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The Study on Overview of E-Banking Services in India

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ABSTRACT:

In today's era, characterized by digitalization and technology advancements, every nation's economy relies on electronic systems for efficient operation across various sectors. The banking sector, being a crucial component of every economy, plays a pivotal role in facilitating monetary transactions. In India, the banking sector is a major player in the economy, and the adoption of e-banking services has become widespread among many banks. These services offer customers the convenience of quick banking operations, such as payments and money transfers. This research paper aims to study the concept of e-banking, analyze the progress of e-banking services, and understand the associated risk factors in the Indian context. The study is based on secondary data analysis.

KEYWORDS: E-banking, Digital Payments, E-Banking Settlement Systems

I. INTRODUCTION:

The liberalization and globalization processes in India, starting from the early 1990s, have significantly impacted the banking sector, leading to the emergence of e-banking. Information technology has revolutionized banking operations, enabling banks to offer services such as deposits, withdrawals, money transfers, and payments through electronic channels. Banks worldwide are providing banking services globally through e-banking, leveraging the internet and electronic mediums. With the increasing connectivity and electronic transactions in the age of information and technology, e-banking has enhanced the availability of foreign funds and investment mobility, enabling quick settlement of transactions for bank customers. Consequently, e-banking has become a crucial tool for the development of the modern Indian economy.

II. RESEARCH METHODOLOGY:

a) Objectives:

1. To study and understand the concept of e-banking.
2. To analyze the progress of e-banking services provided by banks.
3. To understand the risks involved in e-banking services.

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b) Literature Review:

- Mrs. Ani Smriti and Mr. Rajesh Kumar (2021) conducted a study on the present status of e-banking in India, emphasizing its importance in developing customer loyalty towards the banking sector.
- Aniela Raluca Danciu, Zizi Goschin, Mihaela Gruiescu (2010) studied e-banking services as an element of e-business, highlighting its significant role in the economy and banking operations.

c) Data Sources: This research paper is based on secondary data collected from research papers published in national and international journals, articles, statistical data from the Reserve Bank of India and other institutions, and websites.

III. CONCEPT OF E-BANKING:

E-banking refers to the operation of banking products and services through electronic and telecommunication networks. It encompasses banking services availed through electronic media sources and internet connectivity.

A] Features of E-Banking:

a) **Secure:** E-banking ensures secure transactions with password-activated systems.
b) **Convenient:** E-banking provides easy-to-understand guidelines for completing transactions, accessible via mobile devices.
c) **Online Document Compliance:** Customers can complete banking documentation online.
d) **Ease of Access:** E-banking enables easy access to financial and non-financial banking products/services and related information.
e) **Account Accessibility:** Bank account holders can access their accounts anytime, anywhere, and check account information.
f) **NEFT, RTGS, IMPS Transactions:** Funds can be transferred online through various services such as NEFT, RTGS, and IMPS.
g) **Bill Payment:** Customers can quickly pay various bills online.
h) **Automatic Payments Service:** Customers can enable/disable automatic payments.
i) **UPI Linked Banking Services:** UPI facilitates quick payments via mobile applications.
j) **Payment of Loan Installments:** E-banking allows online repayment of loan installments through ECS.
k) **Various Account Opening:** E-banking facilitates online account opening for various account types.

