

# BANKING SERVICE USING CLOUD COMPUTING

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**Abstract:** Cloud Computing is an emerging technology in Business Domain. Business application has become the greatest market for cloud services. Cloud computing has changed the way of communication between banking and its customers. A large number of banks are now adopting cloud technology to fulfill their needs including less budget, effectiveness in business, Green Information Technology (GIT) business and time saving. This paper provides a beneficial insight into how cloud computing can be effectively used through Mobile- Banking sector.

**Index Terms-** Business effect, Cost, Cloud Computing, Mobile, Banking, Security.

## I. INTRODUCTION

“Cloud Computing” is the new way of computing, which is rapidly getting lots of momentum. The word cloud is a metaphor for internet world. The word of “cloud computing” is everywhere, where we can think. Cloud computing means the storing and accessing of data and program on the internet instead of our computers hard drive. Cloud Computing means is a type of internet which is based on computing.

Cloud computing provides some services in Banking sector as BPaaS, SaaS, PaaS, IaaS. The BPaaS stands for Business Process-as-a-Service use cloud computing in business as in terms, including billing, payroll. The SaaS stands for Software-as-a-Service including accounting, Customer Relationship Management (CRM), and Enterprise Resource Planning(ERP), invoicing now PaaS stands for Platform-as-a-Service is a Fulfill platform for applications, interface and it decrease IT cost & decrease the number of hardware & software and hosting environment. Now the last one is IaaS stands for Infrastructure-as-a-Service allows a business to buy those resources as a fully outsourced service that purchasing servers, softwares, data centre space and network equipment.

This paper describes about the use of cloud computing in mobile banking and the challenges and issues in Cloud Mobile Banking (CMB). This paper is organized in different sections. First section explains the introduction of cloud computing and about the services of cloud computing. Second section explains that about the mobile banking and how it is related with cloud computing. Third section explains the deployment models that are used in organization and financial institution. Fourth section explains general architecture of cloud mobile banking. Fifth section contains the benefits of mobile banking through cloud computing. Sixth section explains challenges and issues in cloud mobile banking.

## II MOBILE BANKING

Mobile Banking using cloud computing can be explained as a way whereby the bank customers communicate with a bank by a mobile device and use a cloud computing as growing technology for instance, mobile phone with internet or PDA (Personal Digital Assistant).

Mobile Banking is used by smart phone and other devices such as tablets to perform online banking tasks including knowing account balance, transferring payments, and funds between two accounts and locating an ATM (Automated Teller Machine).The usage of cloud mobile banking in different countries in 2017 is shown in Table 1.

**TABLE I**  
**USAGE OF MOBILE BANKING IN COUNTRIES**

Country/ Territory	Usage in 2017 (in %)	Ranking Low to High
Germany	31	14
Canada	34	13
Thailand	37	12
United Kingdom	39	11
France	41	10
Australia	42	9
Mexico	44	8
United States	46	7
Spain	47	6
India	49	5
Singapore	50	4

Hong Kong	52	3
China	53	2
South Korea	55	1

### III DEPLOYMENT MODEL

Cloud Computing has three ways to provide services, the most commonly deployment clouds are:

#### 3.1 Private Cloud

This cloud infrastructure is operated privately for a specific department or company. It may be managed by company or a third party and may exist or prevail on or off the premises. It is more secure than all cloud options.

#### 3.2 Public Cloud

This cloud infrastructure is made available to the common public or a large industry group and is governed by a company that sells cloud services.

#### 3.3 Hybrid cloud

This cloud infrastructure is made up of private and public clouds that remain sole entities but are associated in order to administer services.

### IV. ARCHITECTURE OF CMB (CLOUD MOBILE BANKING)

The general architecture of CMB (Cloud Mobile Banking) is shown in figure 1. Mobile devices are connected to the mobile operators via base station including access point or satellite that control the connections and functional interfaces between the mobile devices and mobile network operator. Mobile users requests and send information such as ID and location are transmitted to the central processors that are connected to servers providing mobile network services.

