RISK ASSESSMENT USING DATA ANALYTICS

The 4th Industrial Revolution

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AGENDA

• About Amaseko Advisory Services (Pty) Ltd
• What is Data Analysis?
• Data Analysis & Risk Assessment
• Our Proposition
• Contacts
• Questions & Answers
**ABOUT AAS**

- *Amaseko Advisory Services* (Pty) Ltd. (“AAS”) are a B-BBEE level 1 contributor team of data analysis specialists based in Gauteng, South Africa with a combined experience of over 20 years.

- Our experience in Audit, Finance, Assurance, Governance, Risk, Compliance and Application Development gives us an advantage in always ensuring quality service delivery to all our customers.
OUR VALUE PROPOSITION

- To empower and enable risk practitioners and auditors in using data analysis tools effectively and efficiently.
- To assist organisations implement, nurture and mature their data analysis capabilities.
- To assist organisations assess their controls and detect control gaps that may lead to corporate fraud/wastage and ultimately impacting organisations from achieving their objectives.
- To proactively furnish managers and business leaders with valuable information that support and inform their decision-making process.
- We transfer skills to our customers in every engagement, empowering our customers not to rely on consultants in long term.
OUR PROJECT EXPERIENCE
OUR ANALYTICS APPROACH

- **RISK**
  assessing analytics

- **DATA**
  leakage prevention analytics

- **POPI**
  fully compliant analytics

- **PROCESS**
  improving analytics
HOW DO WE PARTNER WITH YOU

Risk, Audit & Predictive Analytics

Data Analysis Feasibility Studies

Automation & Continuous Assurance

Databased Integration & Data Discovery

Data Analyst Outsourced Services

Data analysis Application Administration

Web Application Design & Development

Data Analysis Training
“Data analysis is a process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.” - Wikipedia
When you interview a data scientist...

Wow! You answered every question perfectly. How did you do that?

Well, I met with every candidate you interviewed in the last 5 years and collected the questions & correlated it to interview parameters.

Then I built a system that predicts the exact question you're going to ask with 85% precision.

Wow! That is impressive engineering but I can't hire you on ethical grounds.

Don't worry, I was just field testing my prediction system.
DATA ANALYSIS PROCESS

1. Define test objectives
2. Identify data sources
3. Access data
4. Analyze data
5. Report findings
EXAMPLE - RATES CHARGE (REVENUE LOSS)

Define test objectives → Define period → Define data sources → Scope definition & data source identification

Acquire transactional data → Acquire master date → Data acquisition

Design code → Develop code → Preform initial testing → Refine code → Data analysis

Automate code → Auto-report exceptions → Reporting
DATA ANALYSIS MATURITY LEVELS

LEVEL ONE
Ad hoc Analysis

LEVEL TWO
Managed Analysis

LEVEL THREE
Continuous Risk Assessment

LEVEL FOUR
Continuous Risk Monitoring

Reactive

Proactive
DATA ANALYSIS & RISK ASSESSMENT
• Most business organizations assess risk through previous business process experience. This is not based on a precise science, thus this method of risk assessment may not be accurate.

• It is very essential for businesses to perform a risk assessment by using data analytics to maintain accuracy and consistency.

• Risk assessment with data analytics is not limited to just identifying the loopholes in the security systems where the sensitive data is situated. It also implies the identification of potential future risks.

• Analytics can help organizations make efficient resource deployments, meet corporate responsibility expectations, identify fraud, protect brand reputation and choose positive risks for business growth.
Determine the likelihood of risks actually happening

**Low probability** - The likelihood of this risk affecting the organization is extremely low

**Medium probability** - The likelihood of this risk affecting the organization is slight

**High probability** - The likelihood of this risk affecting the organization is extremely high
Consider what kind of impact each risk would have on the organization.

**Low impact** - A low impact risk will be easily managed and have little-to-no negative effects on the operations of the organization.

**Medium impact** - A medium impact risk will significantly effect company performance or costs.

**High impact** - A high impact risk will cause catastrophic failures and may force the organization to terminate projects, departments or activities as a result.
Risk officers can use data for/to:

• Evidence based decision making
• Improve efficiency, consistency and accuracy
• Remain relevant and move with times
• Identify and quantify transactions that are not complying with control procedures
• Rate risk likelihood based on the factual occurrence of control breaches in transactions
• Rate risk impact based on the quantified revenue leakages
• Rate risk impact based on the quantified potential revenue losses
• Formulate algorithms for risk rating, based on consistent and accurate automated methods
• Proactively assess risks and alert risk owners to take corrective actions
- Personal and Salary Administration System (PERSAL)
- Basic Accounting System (BAS)
- Financial Management System (FMS)
- Logistical Information System (LOGIS)
- Vulindlela
- Department specific systems, etc.
WHERE DO WE START?

Questions you need to answer before you design a data analysis model for risk assessment:

Who owns the required data?  
Who has legal authority to access the data?  
What kind of data is available?  
Where is the data stored?  
What are the existing data security protocols and/or restrictions?
PROPOSED METHODOLOGY

1. Risk Assessment Planning
2. Data Acquisition
3. Data Validation
4. Data Analysis
5. Automated Risk Rating
6. Reporting
7. Monitoring
ADVANTAGES OF USING DATA ANALYSIS IN RISK

### Increased efficiency
- Reliability
- Accuracy
- Consistency
- Proactive
- Insightful

### Acquire & maintain relevance
- Introduce new skills
- Improves innovation

### Cost reduction
- Reduced future costs deduced from automation
SOME PRACTICAL EXAMPLES

- Water leakages
- Dealers buying fuel from third parties
- MPESA transactions over KES 140 000.00 per day
OUR PROPOSITION
OUR OFFER TO YOU

Skills development
- User enablement program
- Telephonic mentorship
- Yearly refresher sessions and updates

Solution deployment
- Feasibility studies
- Solution implementation
- Analytics development
- Automation (analysis and reporting)
- Application administration
CONTACT US TODAY
CONTACT INFORMATION

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QUESTIONS & ANSWERS