

Enhancing the Awareness of Official Statistics in Egypt: the Approach to Increase their Value

Ayman Hathoot¹ | *Central Agency for Public Mobilization and Statistics (CAPMAS), Cairo, Egypt*

The paper demonstrates the role of the Central Agency for Public Mobilization and Statistics (CAPMAS) in increasing official statistics value in Egypt using the two following methods. First, the applied approach to facilitate the use of understood official statistics. It involves enhancing statistics literacy for the public, training the current staff members who produce official statistics and summer training for university graduates. Second, the indicators used to monitor the progress, which provides information on a specific aspect of the value of official statistics. The number of downloads, the number of citations of media, evaluation of training the staff members and university graduates, and user satisfaction are the essential means for evaluation. Media and internet are important means to facilitate statistical literacy in CAPMAS.

Training staff members and university graduates enhances their statistical literacy, which raises their performance in the official statistics field. A great effort is still needed to increase the value of official statistics. Collaboration with The International Statistical Literacy Project (ISLP) is important to promote statistical literacy.²

Keywords

Enhancing statistical literacy, academic bodies, media, NCST, metadata

JEL code

I20, A20

INTRODUCTION

Statistical literacy is a term used to describe the ability of an individual or a group to understand and comprehend statistics (Unece, 2012). Most definitions, as cited by Ferligoj (2015), are based on Katherine K. Wallman (1993) who said: "Statistical Literacy is the ability to understand and critically evaluate statistical results that permeate our daily lives coupled with the ability to appreciate the contribution that statistical thinking can bring to public and private, professional and personal decisions". Since CAPMAS is the main source of official statistics in Egypt that embrace data production with high quality according to fundamental principles of official statistics (United Nations, 2014), and without high-quality data providing the right information on the right things at the right time; designing, monitoring and evaluating effective policies becomes almost impossible (A World That Counts, 2014). Since the last decade, data has witnessed an increasing demand because of technological advances, which facilitated its availability

¹ Paper based on contribution at the CAMPAS, Salah Salem St., Nasr City, 2086 Cairo, Egypt. E-mail: ayman_m@capmas.gov.eg.

² Based on contribution presented at the *European Conference on Quality in Official Statistics (Q2018)* in Krakow, Poland, June 2018.

and accessibility on the Internet. That was entailed keeping pace that advancement and applying the approach that enables all segments of the society to possess the statistical skills to use, understand and interpret data and increase their awareness of official statistics. Providing the necessary training for both the staff members who produce official statistics to release clear statistical outputs, and users who need to understand the data produced to use it correctly were the main issues to enhance statistical literacy, which, accordingly, will raise the value of the data produced.

1 PROVIDING STATISTICAL LITERACY FOR THE PUBLIC

Communication with media (newspapers, radio, television, and the internet) is an important factor for the public in increasing their literacy and providing them with the latest information and events related to official statistics. To achieve that, a set of measures have been adopted by CAPMAS to enhance statistical literacy using media. A daily radio program called "Egypt in figures" is broadcasted every morning in the timing when the employees go to work to enable listeners to receive a piece of specific statistical information easily in a short time. Another event is held annually through cooperation between CAPMAS and Egyptian Radio Station during the Ramadan month. A daily broadcasted program called "Ramadan quiz" which contains one piece of general statistical information followed by a question about the information ever mentioned during the program. All contestants are invited to collect the answers of the thirty questions and send them to CAPMAS. At the end of the month, CAPMAS sorts the right answers, announces the winners of the competitors, and holds a ceremony of prize award. To evaluate the progress; CAPMAS compares the number of current participating contestants' trend with their numbers in the previous years, and the comments of the quiz's executives as well as the contestants. That information is reviewed and analyzed to determine the Pros and Cons of that activity to make future adjustments if necessary. Another important measure is monitoring the statistical events held on media and focussing on the most important public and current events that appear on the scene such as prices, inflation, unemployment, and population growth rates and their related comment on Facebook, Twitter, and other social media. That monitoring reflects the awareness achieved for the public and their interaction with those events. Participation in the international annual book fair is one of the methods for enhancing statistical literacy of the public, where the products of the CAPMAS are displayed in presence of statistician experts who provide answers to any inquiries. Monitoring the achieved value can be done by knowing the attitudes of the public towards specific statistical products and their future expectations through a questionnaire distributed to them, analyzed, and preparation of an action plan to modify the performance according to the outputs' evaluation.

