

**DIGITAL COMPETENCY MATURITY
MODEL FOR PROFESSIONAL
ACCOUNTING FIRMS - VERSION 2.0
AND IMPLEMENTATION GUIDE**



**Digital Accounting and Assurance Board
The Institute of Chartered Accountants of India**

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FOREWORD



Digital technologies continue to substantially affect the economies with several related implications. Technology is like a multiplier and the combinational effects of emerging technologies, such as blockchain, artificial intelligence, robotics process automation, cloud computing, etc., are accelerating progress exponentially. Digital revolution brings with it its own set of challenges and one needs to embrace the reverberations not as complexities but opportunities. Accounting profession must embrace emerging technologies which will not only enable them to harness power of technology but also play effective role as digital transformation catalysts.

The Institute of Chartered Accountants of India (ICAI) through Digital Accounting and Assurance Board (DAAB), has initiated a process of laying out a self- evaluation matrices for accounting firms to gauge their relative maturity level as regards digital competency pertaining to Audit and Accounting related functions being rendered by them. DCMM Version 1.0, issued in 2017, was widely acknowledged at global level and now it has evolved into a more robust framework as DCMM Version 2.0. This newer version has taken into account the discipline specific categorization of accounting firms and related technology adoption for achieving efficiency and productivity gains. It also includes a new section on emerging technologies and also provides guidance on implementation of each of the sections.

I compliment CA. Manu Agrawal, Chairman, DAAB, CA. Dayaniwas Sharma, Vice-Chairman, DAAB, and other members of the Board for taking the lead in developing DCMM Version 2.0 and its Implementation Guide, which forms the foundation for building a strategy for up skilling, and steering a steady course to maximize opportunities unfolding in the digital era.

CA. Prafulla P. Chhajed

President, ICAI

Place: New Delhi

Date: December 18, 2019

FOREWORD



As the digital revolution continues to reshape economic landscape, the pace and magnitude of technological changes are unprecedented. In any given area there are barriers and accelerators of digital transformation. Investment in technology is a key driver of productivity in the accountancy sector, and new age accountants should keep abreast on the benefits these technologies can deliver. With domain knowledge and expertise in accounting, assurance, compliance and taxation, accountants can be instrumental in implementation of technology enabled solutions. In this regard Small and Medium Sized Practitioners (SMPs) should proactively embrace technology which includes effective selection, implementation, and management of technologies, as well as training employees to use software solutions.

In 2017, The Institute of Chartered Accountants of India (ICAI) with its visionary mindset of digital upgradation of the profession had released “Digital Competency Maturity Model for Professional Accounting Firms (DCMM) Version 1.0”. It is heartening to note that now DCMM Version 2.0 is being released which enhances and builds upon on the framework of DCMM Version 1.0. This updated version includes a new section to encourage firms to embrace new technologies and also provides discipline specific categorization based on firm’s profile. Further, with a view to provide accounting firms with guidance on implementation of various parameters DCMM Version 2.0 also includes detailed Implementation Guide.

I urge our members/ firms to use “Digital Competency Maturity Model (DCMM) for Professional Accounting Firms – Version 2.0 and Implementation Guide” for assessing current digital competence of their firms, and further use the guidance provided to build their firms competencies for digital transformation journey of their own growth and of the profession at large.

CA. Atul Kumar Gupta

Vice President, ICAI

Place: New Delhi

Date: December 18, 2019

PREFACE



This is an era of exponential changes powered by innovative combinations of emerging technologies with unprecedented pace, scope and depth of impact. Governments and regulators across the globe are recognizing the potential of emerging technologies for creating positive implications on almost every aspect of sustainable development. The future of accounting profession will be largely impacted by capability to visualize and harness the potential benefits of emerging technologies, and proactively facilitating organizations to implement technology enabled solutions for delivering value added services.

The Institute of Chartered Accountants of India has set up Digital Accounting and Assurance Board (DAAB) as a thought leadership forum so as to address the accounting and auditing issues arising out of impact of digitization to the business eco-system. DAAB has released “Digital Competency Maturity Model for Professional Accounting Firms – Version 2.0 and Implementation Guide” which enhances and builds upon on the framework of DCMM Version 1.0. It provides discipline specific categorization – Audit, Tax and Compliances, Accounting and Support Function, Other Management Consulting Services - for assessing digital competency with respect to level of automation. Apart from earlier three sections, DCMM Version 2.0 includes a new section on “Adaptation of Advanced and Emerging Technologies” for encouraging firms to embrace emerging technologies. The most useful enhancement is that DCMM Version 2.0 includes detailed Implementation Guide to help accounting firms with practical tips on moving to the next level of digital competency.

At this juncture, we wish to place on record sincere gratitude to CA. Guru Prasad and CA. Narasimhan Elangovan for taking time out of their pressing preoccupations and contributing in preparation of DCMM Version 2.0.

We would like to express our gratitude to CA. Prafulla P. Chhajed, President ICAI and CA. Atul Kumar Gupta, Vice President, ICAI for their continuous support and encouragement to the initiatives of the Board. We also wish to place on record our gratitude for the all Board members, co-opted members and special invitees for providing their invaluable guidance and support to various initiatives of the Board. I also wish to express my sincere appreciation for CA. Jyoti Singh, Secretary, DAAB, for her technical inputs in finalizing this publication.

We recommend the members/ firms to apply DCMM Version 2.0 by using automated tool for the same available at ICAI website to assess current digital competence of their firms. We look forward for your feedback/ responses which would assist us in developing new resources and tools to assist members/ firms in scaling up and riding the tide of technology.

CA. Manu Agrawal

Chairman, DAAB

CA. Dayaniwas Sharma

Vice-Chairman, DAAB

Place: New Delhi

Date: December 18, 2019

INTRODUCTION



The Institute of Chartered Accountants of India

The Institute of Chartered Accountants of India (ICAI) is a statutory body established by an Act of Parliament, viz., The Chartered Accountants Act, 1949 (Act No. XXXVIII of 1949) for regulating the profession of Chartered Accountancy in the country. ICAI is the one amongst accountancy bodies in the world, with a strong tradition of service to the Indian economy in public interest.

Over a period of time, ICAI has achieved recognition as a premier accounting body not only in the country but also globally, for maintaining highest standards in technical, ethical areas and for sustaining stringent examination and education standards. Since 1949, the Chartered Accountancy profession in India has grown leaps and bounds in terms of

- Members and student base.
- Regulate the profession of Accountancy
- Education and Examination of Chartered Accountancy Course
- Continuing Professional Education of Members
- Conducting Post Qualification Courses
- Formulation of Accounting Standards
- Prescription of Standard Auditing Procedures
- Laying down of Ethical Standards
- Monitoring Quality through Peer Review
- Ensuring Standards of performance of Members
- Exercise Disciplinary Jurisdiction
- Financial Reporting Review
- Input on Policy matters to Government

Digital Accounting and Assurance Board of ICAI

ICAI has constituted “Digital Accounting and Assurance Board” (DAAB) for fostering a cohesive global strategy on aspects related to digital accounting and assurance, through sharing of knowledge and practices amongst the members. DAAB is endeavouring to identify, deliberate and highlight on issues in accounting (including valuation) and assurance (including internal audit) issues in the digital world.

DAAB is focusing on issues in accounting and assurance arising from the high pace of digitisation, including use of artificial intelligence in audit, big data analytics in audit, relevance of sampling, valuation of data as an asset, impairment testing of digital assets, insurance of data - valuation and premium fixation, etc. The Board is taking up initiatives to develop knowledge base through position papers and articles on issues relating to impact of technology on accounting and assurance.

Composition of Digital Accounting and Assurance Board 2019-20



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CA. Tushar Mehta

Secretary, DAAB

CA. Jyoti Singh

DCMM

VERSION 2.0

Introduction



Digitalization and technology have impacted the way our profession is perceived. These trends not just demand a change in thought process but also a fundamental shift in the way professional accounting firms are run. As newer digital technologies continue to emerge, accounting firms must anticipate and gear up for the technological revolution. Digital Accounting and Assurance Board (DAAB) of The Institute of Chartered Accountants of India (ICAI) has taken up an initiative to assess the digital competency of professional accounting firms and to guide them on how they could scale up and ride the tide of technology.

“Digital Competency Maturity Model (DCMM) for Professional Accounting Firms – Version 1.0” was released in 2017, and it provided a set of minimum requirements which the firms can evaluate on a self-assessment basis, and build a strategy for up skilling, to leverage the opportunities which will unfold in the digital era. DCMM Version 2.0 enhances and builds upon on the framework of DCMM Version 1.0 in following ways -

- (i) Considering the fact that accounting firms are engaged in specialized areas, DCMM Version 2.0 provides discipline specific categorization based on the firm’s profile for assessing its digital competency with respect to level of automation.
- (ii) DCMM Version 2.0 includes a new Section on “Adaptation of Advanced and Emerging Technologies”, which encourages firms to embrace emerging technologies and get ready for the future digital landscape.
- (iii) DCMM Version 2.0 includes detailed Implementation Guide to help accounting firms with practical tips on moving to the next level of digital competency. For each of the clauses, detailed implementation clues with suggestive options have been given.

Disclaimer

“Digital Competency Maturity Model (DCMM) for Professional Accounting Firms – Version 2.0 and Implementation Guide” has to be used ONLY for self-evaluation by accounting firms of their digital competency maturity level and taking steps to move up the maturity model.

The results of the self-evaluation conducted should NOT be published / displayed in any form / manner, which may be deemed to be violation of Code of Ethics of the Institute of Chartered Accountants of India”.

DCMM

VERSION 2.0

Section Categorization



DCMM Version 2.0 comprises a questionnaire that enables firms to rate their current level of maturity on digital competency, identify areas where competencies are strong or lacking, and then develop a road map for achieving a higher level of maturity. DCMM Version 2.0 includes the following dimensions of digital maturity organized into sections:

- **Section A:** Level of Automation of Firm's Internal Processes - This Section covers extent of usage of IT by the firm for its own internal processes for example, billing, document management, client relationship management, and staff attendance and work tracking, cyber security, compliance with data protection regulation and social media presence.
- **Section B:** Availability of Qualified Resource Pool and Talent Development Relating to Digital Competencies - This Section covers aspects like, attracting, retaining and developing staff with requisite qualifications and skills.
- **Section C1 (Discipline specific Categorisation – Audit):** Level of Automation Relating to Audit Processes and Nature of Audit Services being Rendered - This Section covers the level of automation at client's end, access to automated audit tools, training of employees on audit tools, ability to handle digital evidence, Information Technology Audits, etc.
- **Section C2 (Discipline specific Categorisation – Tax and Compliances):** Level of Automation Relating To Tax & Compliance Processes And Nature Of Tax and Compliance Services Being Rendered- This Section covers the level of automation at client's end, access to automated tax and compliance tools, customisation of tax and compliance tools, training of employees on such specific tools, etc.
- **Section C3 (Discipline specific Categorisation – Accounting and support function):** Level of Automation Relating to Accounting Processes and Nature of Accounting Services being Rendered - This Section covers the level of automation at client's end, access to automated accounting tools, training of employees on client accounting tools, etc.
- **Section C4 (Discipline specific Categorisation – Other Management Consulting Services):** Level of Automation Relating to Other Management Consulting Services being Rendered – This Section covers the level of automation at client's end, access to automated miscellaneous tools, training of employees on tools, management consultancy services, forecasts, M&A Advisory, consultancy services, training activities, etc.
- **Section D:** Adaptation of Advanced and Emerging Technologies - This Section covers the extent of adaptation of advanced and emerging technologies like, Advanced Excel, Use of Data Analytics, Adoption of Robotic Process Automation, Artificial Intelligence, Social Media, etc.

In case an accounting firm is engaged in more than one type of service then applicability of Section C1, C2, C3 and C4 should be checked individually. Further, if more than one discipline specific categorisation is applicable, then firm should fill all the applicable Sections. In case a particular section (C1, C2, C3 or C4) is not applicable to them, the firm can ignore the same and proceed with the subsequent Section.

Firm Maturity Rating

Scores obtained in each of the respective Sections should be interpreted independently to determine firm's maturity with respect to that particular Section.

Section Reference	Max Score	Rating	
Section A	169	Less than 46 Points	Level 1 Firm
		= or >46 up to 92 Points	Level 2 Firm
		>92 Points	Level 3 Firm
Section B	93	Less than 28 Points	Level 1 Firm
		= or >28 up to 56 Points	Level 2 Firm
		>56 Points	Level 3 Firm
Section C1 – Audit	42	Less than 9 Points	Level 1 Firm
		= or >9 up to 19 Points	Level 2 Firm
		>19 Points	Level 3 Firm
Section C2 – Tax & Compliance	33	Less than 10 Points	Level 1 Firm
		= or > 10 up to 20 Points	Level 2 Firm
		>20 Points	Level 3 Firm
Section C3 – Accounting	21	Less than 6 Points	Level 1 Firm
		= or >6 up to 13 Points	Level 2 Firm
		>13 Points	Level 3 Firm
Section C4 – Management Consultancy Services	41	Less than 12 Points	Level 1 Firm
		= or >12 up to 25 Points	Level 2 Firm
		>25 Points	Level 3 Firm
Section D	50	Less than 15 Points	Level 1 Firm
		= or >15 up to 30 Points	Level 2 Firm
		> 30 Points	Level 3 Firm

Interpreting the Results

- **Level 1 Firm** - indicates that the firm is in very nascent stages of adopting digital technologies but will have to take immediate steps to upgrade its digital competency or will be left lagging behind.
- **Level 2 Firm** - indicates that the firm has made some progress in terms of adopting digital technologies but will have to fine tune further to reach the highest level of digital competency.
- **Level 3 Firm** - indicates firms which have made significant adoption of digital technologies and should focus on optimising it further to be in the forefront of use of emerging technologies like, Artificial Intelligence and Blockchain.

Implementation Guide

Competency dimensions mentioned in each Sections are targeted to enable firms to assess their current digital competency for moving to the next level. In order to assist professional accounting firms to achieve various competency dimensions, DCMM Version 2.0 includes implementation guide in the form of implementation clues. These clues are practical based and are a sort of handholding for small and medium firms for adopting new technologies. The Implementation Clues given in this guide are generic and are minimum requirements under each domain. The firm is, however, free to adopt better practices. Further, names of some websites have been included as an example to help the firms in adopting new technologies. These examples are only illustrative in nature and is not meant for promoting/ recommending any particular website, and the list is based on market research conducted by the authors while drafting the clues.

This Implementation Guide is prepared to assist the Professional Accounting Firms (Firms) in implementation of the various digital initiatives and enhances their digital maturity competency. Prior to using this guide, the accounting firm should have assessed their existing digital competency maturity using the evaluation questionnaire available at ICAI website (www.icaai.org).

DCMM Road Map for Moving Up the Next Level of Maturity

Step 1: Benchmarking	Benchmark the current maturity level of the firm by completing the DCMM, and document list of specific aspects that the Firm is currently lacking, and which needs to be initiated to move the next level of Maturity model.
Step 2: Planning Initiatives	Convert the initiative to be taken into an action plan- with timelines- quarterly/annual.
Step 3: Identifying resources and execution plan	Identify a small cross functional team to own the execution of the plan, with a leader and make the execution of the plan, an important part of the Key Result Areas/KPI of this team. Define accountability for reporting progress and challenges in implementation.
Step 4: Assessing progress and re-validation against the DCMM	Assess the progress by re-evaluating against the DCMM and re-visit the execution plan half-yearly.
Step 5: Perform a peer review/ review by external firm, if necessary	The firm may on a voluntary basis perform a review by an external firm or a peer review and assess the position at periodical intervals. It is recommended to perform peer review on a regular basis by external firms or at the time when firm ascends to next level.

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SECTION A : LEVEL OF AUTOMATION OF THE FIRM'S INTERNAL PROCESSES

This section covers aspects relating to what extent an accounting and audit firm has leveraged Information Technology (IT) and related processes for its own operations – from automation of attendance systems to cloud based data back-up, etc. It also addresses issues of data security of client’s sensitive data.

1.1 Managing Digital Identity

How to score your firm?

Competency Dimension	Score/Point Awarding Basis	Max Points
<p>1.1 Managing Digital Identity- The firm has registered:</p> <ul style="list-style-type: none"> (i) Domain name: <ul style="list-style-type: none"> (a) Does the firm have a Domain Name? (b) Has it been registered? (ii) Website <ul style="list-style-type: none"> (a) Does the firm have a website? (b) Is the website updated on a regular basis? (c) Is the website interactive and dynamic? (d) Can Employees and Articles Login? (e) Can Clients Login? (iii) Corporate domain ID for mails: <ul style="list-style-type: none"> (a) Does the firm have a corporate mail ID? (b) Is it available for all the office staff (excluding articles)? (c) Is it available for articles? (d) Are the mails stored in an external server? (e) Is there access to drive for sharing of large files/editable files? (iv) Social media presence: <ul style="list-style-type: none"> (a) Does the firm have Social Media Presence? (b) Does the firm answer to all the queries posted on its page on a timely manner? (c) Is there a minimum of one update posted by the firm in a month? 	<p>For each Yes - 1 Point For each No - 0 point</p>	<p>Maximum Points- 15</p>

Implementation Guide – Managing Digital Identity

(i) Domain Name

Having firms or practice unit's domain name makes the entity look professional. If the entity publishes its website through an ISP or a Web hosting site, then there is a URL such as www.yourisp.com/-yourbusiness. This generic address does not inspire confidence in a client like a domain name (www.yourcompany.com) does.

