



Modernisation of Data Dissemination: Malaysia's Practice

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ABSTRACT

This paper presents the current practice of modernisation of data dissemination in Malaysia. The modernisation of data dissemination is vital in serving the needs of users to develop effective communication. In line with the public service commitment to the people of Malaysia, Department of Statistics Malaysia (DOSM) introduced the “Merakyatkan Statistik” (citizen centric statistics) approach in intensifying the awareness of statistics among the public. Thus, in this paper, we have highlighted DOSM's strategies in modernising the dissemination of statistical data especially in terms of digitalisation namely social media, websites and mobile applications. In realising and implementing these strategies, DOSM has worked closely with various private and public agencies across the nation. Till date, 28 Memorandum of Understanding has been signed and the Department has participated actively in international and national conferences/forums to share on the available statistics. These efforts enable to promote user-friendly statistics for data analysis and formulating policies.

Keywords: modernisation, data dissemination

1. INTRODUCTION

Globalisation is the process of interaction and integration between people, companies, and governments worldwide. Guttal (2007) quoted that “globalisation is widely used to describe a variety of economic, cultural, social, and political changes that have shaped the world over the past 50-odd years. Because it is a complex and multifaceted phenomenon, globalisation has been credited with a wide range of powers and effects”. Globalisation has grown due to factors of transportation and communication technologies. The interaction also developed the growth of worldwide communication, international trade, social and cultural aspects as well as ideas of people around the globe.

In the current globalisation without boundaries, everything has become more transparent and more complex with overloaded information owing to internet and social media. The massive amount of information, smart systems that communicate interdependently such as mobile phone, the ease of communicating across distances, cyber physical system with the use of communication tools to connect with machinery, resulted for the world become more complex. With the complexity and the globalisation which led to the era that we can search anything through internet in less than second, information is expected to be fast and easy to access. In the current scenario, as everyone is catching up with the speed of internet, Department of Statistics, Malaysia (DOSM) also in line with the momentum by providing and disseminating statistics in efficient and timely manner.

Lerner (1958) summarised that the modernisation is the consequence of urbanisation within the urban matrix, then develop the literacy and use the media as a medium to spread the literacy which then create the interaction among people. In addition, V.V.D. and C.G.G (1970), on his paper described the modernisation as the changes of the combined effect of urbanisation, industrialisation, improved communications, greater volume of trade and commerce, etc. in the social services sector. With the rapid urbanisation, as official statistics producer, DOSM believes that effective communication is vital in order for them to understand on the produced statistics. DOSM ensures that the produced statistics are well-understood, easy to access, produced frequently and complemented with metadata.

In this journey, Malaysia has actively embarked on modernisation of data dissemination in line with DOSM’s mission of “Merakyatkan Statistik” (citizen centric statistics). Among the objectives of the modernisation in data dissemination is to ensure the produced statistics caters to users’ requirements and the public has wide ranging access on the available information. In this paper, we highlight the strategies in modernising the dissemination of statistical data especially in terms of digitalisation.

2. LITERATURE REVIEW

Modernising the data dissemination is the redesign the data dissemination process incorporated with the current technologies. The modernisation of the data dissemination has been among the issues being highlighted since the past decade. Wang (2013) stated that among the initiatives of the U.S. Bureau has undertaken was the formation of The Center for Enterprise Dissemination Services and Consumer Innovation (CEDSCI) at the U.S. Census Bureau with representation from across multiple organisational directorates. CEDSCI is an effort to serve their users with the transformation and expansion of data dissemination of the Census.

Collado (2013) emphasised that new initiatives have been taking care for better modernisation in the Philippines. Among the initiatives are the National Statistical Office (NSO) Data Archive, readable and reusable formats apart of pdf form, set-up of the NSO Data Enclave to allow researchers to use census/survey microdata and partnership with the Accredited Data Centers consisting of libraries of different colleges and universities.

Besides that, Hussein (2017) also highlighted that Qatar also noted few strategies in modernising their official statistics, i.e. dialogues with users, access and use of their official statistics for free, visualisation and interaction of their products and services, giving education to people, and educate users about the National Statistical System.

