



IT ENABLING PROFESSIONAL PRACTICES

by
**CA Mitesh Katira &
CA Alok Jajodia.**

Preface

The small and medium professional firms, though growing, are facing the cut-throat competition. It is very important to have an edge over others. With the volumes growing dual fold – both in terms of volume at each client and the total number of clients, there is an increase in the number of personnel in each firm, thus the ratio of partner to employee increases.

Further, with the advent of ‘e’ happening all along the compliances, it becomes mandatory that technological aspects are understood and adopted.

The increase in the number of compliances, increase in penalties for non-compliance, increase in the role of the auditors mandated by Companies Act and other statutes, etc... it is necessary to have proper control over all the activities.

Information Technology (IT) can be an enabler to all these. IT can help in increasing the **Efficiency**, there by one can manage volumes, manage increased personnel, have control on compliances of the clients. IT can help for the firms to increase their **Visibility** across, which will help the firm to have an edge over others and face the competition. IT can help in creating new **Opportunities**, thereby getting more revenue and better client satisfaction.

We both have been conducting seminars and workshops on various professional bodies, associations mainly for Chartered Accountants on different topics of IT enablement in their practices. From our experience on leading these technology-related programs the professional community, we felt that there is a need of some publication which can act as a single reference point for IT aspects of professional practices be it Chartered Accountants, Lawyers, Company Secretaries, Cost Accountants, Architects or Doctors.

As an outcome of our more vigorous deliberation and passion, here in this brief publication, we have attempted to address all these 3 aspects of IT enablement. In brief, it covers,

- Various aspects of improvement of efficiency, via using some specific mobile apps for collaborative and smart working
- Various productivity apps to have proper control over various aspects of the practice
- Security aspects that the firm should take care of
- Smart ways to increase the visibility over the various IT enabled platforms like social media, website and blogging portals
- New IT enabled opportunities waiting to be grabbed by the firms

While we cover these, we have worked to make sure that the overall cost of ownership does not increase multi-fold and it can be accommodated in the existing infrastructure of the firm. Infact we have recommended many FREE IT resources wherever possible.

The publication does not intend to cover

- Accounting and tax computation software like tally, quick-books or spectrum as that is more practice specific and depends on what are the areas of practice
- Various aspects of the Operating System (OS) like Windows or IOS
- Various hardware aspects like the servers, laptops and the client machines, except that is required for the security

Disclaimer: The publication does not intend to propagate any specific mobile app or other solutions that would have been specified in various sections. The publication also does not intend to compare various apps or tools over others.

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Improve Efficiency

Technology is irreplaceable part of professional practice. The requirement of skillsets for practice have changed. The professionals who can adopt and reskill the practices can scale and differentiate the practices in true sense.

Mobile which is handheld and always available with an individual have become key enabler of IT for the professionals now. Over the period smartphone has become the easiest medium for consumption of data. Also, a great source of content in a crowd sourced form.

Efficiency can be improved in various aspects of practice. Here is a quick list of mobile apps for improving efficiency.

Collaboration

Working in Collaboration improves the efficiency. It is always better to work in tools, where multiple personnel can work simultaneously on the same file. It helps to avoid version conflicts.

i. **Google Sheets**

There are applications like Google Sheets, Google Docs and Google Presentations. A very important feature for professionals is:

- Doesn't Require Any Application on Computer
- Multiple Members can work on a same file at a time.
- Gives Audit Trail

ii. **Calendar**

- Send invites
- Details of events, Time and Location can be shared along with Invites
- Can send reminders anytime before the event starts

iii. **Tasks**

- Maintains a to-do list with due dates
- Reminders can be set
- Lists can be grouped for various activities

Online Video calls and presentations

World is getting smaller and serving beyond geographies is common requirement. How do we increase the efficiency, when we work beyond boundaries?

i. **Skype**

One of the best tool to have video calls over internet. Share files and edit it online, discuss reports and have group calls (upto 10 persons)

- Skype id required
- Video group calls possible – free upto 10 persons
- Sharing files, editing, discussions and presentations

ii. **Google Hangout**

Gmail also allows having video calls over the internet.

