



# DIGITAL TRANSFORMATION OF AUDIT FUNCTIONS - THE SMART AUDITOR AND SMARTER RPA AUDIT TOOLS



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## Abstract

Digital transformation is progressing across industry sectors in an overwhelming speed. Stakeholders across the spectrum are participating in this process. The outcomes are influencing a common man's way of living life. Auditors discharge critical responsibilities by, inter alia, verifying, and re-establishing quality, reliability, trust, safety, security, and risk enabled performance

management. In this digital era, they cannot continue to follow traditional post facto routine and use legacy tools and techniques. Future is calling them with imperatives of the inescapable need to evolve and be smarter with digitally transformed systems, processes, and tools. This article aims to bring out how digital transformation of audit functions would help auditors to better meet stakeholders' expectations in the digitally enabled dynamic business ecosystem by applying smarter processes and online audit tools.

## Introduction

The axiomatic statement that, if winter is there spring cannot be far behind, is most aptly applicable to questions revolving around the theme of this article. Digital technologies are being adopted and adapted at an overwhelming speed by business entities across industry sectors and governmental agencies. There seems to be no scope for argument as to why business operations should not be digitally transformed for multifaceted operational improvements, minimisation of value destruction and maximisation of value creations. It has almost been established to be a strategic imperative for sustaining with competitive advantages. In the contemporary era of

*Image Source:* [https://nanonets.com/blog/content/images/2022/06/shutterstock\\_2015463743-1.jpg](https://nanonets.com/blog/content/images/2022/06/shutterstock_2015463743-1.jpg)

Industry 4.0, Web2.0 for platform economy, and Web3.0 for ownership economy, digital transformation (DT) of operations is emerging to be a fast-evolving phenomenon.

Almost all digital technologies are evolving with upgraded versions and collaborative integrations within shorter span of time. For example, blockchain technology is now in its fourth advanced version with industry infrastructure-based ecosystem. In such a business environment with paradigm shift it cannot be wise and practical to think that audit, as an assurance and risk-enabling function, will continue to follow the traditional manual practices and only excel based exercised be done for data analytics. Conventionally auditing is performed after a time lag from completion of transactions. In a few exceptional instances concurrent audit is done at the instance of a court order or in certain large public sector enterprises and government departments. In such cases no transaction, particularly involving acceptance of liability and outflow of funds, can take place without approval of the designated concurrent auditing authority.

Because of all-round digitalisation and digital transformation of industry trade and commerce conventional auditing systems and processes are gradually proving to be outdated and ineffective. This is particularly true because transactions are becoming voluminous and complex day by day. Because of online operations books of accounts are directly getting populated. Organisations under BFSI sector and large corporations are deploying robotic process automation obviating human interventions for routine mundane transactions. If transactions are conducted through blockchain platforms, post facto audit procedure may prove to be a challenging task. Therefore, like spring cannot be far behind of winter, system, processes, and tools for both statutory and internal audit must have to undergo digital transformation, which is again a journey and not a destination.

### Objective

In this third article on digital transformation of audit functions under this Column the author has tried to deal with imperatives of the unescapable need for audit functions to evolve from legacy systems befitting the third industrial revolution aided by ICTs. Business entities and government agencies are fast moving ahead with smarter digital transformation of operations to cope with continuous increases in volume of operations, rising complexities and newer elements of risks in business coupled with higher compliance requirements. Auditors, therefore, cannot continue to follow traditional post facto routine, and legacy techniques.

This time the metamorphosis must be from too much of dependence and human judgement and excel aided audit systems, processes and tools that was good for ERP systems of clients, to smart audit processes powered by digital tools, including robotic process automation. This article would bring out how digital transformation of audit would also help them to meet stakeholders' expectations in the dynamic

business ecosystem by applying smarter audit tools and processes, and shifting from post facto audit to concurrent online.

### Metamorphosis of Audit3.0 to Audit4.0 - Emerging Views

Auditing techniques and judgements must have to be powered by effective professional scepticism (PS) because of increasing complexities of business operations and financial transactions which are being handled by equally complex software and digital tools. PS is that approach, attitude, agility, and questing capabilities of an auditor that help to improve effectiveness of the deployed audit processes and tools.

