

UNIVERSITY OF KENTUCKY BOARD OF TRUSTEES

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UK INTERNAL AUDIT'S USE OF INNOVATIVE TOOLS TO PROVIDE REASONABLE ASSURANCE

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UK Internal Audit (UKIA) follows these principles:



***Institute of Internal Auditors
Global Internal Audit Standards
10.3: Technological Resources,
14.1: Gathering Information for
Analyses and Evaluation, and
14.2: Analyses and Potential
Engagement Findings***

UKIA must seek to improve the effectiveness and efficiency of its information gathering and analyses through the proper use of new technological resources.



***University of Kentucky Strategic
Plan Principle #4 Ensuring
Greater Trust, Transparency and
Accountability***

Through its reviews, reporting and stakeholder outreach, UKIA works to increase accountability and transparency related to risk and risk mitigation activities.



***UK Internal Audit
Strategic Plan Principle #3
Leverage Emerging
Technologies***

UKIA will establish a structured framework for evaluating the use of Artificial Intelligence (AI) across the enterprise while also integrating AI into our own processes.

Analytics and AI are Built into UKIA's Strategy by Design

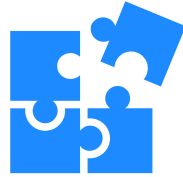


Intent

Analytics and AI are not add-ons — they are embedded into UKIA's **strategic plan as a core competency.**

This integration reflects our commitment to modernizing audit functions by **leveraging emerging technologies** to enhance how we:

- Monitor risk;
- Support compliance; and
- Deliver actionable insights.



Objectives

UKIA is committed to:

1. **Exploring appropriate AI applications** to enhance mission delivery.
2. **Developing analytics and other tools** that enable continuous monitoring of high-risk areas.
3. **Evaluating AI- and analytics-related enterprise-wide risks** to inform oversight.
4. **Providing governance and guidance** for safe, consistent AI use across the University.



Outcomes

Strategic alignment with:

- Institutional priorities
- Information security
- Regulatory compliance
- Long-term sustainability

Multi-faceted assurance:

- Internal controls
- Risk management
- Compliance monitoring
- Decision support

Continuous improvement to drive:

- Real-time risk visibility
- Proactive issue identification
- Enhanced audit efficiency and depth

Active Data Analytics Reviews FY 2025-26 Q2

General Objectives



Employee Vendor Match

Review relationships between employee(s) and vendor(s) for compliance.



Software Application Approval

Review software purchases for adherence to UK Procurement Protocols (as of Dec. 4, 2023, all software and subscription licenses must be approved by ITS for appropriate evaluation).



Fictitious Employee

Review SAP/other records for indications of a fictitious employee — names on the payroll who do not provide agreed-upon services for the University.

Project	UKIA Risk Components	
Audit Name	Top Three Risk Components	Concern Category
2026 DA01 Employee Vendor Match	Current Affairs Operations Event Identification	Policy violations
		Missing documentation
		Potential asset misappropriation
		Conflicts of interest
2026 DA02 Supplemental Software Applications	Transaction Volume Transaction Complexity Information System Applications	Policy violations
		Misallocation
2026 DA03 Fictitious Employee Identification	Federal Regulations Operations Event Identification	Asset misappropriation

UK INTERNAL AUDIT'S USE OF INNOVATIVE TOOLS TO PROVIDE REASONABLE ASSURANCE

Q2 Enterprise-wide Activities Summation

21 Total Projects Underway

Audit Category1	Audit Service	Activity Purpose	Activity	
			Q1	Q2
Assurance	Comprehensive review	Verify financial reporting integrity, regulatory compliance and operational effectiveness.	2	1
	IT reviews (standalone)	Independent IT reviews to verify information security.	1	1
	Repetitive reviews	Provide reasonable assurance for high-risk areas.	3	1
	Follow-up	Verify resolution.	7	1
	Data analytics	Continuous evaluations of data.	3	3
	Inquiries/Investigations	Evaluate improper activity and calculate associated losses.	6	11
	Assessments	Evaluation of processes and technology to determine risk and inform our Work Prioritization Plan.	0	0
Advisory	Consultations	Provide counsel and advice.	2	1
	Outreach/Training	Sharing trends and insights from completed activity.	7	2
Total			24	21

LEVERAGING ANALYTICS FOR HIGH-RISK ACCOUNTS ACTIVITY

LEVERAGING ANALYTICS FOR HIGH-RISK ACCOUNTS ACTIVITY

UKIA's Process for Reviewing High-Risk Accounts*

High-risk general ledger (GL) accounts (listed to the right) will be selected for analytical review when expenditures allocated to these accounts have all of the following indicators:

1. Payments are outside of payroll system
2. Missing unit confirmation and payment authorization for the service and/or product delivered

These reviews are performed in three phases:



High-Risk General Ledger (GL) Accounts*

- Research Subject Payments
- Professional Contract Services
- Payments to external individuals
- Software and subscription costs
- Procurement card transactions
- Travel and recruitment expenses
- Discretionary spending categories

*These accounts have the most incidents related to improper activity.

UKIA's Process for Reviewing High-Risk Accounts



UKIA's analytic identifies **transactions** and **spending patterns that deviate from expected norms** by evaluating for indicators such as:

- Unusual dollar amounts or expenditure types
- Repetitive or patterned activity
- Concentration of spending with specific vendors or payees
- Behavior inconsistent with historical or peer trends

Methodology:

Automated technology will be used to **analyze entire data sets** of transactions representing actual external spend (e.g., vendor invoices, procurement card charges and expense reimbursements).