3. OFFICIAL STATISTICS IN MALAYSIA

DOSM is a premier government agency entrusted with the responsibility to collect, interpret and disseminate latest and real time statistics in the monitoring of national economic performance and social development. Towards achieving the aspirations of the national transformation agenda and the globalisation challenges, producing integrity and reliable statistics become DOSM's priorities. Since its inception, DOSM shoulders the responsibility of providing statistical products and services as inputs to the government and community in formulating the national socio-economic development policy and for evidence-based decision making.

3.1 Function of DOSM

In this era of transformation, DOSM is the lead agency which provides statistics besides being the focal point for planning formation and achievement of national development. At the global front, DOSM has gained recognition and becomes a reference as well as involving actively as a strategic partner in various Expert & City Groups established under The United Nations Statistical Commission (UNSC), Organisation of Islamic Cooperation (OIC), ASEAN and prominent statistical associations such as the International Statistical Institute (ISI) and International Association of Official Statistics (IAOS).

The increasing dynamism and sophistication of users' expectations requires DOSM to be at the forefront in providing statistical products and services that are relevant to current needs. Thus, statistical services also need to be enhanced and evolved in line with the changes of the community. As the numbers of stakeholders are expanding, more statistics have been produced to fulfil the increasing demand. The produced statistics are used widely by the public and private sectors locally and internationally for various purposes, particularly for policy planning, research, analysis as well as projections.

3.2 Statistics publications

As the main national statistics provider and to supply quality statistics with user-friendly approach and timely, DOSM has gradually increased the number of products year by year. Back in 2010, DOSM disseminated 60 statistical products on a monthly basis and 12 products on a quarterly basis. In 2015, there were 125 statistical products were released on a monthly, 28 products on quarterly and 20 products on a

yearly basis. The number has significantly increased in 2017 with 193 statistical products released on a monthly, 43 on quarterly and 97 on a yearly basis.

Prior to 2010, statistical publications were sold to users in hardcopy publication as well as stored in CD-ROMS which designed in Adobe Acrobat. However since 2010, DOSM began to provide publication in softcopy formats which can be downloaded for free. Subsequently, in 2014, statistical table is designed in MS Excel to meet users' requirements. As at July 2018, a total of 663,644 publications have been downloaded compared to 150,069 publications in 2010 which shows a significant increase. Over the years, with the increasing number of statistical products and complemented with softcopy publications, the number of data request from public has also reduced from 22,023 data request in 2010 to 11,300 of data request in 2017.

4. COMMUNICATIONS IN STATISTICS

Most of the countries apply the principle of communication and dissemination which encompass transparency, accessibility, comprehensibility, independence and confidentiality. In line with the DOSM's Transformation Plan 2015-2020 under Thrust Strategic 4, DOSM has identified several methods of communication to strengthen statistical literacy among public through statistics engagements and conferences as highlighted in the following paragraphs.

4.1 Statistics Engagement

Effective communication is a cornerstone of many aspects of data collection. Communication with respondents is ultimately aimed at getting accurate, complete and timely responses. In line with this initiative, DOSM organised strategic initiative that provides a platform for the transformation of statistical literacy among the public, including students at school and university. The engagement sessions with the community is an important programme practiced by DOSM, since 2011, to create awareness among Malaysians.

From time to time, inaccurate statements on the released statistics by DOSM or misinterpretations of data may appear in the media. Therefore, DOSM organises special briefing sessions with users, stakeholders, researchers, academicians, media and journalist to avoid misinterpretations. These events serve as platform for DOSM to communicate and deliberate on the produced statistics.

DOSM's regional offices organise statistics sessions with the community on an annual basis, targeting stakeholders, government and private agencies, researchers, media, business communities, academicians, students as well as the general public. This helps to highlight the significance of statistics for the community and also for the nation. Moreover, function and role of DOSM in producing the real-time statistics for monitoring national economic performance and social development are also being emphasised in these sessions. These sessions facilitate higher response rate from the industry players. In overall, 782 engagement sessions were successfully organised which involved users, supplier data and consulting services in 2017 and 478 sessions have been conducted across the nation as of June 2018.

In order to promote the use of statistics and create opportunities for new scientific findings in statistical research as well as contribute to the country's transformation programmes, DOSM has signed 28 Memorandum of Understanding (MoU) with agencies and higher learning institutions. From the MoUs, it facilitates DOSM to acquire secondary data from other agencies instead of high dependency on primary data collection. These also provide an ideal opportunity for universities' students to generate new relevant knowledge through research activities by using statistics. In the meantime, DOSM also shares the accurate methodology to assist with the production and interpretation of official statistics and research findings. With these initiatives, it also encourages journalistic and technical writing among the students and officers in DOSM.

