

QUANTUM EVOLVE

Business & Cybersecurity Resilience Consultancy

It's a CAATs Life

White Paper



www.quantum-evolve.com

Who let the CAAT out of the bag?

Computer assisted audit techniques (CAATs) refer to the use of technology to help you evaluate controls by extracting and examining relevant data.

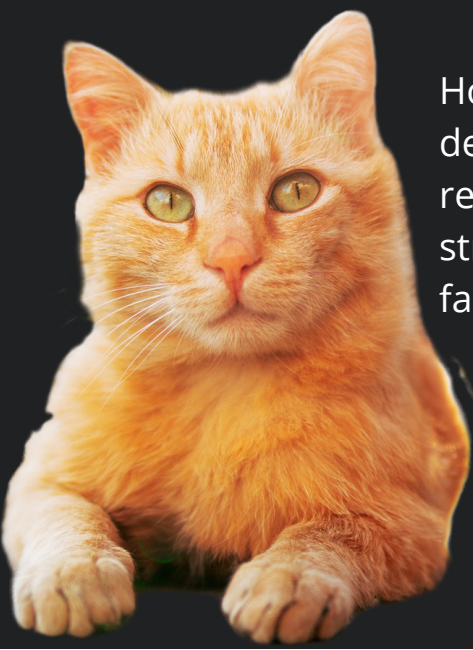
Sophisticated use of CAATs can be known as 'data analytics' and is increasingly being used across the audit profession.

It can be a common misconception that CAATs are a nice-to-have or can only be used effectively by large organisations.

However, with a few simple tips and tricks and a well-defined strategy, taking that first step to achieve great rewards, including increased efficiency, accuracy and a stronger relationship with the business, may not be so far away.

"In ancient times cats were worshipped as gods; they have not forgotten this."

– Terry Pratchett



Why should I buy a CAAT?

CAATs allow the auditor to independently access the data stored on a computer system without dependence on the client. They serve as an important tool for the auditor to evaluate the control environment in an efficient and effective manner.

Their use can lead to increased audit coverage, more thorough and consistent analysis of data, and reduction in risk.

CAATs facilitate the auditors to test a huge volume of data, or the operation of the controls in a system, precisely and rapidly, and are therefore very cost efficient when operated appropriately.

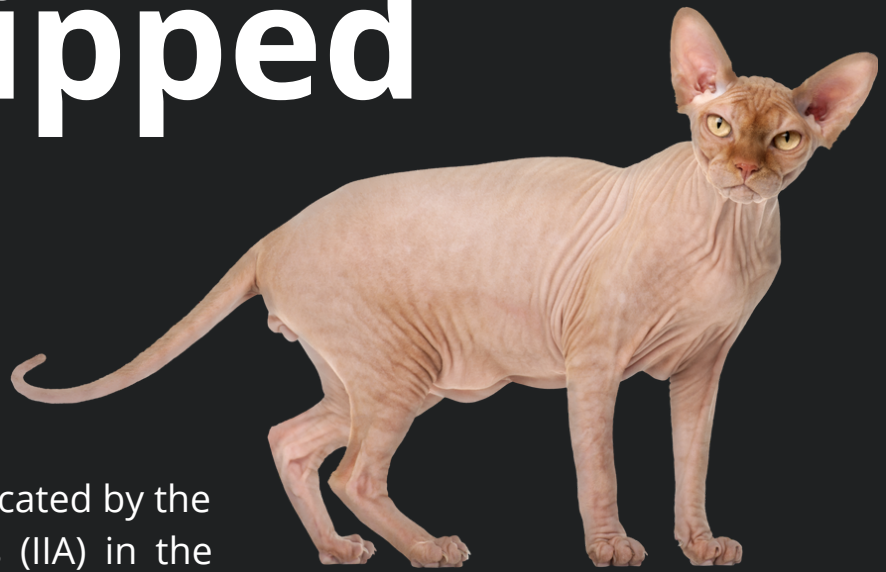
They reduce the level of human error in testing and derive a very high level of audit evidence.

The application of CAATs frees up expensive human capital that would otherwise be engaged in key areas, to concentrate on judgemental areas.

The key to CAATs is small actions which deliver big results.



It's not just the Egyptians who worshipped CAATs



The use of CAATs is also advocated by the Institute of Internal Auditors (IIA) in the following standards:

1220.A2

In exercising due professional care internal auditors must consider the use of technology-based audit and other data analysis techniques.

