

Cloud Computing Technology-Security Issues In Banks-An Overview

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ABSTRACT: *To enhance the capacity for data management and to offer various services, Cloud computing technology is a best source. This technology is providing various services to the customers on demand through internet. Several benefits are provided by this Cloud technology to banks such as reducing costs, improved capacity of data processing and superior excellence in banking services. Financial institutions would use the services of cloud technology with more flexibility and efficiency as and when they require. But several organizations are hesitating to introduce this technology due to security challenges. This paper is studying about the challenges of cloud technology in offering various enhanced services to banks as well as to customers with alternative solution to contain the issues. Moreover, it is discussed about various challenges in offering these financial services to banking institutions. Hence the data is gathered through secondary sources such as newspapers, magazines and various journals. The study is descriptive in nature.*

Key words: *Banking Industry, Cloud computing, Cost saving, Financial Services, Security.*

INTRODUCITON

Now-a-days cloud computing is more attractive and very much pertinent to the financial institutions in offering financial services. It has the capacity to make over totally the landscape of the financial services of these institutions. Through cloud the banks can convert their entire banking system efficiently and can obtain high end technologies on pay-per-use basis. Cloud Computing is offering an enormous services with reduced capital expenses and IT overheads and without the associated costs. At present, because of this technology the customers can have access for any modern core banking systems which can be available with this technology without any cost effective or any other hindrances. This technology supports the banks in achieving savings in cost, enabling increased data processing and enhanced superiority in the quality of financial services. For large size financial institutions it is better to construct their own private cloud as their financial cloud. But for small size ones, utilizing the services of public financial cloud service providers will give the immediate support for their business growth and effectiveness in connecting the data segregate.

CLOUD COMPUTING – BANKING INDUSTRY

Cloud has huge abilities of computing and resources for instance, applications, servers' networks, storage capacity and various other services which offered to customers which possible through internet source. It can change the entire landscape of financial services. Presently, anyone can get access of these modern core banking systems that combined with this technology without any barriers such as cost. The pace of this technology is very fast and creating a wide role in the infrastructure. The swift emanate of cloud technology is changing the thinking of banking institutions can use in better way their resources of Information technology. Till now application of technology in their functioning of offering a wide variety of services is too costly affair for financial institutions. But at present, cloud computing is offering an enormous services with reduced capital expenses and IT overheads and without the associated costs. In cloud, the data can store virtually and the same is operated by cloud service provider. One of the major reasons to use cloud is for its 'Security'. It offers various security components like data protection when an unwanted hacking of data is tried by anonymous agencies. The client's information is protected through authentication and approval components. The encryption and unscrambling techniques are used for verifying the client information.

REVIEW OF LITERATURE

Choubey, R., Dubey, R., & Bhattacharjee, J. (2011) in their survey they observed that there are various glitches in adopting cloud technology when the internal architecture is weak and controlling the entire process is not the major area of concern.

Behl, A. (2011) in his study Comprehends that with increasing demands of security a simultaneous advanced standards will be encrypted for better management.

Rieger, P., Gewalt, H., & Schumacher, B. (2013) identified that in taking the decision of application of cloud computing in offering services by banks the cost also plays a major role being a financial factor. This cost effective decision creates pressure to provide the products of competitive nature and which leads the banks to focus on standardization of these products which is possible with this cloud computing. A particular bank's competitive advantage depends upon the cost structure of services offered to their customers. Due to this cloud computing costs will be reduced. .

Niazmand, N. (2015) in his study expressed that to introduce the information technology in any organization first it requires the acceptance at all levels of management and have to know how to use it and adopt by all human resources for taking various decisions. If the personnel not interested or no faith in adopting this new technology, though it is very useful and cost effective, but it may fail at any stage. The author recognized in the study the majority of the technical experts agreed that with the application of this cloud technology, there will be reduction in investment and operating costs and minimum power consumption is possible and it saves time and increases its operating efficiency.

Mahalle, A., Yong, J., Tao, X. & Shen, J. (2018) envisages that the IT security team have to initiate security framework for data in order to prevent that it has to be evaluated on normal basis with many chances of attack from outsiders.

Subramanian, N., & Jeyaraj, A. (2018) in their study "Recent security challenges in cloud computing" assess that the stake holders of data have inadequate awareness about the security issues and virtual technology that compromises the financial and trust related losses.

RATIONALE OF THE STUDY

With the unchecked exploitation of technologies in a run to give explicit services with agility, transparency, various challenges has to be addressed that puts the services sectors effectiveness at stake and leaving the clients vulnerable. This study is done to identify the bottle necks to be addressed that are imperative in the contemporary competitive corporate and public banking institutes.

OBJECTIVES OF THE STUDY

1. To address the setbacks in cloud technology and its scope in banking industry.
2. To envisage the security issues in cloud computing main question of financial institutions
3. To know the challenges of the application of cloud computing in financial institutions.

CLOUD TECHNOLOGY IN BANKING SERVICES

Now banking industry is facing several problems such as spending high cost for advanced technology and the better usage of hardware. Cloud computing is offering shared service in banking system through internet without the much more operating expenses in the form of employees, apparatus, hardware and software. The main task in front of banking industry is to reduce the high cost in the execution of advanced information technology and proficient usage of hardware. For this, realistic application of this technology in banks is a good suggestion. With the execution of cloud computing technology in banks, they can offer outstanding applications and the clientele can effortlessly access the banking services. For instance, the customers can easily access and can finish their transactions through their Smartphone which can easily carry out. It is one of the important features in Cloud computing, tends to offer various forms of services without any person intervention by the help of other service providers.

