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

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**Abstract**

*The paper demonstrates the approach for increasing in the official statistics value in CAPMAS through twofold. First, the applied approach to facilitate the use of an understood official statistics. It involves enhancing statistics literacy for the public, training the current staff member and summer training for university graduates. Second, the paper exposed to the Indicators used to monitor the progress of using official statistics, which provide 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 member and university graduates, and user satisfaction. Media and internet are important mean to facilitate statistical literacy in CAPMAS' .training staff members and university graduates enhancing their statistical literacy which be reflected to their performance when they exist in the official statistical field. A great effort still needed to increase the value of official statistics. Collaboration with The International Statistical Literacy Project (ISLP) is important to promote statistical literacy.*

Keywords: enhancing statistical literacy, academic bodies ,media,ncst,metadata

**1. 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 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 make in public and private, professional and personal decisions.". A World That Counts (2014) highlighted the importance of high quality in providing the right information and considered it as the lifeblood of decision making. The Central Agency for Public Mobilization and Statistics (CAPMAS) is the main source of official statistics in Egypt. It produces data according to fundamental principles of official statistics (United Nations, 2014). That produced data benefits the ministries, local and international bodies, policy makers, researchers, journalists and the public community. Data produced has witnessed increasing demand because of technological advances, the Internet, and the data availability to all users. However, CAPMAS faces many challenges to improve its role to achieve better use of data to increase their value. It should be aware about the data that user needs, dissemination improvements, and the ways to raise the value of data produced. It is responsible also, about enabling all segments in the society with the statistical skills that enable them to use, understand and interpret it according to the level of users of each category. That entailed providing both the staff members who produce official statistics with the necessary training to produce clear statistical outputs, as well as users who need training to understand and interpret the data produced efficiency. The responsibility should met by approach to increase the public awareness of official statistics for all segments of the society.

**2. Providing statistical literacy for the public**

The literacy of all segments of the society is of fundamental importance in building a better society (United Nations, 2014). H. G. Wells (cited by Ferligoj, 2015) wrote: “Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write”. CAPMAS is interested in providing fundamentals of ofﬁcial statistics to the public who do not have a suitable time or resources to posses the basic statistical skills to understand the data that enable them to understand the statistical articles and discussions issued in the media or in any public society.

*2. 1. Communicating with the Media*

 Communication with media (newspapers, radio, television, and the Internet) is important factor for the public in increasing their public literacy and provides them with the latest information and events related to official statistics. A set of measures adopted by CAPMAS to enhance their literacies using the media. A daily radio program called "Egypt in figures" broadcasted in the morning in the timing of going the employees to their work to enable listeners to receive one specific statistical information easily in a short time. Another program is daily broadcasted during the month of Ramadan called "Ramadan quiz" in the radio contains simple statistical information, and in the end a question is asked about one statistical information mentioned in the program, and the contestant must collect the answers of the thirty episodes and send them to CAPMAS. At the end of the month, CAPMAS announces the winners of the competitors and holds a ceremony to award prizes to the winners. The number of participated contestants in that quiz program and the trend of participated contestants from the previous years reflect the value of holding that program and its role in enabling the public to possess suitable statistical literacy. These figures reviewed to determine progress achieved or there is a need to adjust the performance if necessary. CAPMAS monitors also the activities held on television and official newspapers "from a statistical view" which discuss the most important public and current events that appear on the scene such as prices, inflation, unemployment and population growth rates. Monitoring comments on Facebook, Twitter and other social media reflect the awareness achieved for the public viewers and their interactions 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 displayed with the presence of statistician experts to answers any inquires. Monitoring the achieved value occurs through knowing their attitudes of the public towards the specific statistical products and their future expectations through a questionnaire distributed to them and analyzed.

CAPMAS is highly interested in communicating with journalists and media professionals as they represent the main channel that transmit statistical literacy to the public. Supporting them with the right statistical information needed will leave a positive reflection to 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 reviews their data and return to the publisher to modify any data if it has presented differently or whether there is a need of more clarification for correction and republish it again.

*2. 1. Enhancing Statistical Literacy at School*

Enhancing statistical literacy at school is very important as they represent the next generation who will lead the country. Moreover, they guide their parents and relevant about the importance of statistics. CAPMAS has included some statistical curriculum in the different stages of the school 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 guiding their parents about the role census representative when the meeting between the census representative and the household head occurred.