CAPMAS is highly interested in communication with journalists and media professionals as they represent the main channel for bringing statistical literacy closer to the public. Supporting them with the right statistical information leaves a positive reflection on all community segments. The staff members in the General Management of Public Relations in CAPMAS is responsible for monitoring the materials published in the media. They review the data and communicate it with the publisher or the media to correct the concepts if it was presented differently or in need of more clarification. The value here is measured by recognizing the number of positive and negative news published in the media regarding the statistical CAPMAS' products; the feedback is analyzed and suitable steps are taken by subject matter experts to send the right information if required.

Enhancing statistical literacy at school is very important as it represents the next generation who will lead the country. Moreover, they inform their parents and relatives about the importance of statistics. CAPMAS has included specific statistical curriculum according to the different school levels/stages to include simple information about statistics and activities carried out by CAPMAS. The most important of these materials was the population census, which showed that the students possess good information about it during the implementation of the 2017 census, where the children were informing their parents

about the role of census representative when the interview between the census representative and the household members took place.

At present, the Internet plays an important role in transmitting information to decision-makers, researchers and the public. CAPMAS is interested in targeting all segments of the society to Internet users to enhance their statistical literacy. That represents a great challenge due to their different kinds of culture and statistical knowledge they want to get. Therefore, it should enhance open data for them, which, accordingly, will increase its value (Open Data Watch, 2018). The history of CAPMAS in communication using the Internet shows that little data is disseminated without its related metadata that explains that data. Most of the data are requested from the National Information Center (NIC), which is responsible for receiving customer data requests. NIC transfers that request to the relevant departments which prepare and resend it to the center, which, accordingly, delivers it to the customer. The same measure occurs in Presidency of CAPMAS' office concerning the data required for international statistical organizations, agencies, universities and research institutes. Moreover, departments within CAPMAS obtain their data from other departments in the same building.

Since the beginning of 2010, CAPMAS' experts, have cooperated with the Organization for Economic Co-operation and Development (OECD) that provided them with software (Nesster Publisher) to document the data with its related metadata and published it using National Data Archive (NADA). That measures have enabled all segments of the society (inside and outside CAPMAS) to access the website called "Metadata" and download microdata and data with its related metadata which made it understood without the need to ask experts or specialists to explain any piece of information.³

To measure the value, a monthly report is prepared and send to the president of CAPMAS which include the information about:

- Number of bulletins or surveys published on the site compared with the previous month and with the same month in the previous year to measure the progress;
- Number of downloads for each statistical product to judge which is the most and the less important to take a decision toward them; and
- Information about persons who visit and download data (by country; job; agency; kind of downloaded data, etc.).

The subject matter specialists study the notes mentioned in the report to take the right decision for the solution in order to raise the value of that data.

2 TRAINING THE CURRENT STAFF MEMBERS

Staff members and partners in the public and government sector who are responsible for collecting and providing data are the most important bodies responsible for producing high quality of official statistics. CAPMAS is interested in providing them with varied statistical training from basic to advanced skills according to the level of each category. To this end, CAPMAS works through several pillars.

2.1 Cooperation between CAPMAS and Academic Bodies

Nathan (2007) stated, "The active involvement of academic university staff in consulting and advising to the statistical agency's activities ensures that the teaching programme will not become too theoretical or divorced from the application requirements of the statistical agency". However, the interaction between the two groups is not widespread (Murphy, 2002). CAPMAS has statistical advisers from the university professors working to make the university academic study gets along with its practical side.

³ The Arabic website, which has more than 1 200 studies, is: <http://capmas.gov.eg/Pages/ShowPDF.aspx?page_id=http://www.censusinfo.capmas.gov.eg/Metadata-ar-v4.2/index.php/catalog>. The English website, which has more than 250 studies, is: <<http://www.censusinfo.capmas.gov.eg/Metadata-en-v4.2/index.php/catalog>>.