1220.A3

Internal auditors must be alert to the significant risks that might affect objectives, operations, or resources.

Source: Chartered Institute of Internal Auditors – 1st February 2023

Why do I need a CAAT?

“I had been told that the training procedure with cats was difficult. It’s not. Mine had me trained in two days.”

– Bill Dana

In modern auditing, Information Technology (IT) forms the basis on which auditors’ function. Companies are severely relying on IT in conducting their operations; therefore it is critical that the skills needed to function in a computerised environment are incorporated into auditing activity.

IT is integral to management information systems; it is imperative that auditors are fully aware of the impact of IT on the audit of any business.

Data is an asset that is often undervalued and underused. Through the use of data analysis tools and techniques, auditors can add value by increasing audit efficiency and lowering audit risk.

For auditors to ensure a comprehensive approach to acquire, analyse, and report on business data, they must make certain the organisation continuously monitors user activity on all computer systems, business transactions and processes, and application controls.



Which CAAT should I buy?

The concept of CAATs is nothing new in the auditing field.

The extent to which an auditor may choose between using CAATs and manual techniques on a specific audit engagement depends on the following factors:

- The practicality of carrying out manual testing.
- The cost effectiveness of using CAATs.
- The availability of audit time.
- The availability of the auditees IT network.
- The level of audit experience and expertise in using a specified CAAT.
- The level of CAATs carried out by the internal audit function and the extent to which the external auditor can rely on this work.





There are many advantages to be gained from using CAATs:

- Manual audit tasks which previously took many hours to perform can be done in a fraction of the time.
- Auditors are faced with large volumes of data and are forced to work with limited samples of data when performing audits. CAATs enable the auditor to work with full sets of data which in turn increases the probability of uncovering issues which might have otherwise gone undetected.
- Auditors are often faced with relying on reports which are limited in detail and not entirely accurate. Using CAATs enables the auditor to independently create reports which meet their requirements and are a true reflection of the company's health.
- The devil is often in the detail (or in this case the data). Probing in data can often reveal very subtle control or process weaknesses that go undetected when using more traditional auditing techniques.

In more advanced form, statistical analysis (for example validating approaches, sample identification), Data Analytics (extracting required or useful information from a set of qualitative, quantitative or categorical data) and comprehensive tools (IS Auditing CAATs like Network Scanner, Vulnerability Scanner and Software Code and Testing tools) are also valid uses of CAATs.

In the fast paced world of technology, it is impossible for auditors to rely on information gathered from traditional methods.

Many organisations utilise sophisticated information technologies for developing their business process support as well as improving their information processing activities.

This increases the need for IT and CAATs to allow auditors to perform their review and monitoring tasks effectively, as well as to play key roles in the cause of innovation in these businesses more generally.



“As anyone who has ever been around a cat for any length of time well knows, cats have enormous patience with the limitations of the humankind.”

– Cleveland Amory



CAAT & mouse

It is worth mentioning that CAATs are not limited to Statistical and Data Analysis tools. In fact they have extensive potential in carrying out IS Assurance and Consulting engagements.

The typical form of CAATs in an IS Audit environment would include:

- **Network Security Scanner:** Several programs exist that scan your corporate network for vulnerabilities persisting in your network (logical security from terminals and server point of view). These also include patterns akin to 'Virus', 'Trojan' or 'Worm' infections, unnecessary sharing of computational, data resources by an individual user etc. Packages are updated from time to time to respond to the dynamic nature of network security threats.
- **Operation Systems and Associated Software Vulnerability Scanner:** These packages identify any vulnerability due to the absence of any patch / update from the developer. Software packages are prebuilt to analyse operating systems and software applications installed on the network.
- **Code Testing Tools:** It is imperative to identify whether needless data is being incorporated in the software code. This includes source code to perform functions similar to 'Virus', 'Trojan' or other types of 'Malware'.

"I have studied many philosophers and many cats. The wisdom of cats is infinitely superior."

- Hippolyte Taine



Are CAATS better than dogs?



“Owners of dogs will have noticed that, if you provide them with food and water and shelter and affection, they will think you are God. Whereas owners of cats are compelled to realize that, if you provide them with food and water and affection, they draw the conclusion that they are God.”