*2. 3. Communicating using internet*

In the present era, the Internet plays an important role in transmitting information to decision-makers, researchers and the public. CAPMAS is interested in targeting the all segments of the society of Internet users to enhance their statistical literacy. That represents a great challenge due to their different kinds of culture and statistical knowledge they want. Therefore, it should enhance open data for them, which therefore, will increase its value (OPEN DATA WATCH, 2018). The history of CAPMAS in communicating using internet shows that little data was disseminated without its metadata that explain that data. Most of the data requested from the National Information Center (a center for receiving customer data requests) who transfer it to the relevant departments to prepare and resend it again to the center, which delivers it the customer who requested data. The same also was occur in Presidency of CAPMAS' office in collecting data for international statistical organizations, agencies, universities and research institutes. Moreover, departments within CAPMAS' were request data from other departments in the same building.

To overcome that challenge, by beginning 2010, CAPMAS' experts has cooperated with Organisation for Economic Co-operation and Development (OECD) that provided them with software (Nesster Publisher) to document the data with its related metadata and publish it using National Data Archive (NADA). That enables all segments of the society to access the website called "Metadata" and download microdata and data with its related metadata easily without need to ask experts or specialists. The Arabic website, which has more than 1000 study, 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 200 study, is:

http://www.censusinfo.capmas.gov.eg/Metadata-en-v4.2/index.php/catalog/

To measure the value, a monthly report produced to the president of CAPMAS shows:

* Number of bulletins or surveys 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 important and the less to take a decision toward them; and
* Information about persons who visit and download data (country; job; kind of downloaded, etc.).

Specialists study that report to take a suitable decision that raise the value of that data.

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**3. Training the Current Staff Member**

Staff members and partners in public and governmental sector who are responsible about collection 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 achieve that CAPMAS work through several areas.

*3. 1. Enhancing 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, interaction between the two groups is not widespread (Murphy 2002).CAPMAS is interested in raising the statistical scientific level of its employees due to the 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 employees diplomas, master's degrees and PHD. Egypt has the Institute of Statistical Studies and Research and Cairo Demographic Center as well as the Faculty of Economics and Political Science that teach different branches of statistics. CAPMAS announces annually about participation to attend 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.

*3. 2. National Center for Statistical Training (NCST)*

It has 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 for its staff member and the partners in public and governmental sector who work in statistics field to provide CAPMAS with the required data to produce trusted official statistics. It conducts free annual training program applied in 175 hours in seven weeks (five hours a day and five days a week) composed of unified academic statistics curriculum part for employees with less than a university qualification (lectures of methods of presenting statistical data; statistical measures; introduction to mathematics for statisticians; introduction to the preparation of statistical report; etc.). Another curriculum part is practical activities that applied in CAPMAS that demonstrate 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 university graduates who got high degree in the university training program. To measure the value of statistical literacy gained which they will transfer to their colleagues in their work, a periodic evaluation 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 applied in the training program to analyze data related to the trainee's work. Appreciation certificates awarded to the first three trainees who have achieved the highest marks. A questionnaire distributed on the trainees to know their opinion to modify the performance and avoid the shortcomings in the next program.

*3.3. Central Statistics Departments*

Within each government body and the public sector companies a central statistics department that collect data from its branches and provide it to CAPMAS. Communication between CAPMAS and the agencies is necessary to bring together their viewpoints and discussions to produce accurate statistics. For example, they may discuss the unclear questions in the questionnaire that used in collecting data lead to produce incorrect statistics; a necessary change in data collection methodology; or the need to include detailed data for a specific statistic may appear to enrich the statistical product. The NCST coordinates among departments of data collection and that concerned with the bulletin production in CAPMAS, and the central statistics departments. All the three departments hold meetings among them according 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 in the next statistical year.

*3. 4. The Monthly Training Day*

The history of CAPMAS shows that there were isolated islands of departments that have experts responsible for producing official statistics (Hathoot, 2018). Each department is interested in finishing its task without searching for any information that might help it to improve the output of its statistical product. Moreover, staff members within the department attend workshops and do not transfer the knowledge they have gained to colleague. To overcome that challenge, CAPMAS has established The Monthly Training Day (MTD) after conducting census 2006 to enhance statistical literacy for all employees. In that day, the staff members in CAPMAS from departments all over Egypt attend in the large hall (more than 1000 people) to display the most important activities that carried out during the month in and outside CAPMAS using PowerPoint. The activities includes the workshops held inside and outside Egypt, the most important information about the surveys being carried out and their current situation; the meetings that been held and their importance; successes and shortcomings of CAPMAS' performance its missions; etc. At the end of the day, recommendations presented based on what has discussed for implementation.