- Google e-mail ID required
- Video Group Calls possible – Upto 5 users
- Sharing screen with each other
- Sending messages along with video calls

iii. **Team Viewer**

- Free to a certain extent, then business version can be purchased
- Can discuss reports and edit reports online

- Can be used for accessing other machines and work on it.
- iv. **Webex**
 - One of the most secured platform to connect online for presentations, group calls
 - Online white board concept available for discussions
 - Can record discussions for future reference

Online Meetings

While we are in meeting, we write notes of the meeting in the note-book. Instead, if notes are written in the mobile app, it can be shared with the client immediately as minutes of meeting.

- i. **Evernote**
 - Write notes and share immediately
 - Make a to-do list
 - Write from anywhere
 - Manage like tasks
 - Insert audio and videos
- ii. **OneNote**
 - Write notes and share immediately
 - Online sharing and comments
 - Make important items
 - Insert tables and charts as well
 - Write in your handwriting as well (need not be typed)

Online Storage

Hardware failures are common; we don't tend to take regular backups. If we save data online, the backup happens automatically and can be accessed from anywhere across the globe. No risk of hardware failure as well.

- i. **DropBox**
 - 2GB free space – mirroring in the desktop
 - Data available on the go
 - Preferential sharing of folders and links
 - Even deleted files are available for retrieval within 30 days
- i. **Google Drive**
 - 15GB free space – mirroring in the desktop (including email space)
 - Integrated with Google Sheets, docs and presentation
 - Sharing and audit trail available
 - Auto update, chuck email attachments and just send links
- ii. **One Drive**
 - 1TB space – mirroring in the desktop (if subscribed to Office 365)
 - Preferential sharing
 - Sync only the folders which are required on the desktop – all folders need not be synced, but can be accessed over the internet.

Office Management Solutions

There are various solutions available for professional firms, which helps them to manage the clients, their invoicing, work and employee timesheets etc..

- i. **Papilio**
 - Papilio is a cloud-based "Office Management System" that frees you and your team from mundane things
 - Safe and secure data storage

- Assigns and tracks due dates
 - Shares files with your teams
 - Access to you from home, work or on the road.
- ii. **CADashboards**
- Automatic reminders emails to client help to get paid faster.
 - Team can track tasks, understand progress of work, log expenses and invoicing to your clients.
 - Allows you to take control of organization's compliance.
 - SME and CA/CS - Easily connect with each other for effective and secured collaboration
- iii. **CCHI-Firm**
- A complete cloud suite
 - Can be accessed anywhere & anytime.
 - This practice management software for accountants lets you retrieve any information on clients, jobs, workflow real-time on a web browser

Smart Email Management

Emails are the main source of communication and with the volume of emails being exchanged daily, it is necessary that emails are managed in a smart manner.

i. **Outlook**

The offline mode of email client, helps in downloading the emails and work offline – it's a part of MS Office stag.

- Since it is offline – unlimited space available. But, ideally, the file should not be more than 3.5 to 4 GB, after which archiving emails is recommended.
- Multiple email accounts can be configured in one outlook, so all the emails are at one window.
- Junk Filter – auto junk filter is available.
- Organizing Emails – via using colors for specific emails.
- Organizing Emails – via folders; like file folder system, outlook can also have folders and sub-folders created.
- Rules and Alerts – rules can be defined which auto organizes emails in various folders or take relevant actions. For e.g. if the emails are received from a specific domain, it can be auto moved to the domain folder. Secondly, if the email is received from specific id and myself marked in cc, the email is to be moved a specific folder, marked as 'read' (may be).
- Flag Mails – this helps to organize the emails, on which action is to be taken and a due date can be specified, by when the action is to be taken.
- Search and Advance Search – helps to search emails based on the sender, receiver, date, folder, words, etc...
- Personalised emails to many at one go using Mail Merge.
- Outlook keyboard short cuts

Shortcut	Description
Alt + S	Send the e-mail
Ctrl + Enter	Send the e-mail you're composing.
Ctrl + K	Complete the name or e-mail being typed in the e-mail address bar.
Ctrl + M	Send and receive all

Shortcut	Description
Ctrl + R	Reply to an e-mail.
Ctrl + F	Forward an e-mail.
Ctrl + N	Create a new e-mail.
Ctrl + Y	Go to folder.
Ctrl + Shift + A	Create a new appointment to your calendar.
Ctrl + Shift + I	Open the Inbox.
Ctrl + Shift + K	Add a new task.
Ctrl + Shift + C	Create a new contact.

ii. **Mozilla Thunder Bird**

Another E-mail Client is Mozilla Thunder Bird, Which is similar to Microsoft Outlook but not as excellent as Outlook.