Implementation Clues

- Select a domain name registrar.
- Select a domain name - A domain name will be easy to remember, making firms website easy to find.
- A domain name selected should have a better search engine ranking.
(Note: Easy-to-Remember domain names will have a better search engine ranking)
- Domain name should be registered in the name of the firm and not in the name of an individual.

Below is the illustrative list of few websites through which domain name can be obtained and registered:

- Domain.com
- GoDaddy.com
- Bluehost.com
- HostGator.com

(ii) Website

In the digital world, a website is now a necessity for a professional accounting firm. Without a website, there are chances of losing client and opportunities for a firm. The website is a way to showcase firm's expertise and professional service offerings. This would help the firm to obtain a digital footprint and give an identity. The web has a far wider reach to showcase a firm.

Implementation Clues

The following points will help in developing a good website –

- A website should clearly portray firm's name.
- It is recommended to use conversational English.
- Makes it easy for visitors to contact the firm.
- Make firm's home page a to-the-point summary helping to build a powerful web presence.
- Website should be updated regularly to reflect the current circumstances.

It shall be ensured that ICAI Code of Ethics is adhered to while developing website. Updated ICAI Code of Ethics is available on www.icaai.org .

(iii) Corporate Domain ID for e-mails

A website, a domain name and the right email addresses will help create a better digital presence of the firm, with following advantages -

- Provides Professionalism
- Better showcasing of the profession
- Online Security
- Privacy
- Garners confidence from the client

Implementation Clues

A firm or a Practice unit should use registered domain name for all the e-mail ids across the organization and ensure that all official communication is done through these email IDs only. This also helps the entity to have audit logs that records every activity related to communication along with firewall for e-mail filtering to prevent abuse or unauthorized use or disclosure of sensitive information. The domain name would be important, because with the advent of the Information Technology and Data Protection Laws, it is very important to distinguish between official mail id and personal mail id.

(iv) Social Media Presence

Social media is a central part of any digital marketing initiative that a firm or practice unit can create, adhering to applicable ICAI, Code of Conduct. Social media can be used for brand awareness and primary way of conversing with client.

Implementation Clues

- **Social media profiles of a firm can** be verified by the members of the firm and SMART Goals can be set for social media strategy that are Specific, Measurable, Achievable, Relevant and Time-bound.
- **Identify firms' audience** and engage by focusing on relationship building through focus on helping clients and customers.
- **Stay active and regularly** update the content or publish new posts. Designated official in firm should be responsible for posting any update and replying to any query raised.
- **Use tools to monitor the firm's activity and results.**

Illustrations

Following are few illustrative activities through which a **firm can develop its social media presence:**

- **Conduct webinars at regular intervals** on recent amendments and changes.

- **Twitter account** would help to build personality of the organization you represent. This also would be a good tool to update clients of the constant changes in the law.
- **LinkedIn account** not only establishes firm's network, but it is also an important tool to impart educational series to firm's clients. It could be a communication tool to benefit the profession at large.
- **Develop presence in Quora** as it would enhance firm's professional image, it would also be a service to the corporate or business world.
- **Glassdoor** could be a good tool to engage with the prospective employees of the firm, and at the same time it is a platform where the employees could air their views about the firm. Anonymity also can be maintained. A good Glassdoor rating would help prospective employees to decide if they would like to join the firm.
- **HR Engagement activities like,** seminars, group sessions, office picnic, office events and such other aspects could be a good ground to find a place in the office Facebook page.

There should be separate social media presence for the firm and the individual. It would not be advisable if the firm Facebook page is used to update family trips and vice versa.

1.2 Operational Process Automation

How to score your firm?

Competency Dimension	Score/Point Awarding Basis	Actual Points /Score Achieved
1.2 Operational Process Automation- The firm uses automation for:		
(i) Attendance System and Leave management system:	For each Yes - 1 Point	Maximum Points- 40
(a) Is there biometric/IP address tracking for attendance?	For each No - 0 point	
(b) Is there a portal available for maintenance of attendance/daily work done?		
(c) Is there a leave policy?		
(d) Is there a HR & Employee Portal Software for applying/calculation of leaves?		
(ii) Mobile device- laptops, PDAs, etc. tracking:		
(a) Are there Laptops, PDAs given to employees?		
(b) Are the assets been tagged before being allocated to an employee?		
(c) Is there a tracking of all the assets being done on a real time basis through a software?		

Competency Dimension	Score/Point Awarding Basis	Actual Points /Score Achieved
<p>(iii) Internal communication- chats/instant messaging systems:</p> <p>(a) Is there an Internal Communication/instant messaging system available?</p> <p>(b) Is the system available for all employees of the firm?</p> <p>(iv) Centralized file storage system/server:</p> <p>(a) Is there a centralized file storage system/server?</p> <p>(b) Are all the files being uploaded on the server on a regular basis?</p> <p>(c) Is back-up done for the files uploaded on system/server?</p> <p>(d) Is the data being stored in multiple location?</p> <p>(e) Is the data being uploaded on the server being checked/audited on a regular basis?</p> <p>(v) Internal workflow and documentation are managed on a digital workflow management system and are there any digitized workflow tools:</p> <p>(a) Is there any workflow management process available for any process?</p> <p>(b) Are all the approvals done and available in the system?</p> <p>(c) Is there audit trail available in the system for future reference?</p> <p>(vi) Electronic database pertaining to client's and services being rendered is maintained and updated:</p> <p>(a) Are documents of client services stored electronically or digitally?</p> <p>(b) Is the database being updated on real-time basis?</p> <p>(c) Is client approval done electronically? Does the client's database gets automatically updated after approval?</p> <p>(vii) Office management tools like, HR tools, Grievance tools, Payroll tolls, digital library, ticket system for tech, ticketing system for HR, reimbursement process.</p>		

Competency Dimension	Score/Point Awarding Basis	Actual Points /Score Achieved
<p>(a) Are there Office management tools like, HR tools, Grievance tools, Payroll tolls, digital library, ticket system for tech, ticketing system for HR, reimbursement process?</p> <p>(b) Are tools accessible by all the employees including the articles?</p> <p>(c) Are all the tools subject to audit on a regular basis?</p> <p>(d) Are there HR Tools available for Interview Management and Performance Management?</p> <p>(e) Is the data being updated in the tools on a real time basis?</p> <p>(viii) Customer Relationship Management (CRM) Tools:</p> <p>(a) Is there a CRM Software/CRM Tools available with the firm?</p> <p>(b) Is it interactive and dynamic?</p> <p>(c) Do potential/regular customers have access?</p> <p>(d) Is Client Data regularly updated?</p> <p>(ix) SOPs and Internal Guidelines:</p> <p>(a) Are SOPs drafted and documented for all the processes of the firm?</p> <p>(b) Have the SOPs been approved and signed by Partner/s of the firm?</p> <p>(c) Are the SOPs available to all the employees, including articles, at any given point of time?</p> <p>(d) Are there regular checks in place to ensure that there are no deviations from the SOPs?</p> <p>(x) Time sheet and work measurement tools:</p> <p>(a) Are there time sheets being made by the employees and articles on a periodic basis?</p> <p>(b) Are the time sheets being verified by the Partners/HR?</p> <p>(c) Are time sheets being co-related with attendance to verify for any deviations?</p> <p>(d) Are there any tools to measure the work of an employee effectively/efficiently?</p>		

Competency Dimension	Score/Point Awarding Basis	Actual Points /Score Achieved
(xi) Application for invoicing and receivable management: (a) Is there an application available for invoicing and receivable management? (b) Does the system gives report on debtor balance on periodic basis? (c) Is invoicing done through the application/software?		

Implementation Guide – Operational Process Automation

(i) Attendance System and Leave management system

Humans are prone to error, even if we provide them with supporting computational devices. Monitoring and managing attendance manually can be a time-consuming, laborious, and expensive affair. It takes time to process paper sheets and timecards, create schedules, authorize leave and overtime, and create payroll manually.

Automated attendance and Leave management systems ensure accurate time records and minimize the inevitable and costly errors with manual data entry. This accurate data thereby helps to provide accurate performance and payroll data. It saves money by putting an end to inaccurate time reporting, buddy punching, absenteeism, tardiness, time abuse, and overpayment.

Illustration on advantages of using attendance and leave management systems

Using of tools like, GreytHR, PeopleSoft Absence Management, Cuckoo Tech and others can minimize inevitable and costly errors with manual data entry. With just a few clicks the management can generate accurate reports on hours worked, absences, overtime, get a monthly summary report for any of the data/groups within the firm or practice unit.

(ii) Mobile device- laptops, PDAs, etc. tracking

Bring Your Own Device (“BYOD”) security relates strongly to the end node problem, wherein a device is used to access both sensitive and risky networks. BYOD may result in data breaches like follows:

- If an employee uses a smartphone to access the firm’s network and then loses that phone, untrusted parties could retrieve any unsecured data on the phone.
- When an employee leaves the firm, they do not have to give back the device, so firm’s applications and other data may still be present on their device.

Implementation Clues

Firms or practice units need an efficient inventory management system that keeps track of which devices employees are using, where the device is located, whether it is being used, and what software it is equipped with GPS tracking, activity logging is some of the options that can be tried for device tracking.

Some of the **employee monitoring software** are as follows:

- **Teramind**
- **Actimo**
- **Current Ware, etc.**

(iii) Internal communication- chats/instant messaging systems

Popular communicators like, MSN, ICQ, and Google Talk are not professional tools for contacts. They also increase loss of user productivity because of communications that are not related to the business environment.

Implementation Clues

Firms or Practice Units must implement intranet based Internal Communication tool. With the Internal Communicator, co-workers increase professional contact with one another in real time, without needing to move about. Firm can communicate with employees at the headquarters or at affiliated locations, traveling abroad, or those at suppliers. In addition, it can generate a permanent history of conversations among co-workers that can be audited.

Some of the **internal communication tools** are as follows:

- **Basecamp**
- **Staffbase**
- **Zoom Video Communications**
- **Jostle**
- **Blue Jeans**
- **Skype, etc.**

(iv) Centralized file storage system/server

The benefits of centralized storage are several folds. By keeping data in one place, it's easier to manage both the hardware and the data itself. That means closer control on data protection, version control and security. It means a single, consistent set of data. It also leads to better control of hardware configuration, capacity and performance, etc. Further, by focusing firm's efforts in one place, would lead to reduced expenditure and risk.

Some of the **cloud storage and file sharing providers** are as follows:

- **Dropbox Business**
- **Amazon**
- **Box for Business**
- **OneDrive by Microsoft**
- **Google Drive for Work, etc.**

Illustration

M/s. XYZ and Co, Chartered Accountants, started storing all the data in a centralized storage system. Due to this the entity was able to maximize data integrity and minimize data redundancy, there was easier data portability, database administration and several other advantages.

(v) Internal workflow and documentation are managed on a digital workflow management system and digitized workflow tools

Workflow management system is a type of software that helps businesses to take control of their routine processes and help them manage better. It allows a firm or a practice unit to automate repetitive processes, follow up automatically on uncompleted tasks in the process, give an overall picture of the workflow along with performance metrics, etc.

Implementation Clues

Important features a firm or a practice unit may consider while selecting a Workflow Management System are as follows:

- Easy graphical modeling of processes;
- Access control based on participant responsibilities;
- Flexibility of workflow patterns;
- Option to pre-fill forms;
- Easy-to-Interpret visual representation of task status;
- Reporting features workflow management software should have notifications when and where firm needs them;
- Convenience of cloud hosting;
- KPI-Based reports and SLA status indicators.

Some of the workflow management softwares are as follows:

- Kissflow
- Dapulse
- ProWork Flow
- Papilio
- CCH i Firm, etc.

Human Resource (HR) Tools

One area where technology in the form of HR automation tools is causing an instant impact is with HR automation. HR has been one huge manual machine for decades, but new technology means less papers, less forms, less files, and less people needed to do everything.

Some of the HR tools are as follows -People Works, 247HRM, Pocket HRMS, etc.

Further, employee feedback and evaluation should be done online through a portal [refer 1.8 (iii)]. Firm should develop a portal of evaluation of performance of an employee so that the firm can track the activities and contribution of a particular employee and reward that employee in the right manner. It should also have a portal for employee's feedback because it would create a proper platform for the employees to inform the firm about their issues and requirements. Implementing suitable measures for such issues and requirements will create a good work environment.

(vi) Electronic database pertaining to clients

An Electronic data management program begins with identifying core principles and collaborative activities that form the foundation for providing efficient, effective, and sustainable data.

Following are the benefits of data management under their workflow management system:

- Data pertaining to clients and services is collected timely, accurate, relevant, and cost-effective.
- Data efforts are cost-efficient and purposeful, and they minimize redundancy and respondent burden.
- Data is used to inform, monitor, and continuously improve processes.
- Partnerships and collaboration with all stakeholders are cultivated to support common goals and objectives around data activities.
- Activities related to the collection and use of data is consistent with applicable confidentiality, privacy, and other applicable laws and regulations.
- Data activities adhere to appropriate guidance issued by the organization, its advisory bodies, and other relevant authorities.

(vii) Certain other tools that adds value to services rendered

Following are some important tools to enhance firm's working:

- Knowledge Management Tools

Knowledge management is a systematic approach to capturing and making use of a firm or practice units' collective expertise to create value. The potential advantages of effective knowledge management are significant but, as with most processes, there are certain challenges to consider.

Following are the benefits of knowledge management:

- Improved organizational agility.
- Better and faster decision making.
- Quicker problem-solving.
- Increased rate of innovation.
- Supported employee growth and development.

Some of the knowledge management tools are Confluence, Astute Knowledge, ServiceNow Knowledge Management, etc.

- Interview Management

To save on hiring costs, firm needs a process that is efficient. This means both a streamlined hiring process and a process that leads to the right employee for the job. By clearly identifying the key job criteria in advance, interview planning helps to eliminate unnecessary steps and ensures that each stage of the process matches firm's business needs.

Some of the Interview management tools are JazzHR, Interview Coordinator, Google forms, etc.

- CRM Tools

Customer Relationship Management (CRM) is the strongest and the most efficient approach in maintaining and creating relationships with customers. Customer relationship management is not only pure business but also ideates strong personal bonding within people. Development of this type of bonding drives the business to new levels of success.

Implementations Clues

- Create a CRM strategy and define your objective. A firm or a practice unit should be aware of following aspects before CRM tools:

- Why the customers require our services?
- How will the customers find my entity?
- What are the customers' expectations?
- Where is customer's information stored?

These questions will help the entity to define a strategy to build relationships with clients, which will then help the firm to define its CRM objectives. CRM objectives are what entity wants to achieve through CRM system.

- Following is an Illustrative list of CRM Objectives:

- Identify potential clients.
- Automate manual tasks in like, preparing quotes, tracking and sending follow-up emails, etc.
- Find out which services sell more.
- Engage with customers via social media to find out what they like or don't like about entities services.

- Prioritize entities CRM objectives

It would be difficult to achieve all CRM objective in one go. Hence, it is necessary for a firm or a practice unit to prioritize the objectives.

- Define entities business processes

What are the firms processes when interacting with the clients? For example, how does firm handles phone enquiries or requests for quotes? Processes are a way for the firm to deliver a consistent experience for the customers. The more consistent the firm is the more is the trust built.

- Select the right CRM tool/system

Now since the firm has identified the processes in the business the next step is to find the right CRM tools that can cater for these processes. Some of the CRM tools are Salesforce, Zoho, Hubspot, Agile CRM, etc.

- SOPs and Internal Guidelines

Ready-made SOPs make firms proven work processes portable. New employees at new locations can uphold firm's reputation by using the SOPs to replicate the products and services provided at firm's original place of business.

Few benefits of SOPs and Internal guidelines are as follows:

- Minimizing Learning Downtime
- Ensuring Understanding of the Role
- Ensuring Consistency in the Performance of Duties.

Illustrative list of few SOPs a firm may have is as follows:

- New client on boarding –

It is important for a firm to have SOPs that will help bring new clients into the fold. The first few interactions an incoming client has with the personnel of the firm will have a huge impression, so the clients should be handled carefully.

- Help Desk Manual –

Client will ask many questions and most of them will be repetitive in nature. A firm should create a SOP templates and decision trees that will enable the team to handle the most common questions quickly and calmly.

- Key Performance Indicator (KPI) Reports –

In order to make data-based decisions about future assignments, it's essential to have KPI reports in place. Tracking KPIs also gives a firm clear picture of where performance can be improved, and which elements of its business is thriving. Some of the common KPIs are member enrollment and drop-off rates, number of clients, etc.

- Application for invoicing and receivable management

Invoicing can be one of the challenging book keeping tasks. Using an invoicing software would make such regular tasks very easy. It provides benefits such as, faster payments, savings in time and cost, reduces paperwork, easy accessibility, enhanced security, etc.

Further, it is important for any firm to have a good accounts receivable management. It provides following benefits:

- Improves cash position
- Increase control over cash and working capital
- Reduction in administrative costs
- Reduces the sales to payment cycle

Some of the invoicing and receivable management tools are Quickbooks, Slickpie, Quantum Invoicing, etc.

1.3 Redundancy and Continuity

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.3 Redundancy and Continuity- (i) Data back-up is automated process on the cloud/ off-line at a different location and same is tested periodically: (a) Is all the data being uploaded on server on a daily/periodic basis? (b) Is the back-up data stored in multiple locations? (c) Is this process of backup automated? (d) Is backup of email taken regularly or at the time of leaving the organization? (ii) Redundancy of internet connection, back up connectivity: (a) Is there internet connection available for the employees in the firm? (b) Is the internet connection secured and has a high security password? (c) Are there multiple connections available in case of connectivity issues in one connection?	For each Yes - 1 point each For each No - 0 Point	Maximum Points - 7

Implementation Guide – Redundancy and Continuity

(i) Automated data back-up and Periodical testing

Data backup and data recovery are important parts of running a business. All computer systems are at risk of crashing, and human errors and disasters happen when least expected or are least prepared for them.

Implementation Clues

A Firm can refer following steps for implementing data backup strategy:

- Assessing firm's backup needs;
- Evaluating options to find the best backup strategy hardware backups/ software solutions/ cloud services/ hybrid solutions, i.e., public private and hybrid clouds;
- Budgeting (Cloud-based solutions are more affordable);
- Select a Platform;
- Select a Data Backup Vendor;
- Create a Time table based implementation plan;
- Create a Step-by-Step Recovery Plan;
- Test the new backup system;
- A firm should take back up of all its data even if the data is stored on cloud.

(ii) Internet Connection and Back up connectivity

Internet helps businesses to grow, achieve goals and become successful in this competitive market. It is important for any business to have a consistent data connection. The internet connection that can be both reliable and consistent is a dedicated connection like, ethernet over fiber (leased line). However, as reliable as these connections are, sometimes they may fail making a backup data connection essential.

1.4 Mobile Devices and Data Security

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.4 Mobile Devices and Data Security- (i) Usage of Mobile Devices and Laptops: (a) Are secured through drive encryption? (b) Are there laptops/mobiles given to employees/articles for official use? (c) Are there any domain policies applied to the systems? (d) Is DLP (Data Leak Protection) being installed in all the systems? (ii) Has end point security been deployed: (a) Are all the systems secured through antivirus? (b) Are systems being updated with the latest security definitions?	For each Yes - 1 Point For each No - 0 Point	Maximum Points - 9

Competency Dimension	Point Awarding Basis	Max Points
(iii) Can remotely backed-up/ content wiped off in case of loss of device (MDM): (a) Is there any Mobile Device Management (MDM) policy available? (b) Can the systems be accessed remotely? (c) Are there any back-up solutions available in the systems?		

Implementation Guide – Mobile Devices and Data Security

A firm should create a formal device policy that educates staff on security risks. But this isn't enough to protect firm's data. A firm should have an effective mobile device management solution that can provide the following benefits:

- Protect devices from unauthorized access by enforcing lock screen passcodes, installing mobile malware detection software, and setting up device-level encryption.
- If a device is lost or stolen, you can erase the data or lock the device until it is found.
- If an outside app is tainted by malicious code, it can tap data from other apps on the device, which jeopardizes the data. Application control lets you decide which apps to permit and which to blacklist or disable.
- Provides real-time visibility into your firm's mobile environment, including device status, user information, log-in attempts, and compliance with password policies.

Implementation Clues

- Devices must be configured with the standard configuration prior to use remotely.
- Devices must be configured to require a unique user login ID and password that meets complexity requirements.
- Devices must get automatically logged off after a period of time and portable devices should have a lower timeout.
- Devices will require documents to be written to the firm's server where possible. Firm should use appropriate technology tools to synchronize all device files with the network server and for routine backup.
- Devices configuration must have malicious software protection to be enabled with automatic live updates.
- Devices must be enabled for automatic updating of security patches.
- Devices must be configured with remote security controls that will remotely wipe the device upon loss or theft, scan for malware, provide GPS tracking, encrypt partitions and alert or block introduction of unauthorized SIM cards.
- Devices that use wireless communications including Bluetooth must be configured to always turn off the "Discoverable Mode" to ensure the device is not viewable by unauthorized persons.

Alternatively, where “Discoverable Mode” is necessary for proper pairing, the user shall be trained to disable this mode when in public places where data and conversations can be discovered by nearby unauthorized individuals.

- Device users must be trained and periodically reminded to pair their devices with the pairing laptop in private locations, and not public locations. Users should be trained to recognize likely eavesdroppers who may be hacking, sniffing, or setting up malicious code.
- Device users are not allowed to change any setting or security rule on their devices without permission from the Security Official.
- Devices users must adhere to the acceptable user policy including not downloading software, introducing foreign media, and so forth.
- Devices, when in transit, must be carried in the user’s immediate vicinity with appropriate covers or containers. Devices should not be left unattended.
- Flash drives and other media copying of data will only be used if password protection is enabled and the drive or media is encrypted and provided by the security official.
- All remote access to the networks or cloud-based applications shall be done with the use of a secure access like, VPN.

Illustration

M/s. XYZ and Co, Chartered Accountants, implemented policies relating to mobile devices and data security. The policy contained the following:

- The devices must contain unique IDs and passwords meeting the complexity requirements.
- The devices should not be used to access unauthorized Wi-Fi.
- Documents and applications from unknown sources should not be downloaded and opened.
- Always update the devices with latest security patches.

The firm also took measures to implement software that can wipe off the entire data in case the devices are lost and not traceable.

1.5 Data Security

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.5 Data Security (i) Critical communications are digitally secured: (a) Are critical communications digitally secured (either through digital signatures or passwords/other mechanism) (b) Is there any password for all files that contain sensitive data?	For each Yes - 1 Point For each No - 0 Point	Maximum Points - 23

Competency Dimension	Point Awarding Basis	Max Points
<ul style="list-style-type: none"> (ii) Access to internet is restricted on need only basis and use of data cards is also routed through corporate firewalls: <ul style="list-style-type: none"> (a) Is the access to internet controlled through a firewall? (b) Is there a usage log available? (iii) Firm has deployed end-point security on all desktops (including access control): <ul style="list-style-type: none"> (a) Are all the systems secured through antivirus? (b) Are systems being updated with the latest security definitions? (c) Is there domain login system available? (d) Is there domain login policy being applied to the system? (iv) Business Continuity Plans and Disaster Recovery: <ul style="list-style-type: none"> (a) Is there any Business Continuity/Disaster Recovery plan? (b) Is there any back-up system available off-site? (c) Has the plan been regularly tested for effectiveness? (v) BYOD policies: <ul style="list-style-type: none"> (a) Is there BYOD (Bring your own device) policy available in the firm? (b) Do these devices have any end point security applied to these systems? (vi) Internet policy: <ul style="list-style-type: none"> (a) Is there policy for usage of internet (e.g., filtering of websites)? (b) Is there different usage policy for different users based on requirement? (vii) Information Technology (IT) policy: <ul style="list-style-type: none"> (a) Is there an IT policy available for the firm? (b) Is the policy being read and acknowledged and regularly reiterated to the firm's employees? (c) Is there any audit trail available for the implementation and acceptance of the IT policy? (viii) Password protocol or guidelines: <ul style="list-style-type: none"> (a) Is there any password policy? (b) Does the e-password need to be changed on a periodic basis? (c) Is there a two-step verification process available for access to mails? (ix) In-house developed tools: <ul style="list-style-type: none"> (a) Are there any in house developed tools? (b) Are there any personnel's available who can develop such tools? 		

Implementation Guide – Data Security

(i) Critical communications are digitally secured

Communication is vital. It is a critical component in effective dialogue, efficient management and for an organized infrastructure. Communication makes negotiations clear, enables smooth transfers of knowledge and ensures everyone in a team is working towards the same goal.

Tips for securing communications:

- Use strong passwords and don't re-use them. Good: ('34bGUI7&89@) Bad: '12345 or Eddy1')
- Provide firewall security for your internet connection.
- Use multiple authentication methods like, password, security question, digital certificate, smart card, etc.

(ii) BYOD (Bring your own device) policy

Some firms allow their employees to use their personal phones to conduct business. It's great for business to increase productivity and efficiency but it leaves businesses vulnerable to an attack since phones can be hacked and used to access firm's network. A BYOD policy will help to educate employees on the use of mobile technology and how to mitigate the risk of an attack.

(iii) Information Technology (IT) Policy

It is no understatement to say that IT is the key driver in any business. These days, virtually every business operates out of computers and Internet. Organizations should realize that proper usage of IT not only ensures data confidentiality but can also offer competitive advantages. An IT policy protects against threats and it also improves transparency and efficiency.

Illustrative list of IT Policies

- Inform all users on the acceptable use of technology – this policy would cover areas like, use of computer resources, responsibility of passwords, illegal copying, computer security, accessing of networks, etc.
- Security awareness – The firm must consistently inform all users regarding the impact their actions can have on security and privacy. The number of computer security incidents and the resulting cost of business disruption and service restoration continue to escalate. The policy shall include a monthly security awareness newsletter covering latest threats, online or personnel training to all employees, most common threats a firm can encounter and measures to tackle the same.
- Information Security – Firm must implement a policy for the enterprise data risk management. The policy must define the management, personnel and technology structure. The policy shall focus on system access control, information access, user id allotment for access to corporate information, password policy, etc.

(iv) Certain other points important from data security viewpoint:

- Access to internet is restricted on need only basis and use of data cards is also routed through corporate firewalls.
- Firm should deploy end-point security on all desktops (including access control).
- Firm should develop an effective Internet Policy which can monitor the data usage and access to websites should be restricted.
- Password guidelines should be implemented wherein the password should be changed periodically.

(v) Business Continuity Plans and Disaster Recovery

The firm should have a policy in place in the event of disruption, outage or such other reasons due to which it is not able to perform its duties in the regular course. This could be caused by heavy power outage, internet failure, fire, natural disasters, etc. A business impact analysis is recommended to be performed.

1.6 Electronic Payments

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.6 Electronic Payments Financial Transactions beyond a threshold are made through electronic means using Two Factor Authentication from designated devices only.	Below 15% - 0 Points	Maximum Points - 3
(i) Min of 15% and up to 40% of all payments are made through electronic means.	15%- 40% - 1 Point	
(ii) 40% to 75% of all payments are made through electronic means.	40% to 75% - 2 Points	
(iii) Above 75% of all payments are made through electronic means.	Above 75% - 3 Points	
Note: % is in terms of transaction volume in a financial year.		

Implementation Guide - Electronic Payments

E-payment is very convenient compared to traditional payment methods such as, cash or cheque. Since one can pay for services online at any time of day or night, from any part of the world. E-payment also eliminates the security risks that come with handling cash money.

Following are the few advantages of electronic payments:

- Useful data at your fingertips which is not available if transacted with cash.
- No security risks.
- No wastage of time.
- Better track on payments.
- Reduced transaction costs.

Illustrative list of electronic payment options available —

- National Electronic Funds Transfer (NEFT) — A NEFT transaction, or National Electronic Funds Transfer, allows an organization to carry out a one-to-one money transfer in the quickest possible time. For such a transfer, organization is just required to enter the bank details of the beneficiary and the IFSC code of the bank branch.
- Payments through mobile wallets like, Paytm — Usage of e-wallets will provide advantages like, easy accessibility, simple to load money, quick transfer of funds, etc.
- Payments through UPI by using applications such as Google Pay, Phone Pe and others - The UPI is a payment mechanism which allows instant money transfer without the bank details. Instead of bank account number and IFSC code, the virtual payment address (VPA) is used to pay through the UPI.

Illustration

M/s. XYZ and Co, Chartered Accountants, is a firm which initially started with fewer employees and clients. Hence, the entity used to process salary and vendor payments by issuing cheques. But, as the size of the entity grew, it became difficult to keep track of payments being made. Hence, the firm decided that going forward it will make all its salary and vendor payments using NEFT which enabled timely payment and also enabled effective tracking of all payments.

1.7 Copyright and Licenses

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.7 Copyright and Licenses (i) Software deployed are backed by appropriate licenses and inventory of licenses are maintained: (a) All software being used are appropriately licensed? (b) Is there a list of licenses along with the expiry date maintained? (ii) Policy on use of graphics available on the net (Copyright related issues): (a) Are there any downloads done from the website? (b) Is the policy on copyright being adhered to?	For each Yes - 1 Point For each No - 0 Point	Maximum Points – 4

Implementation Guide – Copyright and Licenses

The Firm must acquire software licenses and must use the software and documentation only in accordance with applicable license agreements. The software user should be aware of limitations on use and reproduction described in the license agreement related to specific software, and to use licensed software strictly in accordance with such limitations.

Implementation Clues

- A copy of the software license agreement should be kept with the software for easy reference.
- Ensure compliance with all provisions of the software agreement.
- All users of computer software should be aware of the terms and conditions.
- Professionals and skilled workers who provide information services and products to ensure that there is no copying or distribution of software and related documentation.
- Ensure that employees are made aware of copyright issues while downloading from website.

The firms will use devices like laptops, computers, mobiles, tablets and others; hence the firms should ensure that licenses are acquired for all software installed on such devices like, MS Office, MS Word, MS Excel, MS Word, MS PowerPoint, MS Outlook and others.

Illustration

M/s. XYZ and Co, Chartered Accountants, ensured that all the software purchased are genuine and are backed by proper license agreements. The firm also has the practice of educating its employees regularly on the don'ts of copyrights and licenses. The firm also regularly inspects all the devices of the firm to verify if there are any software installed that are not genuine.

1.8 Digital Media for Communication

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.8 Digital Media for Communication		
(i) Internal employee portal is maintained with updated content relating to firm's audit programs, checklists, sample representation letters, etc.	For each Yes - 1 Point	Maximum Points – 11
(a) Is there an internal employee portal available?	For each No - 0 Point	
(b) Is the portal accessible outside the office premises?		
(c) All data/content relating to firm's audit programs, checklists, sample representation letters, trainings, etc. is available and updated on real time basis.		
(d) Is the access to the portal is through a login ID and password?		
(ii) E-newsletter is published to its employees and knowledge updates are available on portal:		
(a) Is there a periodic E-Newsletter and knowledge updates published and distributed among its employees?		
(b) Is there a repository available for the E-Newsletter and knowledge updates?		
(c) Can the repository be accessed by the employees including the articles at any given point of time?		

Competency Dimension	Point Awarding Basis	Max Points
(iii) Employee feedback and evaluation is done online through a portal: (a) Is employee feedback and evaluation taken on a periodic basis? (b) Is the portal accessible to all the employees including the articles at any given point of time? (iv) Mail server is managed in-house/third party service provider with scheduled back-ups/vaulting options enabled to retain mails for defined period of time: (a) Is back-up of mails done? (b) Is there any specific period of time for mail retrieval?		

Implementation Guide – Digital Media for Communication

Effective communication helps to ensure that all members of the organization are working collaboratively towards a common goal. It develops a cohesive culture and empowers employees to make the right decisions in line with the organizational goals. This in turn leads to greater efficiency and productivity and improves customer service. These outputs are relevant to every organization, so size really shouldn't matter in this respect.

Implementation Clues

- (i) Internal employees' portal should be maintained with updated content relating to firm's audit programs, checklists, sample representation letters, etc. The employees of the firm will not be able to track the recent amendments in law with the ongoing assignments. Hence, the firm should maintain a portal wherein all the amendments, checklists, reports and representation letters relevant to such amendments are uploaded. By doing this the firm will be saving lot of time as each and every employee need not spend time in analyzing and interpreting the law.
- (ii) E-newsletter should be published at periodical intervals which must contain recent amendments/updates and news about what is going on in the firm. The firm must take the initiative to publish newsletter at periodical intervals so that the members of the firm are updated with recent amendments. The responsibility of preparing the newsletter can be divided amongst various teams in the firm and the respective team can focus on preparing newsletters in their area of expertise. Along with this, the HR of the firm can also take an initiative to include few things about the activities of the firm like, recent seminar conducted by the firm, celebration of a festival in the office or other office events, etc.
- (iii) Employee feedback and evaluation is done online through a portal – Refer HR Tools in Section 1.2 “Operational Process Automation”.
- (iv) Mail server should be managed in-house/third party service provider with scheduled back-ups/vaulting options enabled to retain mails for defined period of time. It is important for any firm to maintain the audit data; hence it becomes important for a firm to maintain the mail server. The following are the benefits associated with it:

- Full control over both the server and your e-mail
- View logs for incoming and outgoing messages
- View logs for connection and authorization attempts

If the prospect of managing own mail server is too daunting, the firm should consider using a third-party mail service. For a fee, these services provider manage mail servers and take care of all hosting, maintenance and troubleshooting tasks.

1.9 Protecting Personal Data and Privacy

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.9 Protecting Personal Data and Privacy		
(i) Employee related personal information/HR data in electronic form is secured from unauthorized access: (a) Is all employee related personal information/HR data in electronic form is secured from unauthorized access? (b) Are all the systems having sensitive HR data being protected by passwords? (c) Are all data uploaded on portals encrypted?	For each Yes - 1 Point For each No - 0 Point	Maximum Points - 7
(ii) Social media checks are carried out on key employees as part of background checks including prior or existing relationship with clients: (a) Are social media background checks done on key employees? (b) Are their social media profiles monitored for verification of existing relationship with clients?		
(iii) Employees are sensitized on due care to be taken relating to sharing client specific information on a regular basis: (a) Employees, including articles, are sensitized and due care to be taken relating to sharing client specific information during induction. (b) Workshops/ Seminars conducted for employees including articles on handling of client sensitive data.		
(iv) Privacy Policy and the Terms of Use policy (a) Does the firm have a Privacy policy? (b) Does the firm have a Term of Usage policy for usage of data and assets under their control? (c) Has the firm classified data into sensitive and non-sensitive data?	For each yes – 1 point each (for a & b) 4 points (for c) For each no - 0 point	Maximum marks - 6

Implementation Guide – Protecting Personal Data and Privacy

Every Professional Accounting Firm would have the responsibility of maintaining confidentiality of client data as well as employee data. Adequate data governance builds trust. It safeguards the reputation of firm's business, establishing firm as a brand that people can trust with their data.

Implementation Clues:

Employee Data Protection –

Employers need to process and maintain a broad range of personal data for employees and they do so through the entire life cycle of the employment if not beyond, for example, during recruitment and onboarding process, during the course of the employment relationship, and even after it ends.

The following points shall help a firm in protecting employee data:

- Use security software on devices to protect from the latest threats.
- Employees must be made aware not to open personal data or accounts on social media via unsecured Wi-Fi networks.
- Protect firms and employee accounts with powerful, unique passwords that contain a combination of at least 10 uppercase and lowercase letters, symbols, and numbers. These passwords should not be written down, not even in a password protected file, but assistance of good password manager should be taken.
- Sensitive HR data access should be given to authorized personnel only.
- Policies should be set up for sharing employee data.

Client data protection –

Any firm would have to handle lots of client data and at the same time it is also important to maintain confidentiality of the same. The following points will assist a firm in maintaining confidentiality of client data:

- Audit the data protection practices – It is advisable not to wait for a data breach to take the security protocols seriously. An annual review of systems by an outside firm is a best practice for firms who regularly handle sensitive information. And, if the firm can make the clients aware that firm is doing this on an annual basis, it becomes additional value and security to the clients.
- Ensure that clients are aware about e-mail security - When an email is sent it stops in several locations (or servers) before it hits the inbox, so without encryption, hackers can intercept the email. This gives the firm an opportunity to develop a system that is secure for both firm and the clients.
- Physical security - If firm's computer network is secure, but the staff isn't careful about walking away from a computer with files open, those files are at risk. Physical security like, keeping locks on doors leading to any sensitive files, cable locks on computers to ensure they are locked to the desk, and keeping desks clean and tidy so that information can't be misplaced or picked up by the wrong hands are things a firm can do to avoid the theft of sensitive data.

1.10 Online scans for adverse content

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.10 Online scans for adverse content		
(i) Does the firm carry out, either through a third party or on its own, scan of online content to track any adverse news about the firm/it's employees?	For each Yes - 1 Point	Maximum Points – 2
(a) Does the firm scans the online contents relating to the firm on its own or by third party?	For each No - 0 Point	
(b) Is there an internal PR department which handles in case of any adverse publicity of the firm or its employees?		

Implementation Guide - Online scans for adverse content

The modern business environment is not only of increasing sales and profitability, growth and development; it is also about protecting brand image from external threats and adverse publicity. Any brand has to be meticulously built up and it might take in-depth planning and nurturing for months, if not years, for it to prosper fully. Hence, when a brand is under attack from competitors, the very image and functions of the business drops drastically. It is one thing to have stagnant sales and profitability in the normal course of business; it is another to have negative publicity and unwarranted attacks on a brand affecting business stability.

Anything on the internet is going to stay there forever. Even if a tweet is deleted, that tweet could still be seen and shared by millions of people before it is taken down. A message that goes viral could propel a firm to new heights or crush it in a matter of hours. This is true whether a business owner or executive writes his or her own tweets or has someone else writing them in his or her name.

If a firm is unprepared and launches its social media presence without proper planning, it could waste valuable time and money. Some of the possible disadvantages of social media is as follows:

- Customer complaints and feedback are visible and open for scrutiny from the public.
- There may be increased usage of business and personal resources to manage and control social media campaign.
- There may be negative employee influence, internally and externally, to firm's business.

A firm should, therefore, implement the following to protect itself from external risk emanating from social media:

- Firm must carry out, either through a third party or on its own, scan of online content to track any adverse news about the firm/it's employees. It is important for the firm to know what the society is speaking about the firm and its employees. Firms must regularly carry out checks on social media to understand the adverse publicity and should take measures to tackle the same. The firms must also scan the media for any adverse publicity related to employees to evaluate its effect on the firm.
- Firm can use social media monitoring tools for tracking posts related to itself. Some of the social media tools are as follows: Hootsuite, Social Mention, Sprout Social, TweetReach, etc.

1.11 Information Systems Related Audits/Reviews

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.11 Information Systems Related Audits/ Reviews Has the firm carried out audits relating to:		
(i) IT Security –General Control Reviews (a) Are there IT Security - General Controls defined? (b) Are IT Controls verified on a periodic basis? (c) Are there controls in place to regularly update the patches?	For each yes - 1 point For each no - 0 point	Maximum points 3
(ii) Application Security Audits (a) Are there any Application Security and Vulnerability Audits performed?	For each Yes – 4 Points For each No - 0 Point	Maximum points – 4
(iii) Technical reviews like, Vulnerability Assessments, Web Application security testing, etc. (a) Do you have periodic check for vulnerability assessment of digital data? (b) Are the systems up to date with security patches? (c) Has the firm obtained any external certifications like, ISO 27001, ISO 9001, etc.	For each yes a and b- 1 point, c- 5 points	Maximum points- 7

Implementation Guide - Information Systems Related Audits/Reviews

Many firms are spending large amounts of money on Information Technology (IT) because they recognize the tremendous benefits that IT can bring to their operations and services. However, they need to ensure that their IT systems are reliable, secure and not vulnerable to computer attacks.

IT review is important because it gives assurance that the IT systems are adequately protected, provide reliable information to users and are properly managed to achieve their intended benefits. IT review could also help to reduce risks of data tampering, data loss or leakage, service disruption, and poor management of IT systems.

Implementation Clues

- *Mandate periodical team reporting-* A firm has to schedule a compliance reporting meeting on a periodical basis. If meetings are conducted regularly then it ensures that issues are resolved at the earliest. It will be a valuable opportunity for team members to talk through any concerns, verify that current processes are working, plan for any upcoming compliance events, and discuss changes to compliance regulated services or environments.

- *Develop an Internal Dashboard* – Firm can develop a dashboard that maps each compliance regulation or framework to its controls, systems and processes that address them. It will be very helpful to have a single pane of glass view into everything firm is required to uphold.
- *Leverage Automated Reporting* – It will be difficult for security and development personnel to create and manually manage a dashboard. A much better approach is to look to a security platform that will report on the effectiveness of firm’s compliance controls and processes.

Similarly, a firm should also conduct the following Audits/Reviews:

- Application Security Audits.
- Technical reviews like, Vulnerability Assessments, Web Application security testing, etc.

1.12 Design of Application Level Controls

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
1.12 Design of Application Level Controls (i) Has the firm participated in the application design stage for any client to suggest internal controls to be built into software they propose to develop/use, say, maker checker controls, segregation of duties, audit logs, etc. in financial software like accounting, payroll etc.:	(i) 0 to 30% instances - 1 Point (ii) 30% to 60% instances - 2 Points (iii) Above 60% instances - 3 Points	Maximum Points – 3
(ii) Using Social Media such as, LinkedIn and WhatsApp for Client Communication (subject to ICAI Regulations): (a) Is the firm active on Social Media? (b) Are communications to clients done through social media?	For each Yes - 1 Point For each No - 0 Point	Maximum Points – 10
(iii) CRM/ e-mailing software for managing client communication: (a) Does the firm have a CRM/e-mailing software for client communication management? (b) Do all the employees have access to the software/CRM? (c) Do all the employees have access to the software/CRM including Articles?		
(iv) Process of having client Log in passwords and authorization and legality: (a) Are all the client logs protected with password? (b) Logs are accessed by only authorized personnel.		

Competency Dimension	Point Awarding Basis	Max Points
(v) Segregation of data based on allocation of work and sensitivity: (a) Is there segregation of data on the basis of allocation of work? (b) Is all the data uploaded in cloud and can be accessed only with valid credentials? (c) Is data in the cloud accessible on the basis of client and allocation of work?		

Implementation Guide - Design of Application Level Controls

(i) Design of Application Controls

Following are few areas where IT Application Controls can be reviewed:

- Input Controls
 - Comprises the components that capture, prepare, and enter commands and data into the system.
- Processing Controls
 - Comprises the components that perform decision making, computation, classification, ordering, and summarization of data in the system.
- Output Controls
 - Comprises the components that retrieve and present data to users of the systems.
- Database Controls
 - Comprises the components that define, add, access, modify, and delete data in the system.
- Communication Controls
 - Comprises the components that transmit data among sub-systems and systems.
- Boundary Controls
 - Comprises the components that establish the interface between the user and the system.

(ii) Using Social Media such as LinkedIn and WhatsApp for Client Communication (subject to ICAI Regulations)

Being active on social media by regularly posting articles on recent amendments, replying to clients, etc. adds value to the business. Firms should ensure that they are very prompt in responding to client and, one should post articles at regular intervals. (Refer Section on Social Media Presence).

(iii) Custody of digital signatures

It is very important for firms to ensure that the digital signatures of partners are not misused. A firm can assign a person who would be in charge of digital signatures and the firm must set up a portal, where the employees of the firm must place a request for digital signatures, and such request has to be approved by manager or partner, so as to ensure proper track of digital signatures. The firm can also set up a policy that the digital signature of partners will be in possession of respective partners at all times and the digital signature has to be used in their presence.

(iv) Certain other points that requires attention

- Use of CRM/e-mailing software for client communication management. (Refer Section on CRM Tools).
- Process of having client log in passwords and authorization and legality.
- Segregation of data based on allocation of work and sensitivity.

1.13 External Validation/Certification

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
(i) Is the firm subject to external validation/ certifications like, ISO 27001, etc.	For each Yes - 4 Point For each No - 0 Point	Maximum Points – 4

Implementation Guide - External Validation/Certification

Compliance is the process by which a firm can ensure that relevant external and internal requirements such as, legislation, rules, guidelines, standards, codes, policies, procedures and controls are complied with. The compliance function assists the business in complying as well as gaining assurance from the business that they have complied. Firm must identify all external compliances (Validation/Certification) related to their business operations and should implement those as per their specific implementation guidelines.

For Illustration, ISO 27001 Implementation broadly involves following steps

- Define an Information security management systems (ISMS) policy.
- Define the scope of the ISMS.
- Perform a security risk assessment.
- Manage the identified risk.
- Select controls to be implemented and applied.
- Prepare a Statement of applicability (SOA).

1.14 Custody of Digital Assets

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
(i) Inventory of assets (Hardware, Software, License, etc.) (a) Does the firm have an inventory of assets? (b) Are the assets been given unique ID? (c) Are the assets allocated to an employee being tracked? (d) Is the list of assets updated on real time basis? (ii) Standardized and approval driven process to store and use the digital signatures of the clients (a) Are all the digital signatures in the custody of authorized personnel? (b) Does the firm have approval system for usage of digital signatures?	For each yes – 1 point For each no – 0 point For ii (b) – 2 points	Maximum points- 7
(iii) Has the firm deployed any mechanism/ tools to safeguard the login credentials for various clients?	For each yes – 4 points For each No – 0 Point	Maximum Points – 4

Implementation Guide – Custody of Digital Assets

(i) Inventory of assets

A firm shall have inventory of assets like, computers, laptops, TVs, projectors and others. It is important for the firm to keep proper track of all the assets.

Implementation Clues

- Assets must be given a unique ID.
- A list of all digital assets should be maintained which shall contain the location of assets and unique IDs assigned.
- The assets given to employees must be tracked properly.
- The list of assets must be updated regularly.
- Periodical verification of digital assets must be conducted.

(ii) Digital Signature of clients

Digital signatures of the client if in custody of firm should be backed by an escrow agreement and should be physically safeguarded.

Implementation Clues

- The firm should designate one employee to take custody of all digital assets of clients.
- The firm should set up a portal in which the employees shall place request for the digital signature of clients
- The request placed on the portal should be approved by the firm's manager or partner.
- On approval, the digital signature should be handed over by the designated employee.
- Employees should be made aware not to hand over DSC to other teams and the DSC has to be routed through the designated employee after proper approval.

(iii) Login credentials of clients

Professional accounting firm will have the login credentials of various clients and it is important to maintain the confidentiality of such data. The firm has to prepare a list of client credentials and it should be regularly updated. The access of the client credentials should be given to partners or managers only.

SECTION B : AVAILABILITY OF QUALIFIED RESOURCE POOL AND TALENT DEVELOPMENT RELATING TO DIGITAL COMPETENCIES

This section covers aspects relating to what extent an accounting and audit firm has leveraged Information Technology (IT) and related processes for its own operations – from automation of attendance systems to cloud based data back-up, etc. It also addresses issues of data security of client’s sensitive data.

2.1 Skilled resource for managing internal IT infra

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.1 Skilled resource for managing internal IT infra (i) System Administrators or Cloud Administrators (in case of cloud deployment) (a) Is there an in-house system administrator? (b) Have you deployed anything on the cloud? (c) Is he well trained to manage the deployments inside the premises as well as on the cloud? (ii) Annual Maintenance Contract (AMC) Support (a) Is there an AMC for desktop support/ maintenance? (b) Is there an AMC tracker available? (c) Are AMC’s of desktops/hardware taken on a timely basis?	For each Yes - 1 Point For each No - 0 point	Maximum Points- 6

Implementation Guide – Skilled resource for managing internal infra

(i) System Administrators/ Cloud Administrators (in case of cloud deployment)

The firm may already have entrusted the System Administrator responsibility to an in-house staff. If not, the firm may opt for recruiting a person for this job. Alternatively, this can be entrusted to outsourced personnel. In both the cases, the firm will have to define the roles and responsibilities of the Systems Administrator. Small firms may check feasibility of entrusting system administration responsibility to their existing hardware AMC vendor. In that case, AMC vendor can render services on-call basis for system administration work. With proper security put in place, a remote system administration service may also be considered.

Depending upon the volume of work, a firm (especially large and medium size firms) may have to formalize sub roles in System Administrator such as, Backup Administrator, Network Administrator, Firewall Administrator, Security Administrator, etc.

Further, System Administrator is responsible for safe and secure continued availability of all IT resources to the authorized users. Today's System Administrator's may also oversee, apart from routine administrative activities, other areas of importance such as, incident reporting and resolution, security incidents management and reporting, capacity enhancements, participating in future business planning from IT perspective, etc. The firm should also define who are the authorized users and formally communicate the same to System Administrator.

For example, Article assistant placed on one audit may not be authorized to access other audits assigned to other article assistants. The Firm should provide such information classification to systems administrator for defining access rights.

Further, in case of cloud deployment, normal duties of System Administrator do not get diluted even though the firm has cloud deployment. Only the operational part will be the responsibility of the cloud service provider. In such a case, the responsibility of System Administrator will be, like a coordinator/ manager, who gets the job done from the cloud service provider. So, he should have sufficient technical knowledge to deal with technical personnel of the cloud firm. Capacity management and security of firm's data (at optimum cost) becomes important in the cloud deployment. The person should have a right balance of technical and managerial/ negotiation skills.

(ii) Agreement with service providers

If digital technologies are not already in place, the firm may put in place an agreement (known as Service Level Agreement) with the cloud service provider and the following points have to be taken care:

- The firm may maintain inventory of all hardware and software with clear demarcation between IT assets owned by the firm's cloud and IT assets owned by the cloud service provider.
- In cases where more than one cloud service provider is responsible for providing service/s, the firm will have to establish multi-party agreements, e.g., a tri-party agreement.
- Large and medium firms may be outsourcing (or co-sourcing) to outside experts/ firms some of the assignments. In such cases, customer's data protection and other IT related contractual obligations of both the parties are very important.

