ICAI MUSCAT CHAPTER

SULTANATE OF OMAN

SUMMARY OF RESERCH ON AUDIT TRANSFORMATION

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History

- Accounting was first developed in Ancient Mesopotamia
- Auditing dates back to Roman Empire
- Fast forward a few thousand years ,auditing would earn its modern stripes with the rise of Industrial revolution.
- Development of computers in late seventies is another land mark in transformation
- From old Rome to late nineties Auditing merely required teams made of Individuals, with technical and accounting expertise.
- Now the ever increasing complexity of business and explosion of data has brought a new pardigram.

Impact

- Mckinsey Global Institute estimate that compared with the Industrial revolution…., disruption of society is happening
  - Ten times faster
  - At 300 times a scale
  - This means roughly 3000 times the impact
- In Short, technological improvement are completely disrupting the Auditing Industry:
  - From basic transactional accounting to regulatory filings
  - From Audit Planning ,Evaluation of Internal controls, Substantive procedures to closing procedures.
- In the following Slides we will see how technology helps us to deliver greater value to our clients.

The power of Analytics

- Audit firms are recognizing that data analytics represents an opportunity to transform the audit process by:
  - Enhancing the Audit quality
  - Providing greater insights to our clients
  - Providing accountants and auditors more rewarding experience
  - Driving efficiencies in the audit process.

The power of Analytics -contd

- Use of data analytics engines on Audit engagements enable auditors
  - A stronger risk assessment process
  - Focus on the greater areas of risk
  - In many cases to perform tests across 100% of the population in order to identify trends and outliers requiring further Investigation.
  - To conduct a continues audit which ensures that potential issues are being highlighted to management at the earliest possible time and provides a greater level of flexibility on the timing of audit procedures.
  - Concentrate more on business process and testing and spending less time at client sites.

Emerging Technologies

- Robotic Process Automation
  - RPA means approaches and software that automate simple tasks in indirect operations. By repeating procedures based on preconfigured rules, software enables to judge displayed contents and inputs data on behalf of humans.
  - More relevant since clients are using these RPAs now a days in reconciliations and even in payroll processing
  - The Auditor needs to verify the process and control and ensure the correctness . In the absence of which even a small error at the transaction level could accumulate overtime and become material

Emerging Technologies- contd

- Artificial Intelligence(AI)
  - AI is the theory and development of computer system s that are able to perform tasks that normally requires human Intelligence.
  - AI is net new and is has been studied for decades ,however the application to auditing is still in its Infancy.
  - AIs key transformation technologies are machine learning, natural language processing and automation.
    - Machine learning is one of the AI fields and a technology which allows a computer to automatically identify a pattern hidden in the data. Computers use this pattern to classify or predict items based on new data.
    - Natural language processing means a technology which allows a computer to process natural language that people usually use. Natural language processing has already been used in a variety of fields including translation, search engine, voice recognition and OCR.
  - AIs is merely a tool to help auditors solve problems and cannot define audit challenges alone.
  - It is important to carefully identify the challenges to apply these technologies

Emerging Technologies- contd

- Blockchain
  - Blockchain is the emerging technology that has the potential to cause the greatest level of disruption for the audit profession.
  - Blockchain is a distributed general ledger which records all transactions that have happened, when they happened and other key details.
  - We could see transactions executed automatically and verified in real time with computer settling derivative contracts on your behalf .
  - This technology can enable companies to close their books every day while highlighting anomalies as they emerge.
  - Ultimately Auditor needs to be prepared as they will be required to audit whether the distributed ledger system are working correctly.

AI use in Audit procedures

- Audit Planning

Audit Process	Current practice	Future Practice(AI)	Future Technology
Initial Process- Understanding of the Business process and corporate .	Economic condition and industry knowledge are assimilated for the understanding of the Business process and corporate standings. Detailed discussions with the management and review of the minutes of the Board director meetings	Discussion with the management are recorded through voice recognition, which creates minutes automatically .These information are assimilated with other information to prepare audit work papers instantly.	Voice recognition Natural language processing

AI use in Audit procedures-

- Audit Planning

Audit Process	Current practice	Future Practice(AI)	Future Technology
Risk Assessment	Evaluation of business risks. Identify inherent risks in specific transactions or account balances	Risk assessment report are processed based on work papers in prior years, business environment , industry trends and identified risks .	Natural language processing Machine learning

AI use in Audit procedures.

- Audit Planning

Audit Process	Current practice	Future Practice(AI)	Future Technology
Audit Plan	Determine the extent of internal control reliance for business processes.	Intelligently propose the level of reliance on internal controls	Natural language processing Machine learning

AI use in Audit procedures.

- Evaluation of Internal Controls

Audit Process	Current practice	Future Practice(AI)	Future Technology
Evaluation	Interview with the persons in charge of the department about s process to understand the business process and internal control, then describe the details in work papers	Interview of the people in charge are recorded through voice recognition. Based on the minutes, self generate work papers, including business flowcharts and risk /control matrices, and visualize the business process to analyze quantitatively.	Voice recognition Machine learning

AI use in Audit procedures.

