

How will Big Data Analytics and Machine Learning impact the Namibian Government?

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Big data and machine learning



What is Big Data & Machine Learning?

- Process of unpacking and analyzing volume of data(Structured & unstructured) to discover hidden patterns
- ML is an application of AI that learns how to perform complex
- Incorporation of Big Data and ML will help the Government bring services closer to the people and people closer to information.
- Big Data is flexible and universal to so many industries
- The Government will have access to vast amount of information relevant to their daily functions with e-governance

Current status of the Government

- The public sector is currently under performing with majority of Ministries still living in the old age, way far behind with technology
- Many services are still carried out in the traditional way which leads to:
 - Poor service delivery
 - No accountability and transparency
 - High rate of corruption
 - Skills shortage
 - Unemployment



“Imagine the economic power being able to make recommendations about what people want”-
Neil Jacobstein

Using big data analytics to fight fraud/Corruption

- Fraud detection
- Full Automation of Administration
- Risk based controls using automated algorithms and data mining
- Full Automation of Administration
- Integration of Home affairs ministry with Universities to prevent money laundering, e.g issuing of Study permits
- Safety and security can use deep face & deep text algorithm



Investing in Smart cities

AI can prevent accidents

- Taxis being used in criminal activities
- Alerting drivers about weather condition, traffic congestion
- Track the time, position , speed and other factors related to collision
- sensors are attached to delivery vehicle or shipments
- Using mobile surveillance

Incident detecting



Smart Agriculture



Agriculture Sector Continued..

- Farmers are currently hit by drought, there's no food security and global warming is making it worse
- Automation techniques in irrigation & building cloud based solution that aggregates existing data(Integration using mobile apps) *Nust students should focus on such projects*
- The use of robotics to measure plant Geometrics and non-visible radiation
- Improved forecasting of yield and production from decision made by ML such as Pruning fruits, soil water level
- Machine Learning helps with species breeding, disease detection and recognition(e.g using a drone to produce a 3-D field map before planting) data(image) is sent to remote labs for further diagnosis
- Eradicate extreme poverty and hunger using Precision farming “Right place, Right time & Right product”
- Livestock production and animal welfare; e.g weight predicting systems can estimate the future weight 140 days prior to slaughter day, allowing farmers to modify diets and conditions respectively

Health care and social welfare

- Predict patient health risk using predictive analytics
- Health providers can analyze patient history data,, clinical factors & etc..
- Use AI to monitor the life span of healthy equipment's
- can improve the quality of services and the entire healthcare ecosystem
- Integration of NIP (diagnostic team)and health monitoring team for disease control teams to get alerts

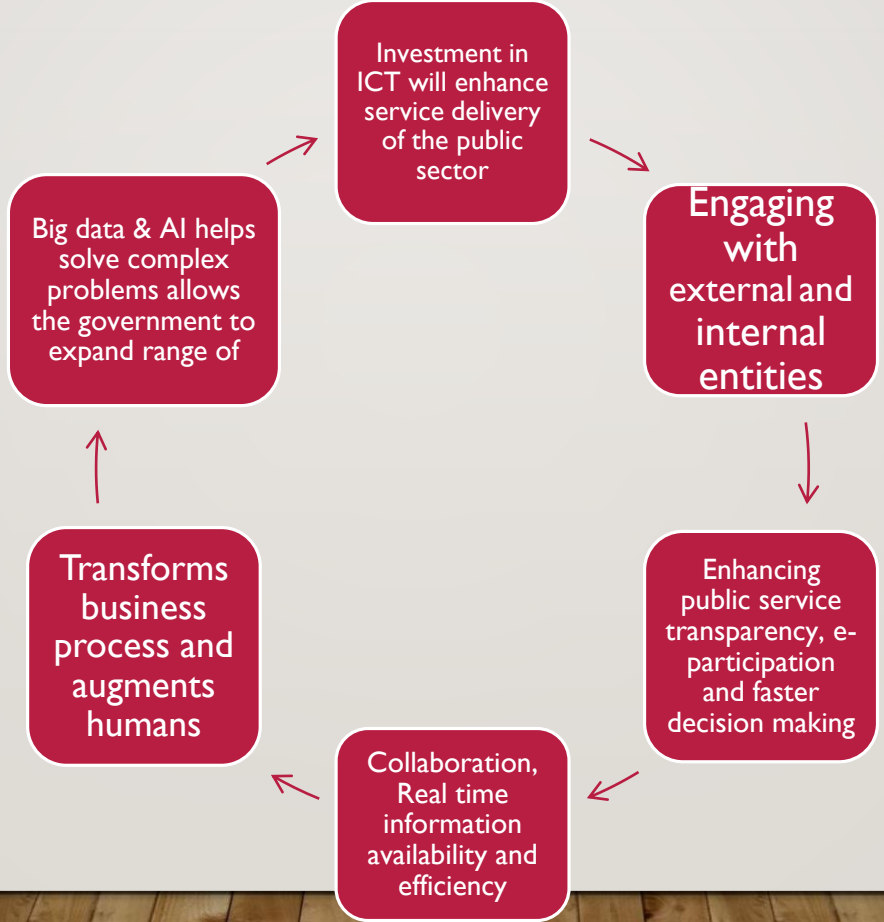


Transforming the country's education through digitalization

- Poor student performances
- Big data will help with skills matching
- Career prediction and experienced learning
- Recognition of TVET using Augmented-reality systems
- Use of e-learning(Smart classroom)
- Gives students, teachers and parents real time feedback and adjust accordingly



Where there's data there's solution



With the support of the government

- *“We cannot wait until they are massive dislocations in our society to prepare for the fourth Industrial Revolutions”- Robert J Shiller*



Post-Digital Era is Now!!

