

# Auditing and Taxation Aspects of Cloud Computing



*As we immerse in the era of cloud computing, apart from adaptability to new business models, it thrusts a great challenge to the auditing and tax structure of varied countries. So, the corporate needs to be well informed of the cloud computing affairs in the countries where they are dealt with. In order to decipher the cloud computing policies, OECD (Organisation for Economic Co-operation and Development) models are required to be referred. Cloud computing thrusts a massive responsibility on the shoulders of auditors, both in the auditing as well as taxation areas. To overcome this responsibility, the auditors require specialised training and should be well versed with both the national and international taxation provisions. The auditing procedures should also be implemented from the inception stage. In this article, the author discusses the auditing and taxation aspects of cloud computing. Read on...*



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## Literature Review

A survey conducted by Daryll Plummer, Gartner Inc in 2012 has proved that as the clouds are prone to risks, it calls for independent audit. Similarly, KPMG in its publication in 2012 (written by Gary Mauszak, Jana Barsten, Lynn Devaughn and Rusty Thomas) has very well proved the need for recognition of the source of income, anti deferral

rules, and withholding tax provisions for the correct evaluation of cloud computing business from tax perspective. David Shkow, University of Pennsylvania (2013) in *Taxation of Cloud Computing and Digital Content* has emphasised on the recognition of the permanent establishment (PE) for the taxation of royalty income.

FFIEC Information Technology, through its publication in July 2012, laid stress on the fact that cloud computing consists of risks and the efficient management of such risks.

## Cloud Computing: Its Meaning and Characteristics

As defined by NIST (National Institute of Standards and Technology), "Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services)."

Cloud model describes five essential characteristics:

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

An organisation can procure the resources and applications through internet from the main technological centre which is shared by other organisations also. If required, they can be managed by a third party vendor, known as 'cloud brokers'.

Before moving into cloud, the first step will be to segregate the data as per its confidentiality, integrity and availability to the organisation:

1. Public cloud is available to any paying customer;
2. Private cloud is operated solely for an organisation;
3. Community cloud is shared by several organisations;

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4. Hybrid cloud is a composition of two or more clouds; and
5. Virtual private cloud is a public cloud in which a private cloud is created.

The next step is to choose from different service models. The different service models available are:

### Infrastructure as a Service (IaaS):

The consumer buys the computer processor, network and storage as fully outsourced service. They are in a good position to manage or control the infrastructure but have little choice with regard to networking components.

### Platform as a Service (PaaS):

Here, the consumer can deploy their own application and tools instead of purchasing and managing the hardware and software. This results in a reduction of the cost.

### Software as a Service (SaaS):

This service is most suitable for those who want to spend less and reap more benefits. The consumers can access to more sophisticated and expensive software through internet on their own in-house installed computer.

For payment to the service provider, they can choose from the different options provided in the payment model, i.e. either payment can be done on subscription basis, or 'pay as you go' option or 'reserved capacity contracts'. Some cloud providers even provide free cloud services but derive the revenue through advertisements hosted in their clouds.

## Advantages of Cloud Computing

### ▪ Reduction in Capital Expenditure (Capex) and Operating Expenditure (Opex)

Due to virtualisation, whereby the main hardware is partitioned for the usage of many organisations simultaneously, the storage space can be utilised in an optimum manner and be paid as per the usage of the space. As a result, the administrative costs and salaries of the IT department can be reduced to a great extent. Also, there is no need for the installation of hardware and software, including servers, storage arrays, software licenses (when needed), routers, and load-balancers in the office, resulting in the reduction of capital expenditure.

Thus, both the operating expenditure and the capital expenditure are minimised.

- **Leverages**

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Again, the payment model also helps in improving the weighted average cost of capital (WACC) of an organisation. For instance, deployment of SaaS instead of IaaS, subject to confidentiality and integrity of the data.

- **Payment Option**

As per convenience, the consumer can opt for either monthly billing scheme or usage billing scheme. Instead of opting pay-upfront, “pay-as-you-go” scheme helps in the improvement of the cash flow. Any of these options can be opted as per the predictability and controllability of the business activities, *i.e.*, if the activities of the organisation can be predicted, then it will be better to choose usage billing scheme, otherwise, monthly billing scheme is safer.

- **Offers Security**

The cloud provider provides virus and firewall protection to prevent hackers and intruders. Even the data are encrypted which are unreadable without an encryption key. Due to multi-level redundancy, data is stored in more than one location to retrieve it as and when required.