MAJOR CHALLENGE OF SECURITY IN CLOUD COMPUTING

As cloud computing is a dynamic area in present day of technology, security of the data stored is one of the burning concerns of the customers as well as organizations. In the security risks firstly, Data confidentiality, which is the utmost concern when not maintained meticulously, may compromise the security system making it difficult to detect the bug. Secondly, the responsibility ambiguity is a regulation system of data security is a minor competent due to lack of whole some knowledge of the new cloud technologies that are deployed in the market. Thirdly, tampering of programs and /or data may impact the financial and operational losses. Finally, insider threats, eaves dropping are also the potential threats with unexplored solution recommendations.

Once data is stored in the cloud, service providers of cloud must decide the data protection which is one of the foremost important points to be considered. They have to provide integrity, privacy, access denial and ease of confirmation of security for the data of the customers should be ensured by the cloud service providers to avoid unauthorized access by the third parties. All organizations whether profit or non-profit in nature, started using cloud for data storage, creates the problem of security and privacy to the data stored in cloud. In addition to this data transmission and service utilization in cloud provides several challenges to the service providers. They have started using encryption and key distribution like concepts for customers' data safety and security. Users of cloud computing needs the guarantee that whether their data are kept independently without mixing with others' data. If not, there are chances for mixing or blending of data, which may in turn causes insecurity or confusion.

Cloud technology is a recent update for better processing system which uses the cloud as a warehouse to store the data and facilitate to retrieve it whenever the need arises. This should be used in addition to the manual storing of data in our storage devices. As the need increases for the usage of clouds, it is an obligation of the cloud provider for offering better and uninterrupted services to its users. The infrastructural design of the existing cloud computing service providers is different from that of others. The important point taken into consideration by the cloud computing service providers should be safety and security to the data of its customers. They have to think about the extent of security to be included in

service not having any dilution their security system. Now-a-days, various big organizations have started using this cloud computing system not only for storing data in this but also to analyze the data using information technology which may help for the growth of any organization. Some of the cloud-based analytics understand an individual's likes and dislikes, tracking system used in online trading; identifying the preferences of consumers using tracing preferences are from cloud analytics.

ADVANTAGES OF CLOUD COMPUTING

The main Benefits of Cloud Computing in various banking IT service areas are as follows:

- **Cost saving:** cloud computing supports financial institutions to revolve a large amount of capital expenditure into a small and ongoing operational cost.
- **Analytics:** To facilitate the near real-time insights customer data is integrated all over the banking platforms
- **Association:** through this secured rich cloud infrastructure employees are enabled to access all banking affairs among all branches of banking system.
- **Desktops and other apparatus:** utilizing the services of a private cloud for centralized management of desktops permits for larger inaccessible elasticity without losing the control, for having the access by bank staff for applications and information what they need.
- **Managed backup:** it will provide data backup for this complicated banking business which can recoil at the time of disasters.
- **Development and testing:** it provides a virtual environment which enhances the agility of progress and testing which supports the easy and quick development of bank teams.
- **Security:** To maintain the IT policies and to make sure the corporate governance the vigorous security and endpoint management is executed.
- **Industry applications:** The payment providers are able to regulate and update the processing of transaction.
- **Infrastructure storage:** the current trading and analytics processes are well organized with the scalable storage solutions to give guarantee to the real-time demands.

CHALLENGES FACED BY BANKING SECTOR IN THE APPLICATION OF CLOUD TECHNOLOGY

Cloud computing is already existing conception to banks, but it became a little bit slow in undertaking this technology into working. At initial stage, certain problems such as security risks, issues of reliability and problem in planning the business continuation became some hindrances in adopting this technology. In addition with these, the lack of core banking application solutions made delay the process further more. To reduce these issues, the management of infrastructure has to move from complex information technology provisioning to a series of standardized services. Because of these standardized procedures and workflows, the risk at implementing stage is minimized and supporting change management practices will bring the cloud to beginning stage. Though this technology is offering several services like big data storage, resilience in storage, with very ease the sharing and accessing of the data, but several challenges are facing by these initiators of various service providers such as security of data and data privacy which is stored in cloud.

- The inadequacy of investment may depress the profit margins.
- The emboldened customers always anticipate the swift growing services and offerings.

- Ferocious competition for customers and entry of nontraditional organizations
- Many organizations changed their business models from product centric to customer-centric.
- Government supervision and intervention increased due to enhanced rules and regulations.

Innovations in banking is very important to face continuous competition among the institutions which uses IT and business model The organizations which are use the IT and business model transformation to face the competition needs innovations in banking. For highly secured transactions it is better to use private cloud and using public cloud for upper layer of its applications, banks can use the hybrid cloud.

CONCLUSION

Because of trust and security the business organizations are unable to give full acceptance to these cloud platforms. First the providers have to secure virtualized data centre resources to protect these clouds and give to preference to customer privacy and safeguard the data integrity. Now financial services offering institutions are providing these services with the support of this cloud computing technology for a number of factors such as for mobile applications, innovation testing and micro-banking. But the financial institutions have to have knowledge about all these are to attain business agility for the advanced level of growth and for business model renovation. All financial institutions have to start functioning on cloud reference architecture and no doubt about it that it will decide its winning approach.

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