



Digital Risk Assurance (DRA)

Continuous Auditing & Continuous Monitoring Methodology

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February 2020

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What is Digital Risk Assurance (DRA)?

DRA essentially is a technology that enables organizations to help manage risks or improve performance embedded through data analytics **for daily, weekly, monthly or quarterly assessments**. As part of Digital Risk Assurance, we leverage **Continuous Auditing and Continuous Monitoring (CACM) Methodology** using machine learning in **python platform** to monitor issues, such as, risks or performance indicators.






Continuous Auditing

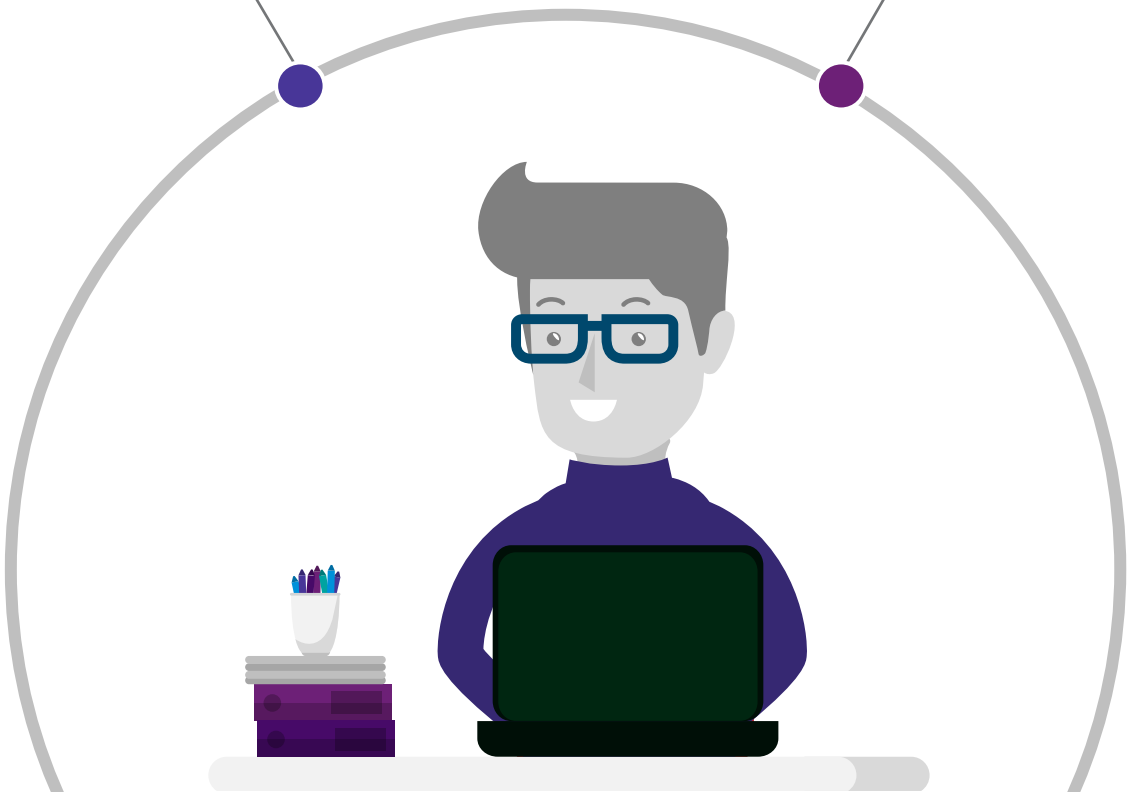
The collection of audit evidence and indicators, by an internal or external auditor, on IT systems, processes, transactions and controls on a frequent or continuous basis throughout a period.

-  Gain audit evidence more effectively and efficiently
-  React more timely to business risks
-  Leverage technology to perform more efficient internal audits
-  Focus audits more specifically
-  Help monitor compliance with policies, procedures, and regulations