Professional scepticism is an important factor to be considered while planning and scheduling audit processes, reflect on issues, critically assess audit evidence, and so on. These in turn would help detecting possible risks, errors, non-compliances, misstatements, and fraud in financial reporting with improved speed and effectiveness of audit functions. However, auditors, with the given time constraints and pressure from both clients and the firm to complete tasks. generally, do not get much time to think, reflect and apply PS. Most of the available time is spent for conducting transactions review, ledger scrutiny and checking accuracies. Unless they can save time from such core tasks it would not be possible for them to improve the much-needed quality of audit. Therefore, time is here and now to digitally transform their auditing processes particularly those which involve more hands-on tasks than thinking and reflecting.

At the instance of the International Auditing and Assurance Standard Board (IAASB) a research paper was published in 2022 by Dereck Barr-Pulliam et al<sup>1 and 2</sup>. The researchers concluded that, *“Using technology in an audit continues to evolve and, by examining relevant literature published over the last 20 years, insights can be learned about evolving trends and the trajectory of digital transformation in audit. ... The research identified person, task and environmental factors which affected digital transformation in audit engagements and distinguished between the types of analytics used by auditors - descriptive, diagnostic, predictive and prescriptive - and the research findings relevant to each.”* The author recommends audit professionals, including practicing Cost and Management Accountants to read these two publications.

Time is therefore not very far when IAASB to come out with comprehensive guidelines and standards for digital transformation of audit and assurance functions befitting the dynamics of Industry4.0 era and evolving digital technologies. Auditor must also frame out digitally transformed audit procedures to remain relevant and discharge their duties and responsibilities to meet expectations industry across sectors. Their innovative initiatives and action steps must run parallelly with the innovations in industry. One should not be surprised if large audit firms organise 'Hackathons for innovative and digitally enabled audit process.

The Comptroller and Auditor General of India (CAG)<sup>3</sup>

on the 74th Chartered Accountants Day on July 1, 2022, opined that, *“On the flip side, technology can also be a huge audit enabler whether in auditing through or around the computer. ... ICAI must make more efforts to ensure that digital audit technologies are available to all members and all of us need to stay abreast of these developments.”*

### Digital Transformation of Audit Functions

Research work and studies of the author indicate industry’s expectations from auditors. Most of the CXOs and CIAs are of the view that internal audit, statutory audit and cost audit professionals must minimally be equipped with knowledge and capabilities for reviewing and auditing digitally transformed operations. They must attain functional knowledge and application skills related to digital technologies for auditing their digitally transformed business operations. The minimum ones they should be proficient with are cognitive technologies like AI, ML, and DL, Blockchain, Web3.0, DAO, and Metaverse, IoTs and AIoTs, Robots and Robotic Process Automation (RPA), Drones, and Edge Computing.

The author has earlier written two separate articles under this Column on Audit4.0<sup>4</sup> in a digitally transformed business environment befitting the present Industry 4.0 era, and the second one on auditing of transactions performed through Blockchain<sup>5</sup> platforms in April and August 2021 respectively. In the first article the role of Internal Auditors in the context of digital transformation projects taken up by business entities has also been covered. It will be useful for readers to go through those two articles. Accordingly, various aspects covered in those articles have not been repeated in this. The following are some of the major points for consideration while transforming auditing function to conduct audit in a digitally transformed environment:

**Internal Audit:** Major emphasis should be laid on making

Internal Audit (IA) team as an integral and concurrent part of the team identified for digital transformation for business operations followed by operating with the transformed systems and processes. For these the following three actions are important:

- Members of IA team must be first trained and equipped with knowledge and capabilities with equal rigour and intensity like that of officials of operations team for handling digitally transformed business systems and processes.
- Members of IA Team should be involved at all stages of the journey right from the beginning of organisations taking the decision for DT, selection of technology, implementation, operating with digitally transformed systems and processes, and continuous review and advancements from time to time.
- Helping the business entity to pursue proactive risk-enabled performance management and ensure compliance of all legal and statutory provisions, including even those of GDPR of the European Union, should be the primary responsibility of the IA Team.
- Ethical hacking must be made a compulsory functional responsibility of IA Team before implementation of any digitally transformed systems and processes and repeat that after every modification and upgradation. For this a specialised group should be identified within the team and allowed to function independently.

The following graphic brings out a Module containing some of the major aspects of next-generation internal audit function in a three-dimensional framework of ‘Governance’, ‘Enabling Technology’ and ‘Methodology’. Authors of the concerned article David Lehmann and Michael Thor<sup>6</sup> suggested that the next generation internal auditors must harness value from innovation and transformation.