- One-Click Address Box
- Reminder of Attachment, if you mention 'attach' word while composing E-mail.
- Quick Filter Tool Bar
- Advanced search in new tab
- Activity Manager
- Message Archive
- Spam-Filter
- Can link to Dropbox, Drive, Etc and enable you to attach file directly from Dropbox even if you do not have Dropbox installed on your Computer.

iii. **Gmail**

The most widely used email domain, has a lot of features that helps in smart working.

- Spam Filter – to remove mails from unauthorized sources – saves huge amount of time. Google has a very strong spam filter and allows emails to be marked as spam, which helps to put them in a separate folder.
- Standard folders available – like primary, social (all emails that are received from facebook, twitter, etc.), promotion (all promotional emails), Updates (all emails related to information are seen here), Forums (all emails coming from subscribed forums).
- Organizing Emails – via folders/labels
- Tagging – this can create a clear list of actionable and set priorities for the same; mark email as add to tasks
- Archiving–this keeps the email box cleaner for the user all the time while retaining important emails in the archive for retrieval when needed
- Auto Reply/Vacation Mode – While you are travelling, it is best to let the people know that they should be contacting someone else in your absence or wait for a response when you are back.
- Advanced Search – helps to search emails based on the sender, receiver, date, folder, words, etc.... Gmail gives best search results.
- Canned Responses– One can keep ready the responses for standard replies that one needs to draft. For example, bank account details or address or venue for an event and so on.

Google allows a tab for “canned response”. This can save a lot of time in duplicating the replies or part of the replies.

- Security aspect – Google has come up with the two-step authentication. One in the form of “What you know?” i.e. standard password and other is “What you have?” i.e. OTP which comes on your mobile via call or sms.
- Sending personalized emails (can be used for reminders to clients) – Use of email management tools like mail chimp and canvass can help scheduling the emails and personalizing them for the clients with their names in the emails.
- Boomerang – helps to schedule emails later and the email is delivered without being logged in.
- Google email shortcuts: One can start the shortcuts in gmail by going to the settings tab and saying “on” to the shortcuts. Few “must know” shortcuts for the Gmail users which can save hours of productive time

Shortcut	Description
Short cut in 'Inbox' View	
Shift	select all the conversation in sequence
Hold Ctrl	select random conversations
Shift + 8 +u	Select all unread messages
E	Archive selected messages
=	Mark selected messages as important
C	Compose New Message
/	Search for new Messages
Short cut in 'Conversation' View	
R	Reply
A	Reply all
F	Forward
Shift + u	Mark current message unread
K	Jump to newer email
J	Jump to previous email
Short cut in 'Compose' View	
Ctrl+Enter	For sending email

Apps for knowledge and reference

It is very important for every professional firm to keep updating themselves. With the mobile apps, this has become very easy. Some of the apps highly recommended (depending upon the practice) are as follows:

i. ICAI

- The institute of chartered accountants of India identified the need of mobile application for its stakeholders.
- It brings you key up-to-date contents from its website (www.icai.org) like announcements, events, news, notification, press Release, jobs and tender etc.

ii. Taxmann

- Apart from publishing the books, Taxmann maintains the most accurate and largest online database on Direct-taxes (Domestic as well as International Taxation), Corporate Laws, Indirect-taxes, Accounts & Audit and Indian Acts & Rules.

- Taxmann is known for accuracy and precision to that extent that Government of India uses Taxmann's Acts & Rules and other contents for the purpose of national website of Income-tax Department. Taxmann's services are also used for development and maintenance of www.incometaxindia.gov.in.
- iii. **CA Club India**
 - A platform for interaction with persons of their own fraternity. Updates on various issues in the Finance world (mostly relevant to CA's, CS's, ICWA's and MBA's).
 - Most recent advancement/reviews/discussions in current Finance related issues. The facility to maintain their profile and communities and be in touch with their peers by just logging on to the site
- iv. **CA Forum**
 - In this forum you can simply ask your questions, doubts, unsolved examples etc. We will follow up with your queries and gives you the optimum solutions for your problems from our own faculties.
 - In this forum you just need to follow certain instruction viz click on the online forum, registeryourself to ask questions / doubts.
 - If already register then simply login and ask your questions / doubts
- v. **Laws and rules like Income Tax, Mahavat, ServiceTax**
 - These apps make available the bare act, rules and updates available on the click. These are innovatively indexed and different menus are provided in the apps to go to the required content very fast.
 - These are very soon after the amendment and that too without any active involvement and hence no question of keeping on buying books for each change.
 - There are convenient search options available in most of these apps so to be able to search the required information instead of manually looking for the same.
 - A few apps come with the options to read detailed commentaries and relevant case laws about a certain section of the law.
 - Also there are a few with the features to create our own notes, color code / highlight the important content and so.
 - Only caution is one need to choose the reliable app after doing test verification about some updation or recent change. Also one should be courteous to post the issues if any in the content or the functional part of the Apps to the app developer. This can be done by visiting the app on app store or android play store and entering the comment along with the rating about the app. Sometimes the app developer leaves his email id as well where one can write his comments and suggestions. Things can be improved with active usage and genuine feedbacks more than passive comments.