- Evaluation of Internal Controls

Audit Process	Current practice	Future Practice(AI)	Future Technology
testing	The auditor reviews the client procedures and the results are validated for the effectiveness of control.	The payments and supporting documentation are validated automatically for the compliance with the internal controls and adequacy of approval.	Natural language processing/ OCR Machine learning

AI use in Audit procedures.

- Substantive procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Observation	Inventory: physical inventory, reconciling data with the quantity of inventory goods selected as a sample.	Use of technology like drone to count inventories and identify barcodes, and then reconcile the result with inventory data.	Natural language processing/ OCR Drone 3D scan

AI use in Audit procedures.

- Substantive procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Confirmation	confirmation letters to clients customers to confirm that the balances of clients accounts receivable are matched with those of the customers. Any discrepancy between the answers and the balance is raised to management for investigation	Use of online platform to send and receive confirmation letters to/from customers and the auditor.	Encryption

AI use in Audit procedures-

- Substantive procedures

Audit Process	Current Practice	Future Practice(AI)	Future Technology
Inspection of supporting documents	Reconcile samples selected from the populations. Verify with corresponding documents to confirm that transactions are properly recorded	Import documents and other evidence as electronic files and automatically verified and reconcile.	Natural language processing Machine learning

AI use in Audit procedures

- Substantive procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Analytical Procedures	Consider materials issued by Industry associations, historical sales data and previous business results, auditors estimate amounts in current fiscal year.	Import external data and Internal data, such as market trends, competitors movements and feeds from cameras and sensors, then estimate amount stated.	Machine learning IOT

AI use in Audit procedures.

- Substantive procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Journal entry testing	Review all journal entry data booked in the current year to identify transactions that fall under conditions specified by an auditor as potential fraud transaction.	Identify suspicions transactions showing unusual patterns from all sub ledger and peripheral systems in addition to the journal entry of data.	Machine learning

AI use in Audit procedures.

- Substantive procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Disclosure check	Confirm that the draft financial statements disclose necessary information in accordance with the accounting standards by visual examination and reconciling with supporting documents	Input the draft financial statements and supporting documents and systematically perform disclosure completeness check.	Natural language processing /OCR

AI use in Audit procedures.

- Closing procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Audit opinion	Materiality statements are prepared based on all identified audit issues and manually evaluate potential impacts and mutual relationships. Then form an audit opinion based on the evaluation	Materiality is estimated based on the number of errors in the audit procedures and their potential effect and automatically evaluate the audit risk	Natural language processing /OCR Machine learning

AI use in Audit procedures.

- Closing procedures

Audit Process	Current practice	Future Practice(AI)	Future Technology
Audit report	Form conclusions based on the format of the audit standard.	Based on the expression of opinion, automatically summarize audit procedures against the risk of material misstatements and the evaluation results for " Key audit matter(KAM) to make a draft	Natural language processing /OCR

AI use in Audit procedures.

- General

Audit Process	Current practice	Future Practice(AI)	Future Technology
Audit Environment	Meeting room from the audit client is used for few weeks to few months	Virtual 3D space will be used by the auditor in a remote location to communicate with other team members and client personnel.	VR (Virtual reality)

AI use in Audit procedures.

- General

Audit Process	Current practice	Future Practice(AI)	Future Technology
Timing of audit	Visit the client according to the first audit plan to confirm that the transactions and account balances are appropriately recorded. If auditors cannot schedule the time, in some cases they may not verify material transactions promptly.	Receive daily data from the clients system and automatically inform an auditor of any transaction that require audit consideration.	Machine learning Natural language processing

Expected Timelines

- RPA is applied to automate reconciliation and calculation among data and systems.
- RPA technologies is developed enough to be applied and early introduction are expected.
- As deep learning develops AI will replace some parts of human judgment E.g.: Review details of contract and verify inventories.
- In the final phase ,development of AI will replace advanced human judgment with algorithams,which will allow AI to provide real time audits and evaluate risks from a new view point.
- Blockchain- impact may be 3 to 5 years away, but potential impact on the auditing profession could be significant as the impact the internet had on industries such as travel or retail.

Challenges

- Data capture has traditionally been an onerous task and clients are concerned about the security of their data and are reluctant to have the data taken outside their organizations.
- Even if Analytical engines are strong, if data is unstructured ,lack of standardization of data format and even different ERPs in existence can pose challenges
- Building analytical models that produce high quality audit evidence and valuable insights across multiple business processes and industries is no small task.
- The availability of qualified and experienced resources to process and analyze the data is scarce.

Challenges-contd

- From control perspective ,audit teams will need to manage internal specialists. This means having knowledge to interrogate and interpret data in a way that ensures the effective use of technology thus minimizing risk
- Will auditors be able to recognize and analyze the risks associated with cyber crime and impacts of reputation.
- Advanced technologies offer great promise to the audit. However technologies are only as good as the audit team guiding them and analyzing them.

Examples of latest Audit tools ,technology platform

- EY Helix- End to end analytical platform
- Deloittes Illumia- Analytics Engine
- Argus-Deloittes contract interrogation solution
- Halo- PWC
- Ignite- KPMG
- Mindbridge

Sources

- Published information in websites of
  - PWC
  - KPMG
  - EY

THANK YOU