- **Sharing of Financial Information**

The clients are allowed the access to their financial information and generate the requisite reports hosted by their accountants in the clouds. Any voluminous files or data information can be transferred within the organisation or even to outsiders in a very speedy manner. All this helps in taking the right decision at the right time.

- **Proper Backups**

As commonly known as online backup, wherein the data is sent from the cloud to an off-site server usually hosted by a third party to keep a proper backup of the data. The fee of the third party service provider is charged as

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per the capacity, bandwidth or number of users. This service is more popular with small offices and home users since capital expenditure for the installation of hardware can be avoided. Sometimes the cloud provider also offers a “seeding” option, wherein the customers can take the back-up of their data locally in the disk drive or other appliance sent by the cloud provider and then send back to them. After the receipt of the drive, the customer's data is copied to the cloud provider's servers. On the completion of the seeding process, only the changes in the data are incorporated, thereby, saving the time and efforts.

### Risks Associated With the Cloud Computing

Roses cannot grow without thorns. Similarly, though cloud carries huge benefits, the various risks associated with it cannot be ignored, like loss of control, security, integrity, privacy and availability.

- **Security of the Data**

The most crucial concern is about the security of the data available in the clouds. Since they are hosted, appropriate measures need to be taken for its encryption. The security vulnerabilities associated with the older versions of browsers like internet explorer, fire-fox cannot be ignored. Different security standards and models put a question mark on the responsibility of the security breach.

- **Privacy and the Integrity**

The privacy and integrity of the data is also dependant on the faithfulness of the cloud service provider. The sensitiveness of the data may also be affected by the negligence of the provider.

- **Vendor Failure**

Vendor failure can also be one of the major concerns. During the peak time, there can be server-down issues leading to the failure of timely delivery of important information.

## Steps to Avoid the Flaws of Cloud Computing

- Cloud can be used for non-private data and sensitive data can be stored in an in-house server. Heavy transaction applications and highly customised should be retained in-house.
- While using database as a service, for data at rest encryption can be used.
- For proper administration, the network connections should be secured.
- Instead of one cloud service provider, one should go for more than one and also multi-location/multi-country services can be opted.
- Auditing the key entry points should be done.
- A comprehensive data inventory with suitable classification of data should be implemented in the organisation.
- Access to the customer data should be restricted through effective identity and access management.
- In order to ensure the secrecy and integrity of the data, the organisation must assure from the cloud service provider that non-public personal information (NPPI) are removed from all locations after the termination of the contract.
- Before adopting cloud computing service, continuity of the operations of the service provider should be ensured and also their endeavours for the recovery of the data at the time of unexpected disruptions.
- Cyber insurance policies in compatible with the service provider contract can also be taken as an added protective measure in the case of system failures in the cloud.

## Auditing in Clouds

Auditing policies and practices require adjustments in order to adapt with the cloud environment. Auditors play a very important role from the inception stage in order to identify and reduce the risks involved with the cloud computing model. But before starting the auditing procedures, it must be ensured that the auditors (including the internal audit staff) must be adequately trained, as specialised knowledge is needed to evaluate the shared environments and virtualised technologies. So right from the conception stage of cloud computing, the auditors

need to examine the following for reviewing a cloud computing project:

- Critical and non-critical applications need to be segregated before sending them to the cloud. Again, significant applications such as a business-to-business (B2B) or business-to-consumer (B2C) web site requires careful consideration before entering the cloud.
- Since the organisation's data is processed and stored overseas and also mingles with other organisations data, a careful study of country/regional regulations that affect the organisation's business should be thoroughly carried out. Accordingly, the regulatory requirements and their corresponding breaches should be notified to the organisations.
- Cloud vendor's policy on vulnerability management and reporting, commitment to following up on potential security incidents, and ability to respond promptly to the reports should be examined carefully.
- Cloud users' experience with service level agreements (SLAs) and vendor management should be examined.
- Independent assurance about controls at the cloud service provider—whether through an independent auditor's report or through audit rights in the agreement should be thoroughly examined by the auditors. Sometimes, certifications of independent third party auditors are opted by some financial firms as an alternative to negotiating specific audit rights. But these can serve only as an effective solution for compliance with general data protection requirements, as pointed by different data protection regulators.
- Assessment of the value and risk of the information stored in the cloud should be done.
- Review of the disaster recovery measures and the back-up facility adopted by the service provider in the cloud infrastructure should be done periodically.

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- Possibility of the migration from one cloud to another should also be examined.
- Security models and policies adopted by the cloud vendors should be thoroughly checked.
- Assessment of the impact of the security to be done and accordingly advise for any alterations, if required.
- Check on the integrity of the authorised person responsible for the security of the data.
- Thorough review of the availability of the data on the cloud for audit purposes and the techniques to be adopted by the auditors to access and audit these data.

