

# Special Committee 2

## Assessing the potential risk of the weaponization of Big Data



<b>Forum:</b>	Special Conference 2
<b>Issue:</b>	Assessing the potential risk of the weaponization of Big Data
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## Introduction

Organized data has been collected for a long time, every organization is overwhelmed by the large amounts of data. However, what makes Big Data different is the technology that gives companies the ability to collect and use information in new ways that have a potential risk to it.

Big Data can be categorized as structured and unstructured. Structured data is information that is already managed by organizations in spreadsheets and databases, it is frequently consisting of numerical values. Unstructured data is the information that is unorganized and does not belong to a predetermined format. This included the information gathered from social media sources. Data can either be created by people or generated by machines.

Over the years Big Data has increased in its amounts, there is a larger variety of data, ranging from highly structured data to very unstructured data. This growth of Big Data is caused by different improvements in technology, an example is that sources of data have increased by the ability to capture data that was previously uncapturable. However the issue is not the growth of data, the types of data or the storage of data, the issue comes down to how organizations use the data that grow ever-increasingly.



## Definition of Key Terms

### Big Data

Big Data refers to the large and diverse sets of information that grow at ever-increasing rates. It encompasses the volume and velocity at which it is created and collected and the variety of data points being covered. Big Data can be both structured and unstructured.

### Weaponization

Weaponization is the process of turning something into a weapon or more effective as a weapon. Big Data is weaponized when it is mined in order to be exploited against a large amount of people.

### Cybersecurity

Cybersecurity is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attack, damage or unauthorized access.

### Data generation

Data generation refers to the theory and methods used by researchers to create data from a sampled data source in a qualitative study.

### Analytics

Analytics is an encompassing and multidimensional field that uses mathematics, statistics, predictive modeling and machine learning techniques to find meaningful patterns and knowledge in recorded data.

## General Overview

### Brief history of Big Data

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Organizational data is not a new phenomenon. Data has been gathered as we know it since the 1960s. The foundation of Big Data dates to 1880, when the U.S. Census Bureau could not handle the collected data anymore. Years later during World War II, the British created a machine that would scan patterns in messages from the Germans. This way a great amount of data was being processed. Then in 1965 the first data center was built in by the U.S. government, which was a big development on the Big Data issue, however this initiative was stopped after a short period of time. The next large development of Big Data was the creation of personal computers together with the evolution of the internet. In 1989 the World Wide Web was created with the goal to share information on the internet, future developments have helped this initiative to become a reality. With the help of these past events, Big Data has grown into the concept that we know today.

### **New ways of using Big Data**

What defines the contemporary Big Data is the volume of data that can be stored with advanced technology, the velocity at which data is streamed, the variety of data and the complexity of data because of the multiple sources from which the data is gathered. This description of Big Data was defined in the early 2000s. With these new developments of data that define Big Data in combination with new technology, these large amounts of information can be used in new ways.

The possibility of using Big Data in new ways has increased because of a few new developments that are also possible due to the more advanced technology.

Firstly, as a result to the large amounts of new sources of data and to the ability to capture data that was impossible to capture at first, the rate of data generation has increased. The growth of sources of data has broadened excessively and therefore organizations have the possibility to capture more and more information.

Secondly, the volume of data has grown. The data that could once only be retained for a finite time, can now be retained in datasets that keep growing and data filing systems so that the data can be stored indefinitely.

Thirdly, because of these other developments there is a larger variation in different types of data. This data ranges from very structured to very unstructured. Nowadays, a lot of information can be identified as unstructured data.

### **Industries and Big Data**



Big Data is used in six different industries. Big Data is used in banking, in this industry it is used to understand customers better and to minimize the risk of fraud. It is also used in education. By analyzing data in schools, the educational system may improve. The government uses Big Data to protect people from potential risks, however the government must address issues about transparency and privacy. In healthcare Big Data, if used correctly, can help improve patient care by uncovering hidden insights. With Big Data manufacturers can optimize quality and minimize waste. By managing Big Data, retailers will know how to better appeal to their customers. Each industry benefits of Big Data, if it is used in a right way.

### **Importance of Big Data**

As was stated earlier, the importance of Big Data is how it is used. Data can be taken from a variety of sources and when it is analyzed, it is able to gain answers which will enable cost reduction and time reduction, it enables new development and optimized offerings and can enable smart decision making.

Big Data in combination with high power analytics, can have great advantages for accomplishing business related matters. Such as detecting behavior that may contain a fraudulent aspect, this is very useful for the organization as it can prevent any unpleasant occurrences.

### **Issues and risks concerning Big Data**

As a result of the growing volume of Big Data, it becomes more challenging to regulate all of the new data. Many of the Big Data sources are unstructured, which causes difficulty in extracting important statistical information. Therefore, old methodologies need to be renovated.

Another challenge, maybe even the biggest issue, concerning Big Data are privacy and legal issues. With the growth of the volume and variety of the data, the privacy of an individual cannot always be ensured when dealing with Big Data. There are laws that do protect the privacy of an individual, however they are not always clear on the involvement of Big Data. The legal issues with Big Data refer to copyright and ownership of the data. The usage of Big Data is fully legal, however it is not always wise.



The technological developments are becoming more advanced, thus great skills are required to work with Big Data. With more advanced people dealing with Big Data, the data can be regulated better.

Datasets are unique patterns of individual behavior and personal information is not always fully protected. A risk of these datasets is combining them. If multiple datasets are combined, it could cause the re-identification of individuals and that could cause potential harm.

Another risk of Big Data is that it can lead to inequality and bias. Many people around the world are excluded from the important information that data can give to us. They are excluded by a variety of reasons: language, prejudice, lack of education, discrimination and lack of technology infrastructure. If there are no initiatives taken against this risk, it will create an entirely new inequality.

## Cybersecurity

Big Data gives the opportunity to improve information security, it is data driven. This way of cybersecurity is however not a new concept. In the financial sector it was used to detect potential threats of fraudulent behavior and in the governments, it was used to detect terrorist threats. Now a new approach is required for data and cybersecurity, the previous approach is not sufficient anymore due to the fact that data is not stored anymore in a timely way.

With the ever-increasing technological improvements, the possibilities of the usage of Big Data will keep growing. It is an important asset in our society and it is important for the development. Big Data has many advantages if it is used properly, if not it can be used as a weapon.

## Major Parties Involved

### UN Global Working Group (GWG) on Big Data

The GWG on Big Data was created in 2014 by the UN Statistical Commission. The GWG provides a vision of a global program on the development of Big Data. This



organization is essential for statistical systems in order to remain relevant concerning Big Data.

### United States of America

The US is very involved with the issue of the potential weaponization of Big Data. They are known to use a large amount of Big Data and it has played a big role for example elections. The United States are on the top of the data economy. Cambridge Analytica, a British-American data company, has played a big role in the usage of Big Data in the US.

### European Union

The EU has had a large involvement on the issue concerning the weaponization of Big Data. They have acknowledged the importance of Big Data and of regulating it for desirable opportunities Big Data can cause. Therefore they have taken initiatives, for example the legislation on the reuse of public sector information.

### United Kingdom

As the United States the UK has access to a large amount of Big Data. The UK uses Big Data for diverse initiatives, such as for the tax collection. Similar to the US, Cambridge Analytica has also played a big role in the issues concerning Big Data.

### China

Big Data has increased rapidly in China and recent reports claim that it will maintain a speedy growth. The report has stated that it will increase between 25 percent and 30 percent. With the growth of Big Data in China there are risks, as Big Data can be misused, especially with the increasing growth. Therefore, China is very involved with the issue concerning the potential risk of weaponization of Big Data.

### Russian Federation

Russia is very involved with Big Data. Survey's say that many changes have occurred in the IT industry in the Russian Federation, the Federal Government of Russia has initiated different strategies. Big Data has become more popular in the public sector in Russia. Companies are aware of the profit they can make with Big Data if used correctly. With the beneficial developments of Big Data in the Russian Federation, they play a big part in assessing the potential risk of the weaponization of Big Data.



## Timeline of Key Events

Date	Description of event
1943	British invented a machine that would scan patterns in messages intercepted from the Germans
1965	The US government built the first data center
1989	The invention of the World Wide Web
2005	Big Data was labeled

## Previous Attempts to solve the Issue

The reason why Big Data has a potential risk to be weaponized is because it is legal to mine data and with that possibility Big Data can be abused. The only manner in which this risk has previously been tried to prevent is by regulating Big Data through legislations.

An example of a legislation that protects people from the risks of the weaponization of Big Data are the privacy laws. That includes the Health Insurance Portability and Accountability Act of 1996 (US), this law protects patient information, as the Family Educational Rights and Privacy Act of 1974 that protects the records of students in school.

Another example of a law is the European Union's General Data Protection Regulation (GDPR) that creates a new regulation for privacy in the digital age.

The creation of the GWG of Big Data is also attempt of solving this issue. They organize annual conferences where they discuss the statistics concerning Big Data.

Although these legislations protect the privacy of individuals, organizations can still mine information from Big Data and it can be disadvantage people indirectly, for example by abusing Big Data for elections.

## Possible Solutions





The first step to stop the potential risk of the weaponization of Big Data is creating awareness. A large amount of people do not think that Big Data is affecting them, especially in LEDC's. The population needs to be informed about this risk in order to protect themselves. This can be done through education and workshops that inform people about the threat of the abuse of Big Data.

In order for people to be protected from Big Data there must be legislations that make it harder for organizations to gain information of individuals. Now a large amount of information of individuals is being gathered and this can be used against them. Therefore a law should be made which states that organizations can only gather a limited amount of information from individuals. This legislation should also state that individuals should be asked for their consent more often when information is gathered about them by organizations. The legislations should as well be very concrete and clear on how they are involved with Big Data.

To prevent the misuse of Big Data there should be transparency on how data sources may be used. Because of the fact that there is no legislation on how to use Big Data sources, transparency is highly important.

Big Data contains very sensitive information and it is poorly protected. Therefore there must also be more regulation concerning the protection of Big Data, as it can be very attractive for hackers to misuse the great amount of information that is Big Data. In order to protect Big Data, more of the data should be structured. That means that organizations should try to manage unstructured data by creating structured forms for them.

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