Continuous Monitoring

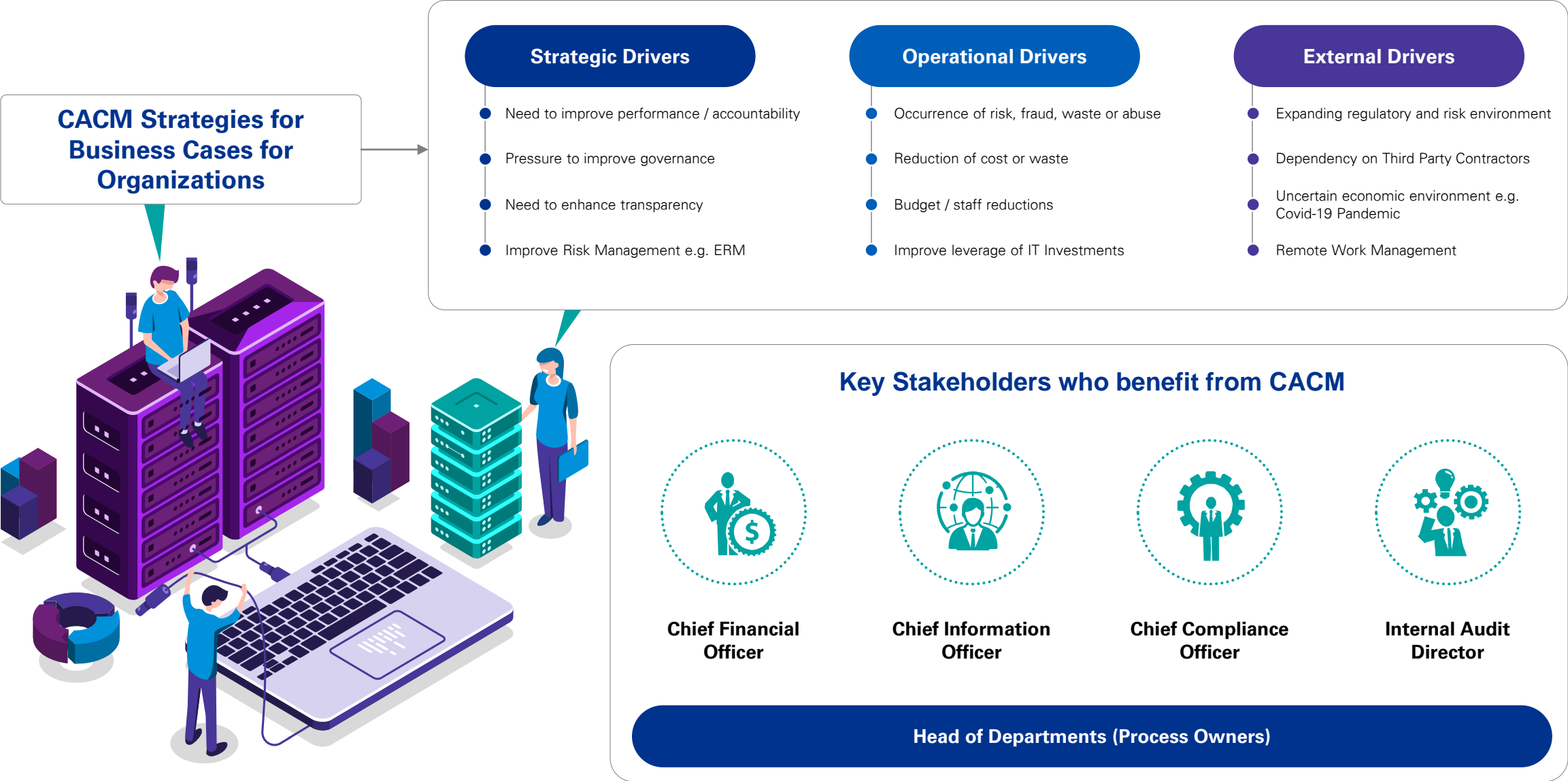
An automated feedback mechanism used by management to help ensure that systems and controls operate as designed and transactions are processed as prescribed.

- Improved governance 
- Increase visibility into operations 
- Obtain better information for day-to-day decision making 
- Strive to reduce cost of controls 
- Leverage technology to create efficiencies. 



Understanding the drivers for companies to adopt CACM

The following are the key drivers to deploy CACM in any organization:



Dimensions of integrating the data analytics tools

Analytical Dimension

Macro-Level Analysis for trends, patterns, results (e.g. Days Payable Outstanding, Splitting of Payments, Abnormal working hours etc.)

Controls Dimension

Financial Controls Management, Segregation of Duties, Compliance to Delegation of Authority, General Employee benefits / allowances etc.

Transactions Dimension

Transaction based exception analysis and business rule management e.g. payments exceeding purchase order amount etc.

Understanding the Business Needs for each relevant Stakeholder

The following are the key business needs addressed for each relevant stakeholder on deploying CACM as a solution within any organization:



Chief Financial Officer

- Obtain measures on risk and performance
- Rationalizing control self-assessments
- Visibility to supply chain continuity
- Continuous risk assessment
- Prevent/detect fraud, waste and abuse
- Accountability Refinement.



Chief Information Officer

- Systems performance
- Access controls
- Security / Privacy / Capacity
- Technology leveraging
- Business continuity.

Process Owners

On automation of the risks for an entire department, the **CACM Solution can be cascaded to the Director / VP / Head of Department** to monitor, review and mitigate the risks on a continuous basis

Chief Compliance Officer

- Rationalizing compliance function
- Regulatory compliance
- Reduced duplication of work
- Continuous risk assessment.