Agreement clause with cloud service provider may include:

- Breakdown and preventive maintenance schedules;
- Service reporting at predefined periods (e.g., monthly);
- Security incident management and reporting, audit and other inspection reporting;
- All types of fees and charges;
- Security management for data protection;
- Changes in key support personnel, key hardware changes, ownership and custodian provisions, migration and knowledge transfer clauses, etc.

2.2 Training/skill of staff related to office automation

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.2 Training/skill of staff related to office automation (i) How many of the firm's staff are formally trained/skilled in – (a) Word processing software skills (b) Spreadsheet software skills (c) Database/ data analytics skills (d) Presentation skills (e) E-mail and internet skills	(i) 0 to 30% of the staff - 1 Points (ii) 30% to 60% of the staff - 2 Point (iii) Above 60% of the staff - 3 Points (evaluation should be made for each of the five sub-questions separately)	Maximum Points - 15
(ii) Use of automated work-flow systems (including Macros) – (a) Do you have any automated work-flow systems? (b) Is it a web-based/ cloud solution? (c) Is it an on-premise solution?	For each Yes - 1 Point For each No - 0 point	Maximum Points - 3
(iii) How many of the firm's staff are formally trained/skilled in – (a) Use of technology to automate including Macros (b) Use of Emerging technology (c) IT Security	(i) 0 to 30% of the staff - 2 Points (ii) 30% to 60% of the staff - 3 Point (iii) Above 60% of the staff - 4 Points (evaluation should be made for each of the three sub-questions separately)	Maximum Points - 12

Implementation Guide – Training/ Skill of staff related to office automation

Automation technologies can help free up article trainees/ employees from mundane, repetitive tasks and enable them to do more strategic and creative work. Moreover, from the firm's perspective, automation can increase productivity, reduce costs, and minimize errors.

In case of small firms, senior partner/s may be handling this work himself. But now, s/he may have to entrust this work to a permanent junior staff member. Small firms may have to recruit such a staff and provide necessary training in scanning, classifying a document, etc. Firm may conduct training for employees/ article staff relating to office automation.

Benefits to the firm will be as follows:

- This is very important from the point of maintaining all documentation easily traceable and also establishing correct workflow.
- In word processing skills, apart from usual typing skills, a person may know important word processing features such as, spelling check, indexing and table of contents, styles management, mail merging, track changes, document compare, etc., to prevent manual error.
- Key staff members may be given training in simple and advanced data analysis training, which can help the firm in its practice areas such as, audits and taxation. For example, large and medium firms may undertake Excel automation with the help of writing macros or providing other Excel automation utilities.
- Tremendously enhance the performance of document preparation.
- Spreadsheet programs allow streamlining of numeric data and avoiding repetitive calculations.
- Pictorial representation enhances understanding and interpretation of data.

2.3 Qualification in technology

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
<p>2.3 Skills related to audit in a computerized environment/Information Systems Audit</p> <p>Do staff members possess one or more of the said qualifications:</p> <p>(i) Diploma in Information Systems Audit (DISA)/ Certified Information Systems Auditor (CISA)</p> <p>(ii) Certified in Risk and Information Systems Control (CRISC)</p> <p>(iii) Certified Fraud Examiner (CFE)/ Forensic Accounting & Fraud Detection (FAFD by ICAI)</p> <p>(iv) ISO 27001 LA/Implementer</p> <p>(v) Any other relevant certifications in field of digital</p> <p>Note: For the above, articled clerks are to be excluded, only partners, qualified staff and paid assistants are to be factors</p>	<p>(i) 1% to 10% of the staff - 2 Points</p> <p>(ii) 10% to 30% of the staff - 3 Points</p> <p>(iii) Above 30% of the staff - 4 Points (evaluate separately for each of the points)</p>	<p>Maximum Points- 20</p>

The firm may encourage its partner/ staff to undergo various courses and get requisite qualifications essential for enhancing their skill set in digital era. In case of IT Audit, Post Qualification Course in Information Systems Audit (DISA) conducted by ICAI and Certified Information Systems Auditor (CISA) conducted by ISACA are there. Similarly, in case of Forensic Audit Certificate Course on Forensic Audit and Fraud Detection is conducted by ICAI and Certified Fraud Examiner is conducted by ACFE. For those who do not wish to undergo certification, even attending lectures online will allow them to understand and follow best practices in using IT.

Implementation Guide – Qualification in technology

- The Firm may put in place fee reimbursement schemes for staff passing these certification courses.
- All need not undergo all of these courses and should choose courses based on expertise.
- Medium and large firms may seek additional courses such as, ethical hacking, data analytics, learning programming languages (e.g., Java, Python), SQL and database learning.
- All the staff members may be encouraged for self-learning for all the above courses, in addition to regular formal training courses. This also helps the firm in developing new software, increase in IT security, enhancing the integrity in the work of audit, quick solutions to the problems, quick analysis of data, etc.

2.4 Digital Etiquette

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.4 Digital Etiquette		
(i) Does the firm provide its staff with training on drafting mail responses/ any other form of digital communication factoring cultural and generational diversity of the client/ recipients?	For Yes - 1 Point	Maximum Points- 4
(a) Are there trainings being conducted on digital communication by the firm for its staff?	For No - 0 Point	
(b) Are the trainings conducted on a regular basis?		
(c) Is training conducted by a professional soft skills trainer?		
(d) Are the trainings interactive, i.e., the employees can clear their queries during/ post the training with the trainer?		

E-mail, texting, Skype, Instagram, Tweeting and posting on Facebook are all forms of communication in digital world. Digital Etiquette or responsible digital behavior is increasingly important because without it, the digital world can become a hostile or dangerous place of false comfort.

Implementation Guide – Digital Etiquette

The scope of digital etiquette mentioned here is limited only for outside and in-house digital communication.

- The Firm may establish its own digital etiquette policy. All the staff members may be given the digital etiquette training, especially, e-mail communication, social media communication (official and unofficial), naming conventions for files/ folders, backing up individual's work, self-quality control of message prior to sending, etc.
- Firm can organize basic english language (and hindi/ regional language) communications and digital etiquette courses periodically.
- Some tools to undertake such awareness are firm newsletter, bulletin boards, on-line quizzes/ tests, off-site training camps, etc.

Below is the Illustrative list of cautions to be taken while drafting an e-mail (i.e., Do's and Don'ts)

- Do have a clear subject line.
- Don't forget signature.
- Read and then re-read your message before you send it.
- Observe the common practices of your firm.
- Use proper salutations.

2.5 Protecting against digital threats

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.5 Protecting against digital threats (i) Does the firm sensitize its employees on issues like: (a) Cyber bullying <ul style="list-style-type: none"> • Has the firm sensitized its employee on cyberbullying? • Are there seminars/lectures on the threats of cyberbullying? (ii) Phishing attacks/spear phishing attacks targeting key employees <ul style="list-style-type: none"> (a) Has the firm sensitized its employee on phishing attacks/spear phishing attacks to its key employees? (b) Are there seminars/lectures on the threats of phishing attacks/spear phishing attacks to its key employees? (iii) Malware threat indicators <ul style="list-style-type: none"> (a) Has the firm sensitized its employee on malware threats? (b) Are there seminars/lectures on the threats of malware? 	For Yes - 1 Point For No - 0 Point	Maximum Points- 6

Implementation Guide – Protecting against digital threats

As a professional accounting firm, loss of critical financial data of client due to a cyber-attack can have far-reaching consequences for the firm, like loss of reputation, trust and ultimately loss of clientele. With the growth in technology adoption, it's imperative for the firm to protect accounting practice against cyber security risks.

Following are measures to protect firm's practice from cyber security threats -

- Use of genuine software.
- Invest in technology solutions like, firewall and antivirus.
- Implement a cybersecurity culture.
- Developing comprehensive data security policies.
- Training employees about specific cyber hazards, alternatively, firm (especially small firms) may outsource this activity on a continued basis.
- An acceptable usage policy (for IT resources) will have to be established by the firm.
- Implementation of domain login facility with group policy.
- Regular backups to be done of all data, either onsite or offsite.
- Introduction of DLP (Data Loss Protection) technique.
- Training of employees with regular seminars on cyber threats to educate, and in case of any suspicious e-mails and software they may consult system administrator for further action.

Illustrations:

- (i) Introduction of DLP (Data Loss Protection) technique in a CA firm is useful. DLP is a strategy for making sure that end users do not send sensitive or critical information outside the corporate network.
- (ii) Technique of Bitlocker is a full volume encryption feature included with Microsoft Windows versions. It is designed to protect data by providing encryption for entire volumes. If in case of theft of an office laptop nobody can access the data without the Bitlocker encryption key.

2.6 Content delivery through digital platforms

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.6 Content delivery through digital platforms		
(i) Does the firm have an online/on-demand learning portal which employees can access from anywhere?	For Yes - 1 Point	Maximum Points- 12
(a) Does the firm have a digital platform for learning?	For No -	
(b) Is it accessible to all its employees including the articles?	0 Point	

Competency Dimension	Point Awarding Basis	Max Points
<ul style="list-style-type: none"> (c) Is the portal accessible from anywhere? (d) Are they made mandatory for employees based on their job profile? (e) Is there a minimum of one module available per month for its employees? (ii) Are at least 50% of the total Continuing Professional Education (CPE) sessions/training sessions through webinars/podcasts are attended on an average <ul style="list-style-type: none"> (a) Are there trainings conducted through digital media? (b) Are minimum of 50% of CPE's attended on Digital Media? (c) Are the trainings interactive, i.e., the employees can clear their queries during/post the training with the trainer? (iii) Has the firm subscribed to any digital learning platforms from professional bodies for skill development of its staff? <ul style="list-style-type: none"> (a) Has the firm subscribed to any digital learning platforms from professional body for skill development of its staff? (b) Are the sessions available to all its employees, including the articles? (c) Are there any evaluations done at the end of the session? (d) Are there any programs conducted by the firm to communicate the availability of such skill development training in the office? 		

Digitization in learning environment is assumed to be a game changer replacing the old and traditional methods. Every employee has a gadget and with the help of internet, they also have access to every relevant information online. Ultimately digitalized learning is reducing the costs, easier and faster to set up and also provides tremendous ease of access.

Implementation Guide – Content delivery through digital platforms

- Medium to large firms may undertake establishing their own portal for conducting on-line or on-demand training. Firms can go for an option of collaborating with universities or colleges or private institutes for such training.
- Smaller Firms can go for the second option, since lot of such digital learning platforms are now available, some are free while some are commercial. ICAI itself has so many on-line learning courses for members and students at Cloud Campus and Digital Learning Hub. Firm may subscribe to any digital learning platforms from professional body for skill development of its staff and may communicate the availability of such programmes in the office.

Firm can organize monthly or fortnightly, half-day or one day lectures of experts in various areas. Since such lectures are not taken seriously, senior staff members/ partners may make it a point to attend them throughout. A small qualifying exam may be conducted post such lectures. Attendance and qualifying in exams may be considered for increments/ promotions.

Many a times, a person requires a handholding during performing his/her duties. Medium and large firms can provide a centralized on-line helpdesk for addressing such requirements.

Illustrations: FAQs, knowledge databases, etc., can be used for knowledge dissemination. Small firms may subscribe to a knowledge base website for sorting out such hand-holding needs.

2.7 Access to knowledge base, content search online and evaluating content prior to use

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
<p>2.7 Access to knowledge base, content search online and evaluating content prior to use</p> <p>(i) Access to business knowledge database, market drivers and technology involved in the industry in which the firm operates</p> <p>(a) Is there access to business knowledge database, market drivers and technology involved in the industry in which firm's client operate?</p> <p>(b) Is there access to all its employees?</p> <p>(c) Is it accessible from anywhere?</p> <p>(d) Is the database updated with latest amendments on a regular basis?</p> <p>(ii) Are staff trained formally on content searches related to work and how to identify authenticity of the source (say of case laws, audit check lists, etc.,)</p> <p>(a) Are the employees formally trained on how to identify authenticity of the source while searching for content?</p> <p>(b) Are there any list of websites given to employees from which information can be trusted?</p> <p>(iii) Are staff trained on what online content can be legally re-used without IPR (Intellectual Property Rights) infringements?</p> <p>(a) Are the employees sensitized about copyright issues?</p> <p>(b) Are there trainings conducted to emphasize the legality of infringement issues?</p> <p>(c) Are the employees given training on how to use specific online content legally?</p> <p>(iv) SEO (Search Engine Optimization)</p> <p>(a) Is your website optimized for SEO (Search Engine Optimization)?</p> <p>(b) Do you adhere to ICAI policy of pull based and not push based?</p>	<p>For Yes - 1 Point</p> <p>For No - 0 Point</p>	<p>Maximum Points- 11</p>

Implementation Guide – Access to knowledge base, content search online and evaluating content prior to use

- Basic awareness training about IPR ((Intellectual Property Rights) may be provided to all. Similarly, training on Information Technology Act, 2008 may be provided to all staff members of the firm.
- The Firm can put up list of good authentic web sites on its portal or circulate through social media.
- Whenever, any staff wishes to take some contents from a web site, firm may have in place a tool to approve the same. Some websites offer such kind of services.
- Firm may encourage a practice of citing the source of taking the information to all its staff members.
- Firm may train the staff on what online content can be legally re-used without IPR infringements.

2.8 Creative use of digital technologies

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
2.8 Creative use of digital technologies		
Are staff encouraged to put IT to creative use, say building an app for statutory due date alerts, alerts relating to professional updates, automating a routine function, etc.	(i) 1 to 2 initiatives - 2 Points (ii) 3 to 4 initiatives - 3 Points (iii) More than 4 initiatives - 4 Points	Maximum Points - 4

Technology may be used in a professional accounting firm in various ways, and these include, communication within the firm, data sharing, data protection, quick decision making, knowledge management. This would simplify work hence would increasing productivity at work.

Implementation Guide –Creative use of digital technologies

- Medium and large firms may have to create their own IT resource for handling such responsibility. Small firms may appoint an outsource consultant, formally, to look into developmental aspects.
- Employees may have lot of ideas about automating work areas, but they may be unable to actually implement them due to lack of relevant skills and tools. Outsourced consultant may look into these ideas and provide implementable plan to the firm.
- Simple alerts, schedulers, learning basic macro programming in office software (word, excel, etc.) can be learned by younger and motivated staff members on their own. However, they should be made aware about security hazards of not using these techniques systematically.

Illustrations

- A firm can build an app for statutory due date alerts, alerts relating to professional updates, etc.
- Automation of routine function by using Macro or with the help of coding, etc.
- A web app for claiming reimbursement of expenses spent over and above for the firm. This enables the employee/ article trainee/ a firm to have a track on their expenses spent on a particular project.

SECTION C1: LEVEL OF AUTOMATION RELATING TO AUDIT PROCESSES AND NATURE OF AUDIT SERVICES BEING RENDERED

3.1.1 Carrying out Risk Assessment for the purpose of Audit Planning

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.1.1 Carrying out Risk Assessment for the purpose of audit planning (i) Does the firm have a process of reviewing IT controls and risk of failures of the same vis-à-vis impact on audit planning, including but not limited to audit sample size selection, focus areas of audit, etc. (a) Is audit planning done before start of the audit? (b) Are controls including IT reviewed before the start of the audit? (c) Is there any planning done for mitigation of risks identified?	For Yes- 1 Point For No- 0 Point	Maximum Points- 3

Implementation Guide – Carrying out Risk Assessment for the purpose of audit planning

Implementation clues

Risk Assessment is performed to identify where the risk of material misstatement exists. It refers to the focus of the audit process on those areas that are most at risk of material misstatement. A risk register and risk control matrix may be prepared to assist in this process. While making a risk assessment, it is recommended that the risks pertaining to IT controls are reviewed and documented.

Following are few areas where IT General Controls can be reviewed:

- System Development/ Program Development and related controls
 - Assessment of the following can be reviewed – initiation, analysis and design, testing, data conversion, implementation, training and testing.
- Computer Operations and Access Controls
 - Assessment of the following can be reviewed – batch processing, interface processing, backup, restoration, etc.
- Access to program and data
 - Assessment of the following can be performed – segregation of duties, access control restrictions, admin accounts review, database admin controls and review.

Following are few areas where IT Application Controls can be reviewed:

- Input Controls
 - Comprises the components that capture, prepare, and enter commands and data into the system.
- Processing Controls
 - Comprises the components that perform decision making, computation, classification, ordering, and summarization of data in the system.
- Output Controls
 - Comprises the components that retrieve and present data to users of the systems.
- Database Controls
 - Comprises the components that define, add, access, modify, and delete data in the system.
- Communication Controls
 - Comprises the components that transmit data among sub-systems and systems.
- Boundary Controls
 - Comprises the components that establish the interface between the user and the system.