Apps for Productivity

There are various apps now available which helps in day-to-day routine work and thus helps in increasing the productivity of every individual and thus of the overall firm. These also help maintaining control over the practice.

- i. **Google Keep**

- This is a to do cum a listing tool which can share specific cards with the team or client you want to share it with. This is easy to use and quick to update.
 - Color coding of items to categorize them
 - Seamless syncing with Google Drive
- ii. **To do list / Any Do**
 - For maintaining a list of to-do with due dates and dependencies. This will help keep smart track on the activities you need to do proactively with auto reminders.
 - It helps to track the progress of the tasks
 - Carry over of the tasks to next day is easy
- iii. **CamScanner**
 - Helps you to scan documents and convert them to various formats like pdf.
 - Can share the documents easily with whoever you want to share.
 - Can be saved directly on the cloud like Dropbox
 - Can organize the documents automatically on the desktop
- iv. **CamCard reader**
 - Helps scanning the visiting cards and saving the details in the contact lists
 - Managing visiting cards and sharing with others becomes easy
 - Add the notes, if any to help you analyse when and where you met the contact later
- v. **Call Recorder ACR**
 - Helps in recording the calls, whether individual or group.
 - Calls can be password protected
 - Can be saved on the cloud like dropbox
- vi. **Dashlane / OnePassword**

Nowadays there are passwords for each and every aspect be it an email account or a bank account or an application. Most of the apps have facility for renewing the passwords on a regular interval for the sake of enhanced safety. This makes it tough for one to intuitively remember the list of passwords. At the same time, best practice is NOT to write down or note passwords anywhere in the notes or in the mobile phones or laptops as there are high chances of miss use of the same. This makes it important to have a good “Password protection” app. Apps like Dashlane or OnePassword do this job with seamless ease. They not only remember the passwords, they also make it available on multiple devices linked to them. They also apply the passwords and sing up credentials automatically to increase the convenience. While creating new passwords, they have features like checking the strength of the passwords and also to suggest stronger automatic and random passwords.

Apps for Accounting

There are specific apps which helps in accounting on the cloud which are cost effective and has very good features. Some of them are

i. **QuickBooks**

QuickBooks is an accounting software program used to manage sales and expenses and keep track of day to day business transactions, like invoicing customers and paying bills. It is used by millions of small businesses around the globe for managing sales and income,keep track of bills and expenses,run payroll to pay employees etc.

ii. Book Keeper Accounting+Invoice

Book Keeper Accounting is a business accounting app for small and medium businesses. Its simple user interface allows you to send invoices & estimates, track expenses & receipts, manage inventory, view daily transaction book, view & send various financial reports and much more.

iii. Xero

Xero is a cloud-based accounting software which connects people with the right numbers anytime, anywhere, on any device. For accountants and bookkeepers, Xero helps build a trusted relationship with small business clients through online collaboration.

Enhance Visibility

The Small and Medium Professional practicing firms always face the challenge to reach out to the mass for the services and specialisation that they provide. With smart use of technology, professionals have level playing field for creating visibility about their presence in front of correct target audience.

The technology helps in various aspects to enhance the visibility of the specialisation that you may want to emphasise on.

Website

A business website makes it possible for your clients as well as prospects to get the update about your services and other relevant information anytime and access to the information as per their convenience. In this modern era, every business owner whether belonging to a professional practice, software firm, or accounting firm should aim to establish their strong online business presence. Website forms a critical part of any business.