Internal Audit Director

- Continuous risk & control assessment
- Focused audit plan
- Master Data integrity & quality
- Trend identification & categorization
- Efficiently expanded coverage
- Identification & reporting of errors and noncompliance.



Key benefits of using CACM

The following are the key benefits of CACM:



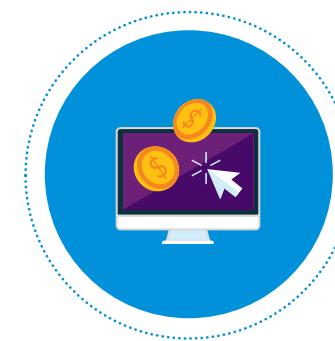
Full Coverage

Enable persistent governance overview on 100% coverage of the transactions.



Auditor on Demand

Auditor's intelligence embedded through Data Analytics for periodic assessments.



Dynamic Digital Reports

On demand digital reports to facilitate mediation of critical situations.



Reasonable Assurance

Provide reasonable assurance through consistent monitoring on near real time



Improve Governance Structure

Periodic assessment of identified risks and evaluation of control effectiveness.

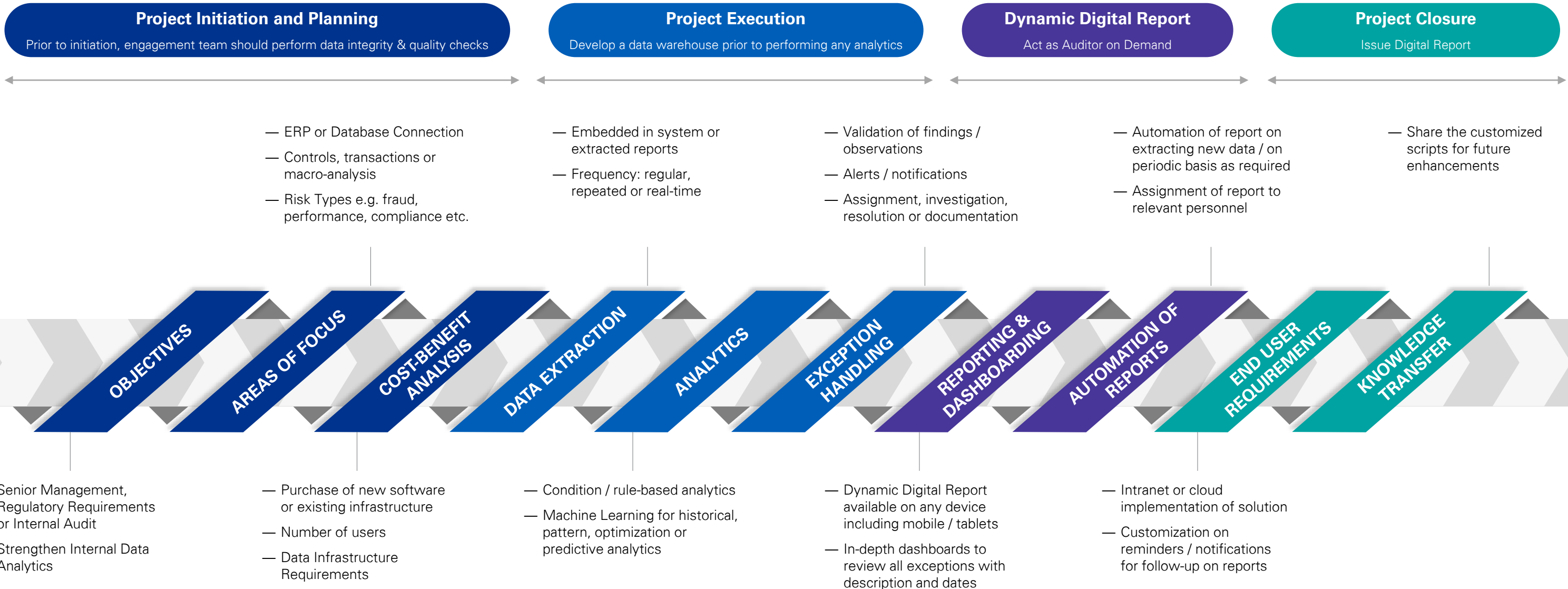


Enhance Efficiency & Governance Culture

Assist to enhance the efficiency and governance culture from near real time digital reports.