Note: Anomalies on their own do not indicate any improper activity.

Next Steps:

Any anomalies identified at this point are forwarded to the Accountability Office for further assessment.

UKIA's Process for Reviewing High-Risk Accounts



The **Accountability Office** will:

1. Verify that the expenditures/associated activity comply with **University policy, federal regulations** and/or other relevant requirements.
2. Assess the **operational context** in which the expenditures were incurred, e.g., expenses are related to strategic initiatives.

Methodology:

Without contacting the unit, expenditures are assessed against policy, University/unit strategic objectives and other relevant criteria to validate appropriateness.

***Example:** A sudden, large increase in spending that initially appears anomalous may turn out to be an appropriate response to new conditions (e.g., a unit expansion or a new, large-scale research project).*

The Accountability Office will demarcate anomalies that are determined **not to be compliant** with applicable policies and/or **cannot be explained through operational context**.

Next Steps:

These anomalies will be escalated to the **Investigations team** for further review.

UKIA's Process for Reviewing High-Risk Accounts



The **Investigations team** opens an inquiry to analyze the escalated anomalies to determine whether **fraud, misappropriation** or other forms of **misconduct have occurred**.

Methodology:

Using established methods and procedures, including direct contact with unit staff, the Investigations team will **validate** the occurrence of **fraud** or **misappropriation** and the practices that allowed it and **calculate the associated loss**.

Next Steps:

Communication of results to unit, relevant stakeholders and University leadership

Communication of Results



Communication
of Results

Communication of results differs depending on whether the exceptions identified were found to be addressed through the **Accountability Office** or the **Investigations team**.

Governance*

- Policy Gaps
- Training Opportunities
- Infrastructure Weaknesses
- Oversight Concerns

*Reported to Process Owners, Ad hoc Committees and Administrators

Individual Misconduct**

- Validation of Misappropriation, Fraud or Conflicts of Interest
- Confirmation of the Internal Control Breakdown

**Reported to University administration and the Audit and Compliance Committee

UPDATE ON UK INTERNAL AUDIT'S ADOPTION AND OPTIMIZATION OF AI

Operationalizing our Strategy: Three Pillars of Structured Engagement

Adoption of AI

Enhance audit coverage and performance by leveraging strategic partnerships and developing in-house AI capabilities. This initiative will be accomplished in four phases:

1. Control Evaluation Assistance
2. Trend Analysis
3. Continuous Auditing
4. Strategic Risk/Advisory Modeling

Assurance for AI

Strengthen audit frameworks by enhancing the audit universe and protocols, improving risk identification and mitigation, and advancing audit execution and root cause analysis.

Advising on AI

Deliver expertise in designing controls, policies and governance frameworks that drive and sustain innovation.

Operationalizing our Strategy: Three Pillars of Structured Engagement

Adoption of AI

Objectives:

1. Establish governance, build foundational capabilities and enable safe, controlled use of AI tools.
2. Develop a Pilot Program within a selected service line (e.g., Data Analytics or IT Audit) in which AI-assisted outputs are compared against traditional audit work for accuracy, efficiency gains and consistency of documentation.
3. Deploy and evaluate specialized tools as appropriate and integrate AI capabilities into UKIA's audit management system, Optro.
4. Operationalize AI across UKIA and transition toward continuous, risk-informed assurance.

Target:

**Complete
June 2026**

**Complete
December 2026**

**Commence
January 2027**

**Commence
Immediately**

Risk-Based Framework for Evaluating AI Use Across the University

Assurance for AI

Current Initiatives: Shadow AI Assessments

These assessments will identify and evaluate the decentralized use of AI tools within selected academic and operational units to help strengthen the University's broader strategy, governance and oversight of AI at the non-enterprise level.

Engaged: 2026 ITRA18 College of Medicine Shadow AI Assessment

Expected Impact:

- **Risk Visibility:** Uncover gaps where AI tools are used without proper procurement or IT security oversight
- **Control Effectiveness:** Evaluate the adequacy of oversight, auditability and security protocols in AI applications
- **Regulatory Compliance:** Ensure adherence to relevant laws and policies (e.g., Kentucky Senate Bill 4, HIPAA, FERPA) across all AI use cases
- **Assurance Maturity:** Develop a scalable and repeatable risk-based model for ongoing AI oversight across the enterprise

Risk-Based Framework for Evaluating AI Use Across the University

Assurance for AI

Advising on AI

Current Activity: Governance Consultations

These consultations evaluate AI governance and operations to ensure they support responsible innovation as well as adhere to University policy and applicable regulations.

Engaged: 2026 IT01 AI Enterprise Governance Consultation

- **Preventive Assurance:** Integrate oversight into early AI governance planning to minimize the need for remediation after deployment
- **Policy and Control Alignment:** Support departments in aligning AI initiatives with institutional policies on data governance, ethics and cybersecurity
- **Strategic Enablement:** Ensure that AI innovation aligns with accountability and transparency standards
- **Enterprise Coordination:** Help shape a unified, University-wide AI governance strategy that supports responsible AI adoption across all units

QUESTIONS

