





The State's preferred and trusted anti-corruption forensic investigation and litigation agency

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1. BACKGROUND - SIU LEGISLATIVE MANDATE

The Special Investigation Unit (SIU)11 derives its mandate from section 4 of the Special Investigating Units and Special Tribunals Act. The functions of the SIU are, within the framework of its terms of reference (TORs) as set out in the proclamation referred to in section 2(1):

- a) To investigate all allegations regarding the matter concerned;
- b) To collect evidence regarding acts or omissions which are relevant to its investigation;
- c) To institute and conduct civil proceedings in a special Tribunal or any court of law for:
 - i. any relief to which the state institution concerned is entitled, including the recovery of any damages or losses and the prevention of potential damages or losses which may be suffered by such a state institution;
 - ii. any relief relevant to any investigation; or
 - iii. any relief relevant to the interests of a special investigating unit;
- d) To refer evidence regarding or which points to the commission an offence to the relevant prosecuting authority;
- e) To perform such functions which are not in conflict with the provisions of this Act, as the president may from time-totime request;
- f) From time to time as directed by the president to report on the progress made in the investigation and matters brought before the special Tribunal concerned or any court of law;
- g) Upon the conclusion of the investigation, to submit a final report to the president; and
- h) To at least twice a year to submit a report to parliament on the investigations by, and the activities, composition, and expenditure of such unit.



2. DATA ANALYTICS

The SIU concluded a Memorandum of Understanding with the CSIR on 22 August 2022 In terms of the MoU, the parties will collaborate in the field of information and cybersecurity, data intelligence, market data

analytics including anti-fraud and anti-corruption initiatives:

The envisaged areas of collaboration are, inter alia, as follows:

Generation and/or sharing of electronic data, data sources and outcomes on data analytics procedures performed that may assist the parties in, inter alia -

- $\boldsymbol{\boldsymbol{\diamond}}$ Data modelling and data driven decision making
- $\boldsymbol{\boldsymbol{\diamond}}$ Risk identification pursuant to data modelling
- Initiating investigations
- Referrals for audits
- Targeted awareness campaigns
- $\boldsymbol{\boldsymbol{\diamond}}$ Systemic improvement interventions
- Mitigating focused risks in vulnerable sectors

- Information and cyber-security:
- Risk analysis and assessments
- Anti-fraud and anti-corruption capability development
- ✤ Artificial intelligence
- fraud/malpractice detection
- ✤ Financial transaction pattern analysis and prediction
- Investigation report classifications
- Identification of contract/investigation findings into categories using machine learning



3. CONCEPTUAL MODEL: MARKET DATA ANALYTICS

Continuous market research must be 🗕 conducted to determine:

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- Global best practices in the anti-corruption sector • Future predictions and disruptors
- · Areas of interest to the SIU and anti-corruption sector where the SIU would like to conduct further research in



	Informs the data analytics process			
	Data Collection	Data Processing	Data Outputs	Data outputs must be
Conceptual Model: Market Data Analytics Data Analytics	Data Sources Quantitative Data Qualitative Data	1. Inspect data 2. Clean Data 3. Transform data • Model data in order to identify	Data outputs must be useful and specific and can take on various forms:	 Direct strategic decision making processes Analysed data is used in the sector
	Secondary 1. Open Sources: Public Data 2. Grey Sources: Available by (Data way of agreements or Mining) subscriptions 3. External Relevant Sources	useful information 4. Analyse the data to produce outputs	Statistics Research reports Predictive trends	 Directs prevention activities (public and government) Used for skill enhancement and training
	 SIU Forensic Investigations Primary Data Market surveys Impact assessments 		Statistical reports	 Integration of information with state institutions for inclusion in their risk registers Predictive trends can trigger investigations
	In order for the Market Data Analytics Unit to function optimally, it is essential that the foundation upon which the unit is built is robust and agile. The unit must be supported by a strong technological platform that is secure	Data Source Agreements		Data Security
	Agreements must be established with various sources of data to ensure that the SIU provides data outputs that would differentiate it from other market role players.	mal agreements or MOU's with itutions that can provide data, including rernment and private institutions. reements include data standards. ase agreements must be formal and	Appropriate hardware and software: • Data warehouse • Data analytical tools or software system	 Data security measures Data integrity Levels of data confidentiality
	From time to time the unit may require data ena	ibling. Imple include StatsSA, Home Affairs,	 Data archives and back-ups 	

The available data sources that can be utilised by the Market Data Analytics Unit

Data requirements and type of data to be gathered depending on the market needs

validation services for data integrity checks. This can be provided by the Internal Audit Unit.

Data modelling tool

National Treasury.



Overview:

Look at new data analytics methods to detect unusual behaviors or areas of concerns – use data to enhance risk management practices and inform prevention, advisory and awareness initiatives.

- ✓ Approach: The approach is to use a Risk Based Approach (RBA) this will enable us to answer the below questions, of course using data analytics:
 - Identify: Where the issue is?
 - Assess: What caused the issue and how can it be mitigated?
 - Response: What measures can be taken to prevent the identified issue? Furthermore, what is the best thing to do if it does recur?
 - Mitigating: What tools or triggers can be put in place or action to alert us of such?
 - Lessons Learnt from current data



4. TRANSFORMATION WITH DATA

- SIU gather the rawdata from the different stakeholders that the President has signed and issued the proclamation.
- The rawdata obtained/collected for each proclaimed project/matters, it is then be analysed to produce red flags, exceptions and network Analysis/linkages to guide the investigations such as:
- Social Network analysis The cell phone data is collected from different service provider, then the data is analysed and processed to identify links, patterns and trends in the relationships between the individuals in a network that connect them.
- Organization Network Analysis The Companies and Intellectual property Commission (CIPC) data is collected and analysed to depict relations among directors and their companies and associates.