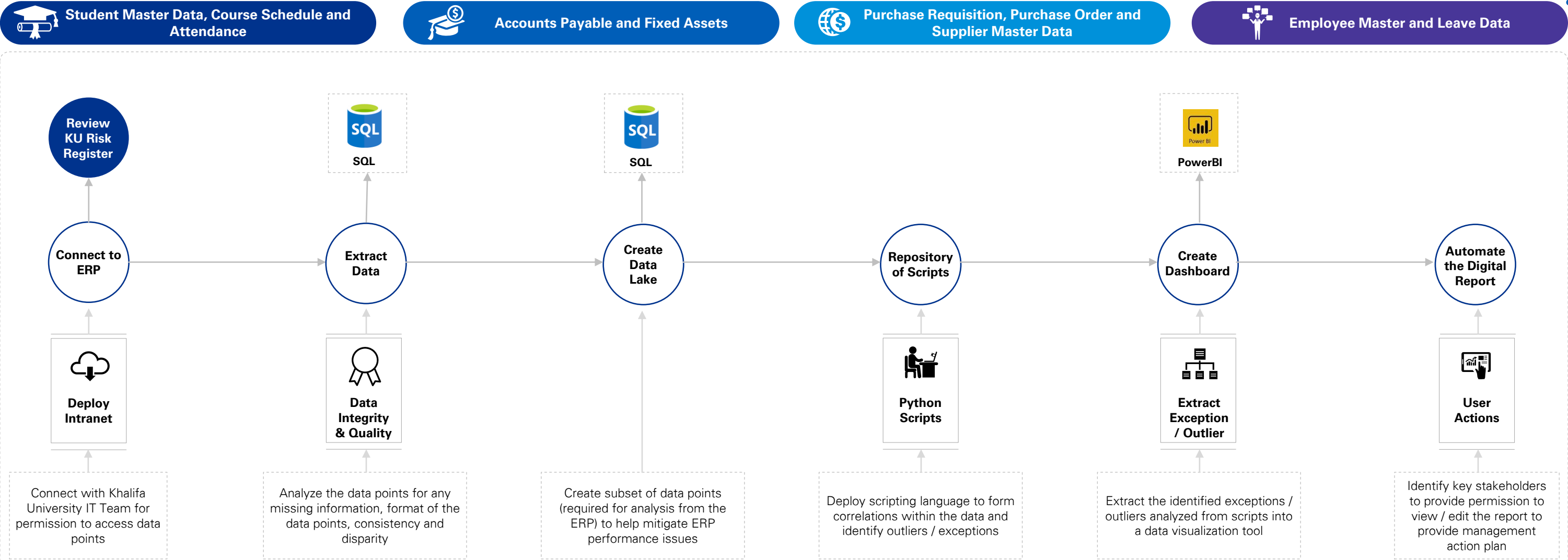
Key Considerations for deploying CACM

Below are the key project phases (4 phases) for executing a CACM Project at any organization, as follows:



CACM Solution Deployed at Khalifa University

To enable Continuous Auditing and Continuous Monitoring, we have established the below Solution Architecture at Khalifa University for continuous monitoring of key risks



Note: During the execution, we have ensured to maintain compliance to the Federal Regulatory Compliance of UAE.

Key Risks automated for Khalifa University



Student Related Information:

1. Non-compliance to admission requirements for student admissions
2. Re-admission of academically dismissed students without authorized approvals
3. Conflicting course schedules for students during the academic semester
4. Non-compliance to student attendance requirements for undergraduate & graduate students
5. Enrollment of excess students in courses than maximum size of classroom
6. Incorrect student records for active students which may lead to funding issues



Finance and Procurement Information:

7. Multiple payments / purchase orders issued to the same vendor in a short duration of time
8. Duplicate payments / invoices issued to the same vendor
9. Creation of vendors after creation of purchase order / purchase requisition
10. Issuance of payments / creation of purchase orders for invalid vendors
11. Duplicate vendors based on vendor code, tax registration number, trade license and/or vendor address
12. Employees registered as vendors with corresponding payments excluding payroll
13. Purchase orders without purchase requisitions



Human Resources Information:

14. Duplicate employee information based on emirates ID, passport, employee ID etc.
15. Mandatory missing information in the employee master such as Emirates ID, passport details, contact details etc.
16. Same bank details for two or more employees (including IBAN, bank account etc.)
17. Leaves availed beyond the maximum allotted leaves for the year by any employee
18. Payments issued to terminated employees
19. Terminated employee registered as a valid vendor
20. Employees working in Khalifa University without a valid contract / expired contract

Additional Scripts which can be automated

1. Delays in response to IT Tickets as per the defined SLA requirements
2. Approval of invoices / payments as per the Delegation of Authority (will require approval details of each transaction from IT) – no approvals provided
3. Issuance of payments prior to creation of purchase orders / purchase requisition
4. Payments / invoices analysis as per the Benford's Law – not part of the code
5. Missing information related to active students such as Emirates ID, passport details, high school scores etc.
6. Non-compliance to CAA standards for student faculty ratio (~25 students per faculty member) – not enough information on student advisors

Way Forward for CACM

Below is the maturity assessment **roadmap** for incorporating CACM within an organization:

