



Southern China International MUN

United Nations Development Programme: On measures to implement Big Data technology in sustainable development, considering inclusivity and equity

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1. Description of the Issue

1.1 History of the Issue

In the modern age, big data technology has become increasingly widespread due to the extensive need for its mechanism. The ability to utilize such technology promises efficiency and productivity in any environment. As a sector of the world moves forward in data advancements and research, the majority is left behind with no ability to access this important resource. The difference in available assets without action would only contribute to the further widening of the development gap between MEDCs and the rest. It is also crucial to consider the sustainability of implementing this technology as it moves closer to connecting the globe. Not only should big data technology be more reachable to all in the status quo but still be accessible in the future.

The UN recognizes its place as “setting principles and standards to guide collective action around the safe use of big data for development and humanitarian action within a global community and according to common norms.”¹ Big Data technology refers to “the software tools used to manage all types of datasets and transform them into business insights.”² There are four major types of Big Data technology: data storage, data mining, data analytics, and data visualization. Sustainable development is one “that meets the needs of the present without compromising the ability of future generations to meet their own needs.”³ Inclusivity and equity refer to “the act of ensuring that processes and programs are impartial, fair and provide equal possible outcomes for all.”⁴

Big data, despite the common association of it with all things technical in terms of technological advancements, has existed for a well amount of time. Any form of data collection, for example, capturing data from the library of Alexandria in Egypt in 300 BCE, analyzing that data was considered ‘Big Data’⁴. There are three main phases of big data. Phase 1.0 is the foundational phase, it focuses on the management, storage, and warehousing of data providing a core part of modern data analysis. Next comes Phase 2.0, beginning in the 2000s when the World Wide Web started to become a part of people’s lives, companies operating online during this time began to “analyze customer behavior by analyzing click-

rates, IP-specific location data and search logs.”⁵ including companies such as Yahoo and Amazon. The Internet also brought new challenges as never before seen semi-structured and unstructured data resulting from the new HTTPS-based web system and social media started pouring in which required new approaches to storing and analyzing these data. Finally, Phase 3.0 is what the present is about. This phase focuses on mobile and sensor-based data such as location awareness (GPS) and person-centered (track movement) analysis.

The technology is used in many different areas. In the healthcare sector big data helps with driving innovation and increasing the speed of getting new products into markets.⁶ Big Data analyses also helps with analyzing large sets of patients, identifying correlations, and developing predictive models⁷. Urban planning is another area where big data is used. It helps with understanding how the city’s resources are being used and the most efficient allocation of those resources⁸. Another hotspot for big data usage is e-commerce. From improving customer engagement to personalizing shopping experiences to increasing sales, Big Data plays in role in almost all customer interaction with the platform⁹. As shown, Big Data technology exists and can be implemented in a variety of areas. The purpose it serves is two-fold. One, it helps with understanding the present situation, and second it predicts the future situation more accurately than any number of experts combined¹⁰. This characteristic makes Big Data a versatile tool in any setting.

As of today, the amount of Big Data in the world has been counted to a total of more than 44 zettabytes, to put in perspective that is 44 trillion gigabytes¹¹. However, the control of big data has been in the hands of the most well-off people in the most well-off of countries. Technology that deals with big data naturally would concentrate in places such as the United States rather than Ghana. In fact, in many areas data on the nation as a whole is still lacking and policymakers do not have sufficient information regarding what is happening in the “poorest and most marginalized” places.¹² A lack of access to the internet due to either environmental, monetary, or other factors detrimentally harm initiatives to implement big data technology which is what is happening in many LEDCs. As of the end of 2022, it has been recorded 65.5% of the world’s population has internet access¹³. Whilst this is a satisfactory number, it is still quite alarming considering how fast technology is expanding, and yet a third of the world has not experienced the rudimentary parts of the internet. Developing countries are not completely cut off from using this resource. Many governments have used other forms of data such as **interactive data** in their system¹⁴.

The UN Global Pulse, created in 2009, serves to leverage “big data and data analysis for sustainable development and humanitarian action.” It is considered an effort toward **data revolution** which involves the improvement of how data is produced and used, closing data gaps, and more¹⁵. Since then, the UN Global Pulse has started multiple Pulse Labs to ensure the practicality of their research in places such as New York (2009), Jakarta (2012), and Kampala (2014). Pulse Labs are a place where extensive cooperation takes place. From governments to the UN then the private sector, they focus on refining the methods of using AI and Big data to achieve Sustainability Development Goals¹².

1.2 Recent developments

More recent developments came in 2015 with the adoption of the Sustainable Development Goals newfound problems have surfaced. Originally the UN had partnered with various private companies to share their data a mechanism which has been called data philanthropy however as it seems now private companies don't exactly have the incentives to share their data. A second major issue is there is a lack of operational projects to show the extent to which big data applications can be used.

Apart from the UN Global Pulse, the general implementation of big data technology in more recent years for the overall has been following the trends such as but not limited to: Machine learning, the analysis of a computer of large amounts of data and thus finding patterns and predicting conclusions of their own. Improving security and avoiding data breaches subsequently protecting individuals' privacy. Data governance, having more regulations around the sharing and usage of data in general is another attempt towards data protection.

Furthermore, studies of found that in Africa it is technically easier to obtain a phone than access to clean drinking¹⁶. This means an open-door to data collection, however the data collected would all be unstructured data that governments are now challenged to do¹⁶. The same mechanism would also apply to other developing countries due to the widespread availability of mobile devices. Several developing countries have been allocating more resources towards their technology sector. In 2021, the Middle East and Turkey saw a 2.8% growth of IT spending¹⁶.

Key Terms:

Big Data – Large sets of data that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions¹⁷.

Unstructured Data: datasets (typical large collections of files) that aren't stored in a structured database format¹⁸.

Interactive Data - Data that provides services that allow interaction between the user and the computer¹⁹.

Data Revolution - a movement that emphasizes gathering, developing, and producing data to enhance how it is used to support change²⁰.

2. Emphasis of the Discourse

2.1 Stance of intergovernmental organizations

The **European Union (EU)** is an intergovernmental organization consisting of 27 European

countries, unifying the region and influencing every member's policy regarding economics, security, and so on. The **EU** recognizes the potential of big data and the technology that comes with it and sees it as a key asset for their economy and societies²¹. Using big data technology, the **EU** wishes to generate a wider range of innovative information on products and services, improve business intelligence, and increase efficiency in the public sector just to name a few²¹. Their ultimate goal is to pursue "a human-centric, sustainable vision for digital society throughout the digital decade to empower citizens and businesses."²¹ The **EU** has named the next decade of their digital transformation the Digital Decade which aims to 'guide all actions related to digital' and 'ensure all aspects of technology and innovation work for people.'²¹ The project has various ambitious objectives, some of which are to create a safe and secure digital world, allow access to digital opportunities for everyone, and more²¹. They have listed technologies such as blockchain, digital public administration, and high-tech partnerships for digital skills as areas for multi-country projects²¹. The principles held by the **EU** is to be reflected in the digital world and upheld in the Digital Decade, such principles include putting people's right at the center, supporting solidarity, and inclusion and promoting sustainability of the digital future²¹. Countries in the **EU** would most likely take great interest in this project as it affects them directly. However, even though the project is based on the **EU**, if countries not part of the **EU** share the same values, gaining a better understanding of the Digital Decade could be beneficial as many of the objectives align with the topic at stake.

BRICS is an organization consisting of Brazil, Russia, India, China, and South Africa to promote peace, security, development, and cooperation and establish a more equal and fairer world²². They are connected by the fact that they are all leading growing economies in the world. As of 2022, **BRICS** has set incorporating the United Nations 2030 Agenda for Sustainable Development as an important part of their further advances²². They wish to use big data technology as a ladder to achieve solutions to problems such as food insecurity, pandemic control, and more²². Highlighting the importance of joining hands and taking advantage of technologies such as big data to further innovation and progress²². The five aligned countries have since carried out geographic, biological, and other fields of research to collect data. The values and political atmosphere of **BRICS** are different from those of the **EU** in various aspects. It would be advantageous for countries that identify with **BRICS** more as opposed to the **EU** to join on their initiative.

2.2 Stance of developed countries

Big data technology has been gaining the recognition of state officials for being a strategic resource in multiple fields. Developed countries often have a ready supply of big data statistics but have not yet been able to implement policies to utilize big data technology. The areas many developed countries are looking at are big data usage in industries such as health, science, and business as well as decision-making in general²³. Ways of envisioning big data's future can be divided into government-centered interests and interests of the people²⁴. Governments are leaning towards implementing big data technology for the improvement of their quality of governing as well as to create new products for the public²⁵. The United

States, for example, focuses on innovation. They wish to lower costs while creating new goods and processes, expanding research and innovation prospects, and enhancing present statistical products²⁴. When compared with developing countries, the interests of the developed countries can consider implementing existing technology and expansion of future capabilities.