Source: <https://www.cpajournal.com/2020/02/18/the-next-generation-of-internal-audit/>

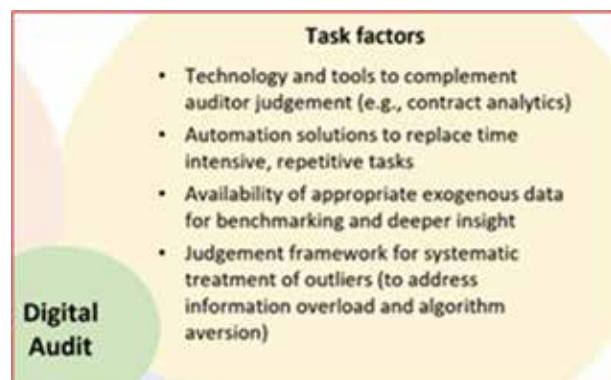


Given the constraint of space the above major aspects are not being expanded with narratives. Readers may please refer the article hosted at the quoted URL and reflect. However, only Robotic Process Automation has been taken up for writing in details in a subsequent section.

## Statutory Audit

It should be the responsibility of each corporate to help external statutory auditors and provide facilities so that they can suitably deploy the digitally transformed auditing tools and techniques remaining within realms of data privacy, security and safety. For this any corporate's internal policy and processes, upgraded ERP systems and other ICT facilities, digitally transformed systems and integration thereof with the ERP system must be implemented keeping room for audit facilitation. Statutory auditors must be allowed to conduct concurrent/online audits and permit their software tools to be run in the entity's digital and ICT systems. They should also be allowed to review and audit the data, tools for performing analytics, processed information and inferences drawn by clients by applications of digital technologies.

An extensive industry-based research project, that was conducted at the instance of IASB as state above, identified three sets of factors which positively influence digital of audit viz, 'Person factors', 'Task factors and 'Environment factors'. Out of the trio, Task factors have been reproduced below, Readers would appreciate the very fast factor has reinforced that the adopted technology and tools must complement the auditor's judgement and they must apply tools for conducting analytics that would help them to form audit judgement and identify outliers. In those outliers may lie the issues which the auditors would look for forming judgements to help client with advices for further improvements and filling gaps.



Source: <https://www.ifac.org/knowledge-gateway/supporting-international-standards/discussion/digital-transformation-innovation-auditing-insights-review-academic-research>

Based outcomes of the said research IAASB has identified the following "... *four common themes about how technology is, and will continue to disrupt the audit and assurance professions*":

- ⊙ Auditing procedure should be conducted on a continuous and real time basis which is a diagonal departure from the legacy system. According to this author online real time audit should compulsorily be conducted at least for transactions through Blockchain platforms.
- ⊙ Tasks for auditing should increasingly be aided by data analytics through applications of tools from the stable of Artificial Intelligence.
- ⊙ Audit and assurance engagements should increasingly be performed by working from distance which in commonly understood language is called working from home. This would be essential for entities which operates following 'Decentralised Autonomous Office' (DAO) concept mostly using Blockchain platforms.
- ⊙ Audit functions should more and more be powered by digital technology-based smarter tools and auditors should be smarter with attained application-oriented knowledge and skills to deploy such tools for more effective service deliveries.

## Cost Audit

Cost auditors are in no way any different from the above two groups in terms of duties, responsibilities, professional competencies, and importance of services rendered to industry. Rather their role is quite unique because they have to also understand in detail every single functional elements of clients' operations which have bearing on their cost of production and rendering services. They must be more familiar with exactly what her/his client has done by digital transformation and how that have impacted various elements of costs, their collection, analyses, and allocation to products. This is important for determining the ultimate cost of the product from the perspective of determining price that will finally affect common people. In such a role their task is expected to be a unique one and should in some senses be a combination of the duties and responsibilities of both management auditors and statutory auditors.

When all these are read in conjunction the perception that get generated is that internal, statutory, and cost auditing functions must undergo paradigm shift. Participation in this process of metamorphosis would require lots of learning, unlearning, and relearning as well as attainment of many new skills for dealing with digital technologies. Capabilities

for change management will determine the success in adopting and adapting digital technologies.