TRANSFORMATION WITH DATA

Home affairs Data is collected and analysed to identify the spouses of the individual to perform the Network Analysis.

- Stakeholders Supplier/Vendor data is collect and analysed to identify the conflict of interest of individuals and spouses.
- Procurement Data is collected and analysed for business insights and identified that the procurement standard and procedures were followed and applied.
- Bank Statement data is collected and analysed to identify any suspicious inflow and outflow of the money transactions of the individuals and Spouses.



TRANSFORMATION WITH DATA

- All the analyzed data or identified findings are presented in an excell and the Business Intelligent Word Report of the findings are written to conferral to the investigators.
- So that the investigators can be able to do further investigations on the identified exceptions to build up on a concrete evidence.
- Then after all gathered concrete evidence is collected, the civil litigation process to combat corruption follows in order to recover money loss of the State and the public.
- The referrals for disciplinary actions to the stakeholders and criminal cases are actioned against the individuals and handed over to the Hawks and NPA.



- SIU put data asset at the heart of operations, The data is obtain from different sources in different formats such as ITC, WinDeeds, CIPC, Cell Phone Service Providers, Home Affairs, FIC, eNatis, PERSAL, BAS, SAP, ORACLE and LOGIS)
- In order to build individual profiles of possible suspects and their associations with other individuals.
- Also to assist investigators with the analysis of results using different software tools to perform the data analysis such as SAS, Analyst Notebook, Able to extract, Visio, MS Excel and MS Access Databases.
- The Data Analysis support the entire SIU investigation to achieve its Mission and Vision to protect the interest of the State and the public.



"The Special Investigating Unit (SIU) has signed acknowledgments of debt (AOD) of approximately R 99.7 million with companies to pay back money received from the Temporary Employer/Employee Relief Scheme (TERS).

- The companies unduly claimed TERS funding from the Unemployment Insurance Fund (UIF), an agency of the Department of Labour.
- Government setup TERS as part of an intervention to rescue industries that were negatively affected by Covid-19.
- To date, the SIU has recovered cash to the value of approximately R 71.4 million since it commenced with investigations in June 2021." (SIU: Media Statement, TERS recovery, 23 May 2023)



Current status

SIU is currently working with big data, e.g. more than million terabyte of data, The infrastructure that SIU implemented to store and processing the large data is very powerful and the analytical tool which is SAS that SIU uses it is quick and efficient to process large amounts of data.

Where we need to go

- There is a need to develop data management plan that would be integrated with all our stakeholders (Government Department), the center of the data source that SIU uses for the investigation, which reside with SITA, All that is needed is to develop a model and infrastructure that would be able to allow all the system to *be integrated together*.
- This model will also assist the stakeholders to protect the Intellectual property of their data such as
 Data Security and will safe cost for SIU to have less
 data management storage infrastructure.



ANALYTICS, AI & THE CLOUD

Where we are

- The SIU have implemented the Microsoft cloud space (a safe home for all your data), which each user/employee has been allocated 5 Terabyte space and Some of the emails are using AI programs to detect security risks.
- Currently the Data Analytics is running perfectly on the local machines and servers.

Where we need to go

There is a need to move Data analytics to the cloud, because the cloud data Analytics reduce the management of infrastructure, operating systems and software, it also ensures high levels of efficiency along with computing and storage capabilities to handle large volumes of big data

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- Al analytics is a subset of business intelligence that uses machine learning techniques to discover insights, find new patterns and discover relationships in the data.
- In practice, AI analytics is the process of automating much of the work that a data analyst would normally perform.
- As SIU we have not yet implemented AI, the Data Analyst still performing the work, We still need to do some more research how AI analytics can assist in providing solution for improving how we work.

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- Cloud based analytics it reduced the risk that comes with hardware investments such as implementation of in-house servers. It lower the costs and faster on return on investment.
- We need to consider the SAS Viya and SAS Cloud provides AI, analytic, and data management solutions running on a scalable, cloud-native architecture.



DIGITAL ETHICS

Where we are

SIU has implemented the security majors and control to detected un ethical digital

detected un ethical digital behavior, they have block all the social media and unnecessary website that are not relevant to work purpose. Continuation research of revolving development of Digital Ethics it is a way forward for SIU

Where we need to go



LESSONS

8. KEY TAKEAWAYS FOR DATA MANAGEMENT FROM THE PANDEMIC

Data has become the essence of practically every enterprise in the hybrid reality at the core of those responses. The COVID-19 pandemic has *radically* impacted how organizations operate, from heavy dependance on remote work and online interactions to changes in business strategies.

- Data Needs a Solid Infrastructure
- Data governance to safeguard their data control who has access and who is responsible for owning and managing it, distribute it to employees for routine use.
- Implementing a data Governance framework, the organisation can ensure that their customer's data is safe from potential harm.
- To ensure their data's availability, quality, integrity, security, and shareability
- Data Quality Can Affect an Organization's Bottom Line
- Data-Driven Enterprises are set up to Thrive in Crisis
- Organizations need to implement information management practices rules and policies outline on the data governance strategy

The Covid 19 pandemic accelerated the transformations towards digital, database processes and made data even more valuable. Data is the New currency of business



CONCLUSION

KIDLIN'S LAW

If you can write DOWN the problem clearly, It is half solved.





DANKIE KEALEBOGA NGIYABONGA NDIYABULELA INKOMU NDI KHOU LIVHUHA THANK YOU