3.1.2 Use of Automated Audit Planning Software

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.1.2 Use of Automated Audit Planning Software (i) Does the firm uses any application software/tool for audit planning- including scheduling, resource deployment, tracking hours/days spent vs. budgeted time, etc.	(i) 1 to 3 Softwares - 2 Points (ii) 4 to 6 Softwares - 4 Points (iii) >6 to Software -8 Points	Maximum Points- 8

Implementation Guide – Use of Automated Audit Planning Software

Automated Audit Planning Software helps the professional accounting firm to manage the audit universe, risk analysis, audit planning, resource and time management including tracking, field management, maintaining client documentation and issue of audit reports. The features also include options to create/maintain customized checklists, assign audit questions, templates, data storage and retrieval, etc.

Below are few applications, which are specific audit management tools/ software:

- Audit Automation by CCH
- Audit Management Solution by Metric Stream
- Audit Management Software by Risk Pro
- Audit Management Software by Gensuite

Alternatively, the firm may decide to customize/ alter general workflow management tools which are adaptable for CA offices. Below are a few applications, which help in workflow management:

- Simplify Practise
- Papilio
- Cordl
- ProCAAT

Implementation Clues

- The firm can procure these tools which are mostly SaaS based and are available on per user per month basis.
- These tools help the firm to be organized and carry the audit in a structured manner.
- It is recommended that the firm prepares a standard checklist for various types of audit considering the various requirements of the statute.
- Regular updates to the checklist should be done based on the changing requirements.
- It is recommended that the firm appoints one representative to monitor and regularly update until it reaches a stable stage.
- Automated workflow tools ensure that the firm will be process dependent and not people dependent.
- Configuring attendance as well as estimated time required will help the firm to manage multiple audits within the timelines.
- It will also help in improvising the efficiency of the firm by tracking budgeted vs actual time spent for each of the tasks.
- This will also help the firm to bill the clients and explain to the clients with respect to the time spent on various tasks.

Following are few advantages of using Audit Automation Software by professional accounting firms:

- Automated processes are more consistent and easier to manage, reduce paperwork and the time to plan, customize and document an audit.
- Quality control procedures are built into every stage of the audit process to reduce errors.
- Risk analysis tools help to identify and record risk at every stage in the process.
- Reduce costs and make information easier and quicker to find.

- Adapt and customize documents and audit programs to suit the needs of clients.
- Design and roll out of audit program, notification to auditee, work paper creation and documentation, observations and issue creation, follow up on open items/audit observations, automated audit reporting facility, etc., becomes easier and faster.

3.1.3 Use of External Automated Audit Tools for Data Extraction, Sampling, Analytics, etc.

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
<p>3.1.3 Use of External Automated Audit Tools for Data Extraction, Sampling, Analytics, etc.</p> <p>(i) Does the firm have/uses automated audit tools for data extraction, sampling, applying analytics, etc.</p> <p>(a) Does the firm uses any automated tools?</p> <p>(b) Are the staff communicated about the availability of the tools?</p> <p>(c) Are the tools available to all its employees, including the articles?</p> <p>(ii) Are the staff adequately trained on usage of the tools and interpretation of results thereof?</p> <p>(a) Are the staff, including the articles, adequately trained on the usage of various tools?</p> <p>(b) Are the staff trained on how to interpret the results?</p> <p>(c) Are there any evaluations done at the end of the session?</p> <p>(iii) Are the audit staff trained on identifying, obtaining, analyzing and retaining relevant digital evidence pertaining to their audit work?</p> <p>(a) Are the audit staff trained on identifying what is digital evidence?</p> <p>(b) Are the audit staff adequately trained on how to obtain and analyze digital evidence?</p> <p>(c) Are the audit staff adequately trained on how to retain relevant digital evidence?</p>	<p>For Yes - 1 Point Except sub point (a) in point (vi) which carries 2 points</p> <p>For No- 0 Point</p>	<p>Maximum Points 28</p>

Competency Dimension	Point Awarding Basis	Max Points
<p>(iv) Are there scenarios where client’s core processes are fully automated while the firm continues to use manual audit techniques rather than system driven reviews?</p> <p>(a) Are the audit staff competent to understand the fully automated processes of the client?</p> <p>(b) Are the audit staff using the audit process in the system to verify the process rather than conducting the normal manual audit techniques?</p> <p>(v) Adoption of Advanced Excel/ Macros/ Add-ins for Analysis</p> <p>(a) Are there trainings conducted on excel?</p> <p>(b) Do the employees use advanced excel tools for analysis during audit?</p> <p>(c) Are add-ins in excel used?</p> <p>(d) Are add-ins in excel provided to all the employees including the articles?</p> <p>(e) Are the add-ins purchased and legally used?</p> <p>(vi) Using various tools for Data Analytics</p> <p>(a) Are various tools for Data Analytics such as, eCAAT, Power BI, Tableau, etc. used for analysis?</p> <p>(b) Are the tools available for all the employees?</p> <p>(c) Are the tools available for all the employees including the articles?</p> <p>(d) Are the tools used legally purchased?</p> <p>(vii) Adoption of Cloud/ SaaS based tools for various office operations and automation</p> <p>(a) Does the firm has procured any cloud-based application?</p> <p>(viii) Any customized apps used for the regular office tasks, say generating engagement letter, audit confirmations, invoice generation, etc.</p> <p>(a) Are they any apps developed for automation of regular office tasks?</p> <p>(b) Is there training given on how to use the app?</p> <p>(c) Is the app available to all the employees?</p> <p>(d) Is the app available to all the employees including the articles?</p> <p>(ix) Process to upload government and statutory returns, digitally.</p> <p>(a) Are all the government and statutory returns uploaded digitally?</p> <p>(b) Are all the credentials of government portals secured?</p>		

Implementation Guide – Use of External Automated Audit Tools for Data Extraction, Sampling, Analytics, etc.

(i) Adoption of Advanced Excel/ Add-ins for Analysis

Meaning of Advanced Excel

Advanced Excel here refers to usage of Excel/ Spreadsheet software to perform calculations on large data sets, using Macros, etc.

Illustration

Usage of Macros, Scenario Managers, Auto-calculation templates, etc.

Meaning of Excel “Add-ins”

Excel “Add-ins” empower the user to perform additional functions which boost productivity, present enhanced visuals, pivots, charts and other analysis, which the standalone Excel may have challenges in performing.

Illustration

Examples of “Add-ins” include, eCAAT, Power User, Kutools, etc.

(ii) Using various tools for Data Analytics such as, eCAAT, Power BI, Tableau, etc.

Meaning of Data Analytics Tools

Data Analytics Tools/ Computer Assisted Audit Tools (CAAT tools) are used to automate the audit processes and evaluate digital data, and extract the required data for analysis, sampling, etc.

Illustration

Usage of tools like, eCAAT, Power BI, Tableau, Knime, R, etc.

Implementation clues

- CAATs/ Advanced Excel/ Excel “Add-Ins” assist the firm in automating repetitive works and enable the audit firm to more efficiently utilize the time.
- Few of the types of tests/ analytical procedures the auditor can perform include:
 - ✓ Extracting samples according to specified criteria, such as random; over a certain amount, below a certain amount; at certain dates, etc.;
 - ✓ Calculating ratios and select indicators that fail to meet certain pre-defined criteria (i.e. benchmarking);
 - ✓ Check arithmetical accuracy (for example additions);
 - ✓ Preparing reports (budget vs actual);
 - ✓ Stratification of data (such as, invoices by customer or age);
 - ✓ Produce letters to send out to customers and suppliers; and

- ✓ Tracing transactions through the computerized system.
- It is recommended that the firm starts by using such tools on SME clients initially and slowly scales up.
- It is recommended to compare the audit requirements with the available data and identify the type of tests to be applied.

(iii) Adoption of Cloud/ SaaS based tools for various office operations

Meaning of SaaS tools

SaaS tools are software tools where licensing is on a subscription basis and is centrally hosted in a webserver, commonly referred to as the cloud.

Illustration

Quick Books, Zoho Books, Cloud based CRM Tools, Online Invoicing Tools like, Wave Apps, etc.

(iv) Any customised Apps used for the regular office tasks

Meaning of Customised Apps

Customised Apps are software deployed by the firm's staff to track, monitor the progress of work/ perform a pre-defined activity/ sharing of information, etc.

Illustration

Developing a customised app for generating engagement letter, audit confirmations (www.confirmation.com), invoice generation and receivable management (<https://app.numberz.in/app>), stock verification, etc.

(v) Process to upload government and statutory returns digitally

The firm should establish a workflow to upload documents with regulatory authorities where approvals are taken from the clients/ partners periodically.

Illustration

Using a workflow management tool to obtain approval and digitally signed documents.

Implementation Clues

- Customized apps could be client specific or process specific.
- These assist the firm in automating/ structuring a specific process. For instance, an invoicing tool and receivable management tool could help in creation of invoice, accounting and managing receivables and collections, etc.
- A workflow tool may be put in place to ensure the approval of client/ partners are obtained while uploading digitally.

3.1.4 Use of in-built audit tools/capabilities in client-side applications like, ERPs

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.1.4 Use of in-built audit tools/capabilities in client-side applications like, ERPs (i) Has the firm used in-built audit capabilities in client applications say, Audit Management Module in SAP, Oracle Financials, audit features in Tally, etc.? (a) Are the audit staff aware of the various audit tools available in various ERPs used by the client? (b) Does the audit staff uses the audit tools available in the ERPs during audits? (c) Are tools reviewed before its usage, say verification of in-built data logic/ validation capabilities in client's data, etc.	For Yes- 1 Point For No- 0 Point	Maximum Points- 3

Implementation Guide – Use of in-built audit tools/ capabilities in client-side applications like ERPs

In-built audit tools within the ERP/ client-side applications assist the firm to quickly identify red flags and exceptions.

Illustration

Usage of “Audit & Compliance” Module in Tally.

Implementation clues

- In built audit tools/ capabilities in client-side applications/ ERPs help auditors to quickly identify the issues and address them.
- Few of the features in-built in these applications include:
 - ✓ Verification of chart of accounts
 - ✓ Analytical procedures
 - ✓ Repeated payments/ periodical payments
 - ✓ Changes to Masters
 - ✓ Accounts squared off during the year
 - ✓ Accounts having only opening balance and no transactions
 - ✓ Accounts having transactions and no opening balances.

SECTION C2 : LEVEL OF AUTOMATION RELATING TO TAX AND COMPLIANCE PROCESSES AND NATURE OF TAX AND COMPLIANCE SERVICES BEING RENDERED

3.2.1 Carrying out Risk Assessment for the purpose of Tax Computation

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.2.1 Carrying out Risk Assessment for the purpose of tax computation (i) Does the firm have a process of reviewing IT controls and risk of failures of the same vis-à-vis impact on tax computation? (a) Are controls including IT reviewed before the start of the taxation assignment? (b) Is there any planning done for mitigation of risks?	For Yes- 1 Point For No- 0 Point	Maximum Points- 2

Implementation Guide – Carrying out Risk Assessment for the purpose of tax computation

Implementation clues

Risk Assessment is performed to identify where the risk of material misstatement exists. It refers to the focus of the audit process on those areas that are most at risk of material misstatement. A risk register and risk control matrix may be prepared to assist in this process. While making a risk assessment, it is recommended that the risks pertaining to IT controls are reviewed and documented.

Following are few areas where IT General Controls can be reviewed:

- System Development / Program Development and related controls
 - o Assessment of the following can be reviewed - initiation, analysis and design, testing, data conversion, implementation, training and testing
- Computer Operations and Access Controls
 - o Assessment of the following can be reviewed – batch processing, interface processing, backup, restoration, etc.
- Access to program and data
 - o Assessment of the following can be performed - segregation of duties, access control restrictions, admin accounts review, database admin controls and review.

2. Following are few areas where IT Application Controls can be reviewed:

- Input Controls
 - o Comprises the components that capture, prepare, and enter commands and data into the system.

- Processing Controls
 - o Comprises the components that perform decision making, computation, classification, ordering, and summarization of data in the system.
- Output Controls
 - o Comprises the components that retrieve and present data to users of the systems.
- Database Controls
 - o Comprises the components that define, add, access, modify, and delete data in the system.
- Communication Controls
 - o Comprises the components that transmit data among sub-systems and systems.
- Boundary Controls
 - o Comprises the components that establish the interface between the user and the system.

3.2.2 Use of Automated Taxation Planning Software

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.2.2 Use of Automated Audit Planning Software	(i) 1 to 3 Software - 2 Points	Maximum Points- 8
(i) Does the firm use any application software/ tool for Tax and Compliance- including scheduling, resource deployment, tracking hours/days spent vs. budgeted time, etc.	(ii) 4 to 6 Software - 4 Points	
	(iii) >6 Software - 8 Points	

Implementation Guide – Use of Automated Taxation Planning Software

Automated Taxation Planning Software helps the firm to manage the tax compliance on a periodical basis. The features also include options to create/ maintain customized checklists, assign specific questions, templates, data storage and retrieval, etc.

Below are few applications, which are specific tax and compliance management tools/ software:

- Reylon for taxes
- Winman for taxes
- Saral for taxes
- Cleartax for taxes
- Gen CompLaw for Secretarial
- Cimplly Five for Secretarial

Alternatively, the firm may decide to customize/ alter general workflow management tools which are adaptable to the services provided by the firm. Below are a few applications, which help in workflow management:

- Simplify Practise
- Papilio
- Cordl
- ProCAAT

Implementation clues

- The firm can procure these tools which are mostly SaaS based and payable per month per employee, per client, etc.
- These tools help the firm to be organized and carry taxation and compliance assignments in a structured manner.
- Regular updates on taxation and other applicable laws are mostly given by the developer.
- It is recommended that the firm appoints one representative to monitor and regularly update until it reaches a stable stage.
- This would ensure that the firm will be process dependent and not people dependent.
- Configuring attendance as well as estimated time required will help the firm to manage multiple engagements within the timelines.
- It will also help in improvising the efficiency of the firm by tracking the budgeted vs actual time spent for each of the tasks.
- This will also help the firm to bill the clients and explain to the clients with respect to the time spent on various tasks.

3.2.3 Use of External Automated Tax and Compliance Tools for Data Extraction, Sampling, Analytics, etc.

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.2.3 Use of External Automated Tax and Compliance Tools for Data Extraction, Sampling, Analytics, etc.	For Yes- 5 Points For No- 0 Point	Maximum Points- 5
(i) Are there any customized apps/ API for tracking statutory remittances and tax management?		
(ii) Adoption of Advanced Excel for Analysis		
(a) Is there training conducted on excel?	For Yes- 1 Point	Maximum Points- 15

Competency Dimension	Point Awarding Basis	Max Points
<ul style="list-style-type: none"> (b) Do the employees use advanced excel tools for analysis during computation? (c) Are add-ins in excel provided to all the employees? (d) Are the add-ins purchased and legally used? (iii) Using various tools for Data Analytics such as eCAAT, Power BI, Tableau, etc. <ul style="list-style-type: none"> (a) Are various tools for Data Analytics such as eCAAT, Power BI, Tableau, etc used for analysis? (b) Are the tools available for all the employees? (c) Are the tools available for all the employees including the articles? (d) Are the tools used have been legally purchased? (iv) Adoption of Cloud / SaaS based tools for various office operations. <ul style="list-style-type: none"> (a) Does the firm have any cloud-based application? (b) Is the firm willing to move to cloud-based applications? (v) Any customized apps used for the regular office tasks, say generating engagement letter, tax computation, invoice generation, etc. <ul style="list-style-type: none"> (a) Are they any apps which have been developed for automation of regular office tasks? (b) Is there training given on how to use the app? (c) Is the app available to all the employees? (vi) Process to digitally upload government and statutory returns, <ul style="list-style-type: none"> (a) Are all the government and statutory returns uploaded digitally? (b) Are all the credentials of government portals secured? 	For No- 0 Point	

Implementation Guide – Use of External Automated Tax and Compliance Tools for Data Extraction, Sampling, Analytics, etc.

Meaning of API

API refers to Application Programming Interface, which is a software intermediary, which allows two applications to talk to each other. An example could be where the tax compliance software and the accounting tool could be integrated to pass entries automatically.

Meaning of Data Analytics Tools

Data analytics tools/ Computer assisted audit tools (CAAT tools) are used to automate the audit processes and evaluate digital data, and extract the required data for analysis, sampling, etc. Tax Compliance Tools assist in tax planning, tracking remittances, etc.

Following are few tools which can assist in data extraction, sampling and other analysis:

- eCAAT
- Power BI
- Tableau
- Knime
- R, etc.

(i) Adoption of Advanced Excel / Add-ins for Analysis

Meaning of Advanced Excel

Advanced Excel here refers to usage of Excel / Spreadsheet software to perform calculations on large data sets, using Macros, etc.

