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In March 2018, The New York Times, working with The Observer of London and The Guardian, obtained a cache of documents related to the data firm, Cambridge Analytica. The documents revealed that the CA has used improperly obtained data from Facebook to build voter profiles. It used personal information from more than 50 million Facebook profiles to build a system to target US voters with personalized political advertisements based on their psychological profile. Its Employees were also caught boasting of using dirty methods like manufactured sex scandals, fake news, etc. to swing elections across the world.

### Facebook’s involvement:
- Facebook has been allowing various companies and apps to mine personal data from millions of their users for years.
- It received multiple warnings about its data security policies over the year and had known about the CA data breach since 2015 but it didn’t take any action.

### Cambridge Analytica?
- It is a political consulting firm based in the UK with offices in Washington DC and New York also.
- It collects and uses data to consult political candidates and parties. It does this using data mining, data brokerage, and data analysis.

### Cambridge Analytica: How the Key Players are Linked

- Aleksandr Kogan
  - Kogan is also the founder and director of GSR
  - He is an assistant professor at St. Petersburg State University
  - He received grants from the Russian Government to research Facebook user emotional states

- Dr. Richard S. Smith
  - SCL harvested and processed Facebook data in a commercial deal with SCL

- Dr. Alexander Nix
  - E.O. of both SCL Elections and Cambridge Analytica UK
  - This data was used to manipulate elections

- Robert Mercer
  - Hedge fund billionaire Robert Mercer funds Cambridge Analytica

### Issues Involved:
- The scandal has shed light on various issues related to data and privacy.
- **Data security:**
  - The scandal shows the weakness in the data security architecture.
  - There is urgent need of clear laws on the ownership of data and data protection.
  - Individuals must own their data and they should have the right to know how their data is being used by government and companies.
  - They should also have the right to have their data destroyed.
- **Mis(Use) of big data:**
  - Companies have been collecting data and using it for marketing and other purposes.
  - In the present time, use of big data has become very common. The issue become even more important because politics and elections are involved.
- **Regulations related to data:**
  - It shows the lack of regulations related to data collection and data use.
  - It indicates that something is broken in policy environment in which the data of millions are taken and used when only 270,000 people knowingly or unknowingly gave consent.
  - Due to rapid pace of change in technology the regulations also need to evolve accordingly.
  - The regulations become even more important because users often share their data without being aware of it or understanding the implications of privacy terms and conditions.
- **Privacy issue:** It shows the lack of privacy to the users of social media sites.
- **Threat to democracy:** The scandal shows how our democracy has become vulnerable to such manipulations. It has showed how elections in present time can be swayed by using the big data collected from people.

### Way Forward:
- The data protection is considerably weak in our country and there is also less awareness among people about its importance.
- The government hasn’t been able to frame a comprehensive and robust data protection law. The issue is a wake-up call for India which should take steps for data protection.
ENGINEERING ELECTIONS IN DIGITAL ERA

Introduction:
• Political parties employ a wide variety of strategies and tactics to influence voters during Election campaigns.
• While there is a long history of external interference in elections both through covert and overt means, digital platforms have taken it a whole new level, be it the eye-catching digital campaigns or instances of foreign governments interfering in the electoral process.

Impact of Digital Platforms on Elections:
• News and online content over digital platforms can spread at lightning speed, without paying heed to the credibility or authenticity of the source.
• Moreover, social media platforms generate vast amounts of data related to the socio-economic conditions, purchasing behaviour, interests, hobbies, and political inclinations or orientations of the users.
• These details are captured and analysed for commercial purposes. Business analytics feed on this data to generate business intelligence and derive monetary benefits for informed decision making.
• Present day electoral campaigns are also data driven and they are well-funded to let the campaigners harness data for:
  • Assessing and evaluating their performance.
  • Targeting swing voters and behaviour forecasting.
• With close to 2.2 billion active users (by the end of 2017), Facebook alone sits on a stockpile of data which could be used to drive election campaigns towards any preferred outcome.

