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Popular Article

Data Analytics: Its Importance and Relevance

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Introduction

Data analytics is the science of analysing raw data to make conclusions about that information. Various approaches to data analytics include looking at what happened (descriptive analytics), why something happened (diagnostic analytics), what is going to happen (predictive analytics), or what should be done next (prescriptive analytics). Data analytics relies on a variety of software tools ranging from spreadsheets, data visualization, and reporting tools, data mining programs, or open-source languages for the greatest data manipulation.

Data Analytics can be used to measure SDG's?

The importance of achieving Sustainable Development Goals (SDGs) as binding targets is very high for a developing country like India that wants to achieve rapid development in economic, social, and environmental sectors. Successful implementation of these SDGs by the year 2030 would need leveraging emerging technologies and innovations, including Big Data Analytics, for transforming governance structure.



How we can implement Data analytics in all 17 SDG's?

- **Eradication of Poverty goal:** Due to the 3G and 4G internet revolution in India with high penetration of mobile phone services, it will be easier to create poverty maps through Call Data Records (CDRs), online social media use giving an insight into the communication and mobility patterns of the population. With the creation of such maps, we can get an insight into different dimensions of poverty in various areas and will help to take steps to counter it can happen at a decentralized local level. Through the high resolution of geographical inputs given by these maps in the form of standard of living, employment status, access to affordable healthcare, education, etc., it will be easier for governance agencies to take effective decisions to eradicate the various facets of poverty.
- **Zero hunger:** Government with the help of **Precision agriculture** can use Big Data Analytics on the data collected from various high-technology sources such as aerial images, physical sensors, weather department data, farmer's social media data etc. to develop solutions in more refined geographical resolution in fields rather than providing a common solution.
- **Good Health and Well Being:** Using data from smart phone, mobility patterns can predict and then prevent the spread of infectious diseases. Also apps can be beneficial in preventing disease spread like AarogyaSetu app for COVID-19. Tele-medicine will help to provide universal healthcare to all.
- **Quality Education:** The Big Data collected from the education sector can help us to know various gaps in the education system of the country, such as knowing the exact factors in responsible for student drop-out rates specific to particular geographies.
- **Gender Equality:** Critical analysis of financial transactions can reveal the expenditure patterns of people; these patterns will help us to expose the differences in financial and economic well-being, independence, growth, etc. between men and women and thereby help to plug-in the loopholes which are hindering a balanced growth of the economy.
- **Sanitation and Clean Water:** We can attach sensors to water pumps that can trail access to clean water. Secondly, there should be Smart bill pay for water use which will help us to optimise water supply and save precious water sources.



- **Affordable and Clean Energy:** Power Discom utilities through use of smart metering can increase or restrict the flow of electricity, gas or water to reduce waste and ensure adequate supply at peak periods.
- **Decent work and Economic Growth:** Digital Patterns created through analysis of Internet-of-Things based solutions can give indicators such as economic growth, trade and GDP
- **Industry, innovation and infrastructure:** Digital data from GPS apps can be used for traffic control and public transport improvement.
- **Reduce inequality:** Speech-to-text converter on local radio content can reveal discrimination and support policy response
- **Sustainable cities and communities:** Geographical Information System (GIS) through satellite remote sensing can check encroachment on public land such as in parks and forests
- **Responsible consumption and production:** Online search patterns, e-commerce transactions, use of electricity can help us to know the pace of transition to energy efficient products.
- **Climate action:** Integrating satellite images, ground truthing and open data can help us to track deforestation
- **Life below water:** Maritime vessel surveillance data can help us to know illegal, unregulated and unreported fishing activities
- **Life on land:** Social media monitoring, mobile tracking can be game changer in disaster management with real time information on victim's location
- **Peace, justice and strong institutions:** Perception, sentiment analysis of social media can be useful to gauge the public opinion on effective governance, public service delivery or human rights
- **Partnership for the Goals:** The integration of statistical data, mobile and internet data can give real-time understanding of today's interconnected world.

In conclusion, Data has now become new oil in globalised world. It's high time to leverage technology and innovations like Data analytics which will help us to achieve all SDG's in specified time. Fulfilment of these SDG's through use of smart data will help to unlock the power of our precious human and natural resources.



Data analytics importance in containing COVID-19 pandemic.

The COVID-19 pandemic is a multifaceted syndrome which involves biology, behaviour of humans, governments and companies and it's influenced by healthcare, economics, governance, and geo-politics. Data analysis can help to improve economic, societal, and geo-political stability. Data analytics is a modern way to combat a problem as old as humanity itself and its importance in containing COVID-19 pandemic is as follows:

1. **Contact tracing and Assistance:** Data analysis provides assistance to local people and governments in order to make well-versed decisions that will maximize beneficial outcomes for humanity.
2. **Communication and Awareness:** It also help to communicate the awareness in a practical way. For instance, the results of data analysis shown that some countries proved very effective at combating COVID-19 early on by utilizing technologies such as AI, in combination with medical and healthcare management techniques.
3. **Decision making and Helpline:** Data analysis also act a tool for governments, private sector and businesses to aid in effective decision making and could assist response efforts in order to maximize health, stabilize economies, and help communities reopen for education, business etc.
4. **Social surveillance and Quarantine Efficiency:** Data analysis specifies the change in scenario before and after quarantine or it indicates how effective quarantine would have been in respect of containment of pandemic.
5. **Forecasting:** It aids in forecasting the impact of coronavirus in terms of its presence in granular regions. Also, inferring the relationship between reported and actual cases based on data from previously affected areas. Forecasting the financial impacts of the crisis.
6. **Governance Efficiency/management:** It analyses the management efficiency and preparedness of Government during such pandemics. E.g., it will help to predict the expected crush faced by hospitals based on available capacity
7. **Monitoring and Detection:** Supervising the efficacy of real-world trials and predicting their effects is possible through data analytics.



8. **Emergency Treatment Readiness/Cure:** Data analysis helps the governments and various agencies to come up with preventive measures against pandemic e.g., Data analytics of medication provided in one country if proved to be correlated positively with containment of virus, can be a big boom for world as same medication can be used across globe.
9. **Death rate:** It will help in predicting the likely unfortunate death pattern and the timing.
10. **Behaviour and Public opinion:** Through data analytics, we can track the sentiment of the population as the virus spreads. Data analysis also helps in modelling the effect of life style changes on halting the spread of the virus.

Conclusion

Data analytics has its importance in containment of COVID-19 or any other pandemic. Data analytics helps us to monitor and analyse the advancement of COVID-19 pandemic in terms of its awareness, increase/decrease in virus cases, death rate, new vaccines, government efficiency etc. across the globe. Whole world, in modern times, becoming dependent on data analytics, which warrants us to develop our capability in Data analysis and artificial intelligence.

References:

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