4.2 Conferences

With the same objective, and with smart collaboration between DOSM, the Central Bank of Malaysia (BNM) and the Malaysian Institute of Statistics (ISM) are hosting the Malaysia Statistics Conference annually since 2012. The conference provides great opportunity for compilers to share their statistical methods, management, and dissemination; while for users, such as policymakers, researchers and academics it is a platform to discuss the transition of complex data into meaningful and useful information. A better understanding of the processes and challenges of compilers and users, with respect to data collection and usage, will facilitate greater collaboration and stronger commitment. These efforts can enhance the respective processes, tap opportunities for improvement and address relevant issues. In view of this, efficient information management will assist DOSM towards producing statistics that able to meet users' requirements.

In conjunction with World Statistics Day on 20th October that celebrated in every five years, the government of Malaysia officially declared 20th October as National Statistics Day starting 2017 to appreciate and recognise the role and contribution of the statistician in Malaysia. The National Statistics Day also will be celebrated by all level of society comprising suppliers and users of statistics such as government and private agencies; educational institutions at primary, secondary and tertiary levels; business communities, individuals as well as researchers. The nationwide celebration is a platform to interact directly with public by organising various activities with aims to create awareness on the significance of statistics as well as to promote the statistical products. Among the organised programmes in 2017 were ASEAN Stats Run, Dialogue Sessions and Mini Statistics Carnival with the theme Better Data. Better Lives.

DOSM continues to make history by hosting the 62nd International Statistical Institute World Statistics Congress (ISI WSC) at the Kuala Lumpur on 18-23 August 2019. The ISI WSC 2019 is expected to bring about 2,500 statisticians and practitioners from all fields, whether industry, academia and government, students, researchers and policymakers, from more than 130 countries, to share insights on the development and applications of statistics and statistical science.

5. MODERNISATION OF OFFICIAL STATISTICS

Malaysia is committed in the implementation of Sustainable Development Goals (SDGs), or formally known as Transforming our World: the 2030 Agenda for Sustainable Development. In the process for

Malaysia to embrace and implement the SDGs, the agenda is mirrored in the New Economic Model and 11th Malaysia Plan. DOSM is the focal point for the compilation and coordination of SDGs Indicators from various agencies in Malaysia. Thus, DOSM has initiated in modernising the official statistics holistically from production processes until dissemination of official statistics of towards supporting the production of SDG.

5.1 Medium of statistical production processes

In general, DOSM has undertaken various efforts in modernisation of statistical production by using digital-based. Among initiatives are e-surveys, computer-assisted telephone interviewing (CATI), computer-assisted personal interviewing (CAPI) and National Enterprise-Wide Statistical Systems (NEWSS). Moreover, DOSM also has undertaken Statistics Big Data Analytics (StatsBDA) that relate very closely to the need of granularity of micro data as well as the industrial revolution. The StatsBDA will increase the use of new data sources, simplify the process of decision making based on facts and produce new statistics products and services.

In terms of innovation and modernisation of the statistical production process, DOSM emphasises on the transforming statistics compilation with adaptation of best statistics framework, namely, Generic Statistical Information Model (GSIM), Common Statistical Production Architecture (CSPA), Statistical Data and Metadata eXchange (SDMX) and Data Documentation Initiative (DDI). GSIM is a companion of Generic Statistical Business Process Model (GSBPM) where GSBPM describes on the set of business processes or stages to produce official statistics while GSIM describes the different objects, e.g. data, metadata, editing rules and classifications that flow between those stages. CSPA provides a blueprint for designing and developing statistical production components in a way that makes them much easier to share within and between organisations. Meanwhile, SDMX aims to modernising and standardising statistical exchange of data and metadata among the members while DDI is the international standard for surveys and other observation data interpretation.

In addition, an integrated framework known as Malaysia Integrated Population Census System (MyIPCS) has been developed for the Malaysia Population and Housing Census 2020 (Census 2020). MyIPCS aims to create a centralised and a comprehensive census system that provides a uniform and integrated framework covering pre-collection of data, collection, processing, analysis and dissemination of statistical products. MyIPCS is the latest innovation in the implementation of the Census 2020 to ensure that the census data can be generated more quickly for planning and development purposes.