Incidents of Alleged Influence on Elections:
• In 2017, the Presidential elections in both the US and France were controversial due to hacking incidents and data leaks at the campaigns of the Democratic National Committee (DNC) and En Marche, respectively.
• Cambridge Analytica is at loggerheads with the Electoral Commission in the UK over its alleged role in the BREXIT vote and in Europe for violating EU privacy laws in collusion with Facebook.
• India is no exception to this trend as shown by Cambridge Analytica incident.
  • Cambridge Analytica has an eight-year-old association with Indian elections.
• It undertook an in-depth electorate analysis for the Bihar Assembly Election in 2010 and it claims that 90% of total seats targeted by Cambridge Analytica were won by its client (political party) achieved a landslide victory, with over.

Concerns for India:
• As of January 2018, with 250 million users, India is the largest user-base for Facebook.
• It is also an important tool for the government to take forward its flagship programmes to the wider population.
• The Election Commission of India had also partnered with Facebook in 2017, launching a nationwide voter registration campaign.
• Indian users, paying little regard to the privacy terms and condition of social media platforms and uninhibitedly sharing content, are extremely vulnerable to the tools, techniques and campaigns devised for influencing both commercial and political behaviour.
• Against this backdrop, the government’s concerns have been raised by Cambridge Analytica’s alleged mining of data from the profiles of 50 million US Facebook users without their consent.
• It is ethically and legally controversial when information derived without the consent of the users or through dubious means is leveraged to influence political choices.
• Flourishing in the void of effective legal and regulatory regimes, such incidents seriously undermine the trust of people in the democratic process.

Concluding Remarks:
• Although Facebook has tendered an assurance of data security on its platform for the upcoming elections in India (2019), the incident has caused severe damage to its reputation even as a development partner for governments in digital inclusion or other societal benefits plans.
• During the next general elections in 2019, the Election Commission of India has an uphill task to thwart both external interference and the abuse of social media platforms to influence voter behaviour.
• India needs to expedite the process of developing a data protection framework and probably amend the IT Act in accordance with the changing realities of cyberspace.
Summary Facts: BN Srikrishna Committee

- **Timeline:** It was constituted in August 2017 and submitted its report in November, 2017.
- **Scope:**
  - To examine issues related to data protection,
  - recommend methods to address them, and
  - draft a law for data protection.
- **Objective:** To ensure growth of the digital economy while keeping personal data of citizens secure and protected.

Background: A Digital India in a Digital World

- **Rise of Information age:** The 21st century is widely referred to as ‘the information age’. It is believed that by 2020, the global volume of digital data we create is expected to reach 44 zettabytes.
- **Digital India:** This digital revolution has permeated India as well. Recognising its significance, the Government of India has implemented the “Digital India” initiative.
- **Digital India to Digital Economy:** With nearly 450 million Internet users and a growth rate of 7-8%, India is well on the path to become a digital economy, which is expected to generate new market growth opportunities and jobs.
- **Digital Data Processing:** While the transition to a digital economy is underway, Internet has given birth to entirely new market of those dealing in collecting, organizing and processing of personal information.

Importance of Data Protection Framework:
The issue of data protection is important both intrinsically and instrumentally.

1. **Intrinsic:** Intrinsically, a regime for data protection is synonymous with protection of informational privacy. As the Supreme Court observed in Puttaswamy, “Informational privacy is a facet of the right to privacy.”
2. **Instrumental:** Instrumentally, a firm legal framework for data protection is the foundation on which data-driven innovation and entrepreneurship can flourish in India.

However, the unregulated and arbitrary use of data, especially personal data, has raised concerns related to centralisation of databases, profiling of individuals, increased surveillance and a consequent erosion of individual autonomy and privacy and cyber attacks.