Mobiles and financial sectors like banks, both are connected to Internet Service Providers (ISPs). ISP provides internet connections to the world community. Subscribers and banks request are delivered to a cloud through the internet. In cloud, the cloud controllers process the request to provide mobile user and banks with the corresponding cloud services. Mobile user can take the banking facility from cloud computing as corresponding bank details are residing on data centres of cloud computing.

### V BENEFITS/USE OF CLOUD COMPUTING IN MOBILE BANKING

Banking customers can get lots of benefits by using cloud computing in mobile banking. Some of these are as follows:

#### 5.1 Utilization of Time

We can use Mobile Banking through cloud computing 24\*7 hours so it is very convenient and most easy and a great choice for operates financial services for most mobile phone owners in rural areas cause everywhere is cloud.

#### 5.2 Increase Adaptability

Using cloud computing, banks will enjoy upgrade adaptability ratios and operating leverage. Using cloud computing technology and business operations can be much more effectively aligned, the cloud gives to mobile banking a golden opportunity to decline complexity.

#### 5.3 Decrease Invest Amount

Using cloud computing banks will not have been investing large amount to purchase software, hardware and related work force. Bank customers will easily updating their accounts using all mobile devices at anywhere. Pay-on-demand model means they invest only for those software and hardware that they need.

#### 5.4 Security Comparison

Mobile banking is more secure than online and internet banking. Accessing our bank's mobile website or using our bank's mobile applications to access our account is much more secure than conducting traditional online banking on computer or laptop.

#### 5.5 Come together two clients

Cloud computing easies the banking transaction related to payments between sellers and buyers through mobile device.

### VI. CHALLENGES AND ISSUES

#### 6.1 Compliance, production and security

A big challenge of mobile banking in future is security of data and all times the security is maintaining. Banks need to some more demands stringently safety amount from suppliers and ensure new application meet the new and security standards.

#### 6.2 Achievement or Performance

The major issue in achievement of Cloud Mobile Banking (CMB) can be for few intensive transaction-oriented and another data intensive applications and softwares in which cloud computing be allowed the lack capable performance. Here also, people who are long distance from cloud providers and mobile devices may experience high latency problems and delay.

#### 6.3 Authority

A number of IT sectors, departments and wings are concerned because cloud computing providers have a complete authority of the platforms. Cloud computing providers frequently don't design platforms for specific departments and their work practices.

#### 6.4 Transmission costs

Mobile banking using cloud computing, banks can save money on software, hardware and manpower; however they could incur higher network transmission charges. Transmission charges may be low for internet based smaller bank mobile application, which are not data accelerated but could extremely grow for data intensive mobile applications.

#### 6.5 Loyalty

Mobile banking through cloud computing still doesn't always action full of the clock loyalty. There was cover where cloud mobile banking services suffered few time outages in the present days and future days to expect more cloud computing providers well-established standards and best usage.

### VII. CONCLUSION AND FUTURE SCOPE

Continuously increasing the advancement of cloud computing within the mobile's banking technology is providing many features between mobile users and bank customers. In this paper, the use of cloud computing in mobile banking is explained. By mobile banking we can easily transact our pay roll, bills, fund transfer and payments. Usage of cloud computing in mobile banking in different countries is shown in low to high order. In the year 2012 the South Korea was leading country and the Germany had consists the low rank in all countries. Cloud computing have some deployment models which can be used in banking sector. The architecture of cloud mobile banking explains about how mobiles and banks are connected with cloud and how they work to meet the requirements of different services. Mobile banking using cloud computing has more benefits for the banking customers. Along with the benefits, some challenges are also present to fight and some issues are also available in cloud mobile banking. Future work can be done to overcome the challenges and issues authenticity can be added to cloud mobile banking process.

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