A decent website should have the following:

i. Specific services

This is your opportunity to provide information about all the services you offer. Start the page with a brief overview or summary of your services and then list them below. If you have many services or a lot of information about each service, you may want to think about separating them into categories and including a link to a landing page to learn more about an individual service. A summary of services offered, a list of services with brief descriptions, the benefits the visitor will receive from the service, and how your services are different from the competitors' services can be emphasized on.

ii. Mobile friendly version of website

With 4 out of 5 consumers using smartphones to shop, there is even more emphasis on creating a mobile friendly browsing experience for your web visitors. Browsing on the small screen of a mobile phone or tablet is a very different experience to that of desktop browsing, so it is important to adapt your website for mobile visitors.

iii. Links

Here you can place links to the trade associations or complementary services. When you place links to other businesses, you can request they do the same for you. This will not only bring you more visitors, but may improve your search engine ranking.

iv. Team with clear profile

The 'Our Team' page is a vital page on any professional website. The profiles of each key team member with their expertise, qualification and experience, helps the website visitors find out more about you and overall expertise of the firm. It's how they put a 'face to the name' and it's how the visitors engage with you before they pick up the phone or write you an e-mail.

v. Blog

A blog is a great way to continuously add content to your website after your

site has gone live. There are many reasons for starting a blog for your business is a good idea, one being keeping customers engaged and returning to your website and other to inform about any changes to your products or services. Blogs also help to position you as a thought leader within your industry.

vi. Inquiry form or Contact us

Every website should have an enquiry form on their home page. An enquiry form acts as a major role in converting a query into a quality lead. Visitors of your website are often researching about your company or gathering more information. If, however, they want more information about your business, or would like to express an interest in your product or service, this should be easy to do. Inquiry form helps to get this information. Moreover, contact details should be prominent and easy to find. Your Contact Us page could feature a contact form as well as phone, email and social media contact details.

vii. Placement Cell

In a competitive recruitment market your website can ideally be used to recruit new staff. It's best to include photos of your office and case studies of previous employees that have worked their way up in the firm.

viii. Clear Contact Information

It's also a good idea to add your postal address, phone number and email to every page of your website.

Blogs

Writing on the Blogs and to have Blogs are the best to have it as part of the website. Writing on blogs helps you to increase your knowledge about the topic and reflects your interest and expertise on the respective topics. The care to be taken for the blogs is as follows:

- i. Keywords**
- ii. Tags**
- iii. Relevance**
- iv. Circulation of blogs to right audience**

Social Media Presence

In the current scenario, the fastest and best way to make your presence felt is to be active on the social media. Keeping yourself active on the social media, automatically creates an impression that you are an expert of a subject. Some of the social media sites, where you can be active are as follows:

i. LinkedIn

Generally used for business. It is better to have a company page separately. It gives your contacts to give recommendation about you and your work. It also allows your contacts to endorse your skills. The profile speaks about your experience and your expertise.

ii. Facebook

More of a personal space is here. Though a company page be created here as well, it is used more for connecting all the friends, giving generic messages to the whole connects and friends. It is more showing your presence to the world.

iii. **Twitter**

This media helps you to post what's on your mind. Here too the company account can be created and keep posting on your personal name or company's name.

Forums

There are various forums, where you can be a member and keep yourself active by replying to various queries posted by other members. Based on your responses, they keep ranking you, which gives you a very good visibility about your expertise.

i. **CA ClubIndia**

CA Club India is an interactive platform for all the Finance Professionals and Tax Payers. A platform for interaction with persons of their own fraternity. This platform updates on various issues in the Finance world (mostly relevant to CA's, CS's, ICWA's and MBA's) most recent advancement/reviews/discussions in current Finance related issues and also encourages the facility to maintain their profile and communities and be in touch with their peers by just logging on to the site

ii. **CharteredClub**

Chartered Club is an online content platform started with the intention of simplifying various taxes which are levied in India.

It is an information sharing platform wherein their esteemed team of authors writes various articles with the purpose of educating the users about taxation system in India. Apart from gaining knowledge through their articles section, the users can also interact with CA's through their Q&A Platform and ask queries and consult a CA.

iii. **Taxmann**

Apart from publishing books, taxmann maintains the most accurate and largest online database on Direct-taxes (Domestic as well as International Taxation), Corporate Laws, Indirect-taxes, Accounts & Audit and Indian Acts & Rules. At www.taxmann.com they report all the important updates on hourly basis and all Acts & Rules are updated immediately. They are so reliable to that extent that Government of India uses Taxmann's Acts & Rules and other contents for the purpose of national website of Income-tax Department. Taxmann's services are also used for development and maintenance of www.incometaxindia.gov.in.

iv. **Quora**

Quora is the next step in the evolutionary chain as far as technology and social media go. It is meant to be a useful knowledge indexing tool, a database of information provided by users, reviewed by users, edited by users and flagged as useful or not by users. It is "receiver centric", if you think about an "information seeker" as a receiver. You come here to find out about something, to receive an answer. Either somebody has given it already, then you will find it - or you can ask a question and verbalize your demand for information.

