ENCRYPTION IN INTERNET BANKING

I. Introduction

Electronic banking, which provides various banking services through internet changed the ways of business conducted in banks drastically. Also called as online banking, it tremendously helped in reduction of banking transaction costs and increasing the benefits to customers by various integrated services.

Security and privacy are the main expected features in the field of online banking. On-line transactions need utmost security to avoid possible fraudulent transaction of any kind. Whether all kinds of information and various services for transactions are available for the users through internet.

The encryption of information is the source of security and privacy in this online banking.
The security is provided in the form of **password**, **pin code**, **biometric**, **digital signature**, **steganography** etc. The banks have to ponder more and invest on data and information security due to the continuous surge in usage of online and mobile channels and due to the various associated threats. Managing the security in online banking or internet banking and phone banking is the highest challenge than compared to other transaction services

Encryption is the process of taking plain text, like a text message or email, and scrambling it into an unreadable format — called "cipher text." This helps protect the confidentiality of digital data either stored on computer systems or transmitted through a network like the internet.

"In today's world we all have to be hyper-aware of protecting our financial security online. There is no shortage of hackers, ID thieves and malware out there that are trying to gain access to secure information."

This is the age of convenience and this includes **online transactions**. Unfortunately, utilizing online transactions comes with a risk. **Hackers are constantly after your social security number, credit card numbers, banking information, and log-in credentials.**

II. The use of encryption in banking
Financial institutions implement a level of encryption over **all of your digital files and transactions.** Basically, everything gets **encoded** in a way that prevents cyber hackers from easily accessing your information.

Today, 128-bit **encryption** is standard, but most **banks**, militaries, and governments use 256-bit **encryption**. **Encryption** underlies the security and functionality of decentralized crypto currencies, such as Bit coin.

III. The main reason Data Encryption is Essential for True Security

In a world where cyber-attacks and security breaches are a part of the everyday news, it is more important than ever that security be implemented to prevent such occurrences.

Banks and other financial institutions use bank-level security as an industry standard for protecting themselves and their clients from serious identity and financial threats.

The objectives encryption are:

- Ensure the security and confidentiality of customer records and information
- Protect against any anticipated threats or hazards to the security or integrity of such records
- Protect against unauthorized access to information which could result in substantial harm or inconvenience to any customer

IV. Advices for the users of internet banking

Authenticating users (Cashier & Customers) over the phone or on website is the most important factor for any business, where transactions are carried out using insecure Internet channel.

The modern communication medium is very much exposed to various threats. One time password (OTP, a password which is valid for only one Login Session or transaction) is used to prove one's identity over the wireless channel.

V. Conclusion

In future, the need for data security and integrity will continue to require our careful thought and consideration. For carrying out critical transactions like fund transfers, the banks, at the least, need to implement robust and dynamic two-factor authentication through user id/password combination and second factor like a digital signature or OTP/dynamic access code through various modes (like SMS over mobile phones or hardware token).