### Robotic Process Automation - Auditors' New Software Tool

The phrase Robotic Process Automation (RPA) is a combination of three words which have their individual meaning. The word 'Robotic' is a derivation from 'Robot'. Oxford Dictionary has defined a robot as *"A machine that can perform a complicated series of tasks by itself."* and suggests the meaning of 'automation' as *"the use of machines and computers to do work that was previously done by people."* The word robot here would not mean any physical robot which is a product mechatronics. The word robotic has been adopted as the adjective for the software tool. Combination of these three words in the context of auditing as a process, irrespective of its nature being internal, statutory or cost, would remit a meaning for auditors using a software tool that would have the capability to automatically perform a complicated series of tasks by itself following a set predetermined rules which have been embedded in the software for RPA.

Capgemini<sup>7</sup>, has defined RPA, *"As a virtual worker, RPA replicates user actions to reduce or eliminate human intervention in mundane, repetitive, and manually intensive processes."* It would be useful to appreciate a further elaborated definition of RPA, articulated by Deloitte<sup>8</sup> as, *"RPA is a computer-coded software, commonly referred to as BOT, that emulates human actions and is able to drive automation of rule-based processes. It is an ideal automation technique for any process that has a heavy dependence on data entry, data manipulation, triggering responses and communicating with other digital systems"*.

Therefore, adoption of RPA by an auditor would reduce auditing time because the RPA tool, if appropriately and effectively designed and appropriately deployed for achieving the desired audit objectives, would takeover, and deliver routine mundane tasks hitherto performed by junior team members. RPA would allow the auditor to embed into the software the rule to be followed by the tool while performing review and analyses of transactions, data, etc., hitherto being done by juniors.

PwC<sup>8</sup>, while recognising RPA tools as the primer for auditors have opined that, *"....Testing of controls and other departmental tasks can be automated through RPA, expanding internal audit's capacity and freeing auditors to focus on more value-added activity. .... As RPA momentum increases, internal audit professionals can keep pace by helping the company understand and control RPA risks*

*and by embracing RPA within their own organization"*.

Besides saving manpower cost, benefits would come in the form of speed, accuracy and performing review of the entire population of transactions and data. This would also obviate the need for sampling and partial audit review, the resultant error and/or bias which would have otherwise vitiated the auditors' judgement and affect conclusions from audit. Moreover, an RPA tool auditor would be more efficient in detecting non-compliance of statutes and regulations. Adoption of RPA for auditing will call for three steps, viz., defining and designing, building and refining, testing and deploying.

In the context of using RPA for their clients Deloitte<sup>9</sup> has concluded that, *".... This can add to the effectiveness of risk management. .... As robots follow precisely-defined action protocols and procedures, they can also capture and retain required audit trails and automatically report on matters such as exceptions."* Nanonets<sup>10</sup> in their publication titled *'Future of RPA in Audit and Compliance'* has suggested seven-step approach for adopting and deploying RPA as an auditing tool. These spans from identification modularisation of audit process to prototype experimentation, feedback and evaluation. Readers can learn more about these from their publication at the quoted URL

None of the digital tool are devoid of their adverse impacts unless appropriately designed and deployed for the right purpose in the right way at the right time. RPA may create negative impacts if the tool is not appropriately crafted with embedded software capabilities to check transactions and conduct data analyses for ensuring compliances with policies and SOP, legal and regulatory provisions, risk detection and operational effectiveness. Auditors must exercise due cautions and follow steps to first make the RPA tools error-free by repeated testing to render the process of audit smarter with RPA.

### Future is Calling - Ten Commandments

Indications have been provided in the above discourse to the effect that future is calling auditors across the spectrum for digital transformation of auditing systems, processes, and tools. But in the ultimate analysis one must also think why the entire humanity is so much engaged with digital technologies and the process of digital transformation. According to the author the ultimate of all ultimate objectives from the perspective of any stakeholder should most certainly be rendering services to humanity living anywhere under the sun and across all societal strata.



Mankind must not miss this opportunity to achieve sustainable inclusive growth for inclusive smile and happiness. Auditors' contributions for this goal can in no way be considered as small and be demeaned. Their role is critically important because they deal with the last set of tasks for establishing trust, reliability, quality safety and security. Therefore, the author would like to repeat for auditors the same **'Ten Commandments'**, as engraved in the above graphic which he has articulated for digital transformation of business. Hopefully, auditing professionals would agree with the above Commandments and take up as the guiding lights while rendering services to industry trade and commerce.

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