Illustration

Usage of Macros, Scenario Managers, Auto-calculation templates, etc.

Meaning of Excel “Add-ins”

Excel “Add-ins” empower the user to perform additional functions which boost productivity, present enhanced visuals, pivots, charts and other analysis, which the standalone Excel may have challenges in performing.

Illustration

Examples of “Add-ins” include, eCAAT, Power User, Kutools, etc.

(ii) Using various tools for Data Analytics such as, eCAAT, Power BI, Tableau, etc.

Meaning of Data Analytics Tools

Data Analytics Tools / Computer assisted audit tools (CAAT tools) are used to automate the audit processes and evaluate digital data.

Illustration

Usage of tools like, eCAAT, Power BI, Tableau, Knime, R, etc.

Implementation clues

- The firm could consider developing a customized app which can track payments of various taxes, statutory charges/ levies on an ongoing basis and provide the same as inputs to the accounting tool/ tax management tool for regular accounting/ filing.
- CAATs/ Advanced Excel/ Excel “Add-Ins” assist the firm in automating repetitive works and enable the audit firm to more efficiently utilize the time.
- Few of the types of tests/ analytical procedures the auditor can perform include:
 - Extracting samples according to specified criteria, such as, payments without TDS deductions, Invoices without GST, Summarize by B2B and B2C sales, Mismatches between GSTR-2A and GST-3, etc.

- Calculating ratios and select indicators that fail to meet certain pre-defined criteria (i.e. benchmarking).
- Check arithmetical accuracy (for example additions).
- It is recommended the firm starts by using such tools on SME clients initially and slowly scale up.
- It is recommended to compare the requirements of the concerned statute with the available data and identify the type of tests to be applied.

(iii) Adoption of Cloud / SaaS based tools for various office operations

Meaning of SaaS tools:

SaaS tools are software tools where licensing is on a subscription basis and is centrally hosted in a webserver, commonly referred to as the Cloud.

Illustration

QuickBooks, Zoho Books, Cloud based CRM Tools, Online Invoicing Tools like Wave Apps, etc.

(iv) Any customized Apps used for the regular office tasks

Meaning of Customized Apps

Customized Apps are software deployed by the firm to track, monitor the progress of work, perform a pre-defined activity, sharing of information, etc.

Illustration

Developing a customized app for generating engagement letter, audit confirmations (www.confirmation.com), invoice generation and receivable management (<https://app.numberz.in/app>), etc.

(v) Process to upload government and statutory returns digitally

There should be a standardized workflow to upload documents with regulatory authorities where approvals are taken from the clients/ partners periodically.

Illustration

Using a workflow management tool to obtain approval and digitally signed documents.

Implementation Clues

- Customized apps could be client specific or process specific.
- These assist the firm in automating/ structuring a specific process. For instance, an invoicing tool and receivable management tool could help in creation of invoice, accounting and managing receivables and collections.
- A workflow tool may be put in place to ensure the approval of client/ partners are obtained while uploading digitally.

3.2.4 Use of in-built tax tools/ capabilities in client-side applications like ERPs

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.2.4 Use of in-built tax tools/ capabilities in client-side applications like ERPs (i) Has the firm used in-built tax and compliance capabilities in client applications say, taxation modules in SAP, Oracle financials, tax features in Tally, etc.? (a) Are the taxation staff aware of various tools available in various ERPs used by the client? (b) Does the taxation staff use the tools available in the ERPs? (c) Are tools reviewed before its usage, say verification of in-built data logic/ validation capabilities in client?	For Yes- 1 Point For No- 0 Point	Maximum Points- 3

Implementation Guide – Use of in-built tax tools/ capabilities in client-side applications like ERPs

Implementation clues

In-built audit tools within the ERP/ client-side applications assist the professional accounting firm to quickly identify red flags and exceptions.

Illustration

Usage of “Statutory Reports” Module in Tally

Implementation clues

- In built audit tools/ capabilities in client-side applications/ ERPs help in quick compliance and to identify the any non-conformities and address them
- Few of the features in-built in these applications include:
 - Verification of statutory/ tax masters
 - Analytical procedures
 - Verify GST / TDS Reports
 - Remind periodical filings/ board meetings, etc.

SECTION C3 : LEVEL OF AUTOMATION RELATING TO ACCOUNTING AND SUPPORT FUNCTION PROCESSES AND NATURE OF ACCOUNTING AND SUPPORT FUNCTION SERVICES BEING RENDERED

3.3.1 Use of Automated Accounting Software

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.3.1 Use of Automated Accounting Software	i. 1 to 3 Software - 2 Points ii. 4 to 6 Software - 4 Points iii. >6 Software- 8 Points	Maximum Points- 10
(i) Does the firm use any application software/ tool for automation of accounting?		
(ii) Has the firm deployed any external interfaces/ customization into their accounting tool?	For each No 0 points For each Yes- 2 points	

Implementation Guide – Use of Automated Accounting Software

Automated accounting software helps the professional accounting firm to pass entries automatically by way of upload of files/ vouchers. The features may also include options to create/ maintain customized checklists, assign questions, templates, data storage and retrieval, etc.

Illustration

Below are few applications, which are specific to automation of accounting:

- QuickBooks
- Fyle
- Tally TDLs
- E2Tally-soft
- Tally Customization applications

Implementation Clues

- The firm can procure these tools which are mostly SaaS based and payable per month per employee.
- A few tools / customizations are also one-time costs.
- The firm can identify activities which can be automated within the accounting function and target each of them.
- Few instances of automation include:

- Automatic entry from bank statements
- Automatic entry of sales invoices from invoicing software
- Auto reconciliation of Bank (Auto-BRS)
- Automatic posting of month end entries, JVs, Depreciation, etc.

3.3.2 Use of External Automated Accounting Tools for Data Entry, Sampling, Analytics, etc.

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.3.2 Use of External Automated Accounting Tools for Data Entry, Sampling, Analytics, etc.	For Yes- 1 Point For No- 0 Point	Maximum Points- 8
(i) Adoption of Cloud / SaaS based tools for various office operations <ul style="list-style-type: none"> (a) Does the firm use any cloud-based application? 		
(ii) Extent of basic automation of accounting tasks – such as automated accounting tools from scanning vouchers to automatic passing of entries, etc. <ul style="list-style-type: none"> (a) Are financial transactions being imported from files and/ or from direct links with financial institutions? (b) Are purchase invoices and/ or sales invoices being processed digitally (for example, scanning, OCR, etc.) (c) Are the employees given training on latest automation techniques available in the industry? (d) Are there procedures carried out, on a regular basis, to understand which all processes can be automated? 		
(iii) Any customized Apps are being used for the regular office tasks, say generating engagement letter, service confirmations, invoice generation, etc. <ul style="list-style-type: none"> (a) Are they any apps developed for automation of regular office tasks? (b) Is training given to all the employees, including the articles, on how to use the app? (c) Is the app available to all the employees? 		

Implementation Guide – Use of External Automated Accounting Tools for Data Entry, Sampling, Analytics, etc.

(i) Adoption of Cloud/ SaaS based tools for various office operations

Meaning of SaaS tools

SaaS tools are software tools where licensing is on a subscription basis and is centrally hosted on a webserver, commonly referred to as the cloud.

Illustration

QuickBooks, Zoho Books, Cloud based CRM Tools, Online Invoicing Tools like, Wave Apps, etc.

(ii) Extent of basic automation of accounting tasks – such as automated accounting tools from scanning vouchers to automatic passing entries, etc.

Automation of accounting process saves not just time, but also delivers greater value and reduces risk. It reduces the likelihood of user error and opens up the possibility of real-time reporting. Automation can also reduce mistakes and inconsistencies by placing many basic transactions in the hands of computers. The firm will have to understand the enormous potential of automating the accounting processes at all levels and figure out which accounting automation tool to adopt. Choosing the right tool means understanding what each of these applications do, how they work, and whether they are a good fit for a particular situation.

Illustration

- Linking of bank accounts to the application, in order to perform auto-reconciliation, posting entries, etc.
- Linking of sales/ purchases transactions to automatically post entries in books of accounts on real time basis or as a batch processing.
- Invoices could also be processed digitally using scanning/ OCR, etc. which could save a lot of time in accounting.

3.3.3 Use of in-built accounting tools/ capabilities in client-side applications like, ERPs

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.3.3 Use of in-built accounting tools/capabilities in client-side applications like, ERPs (i) Has the firm used in-built accounting capabilities in client applications say, BRS, etc. (a) Are the accounting and support staff aware of the various tools available in various ERPs used by the client? (b) Does the accounting and support staff uses the tools available in the ERPs? (c) Are tools reviewed before its usage, say verification of in-built data logic/ validation capabilities?	For Yes- 1 Point For No- 0 Point	Maximum Points- 3

Implementation Guide – Use of in-built accounting tools/ capabilities in client-side applications like ERPs

Implementation clues

In-built audit tools within the ERP/ client-side applications assist the professional accounting firm to quickly identify red flags and exceptions.

Illustration

Usage of “Auto BRS” in Tally or using customized TDLs in Tally or other accounting packages.

Implementation clues

- In built audit tools/ capabilities in client-side applications/ ERPs help in quick accounting and reconciliation and also to identify any non-conformities and address them.
- Few of the features in-built in these applications include:
 - Auto-reconciliation
 - Auto posting of entries from other tools, packages, tax software, etc.

SECTION C4 : LEVEL OF AUTOMATION RELATING TO MANAGEMENT CONSULTANCY SERVICES PROCESSES AND NATURE OF MANAGEMENT CONSULTANCY SERVICES BEING RENDERED

3.4.1 Carrying out Risk Assessment for the purpose of Management Consultancy Services planning

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
<p>3.4.1 Carrying out Risk Assessment for the purpose of Management Consultancy Services planning</p> <p>(i) Does the firm have a process of reviewing IT controls and risk of failures of the same vis-à-vis impact on planning, including but not limited to approach, focus areas of review, etc.</p> <p>(a) Is the planning and risk assessment of IT Controls done before the commencement of the consultancy services?</p> <p>(b) Are controls including IT reviewed before the start of the management consultancy services?</p> <p>(c) Is there any planning done for mitigation of risks?</p>	<p>For Yes- 1 Point For No- 0 Point</p>	<p>Maximum Points- 3</p>

Implementation Guide – Carrying out Risk Assessment for the purpose of Management Consultancy Services planning

Implementation clues

Risk Assessment is performed to identify where the risk of material misstatement exists. It refers to the focus of the audit process on those areas that are most at risk of material misstatement. A risk register and risk control matrix may be prepared to assist in this process.

While making a risk assessment, it is recommended that the risks pertaining to IT controls are reviewed and documented. The following are few areas where IT General Controls can be reviewed:

- System Development/ Program Development and related controls
 - Assessment of the following can be reviewed - initiation, analysis and design, testing, data conversion, implementation, training and testing
- Computer Operations and Access Controls
 - Assessment of the following can be reviewed – batch processing, interface processing, backup, restoration, etc.

- Access to program and data
 - Assessment of the following can be performed - segregation of duties, access control restrictions, admin accounts review, database admin controls and review.

Following are few areas where IT Application Controls can be reviewed:

- Input Controls
 - Comprises the components that capture, prepare, and enter commands and data into the system.
- Processing Controls
 - Comprises the components that perform decision making, computation, classification, ordering, and summarization of data in the system.
- Output Controls
 - Comprises the components that retrieve and present data to users of the systems.
- Database Controls
 - Comprises the components that define, add, access, modify, and delete data in the system.
- Communication Controls
 - Comprises the components that transmit data among subsystems and systems.
- Boundary Controls
 - Comprises the components that establish the interface between the user and the system.

3.4.2 Use of Automated Software for rendering Management Consultancy Services

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.4.2 Use of Automated Software for rendering management Consultancy Services i. Does the firm uses any application software/ tool for Management Consultancy Services planning- including scheduling, resource deployment, tools for valuation, projections, forecasts, M&A Advisory, consultancy services, IT Audits, training activities, tracking hours / days spent vs. budgeted time, etc.	1 to 3 Software - 2 Points 4 to 6 Software - 4 Points >6 Software - 8 Points	Maximum Points- 8

Implementation Guide – Use of Automated Software for rendering Management Consultancy Services

Usage of automated software for rendering management consultancy services helps the professional accounting firm to automate repeated tasks, create repositories for future reference, perform risk analysis, engagement planning, resource and time management including tracking, field management, maintaining client documentation and issue of reports and other deliverables. The features also include options to create/ maintain customized checklists, assign questions, templates, data storage and retrieval, etc.

Illustration

Below are few applications, which assist in rendering management consultancy services:

- Budgeting and forecasting and tools of SAP, Oracle, etc.
- Tools for share projection and modelling like, Power BI, eCAAT, Macros and Statistical Function in Excel.

Illustration

Alternatively, the firm may decide to customize/ alter general workflow management tools which are adaptable for professional accounting firm. Below are a few applications, which help in workflow management:

- Simplify Practise
- Papilio
- Cordl
- ProCAAT

Implementation Clues

- The firm can procure these tools which are mostly SaaS based and payable per month per employee. These tools help the firm to be organized and carry the consultancy work in a structured manner.
- It is recommended that the firm prepares a standard checklist for various types of engagements considering the various requirements. Regular updates to the checklist need to be done based on the changing requirements.
- It is recommended that the firm appoints one representative to monitor and regularly update until it reaches a stable stage. This ensures that the firm will be process dependent and not people dependent.
- Configuring attendance as well as estimated time required will help the firm to manage multiple engagements within the timelines.
- It will also help in improvising the efficiency of the firm by tracking the budgeted vs actual time spent for each of the tasks assigned.

- This will also help the firm to bill the clients and explain to the clients regarding time spent on various tasks pertaining to their assignment.

Few advantages of using automation software are:

- Automated processes are more consistent and easier to manage, reduce paperwork and time to plan, customize and document the engagement.
- Quality control procedures are built into every stage of the process to reduce errors.
- Helps to identify and record risk at every stage in the process. Risk analysis tools allow evaluation of risks.
- Reduce costs and make information easier and quicker to find.
- Adapt and customize documents and engagement programs to suit the needs.
- Design and roll out of engagement program, notification to client, work paper creation and documentation, observations and issue creation, follow up on open items/ observations, automated reporting facility, etc.

3.4.3 Use of External Automated Management Consultancy Services Tools for rendering various services

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.4.3 Use of External Automated Management Consultancy Services Tools for rendering various services (i) Does the firm have/ uses automated Management Consultancy Services tools for data extraction, sampling, applying analytics, valuation services, case law registry, etc., (a) Does the firm has procured any automated tools? (b) Are the automated tools being used during the course of Management Consultancy Services? (c) Are the staff communicated about the availability of the tools? (d) Are the tools available to all its employees including the articles? (ii) Are the staff adequately trained on usage of the tools and interpretation of results thereof?	For Yes (a) 1 Point for each sub point [except point (vi) (a)]. (b) 2 points for each sub point of point (vi)(a) For No- 0 Point	Maximum Points-27

Competency Dimension	Point Awarding Basis	Max Points
<ul style="list-style-type: none"> (a) Are the staff, including the articles, adequately trained on the usage of various tools? (b) Are the staff trained on how to interpret the results? (c) Are there any evaluations done at the end of the session? (iii) Are the staff trained on identifying, obtaining, analyzing and retaining relevant digital evidence pertaining to their work? <ul style="list-style-type: none"> (a) Are the staff trained on identifying what is digital evidence? (b) Are the staff adequately trained on how to obtain and analyze digital evidence? (c) Are the staff adequately trained on how to retain relevant digital evidence? (iv) Are there scenarios where client's core processes are fully automated while the firm continues to use manual processes for rendering Management Consultancy Services rather than system driven reviews? <ul style="list-style-type: none"> (a) Are the staff competent to understand the fully automated processes of the client? (b) Are the staff using the modules in the system to verify the process rather than using the normal manual management consultancy services techniques? (v) Adoption of Advanced Excel/ Add-ins for Analysis <ul style="list-style-type: none"> (a) Are there trainings conducted on excel? (b) Do the employees use advanced excel tools for analysis during Management Consultancy Services? (c) Are add-ins in excel used? (d) Are add-ins in excel provided to all the employees, including the articles? (e) Are the add-ins purchased and legally used? 		

Competency Dimension	Point Awarding Basis	Max Points
(vi) Using various tools for Data Analytics (a) Are various tools for Data Analytics such as, eCAAT, Power BI, Tableau, etc., used for analysis? (b) Are the tools available for all the employees? (c) Are the tools used legally purchased? (vii) Adoption of Cloud/ SaaS based tools for various office operations and automation (a) Do you have any cloud-based application? (viii) Any customized apps used for the regular office tasks, say generating engagement letter, confirmations, invoice generation, etc. (a) Is there any app developed for automation of regular office tasks? (b) Is there training given on how to use the app? (c) Is the app available to all the employees? (ix) Process to upload government and statutory returns digitally (a) Are all the government and statutory returns uploaded digitally? (b) Are all the credentials of government portals secured?		