In order to facilitate the above auditing procedures, the auditors must have effective access to outsourced data and to the business premises of service providers for material outsourcings.

- The auditors must also check whether the internal controls of the organisations are functioning properly. The information security policies, standards and practices should be periodically reviewed and revised accordingly. For an organisation exposed to high risk situations, regular monitoring of the controls is necessary.
- In order to facilitate the above process, the auditors must do a thorough risk assessment to determine the vulnerabilities associated with the cyber securities.
- Finally, reliability and performance issues combined with contract issue about vendor lock-in and lack of application portability or interoperability should be done.

Apart from the above mentioned auditing procedures, the auditors can also perform advisory functions. They can help the organisations in deciding whether to procure or install a cloud system in-house by comparing the risks and cost of the installation. Although, the auditing powers used in the normal course of business are adopted by the auditors while examining the cloud computing projects, they may also choose to examine a material outsourcing failure in order to investigate a persistent or otherwise serious regulatory breach. For this reason, financial services firms need to consider how to enable effective access to data that is processed in a cloud.

### Ambit of Taxation in Clouds Direct Taxation

The major issues in the field of taxation faced by the organisation opting for cloud computing is about the transfer pricing (TP). It has to be determined whether the data processing mechanism creates a taxable nexus in a foreign jurisdiction. These cases have to be governed by a foreign country's domestic law or, if applicable, by the provisions of an income tax treaty. This calls for the creation of tax model compatible with the foreign jurisdictions. But, since many issues are still unexplored in this area, it will be a difficult question to be answered. The Income-tax Act, 1961 of India deals with the taxation of international transactions and transfer pricing issues in India. The objective of these provisions is to curb tax evasion on the part of taxable entities and individuals.

As per Section 92(1) of the Income-tax Act, 1961 any income arising from an international transaction shall be computed having regard to the arm's length price.

Section 92C of the Income-tax Act, 1961 provides arm's length price in relation to an international transaction or specified domestic transaction which shall be determined by any of the methods, e.g., comparable uncontrolled price method, resale price method, cost plus method, profit split method, *etc.*, being the most appropriate method, having regard to the nature of transaction. Rule 10A further provides how each of the methods will be identified and applied. In so far as it concerns 'profit split method,' the rule provides that the said method 'may be applicable mainly in international transactions involving transfer of unique intangibles or in multiple international transactions which are so interrelated that they cannot be evaluated separately for the purpose of determining the arm's length price of any one transaction'.

Mostly, cloud transactions do not involve transfer of property to the customers. Rather, they are transferred as a copyrighted article or an intangible property right which tends to cease as soon as the contract comes to an end. These incomes are therefore, treated as rental or royalty income.

But from the transfer pricing perspective, it is important to establish whether the transaction

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involves rendering of service or transfer of tangible property. Accordingly, the pricing of the services rendered are done. These transactions are treated with different tax provisions prevailing in the respective jurisdictions. Many factors need to be considered before determining the source payer of the tax. Like, the terms of the contract and the payment model or even the service level agreements can be referred to for the taxability. The clauses relating to retention of a part of the property after the cessation of the contract or reservation of a space in the cloud also play an important role in the determination of the cloud taxability.

Regarding the applicability of Section 194J relating to deduction of tax for professional and technical fees, the conclusion can be drawn from the following perspectives:

As per *Sonata Information Tech. Ltd vs. Mumbai Tribunal* [TS-663-ITAT-2012(MUM)], transactions involving payment of software cannot be co-related to royalty income and thus, TDS provisions under Section 194J are not applicable.

Similarly, from the High Court's decision in the *Ericsson A.B.*, [TS-769-HC-2011(Del)], it was conferred that if the consideration is not in the nature of royalty, then, in the absence of permanent establishment (PE) in India, the business income cannot be taxed. But if the transactions involves payment of subscription to the services availed from service provider residing outside India, then TDS has to be deducted as it can be categorised as royalty.

Again, it was held by the Mumbai Tribunal that payment made to a foreign company for services rendered relating to uploading and displaying of the banner advertisement on its portal is not taxable in India as royalty or fees for technical services. It also includes payment made for the registration of the websites of the foreign company. Since making available the websites in India for displaying the products do not qualify as rendering of

managerial or technical services, they are excluded from the taxation ambit. Also, it does not satisfy Article 5 of the tax treaty to have permanent establishment (PE) in India.

Similarly, mere presence of the computer software in India do not satisfy the conditions of permanent establishment as per the judgement given in *Areva T & D India Ltd.*

But in the case of *CIT (Int. Tax) vs. Samsung Electronics Co. Ltd.* (2011) 16 *taxmann.com* 141 (Kar. HC), it was held that the right to make a copy of the software and use it for internal business by making a copy of the same and storing the same on the hard disk and taking up a back up, amounts to copyright work under the Indian Copyright Act, 1957. Thus, purchase of the same amounts to transfer of the copyright and hence, subject to tax withholding.

Similarly in *CIT vs. Wipro Ltd.* (2011) 16 *taxmann.com* 275 (Kar. HC) Wipro Ltd., the taxpayer, made certain payments to Gartner for subscription to the database maintained by it. It was held that the payment was in the nature of royalty as well as fees for the technical services as per the provisions of the Act and the DTAA between India and USA and thus, withholding of tax was applicable.

## Indirect Taxation

Since, the incidence of tax falls both directly and indirectly on the tax payers, let us discuss the ambit of indirect taxation relating to the cloud computing.

## Sales Tax

As per the apex Court in *Tata Consultancy Services*, if copyrights are sold by a software programmer, then the software programme qualifies for the "goods" definition under the Sales Tax Act. The authorities in India charge sales tax on the assignment or transfer of the intellectual property even though it is prohibited to charge sales tax on the purchase of goods if they are meant to be sold outside the state or in the route of the import/export of goods in and out of the province of India.

Section 5 of the Act recognises both tangible and intangible property for the movement of the goods in the context of import or export of the goods. Section 9 also recognises the sales tax from where the movement of the goods commences

and if read with Section 2(d) which includes intangibles within its ambit, the movement of intangible goods must be presumed to be notional.

Thus, even though it is impossible to locate the movement of the intangibles, but sales tax is levied in the Indian context with reference to the above sections.

### Service Tax

Imposition of service tax on the transfer of the intellectual property (IP) is a debatable topic. As per the Ministry, the permanent transfer of IP does not amount to rendering of service, so the service tax cannot be levied. It will be levied only when it is transferred provisionally.

Regarding services provided relating to IP:

- Where both the service provider and the service recipient are situated in India, the onus of payment of Service tax is on the person representing the service.
- Where the service provider is located outside India and the service recipient is in India, then as per the reverse mechanism charge, the onus of paying service tax will be on the service recipient.
- Where the service provider is located in India and the service recipient is situated outside India then the tax liability will be governed as per the provisions of the Export of Service Rules, 2005.

Even though the services are exported and are meant to be 'used outside India', the service exporters are not able to avail the exemption from service tax for export of services. The service tax is leviable on the total amount charged by the service provider less the amount of cess paid towards the import of technology. As a result, lots of litigations are pending before the Hon'ble Court in this matter.

### Customs Impact on Intellectual Property

Customs duty has to be levied on the goods exported or imported in India as per the Customs Tariff Act, 1975. But for the levy of import duty, the equipment has to be imported along with the technical know-how. For the purpose of valuation, the sale value should be considered. As per the Hon'ble Supreme Court, the charges paid for the technological services, training fees, *etc.* are not incorporated in the sale value. The inputs required



for export production are also exempted from the customs duty.

### Central Excise Duty

It is levied only when a good is manufactured and is made marketable. For the levy of excise duty, either maximum retail price or the transaction value can be considered. If the service recipient buys the copyrights of the software from the service provider on payment of royalty charges and afterwards transfers into a suitable media with the help of a contract manufacturer on the payment of job charges, to be sold in the market, then excise duty will come into picture. However, for the calculation of sale value, the royalty charges are included in the sales price.

Thus to keep it simpler, the Government needs to develop an easier mechanism for the valuation of IP assets. This will facilitate easy compliance of taxation in computing cost for capital gain computation as well as stamp duty valuation purpose. With the rapid growth of cross border IP deals, a proper mechanism for the calculation of transfer pricing needs to be evolved.

### Conclusion

Nowadays, cloud computing is being widely embraced by the corporate as well as individuals. The most important benefit of opting for clouds is its online facility and scalability. Besides that, CAPEX and OPEX comes down to a large extent, but the inherent risk associated with the cloud cannot be ignored. One must be very careful before going for cloud, since software may differ in efficiency and reliability. To sum up, cloud computing with its manifold opportunities, requires careful planning, regular review of the policies and effective control. Thus, clouds are there and tend to remain there for upcoming years with additional benefits. ■