On the other hand, CAPMAS is interested in raising the statistical scientific level of its employees which shows a positive impact on the quality of the statistical product and increases the users' confidence and demand. Therefore, it is interested in strengthening cooperation with statistical institutes and universities, which grant diplomas to employees, master's degrees and Ph.D. Egypt has the Graduate School of Statistical Research and Cairo Demographic Center as well as the Faculty of Economics and Political Science where different branches of statistics are taught. CAPMAS announces annually the information about participation in these bodies for studying in specified times. In addition, CAPMAS covers all tuition fees at all study stages for staff who are serious in their work and have a desire to increase their statistical literacy.

2.2 National Center for Statistical Training (NCST)

It has been established according to the Ministerial Decree number 415 in 1970 (CAPMAS, n.d). It is located within the administrative structure of CAPMAS under demographic and censuses sector. It strengthens the statistical capacity of its staff members and partners in the public and government sector who work in the statistics field to provide CAPMAS with the required data to produce trusty official statistics. It conducts free annual training program applied in 175 hours in seven weeks (five hours a day and five days a week) consisting of unified academic statistics curriculum part for employees with lower than university qualification (lectures on methods of presenting statistical data; statistical measures; introduction to mathematics for statisticians; introduction to the preparation of statistical report; etc.).

Another curriculum part about the practical activities applied in CAPMAS demonstrating the nature of its activity (role and missions of CAPMAS; phases of statistical work to produce statistics; questionnaire design; methods of data collection; methodology of conducting Population Census and Household Income; Expenditure; and Consumption Survey "HICS"...etc.).

Additional three weeks' training program (seventy-five hours) for the university qualified employees includes additional academic and practical curriculum. Advanced training program (six weeks) for higher than university graduates plus those university graduates who got high degree in the university training program held in CAPMAS to complete their statistical training. To measure the value of statistical literacy which they obtained and will convey to their colleagues in their work, a periodic evaluation is carried out during the training program.

In addition, at the end of the training program, all participants are committed to submit a research paper (each in their work field) using statistical analysis tools that were applied in the training program to analyze data related to the trainee's work. Appreciation certificates are awarded to the first three trainees who had achieved the highest marks. Finally, a questionnaire is distributed to the trainees to find out their opinions of all program components in order to modify the performance and avoid the shortcomings in the next training program.

2.3 The Central Statistics Departments

Within each government body and the public sector companies a central statistics department collecting data from its branches and providing it to CAPMAS. Communication between CAPMAS and the agencies is necessary to bring together their viewpoints and support discussions to produce accurate statistics. For example, they may discuss the unclear questions in the questionnaire used in collecting data which may result incorrect statistics production; a necessary change in data collection methodology; or the need to include detailed data for a specific statistics that may appear to enrich the statistical product.

The NCST coordinates the activity among departments of data collection, those who are concerned with the bulletin production in CAPMAS, and the central statistics members in government body and the public sector companies. All the three departments conduct meetings according to a schedule for coordination to discuss the obstacles they encounter. Finally, the three departments write a report includes their conclusion and recommendations to activate them and avoid the shortcomings that have arisen during the meeting in the following statistical year.

2.4 The Monthly Training Day

The history of CAPMAS shows that there were isolated islands of departments with experts responsible for producing official statistics (Hathoot, 2018). Each department is interested in finishing its task without searching for any information that might help to improve its statistical product. Moreover, staff members within each department attend workshops and do not transfer the knowledge they have gained to the colleagues. To overcome that challenge, CAPMAS has established The Monthly Training Day (MTD) after conducting census 2006 to mediate statistical literacy to all employees.

On that particular day, the staff members of CAPMAS coming from all governorates of Egypt to attend in the large hall (more than 1000 people) to present the most important activities carried out during the month. The activities include the workshops held inside and outside Egypt, the most important information about the surveys being carried out and their current situation; the meetings held and their importance; success and shortcomings of CAPMAS during performance of its missions; etc.

At the end of the day, recommendations are presented based on what has been discussed for implementation. A report is prepared and distributed to all departments including all events and recommendations ever presented on that day to inform all the staff members about all events and activities performed by CAPMAS.

3 SUMMER TRAINING FOR UNIVERSITY GRADUATES

The statistical studies in universities are characterized by academic curriculum. Many university graduates in statistics field need to practice official statistics in order to obtain a complete statistical vision. CAPMAS looks at those graduates as the future partners who will work in that field. Therefore, it is interested in providing them with practical training to promote their practical experience to enable them to understand how official statistics is produced; the subject matter departments involved in producing the output; the workflow; ...etc.