Grab Opportunities

Technology offers huge opportunity to enhance the services that you generally offer in your practice. It can help you to differentiate your practice and makes available lot of new areas of practice. We emphasised about the differentiating piece in the above two sections i.e., “efficiency” and “visibility”. Here we shall cover new areas that are available to professional practices because of technology.

Solution Implementation Management

Professionals see a lot of businesses day in and day out. This provides them an edge to look at the issues and their solutions which would help to have efficient controls in the organization. This can add huge value for the organization who is at the cusp and keen to adapt technology by implementing ERPs, CRMs, HRMS and so on. Even GST integration and implementation from systems stand point shall become a huge area of practice for the firms who understand GST domain and have technology edge.

Systems Audits

IT systems are also getting complicated and the dependency on them is increasing every day. There is a lot of dependency on the quality of data, calculations in the systems, interface between 2 or more systems and so on. Hence, there must be a regular watch on the system with regards the flow and security of data. An information technology audit, or information systems audit, is an examination of the management controls within an Information technology infrastructure. ICAI runs post qualification course called Information Systems Audit (ISA) for the professionals to become capable to do these assignments.

Data Analytics

With the increase of volume and dependency on IT, all the data in any format, is in IT systems. It has become necessary that the data is analysed effectively for proper and timely decision making. Data Analytics is now an emerging field. With data analytics, lot of inputs can be made available to the stakeholders. The professional firms can get into giving resources to the companies, who need the analysis to be done. The professionals have acumen of analysing the data, presenting them in the presentable format, doing trending and assisting management to take informed decision.

Outsourcing

With technology, geographical barrier has almost vanished. Services and consulting can be offered in any part of the world with smart use of technology. Many large companies are keen to outsource non-core business functions like accounting, invoice processing, document management, payroll processing and other similar processes to the firms who are geared up with technology.

Security Related Aspects

As everything has its pros and cons, there are 2 sides of the same coin, too much dependency of IT also has huge security related concerns. There are various security related aspects that one needs to be aware of and need the basic knowledge. There are certain basic steps that you need to take, to make sure that the IT infrastructure is secured. The basic security related topics are elaborated here.

Back-ups

Backups are required due to unexpected hardware, software, application failure, virus attacks, some natural disaster, etc... There are various considerations to be taken care while you do your backups

- i. **Redundancy** – It is better to make sure that the backups are not redundant.
- ii. **Storage Devices** – There are various storage devices on which backups can be taken viz. usb drives, external hard drive, blue ray devices, storage devices, etc...
- iii. **Custody** – make sure that the backups are with proper custodian
- iv. **Retention** – back up which are quite old need not be retained and are deleted. But, before deleting, make sure that the latest backups are complete
- v. **Testing Restore** – it is necessary that you test the backups taken. If you are not able to restore, the back-up is of no use.
- vi. **Frequency** – there would be incremental backup taken every day and full back up every weekend.
- vii. **Online storage** – if the data is stored on the cloud, then backups happen automatically.

Firewall

A firewall is a network security system that monitors and controls the incoming and outgoing network traffic based on predetermined security rules. For the offices above 20 people team need to have a basic firewall. It helps to have basic security where the restrictions can be on the websites to be surfed, the anti-spamming rules, anti-phishing rules, etc...

Antivirus

The label "antivirus" was originally given to programs that identified and removed a malware called a virus. Today, however, antivirus programs are useful for preventing infections caused by many types of malware, including worms, Trojan horses, rootkits, spyware, keyloggers, ransomware and adware. There is various antivirus available in the market, but it is highly recommended that you must have paid licensed copy even if you have single machine. Free antivirus does not protect your machines totally.