Reference may be made to Management Consultancy Services Guidelines included in ICAI Code of Ethics available at www.icaai.org.

Implementation Guide – Use of External Automated Management Consultancy Services Tools for rendering various services

Meaning of Data Analytics Tools

Data Analytics Tools/ Computer assisted audit tools (CAAT tools) are used to automate the audit processes and evaluate digital data and extract the required data for analysis, sampling, etc.

Below is list of few tools which can assist in data extraction, sampling and other analysis:

- eCAAT
- Power BI
- Tableau
- Knime
- R, etc.

(i) Adoption of Advanced Excel/ Add-ins for Analysis

Meaning of Advanced Excel

Advanced Excel here refers to usage of Excel/ Spreadsheet software to perform calculations on large data sets, using Macros, etc.

Illustration

Usage of Macros, Scenario Managers, Auto-calculation templates, etc.

Meaning of Excel “Add-ins”

Excel “Add-ins” empower the user to perform additional functions which boost productivity, present enhanced visuals, pivots, charts and other analysis, which the standalone Excel may have challenges in performing.

Illustration

Examples of “Add-ins” include, eCAAT, Power User, Kutools, etc.

(ii) Using various tools for Data Analytics such as, eCAAT, Power BI, Tableau, etc.

Meaning of Data Analytics Tools

Data Analytics Tools/ Computer Assisted Audit Tools (CAAT tools) are used to automate the engagement processes and evaluate digital data, and extract the required data for analysis, sampling, etc.

Illustration

Usage of tools like, eCAAT, Power BI, Tableau, Knime, R, etc.

Implementation clues

- CAATs/ Advanced Excel/ Excel “Add-Ins” assist the firm in automating repetitive works and enable the engagement firm to more efficiently utilize the time. Few of the types of tests/ analytical procedures the auditor can perform include:
 - Extracting samples according to specified criteria, such as, random, over a certain amount, below a certain amount, at certain dates, etc. ;
 - Calculating ratios and select indicators that fail to meet certain pre-defined criteria (i.e., benchmarking);
 - Check arithmetical accuracy (for example additions);
 - Preparing reports (budget vs actual);
 - Stratification of data (such as, invoices by customer or age);
 - Produce letters to send out to customers and suppliers; and
 - Tracing transactions through the computerized system.

- It is recommended that the firm starts by using such tools on SME clients initially and slowly scales up.
- It is recommended to compare the engagement requirements with the available data and identify the type of tests to be applied.

(iii) Adoption of Cloud / SaaS based tools for various office operations

Meaning of SaaS tools

SaaS tools are software tools where licensing is on a subscription basis and is centrally hosted in a webserver, commonly referred to as the cloud.

Illustration

QuickBooks, Zoho Books, Cloud based CRM Tools, Online Invoicing Tools like Wave Apps, etc.

(iv) Any customized Apps used for regular office tasks

Meaning of Customized Apps

Customized Apps are software deployed by the firm to track, monitor the progress of work/ perform a pre-defined activity/ sharing of information, etc.

Illustration

Developing a customized app for generating engagement letter, engagement confirmations (www.confirmation.com), invoice generation and receivable management (<https://app.numberz.in/app>), etc.

(v) Process to upload government and statutory returns digitally

The firm should have a standardized workflow to upload documents with regulatory authorities where approvals are taken from the clients/ partners periodically.

Illustration

Using a workflow management tool to obtain approval for digitally signed documents.

Implementation Clues

- Customized apps could be client specific or process specific.
- These assist the firm in automating/ structuring a specific process. For instance, an invoicing tool and receivable management tool could help in creation of invoice, accounting and managing receivables and collections, etc.
- A workflow tool may be put in place to ensure that the approval of client/ partners are obtained while uploading digitally.

3.4.4 Use of in-built tools/ capabilities in client-side applications like ERPs

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
3.4.4 Use of in-built tools/capabilities in client-side applications like ERPs Has the firm used in-built audit capabilities in client applications say, forecasting models, budgeting tools of clients, etc. (a) Are the staff aware of the various audit tools available in various ERPs used by the client? (b) Does the staff use the tools available in the ERPs for rendering Management Consultancy Services? (c) Are tools reviewed before its usage say, verification of in-built data logic/ validation capabilities in client-side applications?	For Yes- 1 Point For No- 0 Point	Maximum Points- 3

Implementation Guide – Use of in-built tools/ capabilities in client-side applications like, ERPs

In-built audit tools within the ERP/ client-side applications assist the firm to quickly identify red flags and exceptions.

Illustration

Usage of budget and forecasting modules in ERPs, etc.

Implementation clues

- In built audit tools/ capabilities in client-side applications/ ERPs help auditors to quickly identify the issues and address them.
- Few of the features in-built in these applications include:
 - Verification of chart of accounts
 - Analytical procedures
 - Repeated payments/ periodical payments
 - Changes to masters
 - Accounts squared off during the year
 - Accounts having only opening balance and no transactions
 - Accounts having transactions and no opening balances.

SECTION D : ADAPTATION OF ADVANCED AND EMERGING TECHNOLOGIES

4.1 Use of Advanced and Emerging Technologies

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
4.1 Use of Advanced and Emerging Technologies (i) Does the firm render Analytics/ Big Data driven services? (a) Is this handled extensively by Managers? (b) Are trainings being conducted on providing Analytics driven services?	For Yes- 4 Points For No- 0 Point	Maximum Points- 7
(ii) Is the firm using various tools for exclusive analytics driven/ Big Data services? (a) Is the tool available only to partners/ managers? (b) Is the tool available to employees and articles?	For Yes- 1 Point For No- 0 Point	
(iii) What is the extent of automation of office tasks – such as automated accounting tools from scanning vouchers to automatic passing entries, etc.	(i) 0 to 30% – 3 Points (ii) 30% to 60% - 4 Points (iii) Above 60% - 5 Points	Maximum Points- 5
(iv) Has the firm adopted Robotic Process Automation in performing various office tasks?	For Yes- 5 Points For No- 0 Point	Maximum Points- 5
(v) Artificial Intelligence (a) Has the firm deployed any tools pertaining to Artificial Intelligence in accounting/ office operations? (b) Does the firm render audit/ advisory services (Functional / technical) in the field of Artificial Intelligence?	For Yes- 4 Points For No- 0 Point	Maximum Points- 8
(vi) Cyber Security (a) Has the firm informed and educated client/ staff regarding impact of cyber risks?	For Yes- 2 Points For No- 0 Point	Maximum Points- 6
(b) Does the firm provides advisory/ audit services with respect to cyber security?	For Yes- 4 Points For No- 0 Point	

Competency Dimension	Point Awarding Basis	Max Points
(vii) Digital Transformation	(i) 0 to 30% – 3 Points	Maximum Points- 5
(a) Has the firm attempted to digitally transform/ perform process re-engineering for any of its client's business?	(ii) 30% to 60% - 4 Points	
	(iii) Above 60% - 5 Points	

Implementation Guide - Use of Emerging Technologies

(i) Analytics / Big Data driven services

In addition to using Data Analytics for assurance and tax engagements, a firm could consider providing analytics driven solutions to its clients. This could range from providing MIS driven outputs driven by creative visualization to advanced analytics solutions analyzing cost and volume analysis.

Illustration

Using Data Analytics tools special engagements such as, preparation of dashboards, analytics driven dashboards, etc., daily, weekly and monthly sale analysis, etc., could be taken up.

Implementation Clues

- Identify the various opportunities where structured and unstructured data exist for decision making purposes.
- Identify the business problems and areas where analytics could be used to solve the problem (e.g., decline in sales, increase in cost, etc.).
- Apply analytical functions on the data to solve these problems.

(ii) Extent of automation of office tasks

(such as, automated accounting tools from scanning vouchers to automatic passing entries, etc.)

The firm should adopt steps for automation of the routine tasks. This requires the firm to list the routine tasks to be performed and evaluate tools to automate it.

Illustration

Automation of accounting entries from source data such as, bank statements, vouchers, bills, etc., so that they are scanned/ uploaded to directly pass the journal entries.

Implementation Clues

- The firm can identify various avenues for automation. Few of them include:
 - Automatic entry of bank statements.
 - Automatic entry of sales invoices from invoicing softwares.
 - Auto reconciliation of bank (Auto-BRS).
 - Automatic posting of month end entries, JVs, depreciation, etc.
 - Automatic scanning of vouchers to pass accounting entries.

This requires the firm to evaluate various solutions available in the market and choose the appropriate one.

Below are few applications which are specific to automation of accounting:

- Quick Books
- Tally TDLs
- E2 Tally-soft
- Tally Customization applications.

(iii) Adoption of Robotic Process Automation

Meaning of Robotic Process Automation

Robotic Process Automation (RPA) is the use of software with artificial intelligence (AI) and machine learning capabilities (popularly referred to as “Robots” or “Bots”) to handle high-volume, repeatable tasks that previously required humans to perform. These tasks can include queries, calculations and maintenance of records and transactions. For more details refer “Concept Paper on Embracing Robotic Process Automation – Opportunities and Challenges for Accountancy Profession” issued by ICAI (available at www.icaai.org).

Illustration

Below are few applications, which are specific to RPA, which automate the day to day tasks which are labour intensive and manual in nature.

- UI Path
- Blueprism
- Automation Anywhere
- Tally Customization applications

Implementation Clues

- Unlike traditional computer software, RPA interacts with other IT systems via a user interface, mimicking the work of a user, and not via an API (Application Programming Interface) or the software integration bridge called middleware.
- RPA may be installed on a PC of an employee to serve as a digital assistant, to carry out labour intensive, monotonous tasks which involve various computer applications.
- RPA may be implemented centrally in the IT environment of a company to completely replace human employees with robots in certain areas of operations.
- RPA can ensure the human error rate is minimized and the firm can focus more on the qualitative aspects.
- Yet another advantage of RPA is that it does not require you procure any new tools, or software. It merely automates what the firm is doing with the help of the existing software.

- However, it is to be noted that, RPA cannot be an instant fix and can be implanted sequentially and stage by stage.

(iv) Artificial Intelligence

Meaning of AI tools

AI tools refer to software with artificial intelligence (AI) and machine learning capabilities which are deployed to take decisions based on data being analyzed or facts of the case.

Illustration

- Botkeeper, vic.ai, ai-accountant, etc., which can auto analyze the transactions and pass the entries once the source document such as, voucher/ bank statement is scanned/ uploaded.
- Legalmation, premonition As, etc., which can perform legal analytics, mine for favorable judgement, etc.
- Mindbridge.ai, etc., which uses AI to analyze data and perform various data analytic functions.

Advisory/ Audit services in the field of Artificial Intelligence

With the Artificial Intelligence constantly evolving, there is an increasing need for functional and technical expertise. Chartered Accountants having expert knowledge in the domains of finance, tax, audit, compliance could utilize their skills in advising clients who are developing such tools and systems.

(v) Educating client/ staff regarding impact of cyber risks

Meaning of Cyber Risks

Cyber risk is any kind of risk to finances, reputation or information technology systems of an organization because of the various cyber threats nesting in the world of digital technologies, devices and inter-connectivity. Cyber risk is not only a problem concerning the IT team of an organization, but also a prime responsibility of every individual in the organization. Professional accounting firm will have to make their team and their clients aware of the various cyber risks and establish mechanism to protect the same.

Illustrations of cyber attacks

Cyber attackers use many different methods to try to compromise IT systems. Most common practices are:

- Remote attacks on IT systems or website;
- Unauthorized access to information held on a corporate network or systems;
- Unauthorized access to data held in third-party systems (e.g., hosted services);
- System infiltration or damage through malware;
- Disruption or denial of service that limits access to your network or systems;

Attacks could be

- targeted - where you are singled out because of a specific interest in your business or the attacker has been paid to target you; or
- un-targeted - where attackers indiscriminately target as many devices, services or users as possible.

Few instances of cyber attacks are -

- Phishing
- Hacking
- Misuse of employee privileges
- Distributed denial-of-service (DDoS) attack
- Malware
- Ransomware

Implementation Clues

Building a strategy for awareness and training the employees and clients are very critical part for the firm to be cyber secure. The following are few steps that could be followed:

- Develop a security strategy;
- Keep devices and security updated;
- Regularly train employees and clients regarding security;
- Enforce and implement policies;
- Conduct quizzes and workshops to build awareness.

Advisory / audit services with respect to cyber security

Starting from drafting Cyber Security Policies in compliance with local and international requirements to auditing the cyber security practices and controls, a firm can render a host of services to their clients.

4.2 Use of Advanced Technology and Communication Media

How to score your firm?

Competency Dimension	Point Awarding Basis	Max Points
4.2 Use of advanced technology and communication media	For Yes- 5 Points For No- 0 Point	Maximum Points- 5
(i) Have chatbots been used in your organization?		
(ii) Mobile apps/APIs for the firm, clients, article staff, etc.,	For Yes- 1 Point For No- 0 Point	Maximum Points- 4
(a) Is there a mobile app of the firm?		

Competency Dimension	Point Awarding Basis	Max Points
(b) Is all the information pertaining to the firm available on the app? (c) Is the app available to all the members of the firm? (d) Is the app available even to its clients?		
(iii) Awareness of concepts of blockchain and how it could impact our profession	For Yes- 3 Points For No- 0 Point	Maximum Points- 3
(iv) Has the firm attempted to understand the impact of Internet of Things (IoT) on audit process?	For Yes- 2 Points For No- 0 Point	Maximum Points- 2

(i) *Have chatbots been used in your organization*

Meaning of Chatbots

Chatbots are computer program designed to simulate conversation with human users, through voice command or through text chats or both. Chatbots can be hosted on the professional accounting firm's website, which could converse with a visitor client regarding a requirement and autoreply/ take action, etc.

Illustration

Following are a few platforms which help to build chatbots:

- Flow XO
- Beep Boop
- Bottr
- Motion.ai

Implementation Clues

- Chatbots can answer basic questions, schedule appointments and can assist professional accounting firm to interact with the clients.
- It could also answer repetitive queries which the firm, generally, answers to its clients. An example could be what are the various tax saving options under Income Tax, what is the GST rate for a product, etc.?
- The firm could also consider building a chatbot over the social media page to manage social conversations.
- Many of the platforms available can be customized and deployed without much of technology knowledge. Youngsters in the firm may be given this opportunity to build such tools and modernize the firm.
- Care should be taken not to breach the ICAI guidelines and not involve in soliciting the clients.

(ii) Mobile Apps/ APIs for the firm, clients, article staff, etc.

Meaning of Mobile apps

Mobile apps are software deployed over phones of clients/ firm's staff to track, monitor the progress of work/ perform a pre-defined activity/ sharing of information, etc.

API refers to Application Programming Interface, which is a software intermediary that allows two applications to talk to each other.

Illustration

Developing an API/ Mobile app for communication between client and various office tasks to track, monitor the progress of work/ perform a pre-defined activity/ sharing of information, etc.

Implementation Clues

- The world is running into mobile apps and the firms can soon get digitized.
- Mobile apps can give regular updates, reminders, status of work performed, list of tasks pending with client, automating client requests and many more features.

(iii) Awareness of Concepts of Blockchain and its Impact

Meaning of Blockchain

Blockchain refers to a digital ledger that keeps record of all transactions taking place on a peer-to-peer distributed ledger, which cannot be reversed and remains encrypted. Records are entered into and stored in a distributed, or shared, ledger, which is generally made accessible to all concerned parties, say the accountant, regulators, auditors, and clients who would possess an identical copy of the ledger at all times. For more details refer "Concept Paper on Blockchain Technology – Adoption Trends and Implications for Accountancy Profession" issued by ICAI (available at www.icai.org).

Implementation Clues

- Professional accounting firms should be aware of blockchain technology and how this could impact the audit profession. While the technology and the applications are still at a nascent stage, over time, the way audits would be conducted would change.
- Following are few areas that could be impacted:
 - Obtaining balance confirmations of a company's financial status would be less necessary if some or all of the transactions that underlie that status are visible on blockchain.
 - A blockchain enables near real-time settlement of transactions, thus reducing the risk of non-payment by any party to the transaction.
- Reduction in account reconciliation, change in approach of audit, audit of smart contracts, etc., are a few ways in which audit process would be impacted.

(iv) Impact of Internet of Things (IoT) on Audit

Meaning of IoT

Internet of Things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. When something is connected to the internet, that means that it can send information or receive information, or both. This ability to send and/ or receive information makes things smart.

The IoT Technology broadly helps in achieving the following:

- Collecting and sending Information.
- Receiving and acting on Information.

Few illustrative areas where IoT could impact audit are-

- Tracking assets.
- Tracking inventory.
- “Smart Accounting” - automated book-keeping based on occurrence of an event.

Implementation Clues

- Professional accounting firms should be aware of this technology and how this could impact the audit profession.
- While the technology and the applications are still at a nascent stage, over time, the way audits would be conducted would change.



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