A summer training program is scheduled for a month and includes visits to the departments contributing to the statistical output production. After they had taken an overview about the nature of the work in the CAPMAS, they are distributed to the departments (each according to his/her specialization) to perform a specific statistical task within the statistical metadata system to be accomplished. The departments prepare a report about these trainees in order to choose the best of them to work in CAPMAS after a personal interview with them by the internal managers and university experts from specialized colleges and institutes.

CONCLUSIONS

The paper attempted to demonstrate the approach applied in CAPMAS with the aim to increase the value of official statistics and the ways of enhancing it to the different segments of the society. Providing statistical literacy for the public using media and internet enable them to get the statistical information easily as it became usual tools to use. Census at school and other statistical curricula are effective factors to create next enlightened generation. Statistical Training for CAPMAS staff members and their partners from the government and public sector and active collaboration between them reflected positively on the quality of the statistical product. Finally, official statistical training for university graduates will complete their vision by adding official statistical experience to their academic studies and will increase their statistical capabilities.

RECOMMENDATIONS

A great effort should be spent on the increase of the value of official statistics. The support of top management is necessary to achieve that challenge. To measure customer satisfaction accurately, providing web users with feedback on each page of the website is crucial for future improvements by asking them about

the usefulness of the contents and their comment. To promote statistical literacy in Egypt, CAPMAS should be aware of the role of The International Statistical Literacy Project (ISLP) and the services they provide.

References

- CAPMAS. *National Center for Statistical Training (NCST)* [online]. CAPMAS. [cit. 18.5.2018] <http://capmas.gov.eg/Pages/StaticPages.aspx?page_id=5061>.
- FERLIGO, A. How to Improve Statistical Literacy? [online]. *Metodološki zvezki*, 2015, 12(1), pp. 1–10. [cit. 18.5.2018] <<https://www.stat-d.si/mz/mz12.12/Ferligoj2015.pdf>>.
- HATHOOT, A. National Implementation of the GSBPM: The Egyptian Experience [online]. *Journal of Mathematics and Statistical Science*, 2018, 4(1) pp. 13–21. [cit. 18.5.2018] <<http://www.ss-pub.org/wp-content/uploads/2018/01/JMSS17082301.pdf>>.
- INDEPENDENT EXPERT ADVISORY GROUP ON A DATA REVOLUTION FOR SUSTAINABLE DEVELOPMENT. *A world that counts: Mobilising the data revolution for sustainable development* [online]. 2014. [cit. 18.5.2018] <<http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf>>.
- MURPHY, P. Teaching Official Statistics in an Irish University Statistics Department [online]. *Proceedings of the 6th International Conference on Teaching Statistics (ICOTS6)*, Pretoria, South Africa, 2002. [cit. 18.5.2018] <http://iase-web.org/documents/papers/icots6/4e5_murp.pdf>.
- NATHAN, G. Cooperation between a statistical bureau and an academic department of statistics as a basis for teaching official statistics [online]. *Proceedings of the 56th Session of the International Statistical Institute*, Lisbon, 2007. [cit. 18.5.2018] <http://iase-web.org/documents/papers/isi56/IPM43_Nathan.pdf>.
- OPEN DATA WATCH. *Open Data Inventory. A Progress Report on Open Data 2017 Annual Report* [online]. 2018. [cit. 19.5.2018] <<https://opendatawatch.com/monitoring-reporting/open-data-inventory-2017-annual-report>>.
- UNITED NATIONS. *Fundamental Principles of Official Statistics* [online]. 2014. [cit. 10.5.2018] <<http://unstats.un.org/unsd/dnss/gp/FP-NEW-e.pdf>>.
- UNECE. *Making Data Meaningful: A Guide to Improving Statistical Literacy* [online]. United Nations Economic Commission for Europe, 2012. [cit. 12.5.2018] <<http://www.unece.org/stats/documents/writing>>.
- WALLMAN, K. Enhancing Statistical Literacy: Enriching Our Society. *Journal of the American Statistical Association*, 1993, 88(421), pp. 1–8.