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Communications and information technology in the era of massive and big data: Challenges and hopes

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In the current time, Big Data becomes the majority and more recent topic in the field of ICT worldwide either in developed or developing nations. Generally, big data are referred to data that are produced in three big V represented by: Volume, velocity, and variety. So nowadays, the different companies over the globe are searching for new techniques and nontraditional ways to extract useful information from this excessive amount of data; especially big data require advanced computational resources, statistical techniques, and data visualization techniques in order to store, process, and analyze all different kinds of data. On the other hand, it is evident that Big Data means business opportunities, but also major research challenges. So, Big Data represents the next frontier for innovation, competition and productivity. To obtain and get a tangible value from big data, we need a cohesive set of solutions for capturing, processing, and analyzing the data, from acquiring the data and discovering new insights to making repeatable decisions and scaling the associated information systems; especially we live in an era characterized by Communications and Information Technology that became the locomotive and leads the whole world towards comprehensive renaissance. The impact of Big Data gives not only a huge potential for competition and growth for individual companies, but the right use of Big Data also can increase productivity, innovation, and competitiveness for entire sectors and economies. Accordingly, if we are not ready with more recent approaches, techniques, policies and advanced algorithms to handle such data deluge, sure the globe will lose much income, especially if we know that the oil of the 21st century is the Big Data. Therefore, we should search for the development of individual data strategy, identifying and integrating the right data sources, and the use of highly effective big data analysis to take advantage of exclusive insights for product development and business. Also, we must strive towards the creation of a new innovation network able to reduce the shortage of skills in the deployment of knowledge, training courses on the Internet and provide hands-on experience on the basis of analytical services commodity. Therefore, the main concern of this talk is to shed the light on some of the ideas about how big data changes affect the performance measurement systems such as a new type of analysis challenge strategy and support for continuous improvement. Also, we'll focus on analyzing the four stages of the value chain of large data, and any data generation, data acquisition, data storage and data analysis. As we see the sheer volume of data in the industries and in the public and social sectors; we must strive towards investigating the effective mechanisms and available influential from the latest ICT technologies to handle the massive data and capitalize its role in achieving real development in the developing countries along the lines of what the United States and the European Union address where this is a very big challenge and in particular in developing countries.

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