

The AI Audit Framework

A Comprehensive Guide to Secure,
Optimised, and Scalable AI Systems



What is an AI Audit?

An AI audit is a comprehensive review of your AI systems to assess their effectiveness, ethics, security, compliance, and transparency. The goal is to identify potential risks and inefficiencies, ensuring that AI systems function optimally while adhering to regulatory requirements.

Why AI Audits are Essential for Businesses

AI technologies offer tremendous growth potential, but they also present serious risks, such as:

- **Data bias:** AI models can unintentionally perpetuate biases if trained on incomplete or unrepresentative data.
- **Security vulnerabilities:** AI systems are often exposed to cyber threats if not adequately secured.
- **Regulatory non-compliance:** With global regulations like GDPR, non-compliant AI systems can lead to hefty fines and damage to reputation.

Stat Insight

According to a recent report by PwC, **94% of AI projects** fail to achieve expected ROI due to poor data quality, security concerns, or lack of transparency. An AI audit can prevent these issues by ensuring your AI system is built on secure, high-quality data and adheres to ethical standards.

The Role of AI Audits in Business Transformation

AI audits help businesses:

- Optimise AI models for efficiency and performance.
- Ensure compliance with industry regulations (e.g., GDPR, CCPA).
- Build trust with stakeholders by ensuring AI decisions are transparent and fair.

The Importance of Data Quality in AI

Audit-Ready Data

Data is the foundation of any AI system, but bad data leads to bad AI. A well-executed AI audit ensures that data is not only clean but actionable.

It checks for:

- **Missing data:** Gaps in datasets that affect decision-making.
- **Bias:** Whether the data reflects historical or demographic bias.
- **Accuracy:** Ensuring the data accurately represents the real-world phenomena it's meant to simulate.

Stat Insight

A study from McKinsey found that **poor data quality costs businesses up to \$15 million per year**. This highlights the importance of data governance in AI systems.

Data sovereignty and compliance

Businesses need to ensure their AI systems are compliant with regulations governing data usage, including GDPR, CCPA, and others. A proper audit will examine:

- **Data Residency:** Where the data is stored and whether it complies with local laws.
- **User Consent:** Ensuring that personal data is gathered and used with the proper consent.
- **Privacy Risks:** Protecting user privacy by anonymising sensitive data.

How to ensure quality data for AI models

- **Implement strong data governance:** Policies that define how data is collected, cleaned, and utilised.
- **Audit your data sources regularly:** Perform frequent checks on data sources for consistency and accuracy.
- **Invest in data cleaning tools:** Invest in software that automatically cleans data before it enters AI models.

Key Components of the AI Audit Framework

1. Data Governance & Quality Audits

AI models are only as good as the data they're trained on. An audit checks:

- **Data integrity:** Ensures datasets are consistent, accurate, and reflect the real-world scenarios they are meant to represent.
- **Data bias:** Identifying biased data that may lead to unfair or discriminatory AI decisions.

Stat Insight

According to Gartner, **bias detection** is one of the **top 3 concerns** for AI model development, as bias can lead to unethical decisions, especially in critical sectors like healthcare and finance.

2. Algorithm Transparency & Bias Audits

It's essential to ensure that AI systems are explainable and that their decision-making processes are visible to all stakeholders. An AI audit will review:

- **Algorithm transparency:** Making AI decisions understandable.
- **Fairness:** Ensuring AI models do not reinforce biases, particularly in areas like hiring, lending, or law enforcement.
- **Explainability:** Being able to explain why a model made a certain decision, especially in high-stakes industries like healthcare or finance.

Stat Insight

A survey by Deloitte found that **62% of companies** are investing in AI explainability to increase trust among stakeholders and customers.

3. Security & compliance audits

With AI systems handling sensitive data, security is a critical concern. An AI audit will:

- **Check for vulnerabilities:** Test for susceptibility to cyber-attacks or data breaches.
- **Ensure compliance:** Verify that the AI system adheres to all relevant industry standards and regulations (e.g., HIPAA, GDPR).

Stat Insight

A report from the World Economic Forum states that **cybersecurity incidents involving AI** have increased by **60%** over the last two years. This shows the urgent need for AI security audits.

4. Ethical AI audits

Ethics in AI is essential, especially when decisions made by AI systems affect people's lives.

An AI audit will ensure:

- **Bias detection:** Ensuring models don't perpetuate biases, especially in sensitive areas such as criminal justice, recruitment, or healthcare.
- **Ensure compliance:** Verify that the AI system adheres to all relevant industry standards and regulations (e.g., HIPAA, GDPR).

The AI Audit Process: Step by Step

1 Initial Consultation & Assessment

Understanding the current state of AI systems is the first step. A consultation with experts helps businesses outline their primary concerns and identify objectives for the audit. This initial assessment also involves understanding what's at stake—whether it's compliance, data privacy, or algorithmic fairness.

2 In-depth evaluation

The evaluation includes a detailed audit of AI models. This includes checking data quality, model fairness, and transparency, as well as ensuring compliance with relevant regulations. At this stage, businesses will receive insights into where improvements can be made.