**4. Summer Training for University Graduates**

Statistical studies in universities characterized by academic study. Many university graduates in statistics field need to practice official statistics. Very few of them have some training that enable them to be qualified to this work. Nevertheless, CAPMAS looks at them as the future partners who will work in official statistics field. Therefore, it is interested in providing them with a practical training to promote their live practice in order to understand how official statistics produced; departments involved in producing the output; the workflow; etc. A summer training program is prepared for a month that includes visits to the departments that share to produce the statistical output. After they take an overview about the nature of the work in the CAPMAS, they distributed to the departments (each according to his / her specialization) to take a task of the official work to accomplish. The departments prepare a report about these trainees to choose the best of them to work in CAPMAS after a personal interview with them by university experts from specialized colleges and institutes.

**5. Conclusions**

The paper tried to demonstrate the approach applied in CAPMAS to Increase the value of official statistics by 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. Census at school and other statistical curricula are effective factors to create a next enlightened generation.Statistical Training for CAPMAS staff members and their partners form the government and public sector and active collaboration between them reflected positively on the quality of the statistical product. Finally, official statistical training for the university graduates will complete their vision to collect between academic and official statistical literacy.

**6. Recommendations**

A great effort must spent to increase the value of official statistics. The support by the top management is necessary to achieve. To measure customer satisfaction accurately, providing the web users with the feedback on each page of the website is crucial for future improvements by asking them about the usefulness of the contents and their comments. To promote statistical literacy in Egypt, CAPMAS should be aware about the role of The International Statistical Literacy Project (ISLP) and the services they provide to promote statistical literacy.

7**. References**

CAPMAS (n.d.) *National Center for Statistical Training (NCST)*. [Online]CAPMAS. Available from: <http://capmas.gov.eg/Pages/StaticPages.aspx?page_id=5061> [Accessed 18/05/18].

FERLIGOJ, A. (2015) *How to Improve Statistical Literacy?* Metodološki zvezki, 12 (1), pp. 1-10. Available from: <https://www.stat-d.si/mz/mz12.12/Ferligoj2015.pdf> [Accessed 18/05/18].

HATHOOT, A. (2018) National Implementation of the GSBPM: The Egyptian Experience. *Journal of Mathematics and Statistical Science*. [Online] 4(1) pp. 13-21. Available from: [http://www.ss-pub.org/wp-content/uploads/2018/01/JMSS17082301.pdf](http://www.ss-pub.org/wp-%20content/uploads/2018/01/JMSS17082301.pdf) [Accessed 18/05/18].

INDEPENDENT EXPERT ADVISORY GROUP ON A DATA REVOLUTION FOR SUSTAINABLE DEVELOPMENT. (2014). *A world that counts: Mobilising the data revolution for sustainable development*. Available from http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf [Accessed 18/05/18]

MURPHY*,* P. (2002) *Teaching Official Statistics in an Irish University Statistics Department.* [Online] Proceedings, 6th International Conference on Teaching Statistics (ICOTS6), Pretoria,South Africa.Available from: http://iase-web.org/documents/ papers/icots6/4e5\_murp.pdf [Accessed 18/05/18].

NATHAN, G. (2007) *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. Available from: http:// iase-web.org/documents/papers/isi56/IPM43\_Nathan.pdf [Accessed 18/05/18].

OPEN DATA WATCH. (2018*) Open Data Inventory. A Progress Report on Open Data 2017 Annual Report*. Available from: <https://opendatawatch.com/monitoring-reporting/open-data-inventory-2017-annual-report/> [Accessed 19/05/18].

UNITED NATIONS. (2014) Fundamental Principles of Ofﬁcial Statistics. Available from: <http://unstats.un.org/unsd/dnss/gp/FP-NEW-e.pdf> [Accessed 10/05/18].

UNECE. (2012) *Making Data Meaningful: A Guide to Improving Statistical Literacy.* United Nations Economic Commission for Europe. Available from: <http://www.unece.org/stats/documents/writing> [Accessed 12/05/18].

WALLMAN, K. (1993) Enhancing Statistical Literacy: Enriching Our Society. *Journal of the American Statistical Association* 88 (421), pp. 1–8.