Emerging Technologies and Accounting Professionals; Impact and Roadmap Ahead

A lot of technological changes have taken place in the last few years, completely transforming the way businesses were operating. The impact on business is not limited to operations and extends to finance & accounting functions. These technologies not only bring about an opportunity for a professional accountant to enhance value to the business but also gives rise to new forms of risks that need to be accounted for. Let us try to understand more about some of the technological advancements and how we can prepare ourselves and be ready to embrace them. Read on to know more...

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Key Technological Advances

A new revolution driven by a wide range of technological advances is currently underway and many more will also take place in the future. This era of technological advances is popularly known as 'the fourth industrial revolution'. A host of new technological advancements such as AI (Artificial Intelligence), Blockchain, Robotics Process Automation, Big Data, Internet of Things, etc are reshaping the way businesses operate and are gradually transforming every aspect of the business including the Finance and Accounting functions. These will not only influence the future of business operations but will also have a bearing on the way the accountancy profession of the future will work.

All companies sooner than later must adopt these emerging technologies in order to retain and expand their business (customer base) and stay competitive, those who do not embrace the changes will be forced to shut shop. The accounting profession is also no exception and must also keep pace. We as professionals need to understand how these technologies are evolving over time and reposition ourselves as able advisers to business in order to stay relevant.

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The impact these emerging technologies will have on the accounting profession can best be understood by studying the impact these technologies will have on the various business processes, most importantly as to how it will affect the way data is captured, processed, stored and used in the businesses for decision-making purposes.

Let us look at some of the most popular technological advancements around us and understand how and what impact the same will have on the profession.

Artificial Intelligence:

Artificial Intelligence is the most talked about technology in the world. Starting from driverless cars, manufacturing robots, to social media monitoring, smart assistants and natural language processing tools, there is a breadth of technology applications across multiple industries.

We might not realise it but, every time we are browsing on the internet or shopping or opening a news feed, artificial Intelligence is always around us and working in the background. The apps we use for travel, navigation apps, autopilot modes in airplanes are only some of the examples of artificial intelligence and the use will only increase in the future.

Coming to the accounting profession, companies are embracing and implementing new technologies to increase their computing capabilities to an altogether new level. A lot of routine tasks that required human interventions are being automated using artificial intelligence-based machine learning. There are applications that use complex algorithms to process huge data volumes on a real-time basis with the objective to give meaningful and error-free intelligence. All these processing somewhat happens in an opaque environment as the processing of data is not visible, which raises a question of how and whether a profession can rely on the output generated.

We as professionals cannot simply rely on the systems and need to check the assertions based on which the algorithms are developed, to ensure that they are doing exactly what they are supposed to do. With all computations and repetitive tasks being undertaken by the technology independent of human intervention and with the lack of visible trails, the role of a professional accountant becomes even more critical than before. And in order to keep pace and stay relevant, we need to continuously work towards upskilling ourselves in the area of artificial intelligence and other technologies which will give us the competence and knowledge to test the information systems based on artificial intelligence.

Blockchain

Blockchain is a technology that works by means of peer to peer internet-based distributed ledgers that do not require any central authority or any third party to act as intermediaries, and since it doesn't require any intermediaries it is cheaper and faster. Two of the most important characteristics of a blockchain are that it cannot be controlled by any individual and it has no single point failure.

This technology consists of three fundamental components

- A transaction
- A transaction register and
- A system that verifies and stores the information

All nodes connected to the blockchain maintain an identical copy of the data and since the data is public (unless it is a private blockchain) it ensures data transparency. Further, the blocks are also immune to attacks from viruses. Altering any unit of information on the blockchain would mean using a huge amount of computing power to override the entire network, also there is no centralised database making it difficult to hack.

Among the various disruptive technological advances, the one which is closest to reality and a gamechanger is undoubtedly blockchain. Businesses and governments alike are investing in and are pursuing blockchain.

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The blockchain network has an inbuilt audit system, which reconciles every transaction that happens in certain intervals and is immutable, which leaves many thinking about the role of professional accountants in future, once the organisations move to blockchain technology. The blockchain may give an assertion on the occurrence of the transaction, however, the auditor would still need to check for authorisation and legality of the

transaction and ascertain whether the same is fraudulent in nature or are incorrectly classified.

The use of blockchain will change the way data and evidence are obtained by the auditors and some audit procedures like balance verifications, etc will no longer be required. Though the auditors can directly fetch the data and most of the audit evidence directly from the blockchain, some new risks and challenges must be considered as the blockchain would not be controlled by the entity being audited. In order to ensure that data so extracted is reliable, the IT controls related to the blockchain network must be tested. The auditors would also need to review the protocols for the specific blockchain and assess whether the protocols can be manipulated (especially in case of a private blockchain). ICAI has issued a Concept Paper on 'Blockchain Technology – Adoption Trends and Implications for Accountancy Profession' which throws light on possible new services and roles for professional accountants.