2.3 Stance of developing countries

Developing countries are more focused on the issue of digitalization of their country. Various aspects in many developing countries are insufficient to implement Big Data programs including the lack of data collection, storage of data, and so on. The outlook on Big Data's future in developing countries varies in two forms:

First, there are the developing countries whose interests resemble those of the developed nations. These are countries such as China and India that have used Big Data in many of their industries whether it be telecommunication, financial services, healthcare, or others²⁶. These countries already have a ready supply of big data and big data technology to pursue future development in terms of implementing such technology in a wider scope for example the more advanced predictive analysis²⁵.

The second type is the developing countries that are the most heavily burdened by the lack of digitalization. These are countries such as Ghana and the UAE. their approach would revolve around Phase 1.0 of the Big Data framework, the foundational phase, where the collection of data is heavily valued and then follows the implementation of such technology into financial services, weather sensors, etc⁹.

3. Possible Solutions

3.1 In favor of developed countries

Developed countries are more likely to support solutions that are most relevant to their individual country's situation. This is because these countries have the technology, the question now is where to allocate them.

One approach would be improvements for the public and business sectors. There are a variety of areas the country could choose from in this case. For example, in the health sector; all countries value the lives of their citizens and want to improve hospital conditions thus deeming the health sector as a potential hotspot for big data implementation. Another area could be giving back to the business sectors by creating more innovative big data products. This could mean in the form of increased investments in R&D and putting more emphasis on the progress of such projects.

Another approach could be centered around policymaking. These would be solutions that

utilize big data technology inside government agencies. Using Big Data to analyze and predict the behavior of citizens naturally creates reliable solutions to issues regarding the whole nation. This idea could be further split into which exact behaviors governments want to prioritize. For instance, the United States is interested in studying the impact of the “gig” economy and finding out how exactly funding at universities affects the local economy and the career outcomes of students²⁴. At the end of the day, it comes down to where the individual country sees the most use for Big Data in their country.

Keep in mind the nature of developed countries. They have the best technology which means they also carry the most burden of achieving equity and sustainability when implementing Big Data technology. Look for the most cost-effective and sustainable solution that keeps its effectiveness.

3.2 In Favor of Developing Countries

The implementation of Big Data technology and the effectiveness of data analysis is contingent on the amount of Big Data itself. A developing country with a large amount of Big Data and available technology, such as China, would likely take the same approach as the developing countries while keeping their different priorities in mind. Countries that have not yet have the privilege of owning such resources should focus more on the improvement of access to technology in their country, then the collection of Big Data, and then implementation of the technology. Cooperation, in this case is highly encouraged especially with a country that already has advanced technology. This would greatly increase the developing country’s chances of catching up in terms of Big Data technology.

4. Keep in Mind the Following

When researching your country’s stance, it is crucial to keep in mind that all contributions matter to the topic at stake no matter big or small. An LEDC’s method of solving this problem could be equally valuable in MEDCS when considering the equity of implementing big data technology as there are different ranges of advancements in different regions in the same country. It is also important to pinpoint where your country is on the spectrum of big data development. Try referencing the 3 different phases of Big Data as this can quickly give the other delegates an idea of your country’s situation.

- 1. Consider the advancement of Big Data technology in your country and what steps could be taken to maximize utility?*
- 2. What methods could be taken to enhance development whilst being sustainable?*
- 3. If your country is relatively undeveloped, what can the country do to attract specialists to help your country with Big Data related issues?*

4. *What exact sectors should your country prioritize when implementing Big Data technology?*
5. *When should privacy be considered when using Big Data, and when should it not?*
6. *What impact will the implementation of Big Data have on the growing inequality of the world? How could this be mitigated?*

5. Evaluation

Big Data technology has a broad future ahead and governments of the world have recognized the potential of the powerful resource in their management of the country as well as in the utility of their citizens. Some countries are working on implementing Big Data in the policy-making process while others are just getting started with the collection of data. No matter what stage the country is in, cooperation is crucial as the steps to achieving Big Data implementation are the same globally. Seek out alliances and create the best resolution for your country.

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