadian\\_rev](#)

### Brief Description

The National Statistics Office (NSO) of Indonesia (Statistics Indonesia) has been using Mobile Positioning Data (MPD) to measure cross-border foreign visitors since 2016.

Indonesia is one of the few countries that have already used MPD as one of Big Data sources for official statistics products, as it provides more accurate data with better coverage and timeliness on tourism arrival compared to the traditional method.

Following its success, since 2018, research on the potential use of MPD has been expanded to other purposes, such as measuring domestic tourism and people's mobility in metropolitan areas.

Not only the MPD, but research on the potential use of other Big Data sources for official statistics has also increased response to the demand by related stakeholders and decision-makers.

Following that, also with the development and application of Big Data in various sectors and purposes, including official statistics, the role of Big Data governance is becoming more and more important.

Big Data governance is a holistic approach that allows harmonization of people, methods, tools, and technologies to deal with structured and unstructured data.

Big Data governance is also a new data stage in the development of data governance, especially exploring its theory and practice to improve organizational data management and utilization.

Currently, despite the current success on the use of MPD, there are some challenges regarding Big Data governance that have possibly become threats to data sustainability and the entire data provision process.

In this paper, we aim to investigate the issues and challenges of Big Data governance on the case study of MPD for official tourism statistics in Indonesia.

Our research aims to identify challenges in the dimensions of Big Data governance framework, specifically in addressing issues on the role and communication among stakeholders, institutions or organizations, data quality, and regulatory compliance.

To that aim, we conducted a field study in Statistics Indonesia, consisting of semi-structured interviews with related stakeholders.

We also conducted a comparison study with Centraal Bureau voor de Statistiek Nederland (Statistics Netherlands) to have more perspective from other NSO that we considered quite established and reachable for our study.

Through the result findings of our qualitative research on the MPD case study, we expect both to provide more insight and understanding of the urgency of Big Data governance, and to propose the importance of a Big Data governance framework for official statistics. keywords: Mobile Positioning Data, Big Data governance framework, tourism statistics, official statistics, data sustainability

### Abstract

The National Statistics Office (NSO) of Indonesia (Statistics Indonesia) has been using Mobile Positioning Data (MPD) to measure cross-border foreign visitors since 2016. Indonesia is one of the few countries that have already used MPD as one of Big Data sources for official statistics products, as it provides more accurate data with better coverage and timeliness on tourism arrival compared to the traditional method. Following its success, since 2018, research on the potential use of MPD has been expanded to other purposes, such as measuring domestic tourism and people's mobility in metropolitan areas. Not only the MPD, but research on the potential use of other Big Data sources for official statistics has



also increased response to the demand by related stakeholders and decision-makers. Following that, also with the development and application of Big Data in various sectors and purposes, including official statistics, the role of Big Data governance is becoming more and more important. Big Data governance is a holistic approach that allows harmonization of people, methods, tools, and technologies to deal with structured and unstructured data. Big Data governance is also a new data stage in the development of data governance, especially exploring its theory and practice to improve organizational data management and utilization. Currently, despite the current success on the use of MPD, there are some challenges regarding Big Data governance that have possibly become threats to data sustainability and the entire data provision process. In this paper, we aim to investigate the issues and challenges of Big Data governance on the case study of MPD for official tourism statistics in Indonesia. Our research aims to identify challenges in the dimensions of Big Data governance framework, specifically in addressing issues on the role and communication among stakeholders, institutions or organizations, data quality, and regulatory compliance. To that aim, we conducted a field study in Statistics Indonesia, consisting of semi-structured interviews with related stakeholders. We also conducted a comparison study with Centraal Bureau voor de Statistiek Nederland (Statistics Netherlands) to have more perspective from other NSO that we considered quite established and reachable for our study. Through the result findings of our qualitative research on the MPD case study, we expect both to provide more insight and understanding of the urgency of Big Data governance, and to propose the importance of a Big Data governance framework for official statistics.