

Comments/Suggestions for Statistical Commission 49th Session

New York, 6-9 March 2018

3(e) Items for discussion and decision: big data for official statistics

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2/ 1	The Statistical Commission created the Global Working Group (GWG) on Big Data for Official Statistics at its 45th session in 2014. In accordance with its terms of reference ¹ and Decision 46/101 (iii) ² , the GWG provides strategic vision, direction and the coordination of a global programme on Big Data for official statistics, including for compilation of the SDG indicators for the 2030 Agenda for Sustainable Development.	The GWG should not only provide strategic vision, direction and the coordination, but also develop roadmaps or recommendation roadmaps. Thus, stakeholders can refer to this roadmap as a path way to utilize big data for official statistics.
2/ 3	In this report, the GWG responds to the request made by the Commission and presents the progress with the business case and proof of concept for a GWG platform of trusted data, trusted methods, trusted partners and trusted learning supported by core services, which will enable and advance the work of the GWG task teams.	In line with the recommendation in “A World that Counts” report, We need to enlarge the discussion group member and engage universities (academicians). Big data is emerging and this is a new magnet for university researchers. By involving the researchers, we can accelerate the process to reach our goals, which are academically proved.
4/ 13	In the illustration of Figure 1, the Data Policy Framework of the GWG platform is meant for datagovernance and information management and consists of a set of rules and regulations under which the GWG platform must operate in storing, processing and disseminating information ⁴ . Following these rules will reduce the risks associated with inconsistently managed information, which will, in turn, reduce the cost of handling these risks and allow for increased	At the introduction of one data policy in Indonesia, the president gives mandates to BPS as the only official statistical data source in Indonesia. Since statistics cover many areas, BPS must ensure the data is well managed. Therefore, BPS implements a standard in data governance and management. In 2018 data governance management are compiled and reviewed for later defined and implemented. This initiative relates to governance and management.

	flexibility in a changing technology and information environment over time.	
5-6/22-24	<p>22. This task team has finalized the first full draft of its Handbook on the use of mobile phone data for official statistics, which describes in detail applications, data sources and methods. The Handbook also includes partnership business models between national statistical offices and mobile operators for access to the mobile phone data and concludes with two country cases from France and Indonesia. The Handbook will be reviewed by the GWG advisory group on scientific matters before release on the public website of the GWG.</p> <p>23. Prior to the Big Data Conference and on behalf of the GWG two data scientists from Positium, a private sector intermediary, and one statistical methodologist from Eurostat conducted a workshop on the use of mobile phone data for official statistics for about 25 participants from national and international statistical institutes. The workshop used materials based on projects with mobile operators across the EU, Middle East, and Indonesia, resulting in the analysis of mobile data from 11 countries.</p> <p>24. The trainers elaborated on the technical details of data preparation, data processing, data modelling using hands-on examples, such as applications to model population movement, migration patterns, mobility, displacement due to diseases, tourism, and real-time crowd mapping. Data related to these areas can be collected very quickly, in some cases in real-time, from the mobile phone operators. Access</p>	<p>BPS Statistics Indonesia has used Mobile Positioning Data (MPD) as one data source for Tourism Statistics in border area where there is no immigration check point since October 2016.</p> <p>BPS Statistics Indonesia has contributed in UN Mobile Positioning Data Task Team and in drafting and commenting of the Handbook of the Use of Mobile Positioning data.</p> <p>BPS Statistics Indonesia (will) have Memorandum of Understanding with one of the biggest Mobile Network Operator (MNO) in order to obtain access on raw data of mobile positioning and other big data (facebook, twitter, etc).</p> <p>In collaboration with Ministry of Tourism and with the help of Positium Experts (Estonia) BPS Statistics Indonesia has developed draft of Methodological Handbook and QAF for the Use of Mobile Positioning Data for Inbound Tourism Statistics and plan to develop methodology and QAF handbook for other statistics such as domestic tourism.</p> <p>Also in collaboration with MoT will improve and revise the methodology of inbound tourism with the help from Positium.</p> <p>In collaboration with Ministry of Tourism, BPS Statistics Indonesia plan to do the national hands-on training. The training will be based on (refer to) the training developed by the GWG which delivered in Bogota but will use Indonesia data.</p> <p>BPS Statistics Indonesia also has applied to join the second phase of ITU Project on Big Data for Measuring the Information Society.</p> <p>Basically, BPS Statistics Indonesia supports Big Data as other data source for official statistics and for statistical analysis. Also, BPS Statistics support the existence of GWG on Big Data, so mutual learning among countries is encouraged.</p> <p>BPS Statistics Indonesia support the Handbook of the Use of Mobile Phone Data for Official Statistics. The existence of the Handbook is very important, it can be used as manual and reference for countries that will use mobile phone data for official statistics since the handbook describes</p>

	<p>to the data varies from country to country based on different legal and political frameworks. The workshop concluded with a discussion on possible roadmaps for embedding the use of mobile phone data into the official statistics of the participating countries.</p>	<p>detail applications, data sources, data access, methods and quality assurance. BPS Statistics Indonesia supports the workshop and hands on training of the use of mobile phone data for official statistics which was stated in Bogota and suggests more training or workshop on mobile phone use for other specific statistics</p>
5/22	<p>This task team has finalized the first full draft of its Handbook on the use of mobile phone data for official statistics, which describes in detail applications, data sources and methods. The Handbook also includes partnership business models between national statistical offices and mobile operators for access to the mobile phone data and concludes with two country cases from France and Indonesia. The Handbook will be reviewed by the GWG advisory group on scientific matters before release on the public website of the GWG.</p>	<p>Since 2016 BPS Statistics Indonesia together with the Ministry of Tourism has been using Mobile Positioning Data (MPD) in the calculation of overseas tourists. The method has earned the support and appreciation from WTO. By the end of 2017, the audit of tourist counting methods has been carried out with the assistance of Positium, as one of the inputs for quality assurance of the method used. The use of MPD in 2018 is expanded to calculate domestic tourists and their movements, which were previously conducted through a semi-annual survey.</p>
5/22	<p>This task team has finalized the first full draft of its Handbook on the use of mobile phone data for official statistics, which describes in detail applications, data sources and methods. The Handbook also includes partnership business models between national statistical offices and mobile operators for access to the mobile phone data and concludes with two country cases from France and Indonesia. The Handbook will be reviewed by the GWG advisory group on scientific matters before release on the public website of the GWG.</p>	<p>After public release, the Handbook need to be reviewed first by statistical offices. One way of reviewing the book is by conducting the whole processes written in the book in a different project. As an example, the use of mobile phone data on official statistics for the case of Indonesia is to produce statistics on tourism. It could be expanded to produce statistics on mobility statistics (commuter) or other non-permanent mobility statistics.</p>
5/23	<p>Prior to the Big Data Conference and on behalf of the GWG two data scientists from Positium, a private sector intermediary, and one statistical methodologist from Eurostat conducted a workshop on the use of mobile phone data for official statistics for about 25</p>	<p>In the year 2018, the Ministry of tourism in cooperation with BPS will hold a workshop on the use of MPD, which is a continuation of a similar workshop in Bogota in 2017, for data scientists in Indonesia. Through this workshop, it is expected that the use of MPD can be used in other studies related to demographic, economic, and even social issues.</p>

	<p>participants from national and international statistical institutes. The workshop used materials based on projects with mobile operators across the EU, Middle East, and Indonesia, resulting in the analysis of mobile data from 11 countries.</p>	
5/23	<p>Prior to the Big Data Conference and on behalf of the GWG two data scientists from Positium, a private sector intermediary, and one statistical methodologist from Eurostat conducted a workshop on the use of mobile phone data for official statistics for about 25 participants from national and international statistical institutes. The workshop used materials based on projects with mobile operators across the EU, Middle East, and Indonesia, resulting in the analysis of mobile data from 11 countries.</p>	<p>The results of the analysis of mobile data from 11 countries need to be available for the public in order to improve the use of mobile phone data for official statistics. The analysis also needs to incorporate current official statistics as a comparison to the statistics produced by mobile phone data.</p>
6/24	<p>The trainers elaborated on the technical details of data preparation, data processing, data modelling using hands-on examples, such as applications to model population movement, migration patterns, mobility, displacement due to diseases, tourism, and real-time crowd mapping. Data related to these areas can be collected very quickly, in some cases in real-time, from the mobile phone operators. Access to the data varies from country to country based on different legal and political frameworks. The workshop concluded with a discussion on possible roadmaps for embedding the use of mobile phone data into the official statistics of the participating countries.</p>	<p>The training on the technical details of business processes of mobile phone data usage needs to be continued to solve remaining problems related to the difference in the legal and political framework. Although the roadmaps for embedding the use of mobile phone data into the official statistics have been established, the follow-up action needs to be updated not only to participating countries but also other countries.</p>
6/26	<p>Prior to the Big Data Conference and on behalf of the GWG, statisticians from INEGI Mexico and DANE Colombia, and a data scientist from Statistics Netherlands conducted a workshop with materials based on projects covering mobility analyses,</p>	<p>Indonesia Statistical college in cooperation with Jakarta pulse lab has worked on commuters' statistics by utilizing twitter data.</p>

	sentiment analyses and subjective poverty measurement using mostly Twitter and Facebook data. The trainers explained the process of obtaining social media and web scraping data through APIs, the software and programming languages to clean and process the data, and the latest methodologies for data analytics, including machine learning.	
7-8/33-37	V. Outcome of the 4th International UN Conference on Big Data for Official Statistics	The theme of the conference was “trusted data collaboratives” to share, exchange and develop data, services and application for the modernization of national statistical systems. The terms modernization needs to be more elaborated by taking into account current condition of NSO's. The best practices of transforming a statistical office into a modern statistical office need to be clear. It is very important to provide a strong and comprehensive technical assistance from UN in order to achieve a modern statistical office.
7/34	(iii) the use of new Big Data sources and corresponding technologies, including data storage, data integration as well as machine learning and artificial intelligence.	BPS Statistics Indonesia has started to collect data on e-commerce, the results of which will be used to help the government introduce a policy on the industry. For the initial step, the BPS would focus on the data collection on certain business sectors including transportation, specialty stores, the marketplace and travel. The data collection had started in early January 2018 in cooperation with the Indonesian E-Commerce Association (idEA). The information to be collected included the businesses players, the turnovers of each firm, the products and also consumer behavior.
8/40	Statistics Denmark will oversee the GWG work programme of existing, expanding and setting up new task teams. The current management team consists mainly of the GWG task team leaders, led by Statistics Denmark as GWG chair. This team is now renamed the GWG Committee on Global Data collaboratives, given that the task teams are functioning as global data collaboratives. Statistics Denmark will be chair this GWG Committee. The existing GWG Committee on the Global Platform will continue its work under leadership	In our opinion based on the architecture (Figure 1), basically we can have minimum 3 sub GWG/team: governance & management, infrastructure and business case (MPD, satellite imaginary etc.). Each team will be advised by academic advisory board. Therefore, the team can focus on one area of discussion and it will relate to a specific academic field.

	<p>of ONS, UK. This Committee will gradually develop the business case, proof ofconcept and communication for the GWG platform, with a focus on its data and technology framework across a federated network of platforms. On a regular basis UNSD will inform the full GWG membership about the developments led by both GWG Committees.</p>	
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