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Robotics Process Automation

Robotic process automation involves the use of bots or computer applications to automate routine and repetitive tasks that are otherwise performed through human interventions. RPA's are configured in a way to perform a set of operations following a pre-defined process and work on a template-based input system. An RPA system has the following characteristics;

- All the tasks are consistent with the same steps being performed repetitively
- The process is template driven, which is pre-defined, and inputs are required to be as per the specific formats of the template
- There is a set of pre-defined rules which govern the processes

RPA applications can be potentially used across functions such as Accounts receivable, Accounts Payable, Payment Processing, Customer Service and Grievance Management, Resume screening, Pre and post payroll processing, Tax processing, etc to name a few.

Now if a significant portion of the data is being processed in an organisation using bots or computer applications, then professional accountants cannot rely heavily on substantive procedures alone, as enough audit evidence could not be generated through them in an RPA environment. In those cases, there would arise a need for looking at the overall control environment; though a professional accountant still considers the entity's controls over various risks, the review and understanding of controls become even more important in an RPA environment.

Embracing RPA applications for auditing will help professionals in value additions, by increasing efficiencies in monitoring and review of controls and widening the coverage as it will allow more data to be analysed within a shorter time frame thus also resulting in time and cost savings. RPA will enable us to review and analyse a significantly high volume of data, complete data can be analysed if so required as against the current practice of testing samples, thus improving the overall standard of assurance and will result in improved decision making. ICAI has issued concept paper on 'Embracing Robotic Process Automation – Opportunities and Challenges for Accountancy Profession' which briefly provides an overview of RPA and focuses on the role of chartered accountants in the adoption of this evolving technology by organisations.

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Impact on Professionals

These emerging technologies have already started to penetrate industries and business models. Robotics and automation are replacing a lot of repetitive human tasks and decisions, with the algorithm being programmed to carry out specific tasks such as data entries. Application software is being developed and enhanced which can gather relevant information from big data easily and in real-time, thus improving productivity and efficiency.

Technologies such as advanced analytical methods, advanced statistics, big data, etc, are still in their initial stages and are not being used extensively by professionals yet and will take some time before professionals start using these technologies effectively.

If we as professionals want to maintain our relevance to business, we cannot take a passive position and wait till the technologies mature and are ready for widespread use, as doing this will make us ineffective. To stay relevant, we have no choice but to embrace innovations through these emerging technologies and we must have the skills to assess and implement technology-driven initiatives. We as professionals have always embraced technology and considering that the pace of change is accelerating, we must take a proactive approach and get involved at the earliest possible and prepare ourselves for this technological shift.

Not only we must upskill and update our knowledge but would also need to explore the various governance challenges which may crop up. To be relevant and in sync with the industry, it is imperative that we keep ourselves abreast of the various developments and its use in various business applications. The opportunities for professional accountants are huge provided we accept the change and proactively work to shape our roles within the business.

Roadmap Ahead

For the future, a combination of skill sets is critical, the professional accountants should not only possess accounting and analytical skills but should also have IT skills. In order to ensure that these technological changes do not become disruptive, we must ensure that proper plans are in place to deal with technological changes.

The plan should include the following aspects;

- Familiarity with emerging technologies:

  One of the most crucial steps is to gain an understanding of the new emerging technologies, such as, Robotics Process Automation, Blockchain, Artificial Intelligence, Machine Learning, Natural Language processing, etc. Unless we are aware of the technologies and the way they work or how the same is programmed it would be difficult to identify risk or perform a control testing for the same.

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- ***Risk Assessment***

  Risk assessment is and will stay a critical process in the overall audit procedure. We should evaluate the operational, financial, business and regulatory impact of the emerging technologies and further break them down based on risk rating. This is the most crucial step as this would be the base upon which the entire audit procedures will be built.

- ***Strategic Planning***

  All these new technologies will reduce, if not eliminate completely the manual procedures. Further, most of these technologies work by integrating different systems together and the entire flow of data starting with input, processing, and output is controlled through codes, algorithms, modelling techniques, etc. Factors such as an error in assumptions, coding errors can have an adverse impact on the outcome, and since traditionally a professional accountant is not proficient in IT, detection of these errors becomes difficult. It is thus important that a team is developed having members who are proficient in IT or are trained in coding.

- ***Training***

  The Professional accountants should be ready to embrace the change and train themselves to gain insight into these technologies, training should be provided to develop members, each having a different range of skills and abilities.

The Institute of Chartered Accountants is also issuing publications, conducting certification courses, webinars, etc and is providing e-learning platforms to help professionals gain an understanding and upskill themselves with reference to the emerging technologies. The way is laid down and there are ample ways of getting an insight regarding these technologies, it is up to us to take initiative and prepare ourselves for the upcoming changes so that we are ready to embrace and make efficient use of these technologies. If we act decisively then these technological changes would not be a cause of business disruption to us, but will only open up more opportunities. While the procedures, technology, and skills required will change over time, the opportunities for professionals are greater than ever. We only need to upskill ourselves to be ready for the digital era. ■