INDIA 7th WORST AFFECTED

<table>
<thead>
<tr>
<th>Country</th>
<th>Data (in millions)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>70.6 m</td>
<td>81.6%</td>
</tr>
<tr>
<td>Philippines</td>
<td>1.2 m</td>
<td>1.3%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.1 m</td>
<td>1.3%</td>
</tr>
<tr>
<td>UK</td>
<td>1.1 m</td>
<td>1.2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.8 m</td>
<td>0.9%</td>
</tr>
<tr>
<td>Canada</td>
<td>0.6 m</td>
<td>0.7%</td>
</tr>
<tr>
<td>India</td>
<td>0.6 m</td>
<td>0.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.4 m</td>
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</tr>
<tr>
<td>Vietnam</td>
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<td>0.5%</td>
</tr>
<tr>
<td>Australia</td>
<td>0.3 m</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*Figures in brackets indicate % of total number affected globally*

In April 2018, Facebook stated that Cambridge Analytica may have accessed data of over 5.6 lakh Indian users.

Present Data Protection framework in India:

A. Puttaswamy Judgement:
- The nine-judge bench of the Supreme Court in Puttaswamy recognised the right to privacy as a fundamental right under Article 21 of the Constitution of India.
- It went on to recognise “Informational Privacy” as a facet of the right to privacy.
- It also directed the Union Government to put in place a robust data protection regime to ensure protection against the dangers posed to an individual’s privacy.

B. Legislative Developments:
- While regulators in the US, China and the EU have put in place laws to address concerns around privacy and data protection, India has so far taken a piecemeal approach.
- These includes the SPDI Rules under the Information Technology Act, 2000 (IT Act), Aadhaar Act, 2016 as well as various sector specific laws on data protection.
- Regulators like RBI and TRAI have put in place a few data-protection rules but those are limited to some aspects of financial transactions and telecom networks, respectively.

In this light, formulating a data protection law is the need of the hour for India.
Comparative Approaches to Data Protection:
Globally, there are two distinct models in the field of data protection.

1. EU Model:
   - It is a rights based one, where protection of personal data is equated with protecting the fundamental right to privacy.
   - However, it has been criticised for being excessively stringent, and imposing many obligations on the organisations processing data.

2. US Model:
   - It focuses on protecting the individual from excessive State regulation.
   - It recognises the value of data vis-a-vis encouraging innovation, and therefore allows collection of personal information as long as the individual is informed of such collection and use.
   - However it has been viewed as inadequate in key respects.

These approaches must be kept in mind while framing a data protection law.

Recommendation: Seven Principles of a Data Protection Law
A data protection framework in India must be based on the following seven principles:

1. Technology agnosticism: The law must be flexible to take into account changing technologies and standards of compliance.

2. Holistic application: The law must apply to both private sector entities and government. *Differential obligations may be carved out in the law for certain legitimate state aims.*

3. Informed consent: Consent is an expression of human autonomy. Thus, Consent should be genuine, informed, and meaningful.

4. Data minimisation: Processing of data should be minimal and only for the purpose for which it is sought.

5. Controller accountability: Entities controlling the data should be accountable for any data processing, whether by itself or entities with whom it may have shared the data for processing.

6. Structured enforcement: Enforcement of the data protection framework should be by a high-powered statutory authority. This must coexist with appropriately decentralised enforcement mechanisms.

7. Deterrent penalties: Penalties should be adequate to discourage any wrongful acts.

Questions Raised by it:
Some of the questions asked by the Committee relate to:

- **Applicability:** (i) Territorial applicability of the law, (ii) extent to which the law should apply outside India, and (iii) measures that should be included in the law to ensure compliance by foreign entities.
- **Definition of personal data:** (i) what kind of information qualifies as personal data, (ii) should the definition focus on whether a person can be identified based on the data, and (iii) treatment of sensitive personal data.
- **Exemptions:** the categories of exemptions that should be included under the law, and the basic safeguards that should be ensured when processing data in these categories.
- **Consent:** It Conditions that determine valid consent.
- **Enforcement models:** It sought comments on the enforcement tools to be used for: (i) code of conduct, (ii) breach of personal data, (iii) categorisation of different data controllers, and (iv) creation of a separate data protection authority.

Analysis:
The exhaustive paper released by the Srikrishna Committee is a delayed but a welcome move. Thus the Centre must hasten to finalise a policy.