5.2 Medium of data dissemination

Under the special data dissemination standard, the formats can be distinguished into two categories, hardcopy and electronic publications. It is notable that the most popular method today is using digital-based. Therefore, DOSM has taken several initiatives to disseminate using such way through various mediums.

5.2.1 Social media

In 2018 with more than 4 billion internet users worldwide, the main dissemination channel for DOSM's official statistics is through the website. The statistical tables, press releases complemented with statistical infographics and visualisations are provided on the website during the released day. The infographics presented on the website and during engagement sessions have also grabbed the attention of media, academicians and general users which is more presentable, attractive and understandable. Furthermore, monthly Newsletters which provide statistical information relates to technical matters such as Gross Domestic Product and Consume Price Index (CPI) are made available in the website. The Newsletter is also received positive feedback especially from academic community.

In addition, to advocate for and foster the use of statistics in decision making by government and individuals, social media are also seen as a main avenue. Social media serve as medium to promote and publicise statistical data. Therefore, DOSM leverages intensively on social media such as Facebook, twitter and instagram to broaden the communication of statistics in reaching a wider community. Hits of DOSM's official Facebook and twitter can reach up to thousands views especially during the quarterly economic statistics releases. Active communication among DOSM and users can be observed during this time.

Moreover, DOSM circulates latest statistics via WhatsApp application to relevant users, journalists and medias. It enables for the users to communicate directly and any further information can be responded promptly. DOSM also creates statistical videos as a way of communicating the produced statistics to public. Graphic visual representation such as graphs and photos are also used in the video to support in explaining the statistical release. Among the videos are CPI, System of Environmental-Economic Accounting (SEEA) and economic statistics.

5.2.2 Mobile applications

To attract the interest of the younger generation, DOSM has diversified the mode of data dissemination and visual communication through smartphones application. DOSM successfully launched 'People Centric Statistics by introducing two innovative products, namely, MyLocal Stats and BizCode@Stats. Main indicators are available for access via the mobile application at different frequencies, e.g monthly, quarterly and annual basis.

MyLocal Stats is the mobile application interactive system that consist of statistics at the district level in infographic form to be understood by levels of society. It can assist users to access statistics up until the district and local levels for the planning of local development. MyLocal Stats 1.0 provides latest statistics on the number of establishments by district and key sectors for the year 2015, which were obtained from the Economic Census. Data on birth and death as well as population estimation by district for year 2015 and 2017, respectively are also included. Those data are updated to the mobile devices based on Advance Release Calendar to reflect the latest statistical information. Meanwhile, BizCode@Stats is a platform for sharing activity code and statistics classification from DOSM which developed based on International Classification Standards. BizCode@Stats was developed to allow users to get code and description for interactive and mobile.

5.2.3 Statistics Data Warehouse

For the purpose of consolidating and integrating all the statistical data in one enterprise data warehouse, DOSM initiates Statistics Data Warehouse (StatsDW) to strengthen data management system that consists of six modules, i.e. visualisation, location intelligent, e-databank, mobile apps, mylabs and analytics. It stores historical data from as early as 1974 from various censuses and surveys conducted by the DOSM as well as compiled data for economic indicators.

StatsDW enables fast and easy access to stored data, e.g. time series data and facilitate wider access for users according to user requirements and the level of access permissions. Apart from functioning as data storage, it also provides an interactive platform through eDataBank, Data Visualisation and Location Intelligence where users can explore and utilise processed data freely. StatsDW is well accepted by users where DOSM also provides lab for the public to access granular data.

6. CONCLUSION

Statistics are acknowledged as the important tools in shaping the economic development of a nation. Recognising the statistics presence in daily life, good data disseminations ensure produced statistics are well accepted and acknowledged. Thus, modernisation in data dissemination is crucial to adapt with the profound changes and evolution of a nation. In view of this, DOSM has taken many measures in modernising the data dissemination and was well accepted by the public through the given feedbacks. DOSM will continue to strive towards improving its data dissemination to reach large population. This is a way to make people understand the importance of statistics and to create an informed society. This society will be one of the influential factors in ensuring the good policy formulation towards achieving sustainable development for the nation without leaving anyone behind.

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