– Christopher Hitchens

Contrary to the conventional approach to audit (i.e. selecting a sample with XX% confidence level from XX population and XX confidence interval) CAATs analyses large volumes of data at a time to look for specific problems.

It also allows testing for risks in the audit universe, whereas the traditional approach would only provision for the testing of a sample to provide reasonable assurance.

Due to the holistic approach of CAATs, they can play a pivotal role in fraud detection and prevention and provide continuous monitoring and analytical testing of large amounts of data.

Looking after your CAAT

For implementation of any CAAT, there are several prerequisites and considerations.

Before deciding whether your internal audit should make use of the CAAT, a simple feasibility assessment of the core application and available information system resources should be carried out.

This assessment will enable you to determine the objectives that would be achieved with implementation of CAATs; whether they are detrimental in achieving required assurance level; whether there are any others way of achieving these objectives without implementation of CAATs; and a simple cost benefit analysis of different CAAT applications.

The audit universe should be sufficiently equipped to support implementation of CAATs. It should be able to provide compatible, complete and accurate information for the CAAT to process.

It is imperative that any CAAT solution under consideration be viable for the system it is being incorporated into, and the system itself only serves accurate information.

Ensure you have a clear plan and understanding of the tests you will perform. Use the most appropriate tool for your defined testing.





Consider the volume of data you will be testing – this will impact required resource and time. Conclusions are based on full population size, not just a sample of data to add weight to your observations. Draw out root causes, errors identified could be symptoms of larger issues.

The ability to analyse large volumes of data effectively is a significant advantage that CAATs gives an auditor, particularly when resource is limited. By employing the use of CAATs, you can increase attention to every item and therefore the level of assurance that can be provided.

Involve data owners. The more visibility they have of the work you perform the more credibility you can gain, resulting in increased confidence in your abilities to use data effectively to benefit the business. Involve any technical or data specialist as early as possible. Only extract what you are going to use.

A major benefit of CAATs is that you can now test the full population size, allowing you to claim this in your report. This can add more weight to your observations and make it easier for you to communicate to the business how you reached your conclusion.

When reporting on CAATs, it is worth keeping in mind that the depth of information CAATs can provide gives the opportunity to include positive findings and practices.

Make sure you use your judgement and knowledge before forming an opinion on your findings.

The output of CAATs testing can be a powerful tool to help you form your overall audit opinion, by identifying control weaknesses or areas for improvement. However, don't just report the facts; issues observed through CAATs testing could well be symptoms of a larger root cause.

How can Quantum Evolve help?

One of the perceived disadvantages of CAATs is that they are expensive to setup and necessitate the support of the client, or that major changes in client systems often necessitate major changes in CAATs, which is costly.

Quantum Evolve's innovative approach dispels these myths. The associated costs to set-up and support CATTs is considerably less than it would cost to manually test the associated controls. Major changes in client systems invariably have little or no effect.



CAATs enable the auditor to evaluate the control environment in a far more efficient and effective manner, whilst at the same time increasing audit coverage and providing a more thorough and consistent analysis of data, and reduction in risk.

We can provide your business with a comprehensive understanding of the risks within its IT estate. Identify emerging threats, existing vulnerabilities, and cyber risks with our comprehensive 360-degree view of your security controls and capabilities.

Without a clear and complete understanding of your IT estate , it is not possible to secure the business.

Our approach aligns with globally recognised standards and frameworks e.g. The Institute of Internal Auditors (IIA), NIST (National Institute of Standards and Technology), ISO (International Business for Standardization), GDPR (General Data Protection Regulation), PCI DSS (the Payment Card Industry Data Security Standard), HIPAA (Health Insurance Portability and Accountability Act).

We can quickly and efficiently benchmark your compliance against these standards and frameworks, thereby safeguarding your network, brand, and reputation.



CAATs Outsourcing

Tests can be selected from our extensive CAATs test list and, where necessary, tailored to meet exact requirements. Reports will be supplied directly on completion – either in hard copy, soft copy or via a secure, online portal.

Creation of CAATs monitoring environment

Implementation of pre-selected repeatable CAATs tests to monitor controls and process effectiveness of some or all of your key business cycles. Tests can be selected from our extensive CAATs test list and tailored to meet your exact requirements.

Supply of expert CAATs resources

Strategic placement of CAATs experts during key stages in your audit timetable when CAATs skills are required.



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