3 Recommendations & action plan

Based on the audit, the team provides an actionable plan to enhance AI systems. This may involve optimising data governance, enhancing model transparency, or improving compliance measures.

4 Rapid validation roadmap

Before scaling AI, businesses need to validate the improvements made. This roadmap provides steps to assess ROI by measuring efficiency improvements, reduced risk, and greater compliance.

Case Studies

PROJECT 01

Apercus: Ensuring Compliance and Data Integrity for Pharmaceutical Organisations

THE CHALLENGE

Apercus is an innovative compliance platform developed by Imobisoft to help pharmaceutical organisations meet the requirements of the **ABPI Code of Practice**. The platform must handle sensitive healthcare data while ensuring that it complies with rigorous industry regulations. One of the challenges faced by Apercus was ensuring the system's data quality, security, and transparency—critical components in AI-powered tools used in healthcare and pharmaceutical content.

THE SOLUTION

Imobisoft conducted an AI audit on Apercus to evaluate the data governance practices and algorithmic transparency within the platform. The audit focused on:

- **Data governance:** Ensuring that all user and organisational data was securely stored and fully compliant with regulations like GDPR.
- **Algorithmic transparency:** Ensuring that decision-making processes related to content compliance were clear and auditable, fostering trust among users.
- **Security & compliance:** Assessing the platform's security measures to mitigate any potential data breaches or non-compliance issues.

Outcome:

The AI audit helped identify opportunities to further enhance data security and compliance mechanisms, ensuring Apercus remains a reliable and secure tool for the pharmaceutical industry. The audit also recommended better practices for data sovereignty and audit trails to guarantee complete transparency and traceability of content lifecycle decisions.

PROJECT 02

Sustainability AI: Enhancing ESG scoring and decision-making for petrochemical organisations

THE CHALLENGE

Sustainability AI is a leading petrochemical company seeking a precise and actionable way to assess and improve its Environmental, Social, and Governance (ESG) performance. Operating across multiple jurisdictions, the organisation faces complex ESG reporting requirements driven by various frameworks such as GRI, CDP, CSRD, and Bloomberg ESG scoring. With a relatively small ESG reporting team, Sustainability AI lacked the internal resources to conduct comprehensive competitor analysis and evaluate the impact of different sustainability initiatives. Additionally, any AI-driven insights needed to be fully transparent and verifiable to meet regulatory and governance standards.

THE SOLUTION

An AI-driven solution was implemented to enhance ESG analysis, reporting, and strategic planning. The solution focused on:

- **Data governance:** Ensuring ESG-related data from internal reports, competitor disclosures, and external frameworks was accurately collected, structured, and compliant with regulatory requirements.
- **Comparative analysis:** Developing a model to analyse both the client's and competitors' sustainability reports, enabling direct benchmarking and deeper insight into ESG positioning.
- **Predictive modelling:** Building a second AI model based on Bloomberg ESG scoring methodology to simulate how improvements in specific indicators would impact overall ESG scores.
- **Scenario simulation:** Creating an interactive tool that allowed stakeholders to test sustainability initiatives and assess their potential impact before implementation.
- **Explainable AI:** Integrating transparency mechanisms to ensure all AI-driven insights were interpretable, auditable, and aligned with compliance standards.

Outcome:

The AI solution enabled Sustainability AI to strengthen its ESG reporting and decision-making capabilities. The system identified key areas for improvement, allowing for targeted, data-driven sustainability initiatives.

The introduction of simulation tools improved strategic planning by enabling leadership teams to evaluate the impact of investments before execution. Additionally, enhanced transparency and benchmarking capabilities improved trust in ESG reporting and positioned the organisation as a more competitive and sustainability-focused leader within the petrochemical industry.

How to Get Started with Your AI Audit



Understand the need for an AI Audit

AI audits are crucial for businesses looking to scale AI responsibly, avoid regulatory fines, and ensure fairness. If you want to improve the performance of your AI models and build trust, an AI audit is the first step.



Choose the right AI audit framework

Select an audit framework that aligns with your business objectives. Whether it's for improving transparency, ensuring data security, or achieving regulatory compliance, a tailored audit framework will suit your needs.



Contact imobisoft for a free consultation

At Imobisoft, we specialise in AI audits. Our experts can help you assess your AI systems and provide actionable insights to improve security, transparency, and compliance. Contact us today for a free consultation and start your AI audit journey.



Begin the AI audit process

Once you've chosen the right framework, you can begin the audit process with our team. We will guide you through each stage, from initial assessment to validation and scaling. AI holds the potential to transform industries, but businesses must ensure their systems are built on a strong, ethical foundation. Imobisoft's AI Audit Framework helps businesses mitigate risks, improve AI performance, and ensure regulatory compliance. By auditing your AI systems, you are not only ensuring that they are effective but also positioning your business for long-term success in an AI-driven future.

Free Consultation with Imobisoft

Ready to get started with your AI audit? Contact us today to schedule your free consultation with our AI experts and ensure your AI systems are secure, optimised, and fully compliant.

[Contact us](#)