Concerns:
Critiques have raised some concerns regarding the proposals of the Committee:

- India relies on many imported technologies which follow the standards of their origin countries and different countries have different rules. It will be difficult to apply the indigenous laws on those imported technologies.
- There is also lack of analysis of data protection vis-a-vis Aadhaar.

Way ahead:

- **Maintain balance:** it is critical to bring a balance between the innovation and privacy.
- **Which model to follow?** In this era of Big Data analytics when there is fear that individual liberties are compromised, its better to follow the rights-based approach of the European Union’s General Data Protection Regulation, 2016.
- **Clear rules:** Ground rules that legitimise reasonable access to data must be clearly spelt out.
- **Spread awareness:** There is also a need for a national awareness campaign to highlight the importance of adopting strong encryption and to be cautious in the virtual world.
Big data is larger, more complex data sets, especially from new data sources, that traditional data processing software just can’t manage them.

**Five Vs of Big Data:**

According to Gartner’s definition (given in 2001), Big data is data that contains greater variety arriving in increasing volumes and with ever-higher velocity. Two more Vs have emerged over the past few years: value and veracity.

1. **Volume:** It means processing high volumes of low-density, unstructured data. For some organizations, this might be tens of terabytes of data. For others, it may be hundreds of petabytes.

2. **Velocity:** Velocity is the fast rate at which data is received and (perhaps) acted on which requires real-time evaluation and action.

3. **Variety:** Variety refers to the many types of data that are available.
   - Traditional data types were structured and fit neatly in a relational database.
   - Now, data comes in new unstructured/semi-structured data types, such as text, audio, and video which require additional pre-processing to derive meaning.

4. **Veracity:** Veracity is the quality or trustworthiness of the data. i.e. how accurate is all this data and how much can you rely on it?

5. **Value:** Value refers to the worth of the data being extracted. Having endless amounts of data is one thing, but unless it can be turned into value it is useless.

---

### How Big Data Analytics Works?

- **Integrate:** During integration, data is brought from many disparate sources and applications, processed, formatted and made available in a form that can be used by analysts.
- **Manage:** Big data requires storage. Storage solution can be on premises or in the cloud (gradually gaining), or both.
- **Analyze:** It means exploring the data further to get the results.

### The History of Big Data:

- Although the concept of big data itself is relatively new, the origins of large data sets go back to the 1960s and 70s with the development of first data centers and relational database.
- Around 2005, people began to realize just how much data users generated through Facebook, YouTube, and other online services.
- The development of Hadoop (an open-source framework created specifically to store and analyze big data sets) in 2005 made it easier and less expensive to store big data which played a key role in its growth.
- With the advent of the Internet of Things (IoT), more objects and devices are connected to the internet, gathering data on customer usage patterns and product performance.
- The emergence of machine learning and cloud computing has expanded big data possibilities even further.
- While big data has come far, its usefulness is only just beginning.
Significance of Big Data and Data Analytics:

- Big data makes it possible to gain more complete answers because of availability of more information which means a completely different approach to tackling problems.
- According to industry experts, Big Data analytics sector in India is expected to witness eight-fold growth by 2025 - from the current $2 billion to reach $16 billion.

Applications of Big Data:

- **Industry and business:** Companies can now easily predict what their customers want and when they want to a considerable degree of accuracy. It has enabled the businesses to increase their efficiency.
- **Manufacturing:** It can be used to boost production, productivity and quality of the product. It can be used to solve problems faster and make more agile business decisions.
- **Banking:** It can be used by financial institutions to minimize risk and prevent fraud. It can boost customer satisfaction.
- **Use for Government:** It can use big data to managing utilities, running agencies, dealing with traffic congestion or preventing crime. Economic Survey 2016-17 used data from the railway traffic to map the migration pattern in India.
- **Disaster management:** Big data can be used to predict the disaster and prediction of human behaviour in case of disaster.
- **Crime prevention and control:** Police forces can use big data for intelligence gathering and employing their resources effectively.
- **Education:** It can be used to identify at-risk students, ensuring that students are making adequate progress in learning, in evaluation and as a support to teachers.
- **Healthcare:** Data-driven medicine can be used to identify the diseases much earlier and can also be used for development of new and effective medicine by analysing large numbers of medical records and images for patterns.

Initiatives by India:

- **Big Data Analytics division (RBI):** In April 2018, RBI announced setting up of a Big Data Analytics division which would be used for everything from inflation management to banking supervision to financial inclusion. It is expected to start working from December 2018.
- **National Supercomputing Mission of DST & DeitY:** Its objective is to build supercomputing facilities at national academic and R&D institutions. It seeks to create a national grid of more than 70 high-performance computing facilities which will be used for Big Data Analytics.

Challenges wrt Science & Technology:

Following are the S&T challenges that researchers across the globe are facing:

- **Storage:** Although new technologies have been developed for data storage, data volumes are doubling in size about every two years. Organizations still struggle to effectively store their data.
- **Data curation:** It’s not enough to just store the data. Data must be valuable which depends on curation. Data scientists spend 50 to 80 percent of their time curating and preparing data before it can actually be used.
- **Rapid technology change:** Keeping up with big data technology which is changing at rapid pace is an ongoing challenge. A few years ago, Apache Hadoop was the popular technology used to handle big data. Now it is Apache Spark.

Concerns:

Big Data also raises three significant concerns which must be addressed:

- **Data Privacy:** The Big Data contains a lot of personal information which we have the right to keep private. There is need to find a balance between the privacy and the convenience we get by divulging our data.
- **Data Security:** Even if we agree to divulge our data for a particular purpose, its security need to be ensure by preventing data breach by hackers, viruses, Trojans, etc.
- **Data Discrimination:** Big data can be misused to discriminate among people based on the data. For example, insurance is already heavily data driven. It must be ensured that it shouldn’t be used in to make life more difficult for those who already have fewer resources and access to information.

Way Forward:

It should be ensured that big data emerge as a tool to better life of people and not the other way around. For this following steps needs to be taken:

- **Capacity Development:** Invest in long term to groom skills and capabilities of human resource, government and academic institutions. It will foster a culture of innovation in the country.
- **Collaboration:** Promote forums to facilitate discussions among diversity of stakeholders and sharing of knowledge at national and international levels.
- **Regulation:** Enact a legal framework for data protection. It will infuse transparency in the storage, collection and use of data. The aim should be to foster the growth of big data analytics while securing the individual privacy.
About:
- The E-way bill, short form for electronic way bill, is an electronic documentation detailing the movement of goods and has to be carried by transporters for any consignment exceeding Rs50,000 in value.

Working:
- E-way bill must be raised before the goods are shipped and should include details of the goods, their consignor, recipient and transporter.
- Though check-posts have been abolished under GST, a consignment can be intercepted at any point for the verification of its E-way bill, for all inter-State and intra-State movement of goods.
- If a consignment is found without an E-way bill, a penalty of Rs. 10,000 or tax sought to be evaded, whichever is greater, can be levied.

Validity:
- It can be generated from the GSTN set up for the e-way bill system by the transporter before the movement of goods begins.
- The e-way bill’s validity varies depending on the distance that the goods have to travel. Typically, the bill’s validity is one day for every 100 km of movement of goods.

Coverage:
- The GST e-way bill is mandatory from 1 April for all inter-state transport of goods valued above Rs. 50,000.
- Starting from April 15, 2018, it is being made compulsory for the moving goods within a state in a phased manner.
- Goods excluded from e-way bill’s ambit: Perishable items (such as meat, milk and milk products and fruits and vegetables), gold and silver jewellery, cooking gas cylinders, raw silk, wool and handlooms.

Significance:
- Reducing transit delays:
  - A Typical truck in India spends 20 % of its time in inter-state check points. This varies from 20-30 minutes in Rajasthan and Maharashtra, to 2 hours in Bihar or Jharkhand.
  - By reducing bothersome inter-State check-posts, E-way bills are expected to root out such transit delays

A key anti-tax evasion measure:
- Tax authorities believe its implementation will dissuade tax evaders from underreporting transactions.
- It will also check instances where the entire transaction is not recorded due to connivance between the seller and buyer.

Reducing Red Tapisim: Also, a single electronic way bill for the movement of goods throughout the country is expected to save tons of paperwork and sidestep various inter-state clearances for buyers, sellers and transporters.

Boost to GDP:
- According to a McKinsey report, Logistical hurdles cost the Indian economy an extra $45 billion or 4.3 per cent of GDP every year.
- Therefore, any change in the system that brings about even small benefits is to be welcomed.

Concerns:
- The industry is worried that the technology system may not be prepared to handle the huge e-way bill volume and that this may cause a disruption to trade.
- Another worry is the potential scope for harassment by tax authorities. Taxmen have powers to stop trucks and check e-way bills and transporters fear this may lead to rent-seeking.

Safeguards Put in Place:
- To avoid technological glitches, the GSTN and the National Informatics Centre have ramped up the infrastructure. The system can now handle 75 lakh e-way bills daily, compared with 26 lakh earlier.
- To prevent harassment of taxpayers, e-way bill rules specify that goods will be inspected only once during the journey except in cases where specific information on tax evasion is received.
- Further, in case a vehicle is detained for more than 30 minutes, the transporter can report it on the portal.
FREE TRADE AGREEMENTS (FTAs)

In April 2018, Niti Aayog released “A Note on Free Trade Agreements (FTAs) and their costs” in the background of growing wave of protectionism and trade wars dominating global trade.

Fact Sheet: India’s Trade
- India is a fairly open economy with overall trade (exports plus imports) as a percentage of GDP around 40%.
- **Trade deficit:** India’s trade deficit has grown from USD 6 billion in FY01 to USD 109 billion in FY17.

**India's Trade Balance (USD) over the years (FY'00 – FY'17)**

- **Exports**
- **Imports**

- India’s exports have diversified both in terms of markets and products and services in the past two decades.
- **Market diversification:**
  - The share of developed countries in India’s exports has declined and that of emerging economies has increased to over 50%.
  - USA and EU now account for only 30% of India’s total exports compared to 45% in 2000.
- **Product diversification:**
  - Export sector has gradually moved up the value chain with focus on high-value products like industrial machinery, automobiles/car parts, and refined petroleum products.
  - Manufactured goods along with petroleum products accounted for nearly 85% of India’s export basket in FY17.
- **Value addition:** The foreign content of India’s exports (value of imported intermediate goods and services that are embodied in India’s exports) has more than doubled from under 10% in 1995 to 24% in 2011.
- **Export potential:**
  - International Trade Center (ITC) estimates India’s untapped export potential to around USD 200 billion with a corresponding import potential pegged at USD 180 billion.
  - The markets with greatest potential for India’s exports are United States of America, China and United Arab Emirates.

Drivers of India’s Exports:
- **Global Demand:** India’s exports are much more sensitive to changes in external demand as compared to price changes (tariff changes).
- **Energy deficiency:** Supply-side constraints like energy shortages dampen price responsiveness of exports. Tackling the issue of energy deficit can boost export performance considerably.
- **Higher logistics cost:**
  - Higher logistics cost is a major impediment to export growth. Various studies peg logistics cost in India to be around twice of that in developed countries.
  - According to Economic Survey 2017-18, a 10% decrease in indirect logistics cost can contribute to around 5-8% of extra exports.”

India-china trade: FTA with China?
- **Total Trade:** Sino-Indian bilateral trade was USD 72bn in FY17 (accounting for almost 10% of India’s overall trade) making China India’s biggest trading partner.
- **Trade deficit:** China’s trade surplus with India was USD 52 billion in FY17. In fact, China now accounts for about 50% of India’s trade deficit.
- **Reason for high trade deficit:**
  - India tends to export primary materials such as ores, minerals and cotton, whereas Chinese exports high value chain products (with higher profit margins and which create more jobs at home) like capital and manufactured goods.
  - China’s export basket is better diversified than that of India’s.