Ransomware

Ransomware is a Malware that Stealthily (Unknowingly) gets installed in your PC or mobile device and holds your File or Operating System Functions for earning a Ransom. It Restricts the user from using his/her PC and from Accessing User Files and Data. Reason being Ransomware Enters the system and Encrypt the user data and files in such a way that the file cannot be opened or Decrypted. All this persists until and unless you pay the Ransom to get that file decrypted to the original file format as it was. Ransomware targets your Pictures, Documents, Files and Data that are Personally invaluable for the Attacker. Other type of Attacks which a CA has to be aware are Phishing E-mails, DDoS Attacks. Source of such Attacks are : E-mail – Ransomware / Malware / Phishing Attacks, Software Downloads – Free utilities / Softwares / Apps, Lack of User Awareness, Social Media, Carelessness.

Hardware related

There are various security aspects related to hardware as well.

i. Routers

A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet. A data packet is typically forwarded from one router to another through the networks that constitute the internetwork until it reaches its destination node. It is always recommended to have proper passwords defined in routers.

ii. Network

A network switch (also called switching hub, bridging hub, officially MAC bridge) is a computer networking device that connects devices together on a computer network, by using packet switching to receive, process and forward data to the destination device. Unlike less advanced network hubs, a network switch forwards data only to one or multiple devices that need to receive it, rather than broadcasting the same data out of each of its ports.

iii. Servers

In computing, a server is a computer program or a device that provides functionality for other programs or devices, called "clients". This architecture is called the client– server model, and a single overall computation is distributed across multiple processes or devices. Servers can provide various functionalities, often called "services", such as sharing data or resources among multiple clients, or performing computation for a client. A single server can serve multiple clients and a single client can use multiple servers. A client process may run on the same device or may connect over a network to a server on a different device. Typical servers are database servers, file servers, mail servers, print servers, web servers, game servers and application servers.

Concluding Remarks

Technology can be a clear differentiator for the practices with the possible efficiency and it brings on table for the one who understands and learns the same. Infact it opens a whole new paradigm of possibilities for the professionals. We also feel that a professional is left with a little choice but to understand technology in this era.

With a view to make available the learnings useful for all fellow colleagues in their day to day practices and also for strengthening our own research and learning, we have done a humble effort to present this book.

Life is continuous learning. This is called as a knowledge worker age. We need to be learning and updating all the time to be really able to add value to client requirements and businesses. This book is reviewed, updated and fine-tuned after suggestions from various seniors and professional colleagues. We shall be happy to hear back from the readers on what else you would like to have in this book. Even your suggestions on presentation and way of explanation keeping in view the professional brothers would be welcome.

About the authors

CA MiteshKatira



Mitesh Katira is the Partner of APMH & Associates LLP. Mitesh's specialization lies in Business Advisory Services with more than 15 years of experience for CFO support services, Internal Audits, Compliance Outsourcing and GST implementation. Mitesh has been convenor for Information Technology Committee of the CTC i.e., Chamber of Tax Consultants.

He is also a part of IT committee of the WIRC of ICAI. Mitesh has been a Convenor of the Ghatkopar C A CPE Study Circle. Socially, he is involved as a

part of regional committee of SamskritaBharati which promotes Samskrit language as key to cultural revival of India.

Email :mitesh@apmh.in

LinkedinProfile :[CA Mitesh Katira](#)

CA AlokJajodia



AlokJajodia, CA, CS, is co-founder director of MONDIAL IT Consultants Pvt. Ltd. He has over two decades of post qualification experience in IT and Software Consulting industry.

He has been working closely with various industry verticals mainly manufacturing, financial services, hospitality and infrastructure helping them ease out their complex IT ecosystems and aligning IT with business needs.

Over years, he has managed over 70 plus IT systems implementation assignments and has been instrumental in shaping companies policies and process re-design exercise and its mapping with the IT solutions.

In his previous stint, he was with Deloitte for over seven years. At Deloitte, within a short span of time he quickly climbed up the ladder and was at the helm for Software Implementation, Project Management, Software Evaluation and Process Consulting verticals.

He has authored various white papers on Business Process Improvement/Engineering, Corporate Performance Management, Software Evaluation, Implementation Strategies and Program Management. He is also on board of Audit committees for various companies and has been a regular speaker in various IT forums and seminars on IT and Software consulting topics. He is also a regular speaker at various seminars organized by WIRC – ICAI, Industry Forum, and various CPE Study Circles on topics related to IT and Implementation management.

At Mondial IT, he leads the Strategies and the Consulting SBU. He has also been pivotal behind several strategic new business initiatives.

Email :akj@mondialconsultants.com

LinkedIn Profile :[CA AlokJajodia](#)