CAATTs are computer tools and techniques that auditors (external or internal) use as part of their audit procedures to process data of audit significance contained in an entity’s information systems (Hall, 2005). Recent literature (for example, Grand 2001) has shown that the types of CAATTs embraced by internal auditors are classified into: electronic working papers, fraud detection, generalised audit software (GAS) for information retrieval and analysis, network security, continuous monitoring, audit reporting, database of audit history, computer based training, electronic commerce and internet security. Whilst these tools and techniques are widely embraced internationally, little is known about the state of adoption by internal auditors in Malaysia; hence opportunities and challenges may not be realised by practitioners and stakeholders. Therefore, in collaboration with IIA Malaysia, our research team embarked on this project with the following objectives:

- the provision of new data on current Malaysian situation for CAATTs use in internal audit functions where very little had been previously known;
- an academic approach to better understanding of CAATTs use in Malaysia by internal auditors where previously only limited professional body surveys have been applied;
- To test the applicability of the model on successful CAATTs adoption by UK Internal Auditors on Malaysian scenario in the context of local business and IT advancement.

Audit technologies including CAATTs are perceived to be the essential tools to enhance audit efficiency in a modern audit environment (Braun et al., 2003; Bierstaker et al., 2001; Fischer et al.). They can automate the existing, established audit procedures, or introduce new approaches to auditing (Elliot, 2002; Fischer et al., 1993). The usage of CAATTs by internal auditors is not new, but has evolved over time as the proliferation of information technology usage has developed in businesses. The pervasive nature of information technology, the favorable economic and functional versatility of modern computing technology and the globally open and competitive market forces that drive the rate of technological evolution are together creating an era of profound change in the market place for audit automation (Berry, 2003; Bhami, 1996). While auditors have been partially successful in using existing technologies to automate elements of their functions, the businesses in which they work are also undergoing significant change themselves. Many organisations have opted to utilise sophisticated information technology for developing their business process support as well as improving their information processing activities. This increases the need for CAATTs in such businesses to allow auditors to continue to be able to perform their review and monitoring tasks effectively, as well as to play key roles in the process of innovation in these businesses more generally.

The Survey Results

The survey was carried out during the 2008 National Conference on Internal Auditing. Out of 300 questionnaires that were distributed, 154 responses were received (50% response rate). The results will be reported in the following sequence:

- Demographics of respondents
- IT Usage Trend
- CAATTs Usage Trend
- Factors that motivate CAATTs usage
- Factors influencing decision to choose CAATTs
- Important CAATTs criteria

Respondents' Demographic

The majority of respondents work within financial / insurance, government and service sector with the total employee strength of more than 100 employees. It is interesting to note that gender distribution is almost equal between male (51.9%) and female (48.1%). The respondents are highly educated with more than 74% with Bachelors Degree and 17% with Master's Degree. However, only half of them possessed professional qualifications such as CIA, CPA, CISA, etc.

IT Usage Trend

Prior to analysing internal auditors' usage of CAATTs, this research attempts to probe on general technology usage by internal auditors. The following diagrams suggest that the respondents are IT savvy to some extent. More than 50% of the respondents are currently using emails and instant messaging. Quite a number of them (almost 40%) are using working papers groupware and wireless network. These results imply that the internal auditors are keeping abreast with advancement of technology.

CAATTs Usage Trend

This is the major focus of this study; to analyse the internal auditors' usage trend. 7 types of CAATTs are included in the questionnaires and respondents were asked to indicate whether they are 1) currently using, 2) stopped using, 3) Plan to use in the next 12 months or 4) No plans to use at all.

Our major concern focuses on the fourth indicator in the following diagrams that demonstrate more than 40% of the respondents do not plan to use CAATTs (applies to each of the 7 types of CAATTs). Whilst there is a considerable percentage that are currently using test data (35%), Generalised Audit Software (GAS) (20%) and integrated test facilities (20%), we expect to see more of them intending to use CAATTs in the next 12 months.

A simple correlation analysis on demographic indicates that age of respondents give an impact on the above results. It seems that 60% of the respondents are within the age of 35 years to 60 years old, where their level of acceptance of new technology might be lower compared to the younger auditors.

Further analysis on usage of GAS revealed that the highest usage of GAS is for the purpose of data extraction and analysis, followed by automated work papers, continuous monitoring/auditing, audit management/risk analysis, fraud detection and finally for network security assessment.
Why use CAATTs?
This study also attempts to understand the cognitive behaviour surrounding CAATTs adoption by internal auditors in Malaysia. The questionnaire probes on factors that influence the motivations to use CAATTs. If there are very strong motivations to adopt CAATTs, the tools should be indispensable to the internal auditors, provided they can overcome the challenges to implement.

There are several factors listed and depicted in the following diagram. Among all, most of the respondents strongly feel that the main factors that motivate them to adopt CAATTs are as follows:

- Assisting auditors to accomplish task more quickly.
- When auditing systems that is difficult to be audited manually.
- When auditing computerised system, CAATTs are considered.
- Using CAATTs enables quality of audit to be improved and to enhance effectiveness.
- CAATTs are compatible with most aspects of their work.

Despite the benefits, respondents also give their opinion on facilitating and challenging factors. Majority agree that it is easy to use CAATTs and there are mixed reactions on the issue whether it is difficult to explain to others on CAATTs. Should the internal auditors adequately use CAATTs and experience the benefits of these tools, explaining to others should naturally be easy.

On challenges that may affect the success rate of CAATTs adoption, majority agree that technical complexity is one of the influencing factors. Other factors include cost and the complacent attitude of the internal auditors.

Criteria For CAATTs
There are many different types of audit software mushrooming on the shelf. Commercial providers try to increase their market share by introducing niche to their software specification. Therefore, this study attempts to identify criteria that internal auditors put as priority while selecting audit software or any other types of CAATTs. The following list is generated from the survey results in the order of priority: 1-Features, 2-Ease of use, 3-Cost, 4-Compatibility with our system, 5-Flexibility, 6-Was already in use by our organisation, 7-Market leader, 8-Recommended by professional body.

Who chooses CAATTs
On the decision of determining the types of CAATTs, the criteria, the implementation model and other related implementation decisions, most respondents agree that the Chief Audit Executive is the person that would influence most of the decision making. The other important decision maker is the Chief Information Officer.

Future Outlook
Whilst businesses are experiencing the pull factor of technological advancement, the internal auditors in Malaysia are prepared to embrace technology and synergistically utilise them to achieve efficiency and effectiveness. From the survey results, more than 50% of respondents had recorded an increase usage of at least 30%. Indeed, this is good news to The Institute of Internal Auditors which applauds the continuous development spirit of the Malaysian internal auditors.

References