Summary Notes on the Roundtable Discussion Entitled:

Big Data Analytics – Practical Experiences

Tuesday, 13 February 2018, 10:00 AM–12:00 noon

This RTD is the second in a series of roundtable discussions held by the Egyptian Center for Economic Studies on the *Digital Economy* and its applications in Egypt. The first RTD addressed the "Blockchain" technology.

Speakers:

- Islam Zikri, Executive Director, Data Management and Analysis Center - CIB
- Alaa Zaher, Head of Strategies and Innovations Department, Vodafone – Egypt

Chaired by:

- Hussein Shokry, ECES Board Member

Moderated by:

- Dr. Abla Abd El-Latif, Executive Director and Director of Research, ECES

Main points addressed by the speakers:

- Corporate investment in data and data science is necessary and the return thereof may exceed investment in infrastructure.
- **Big data became a new reality as a result of technological developments that provided a type of data that was not available in the past.** Modern technological media, social networking sites and the different applications have availed knowledge about the interests of people, the search areas of interest to them, the roads and places they frequent, and even the nature of their consumption of different products. These data are distributed among many entities. For example, search data is available at the company hosting the search engine, while some data may be available with the manufacturer of the registered electronic device and so on.
- **"Big data" is quintessentially ordinary data, but is characterized by being "big"** in **volume** due to the number of users worldwide. Due to the high **velocity** of its generation and updating and **its various formats (variety)**, "Big Data" need more sophisticated storage and processing technology. Through proper processing, this data can be transformed from its crude form into knowledge **value**.
- **To benefit from big data requires *first* determining the purpose of processing such data. Second, it requires development of processing itself compared to the processing**

of traditional data. Therefore, a new science has been introduced—still in the development stage—namely, "data science". This new science is a combination of programming, computer science, mathematics, econometrics, and statistics. It goes beyond the traditional hypotheses of economic theory in terms of assuming linear relationships between variables and the full rationality of people, which do not allow for the inclusion of the behavioral dimension in decision-making, because the sample on the basis of which the data are collected is closer to the statistical population. Different hypotheses have allowed "data science" to increase the predicting ability of its models.

- **Digital development and the presence of modern electronic services and platforms** (networking sites, online sale and purchase platforms and synchronization of user data among several devices) **have contributed to changing consumer expectations and demands in their various transactions**. The consumer has come to aspire to conduct his transactions (banking, for example) in the same way he buys from any electronic platform, and to transfer his data as easily as changing devices with the same account. This creates pressure on many sectors to keep pace with this technological boom.

- **Sectors differ in terms of planning or responding to the digital transformation**. There are areas or sectors that are essentially digital (such as the telecommunications sector), and hence do not face the challenge of digital transformation. Other sectors (such as the banking sector), however, need to rethink and redesign their products to keep pace with technological developments.

- **The most important shifts on the supply side (or business side) resulting from the digital transformation include:**
    - ***Switching focus from the product to the customer and his needs***. Big data has allowed us to identify consumption patterns and the needs of different consumer segments, and thus to design products/services that take into consideration these differences. This might be to the point of customizing a product or service to the needs of a single customer.
    - ***The relationship between enterprises operating in the same field of some sectors shifted from one of competition to partnership, and even acceptance of partnership with other new sectors that were not part of the value chain***. Everyone has come to seek to maximize benefit and to win customer satisfaction by sharing data (at the aggregate level to understand market trends and not on the personal level).

- **Big data, because of their very nature and being generated from information technology media, can be used to identify the creditworthiness of customers not covered by the banking sector.**

Main discussion points:

- "Big data" need to be integrated into official data published by the State. Therefore, there should be cooperation between the entities that have this type of data and the State agencies, especially the Central Agency for Public Mobilization and Statistics.
- Big data can be used to create macro indicators to be used by the State to identify development objectives and prioritize targeting of different regions or segments. It can be integrated into the database consolidation project.
- The privacy of customer data is fundamental to the issue of Big Data. The Egyptian Constitution and the Telecommunications Law safeguard the privacy and confidentiality of data. The shared data is, therefore, data collected about market trends, rather than people.
- The Big Data framework needs legislative amendments to the mechanisms of sharing aggregate data, such as the creation of data centers and platforms.