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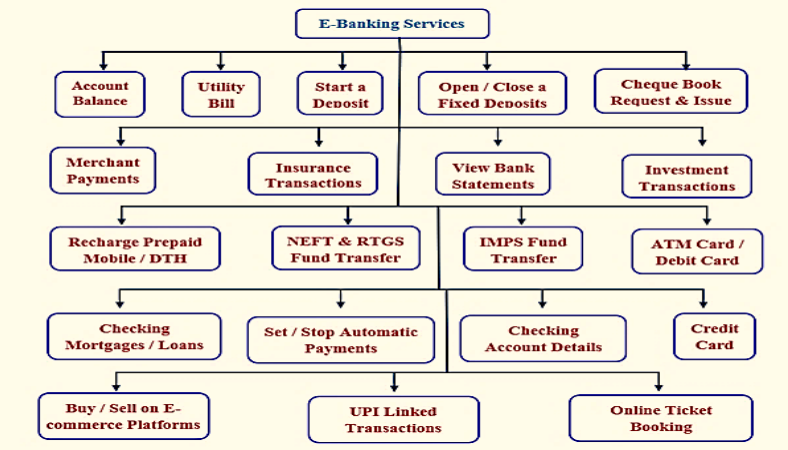
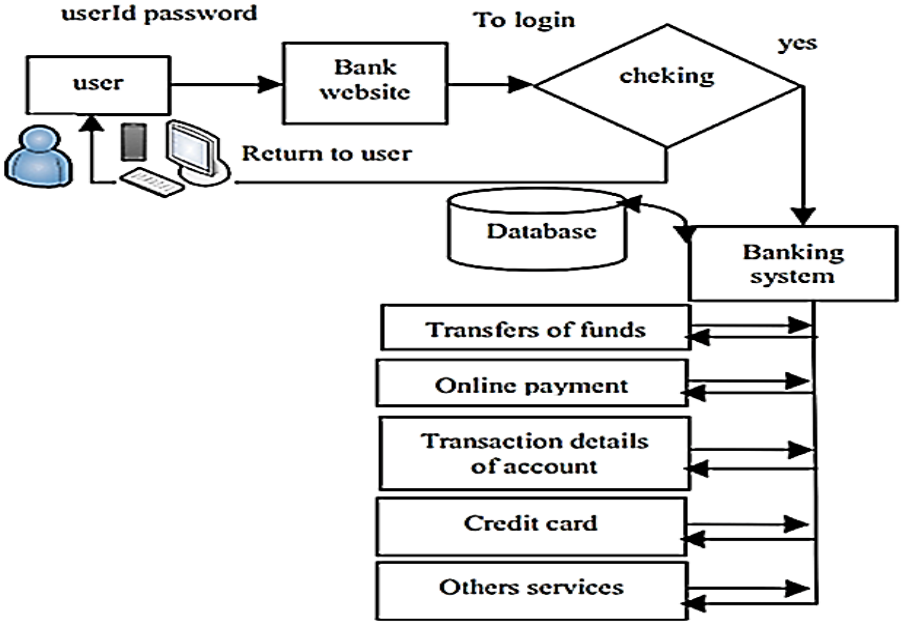
B] Various E-banking Services provided by Banks in India:



(Source : Complied by Author)

In addition to the services mentioned above, many banks are currently offering a variety of e-banking platforms for online banking procedures and transactions.

C] Operating Procedure of E-banking Transaction



(Source : www.researchgate.net)

Internet banking refers to a set of technical solutions for providing financial services through the open architecture of the Internet. With internet banking systems, banks establish direct relationships with end-users through the web, offering personalized and additional services via the interface. To access internet banking services, users must first obtain a user ID and password. Upon entering these credentials on the bank's website, their validity is

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verified. If the user ID and password match, the user can successfully log in to the internet banking system; otherwise, they receive an "Invalid User" response. Once logged in, users can access various services online, including balance inquiries, fund transfers, online bill payments, interest and fee/tax payments, transaction details for each account, credit card and home loan balances, and account openings.

To ensure the security of net banking transactions, a PIN number and mobile code are typically used together. During online transactions, a One Time Password (OTP) is generated by the online banking system and sent to the user's registered mobile/email via SMS. The online transaction is authorized only after entering the OTP, enhancing security measures. In summary, e-banking facilities are becoming increasingly popular as secure services.

IV. AN OVERVIEW OF E-BANKING SERVICES IN INDIA

A] Digital Payments and Settlement Systems:

In India, the current payment and settlement system is dominated by technology and innovation-based tools, facilitating safe, secure, innovative, and efficient payment systems. The Reserve Bank of India (RBI) has recently undertaken initiatives emphasizing technology-based solutions to enhance the payments ecosystem. These initiatives are based on five pillars: integrity, inclusion, innovation, institutionalization, and internationalization, as outlined in the Payments Vision 2025 (RBI).

Enhancements to the Unified Payments Interface (UPI) were launched in March 2022 to enable mobile phone users to make UPI payments. Access to UPI transactions is facilitated through four options: app-based functionality, missed call, interactive voice response (IVR), and proximity sound-based payments, thereby extending UPI access to over 40 crore feature phone subscribers in the country. In September 2022, UPI Lite was introduced to facilitate low-value transactions in offline mode through an on-device wallet feature.

Additionally, the RBI allowed linking of credit cards to the UPI network in June 2022 and permitted customer authorization using UPI with transaction settlements through the ATM network in May 2022. These initiatives aim to enhance the accessibility, efficiency, and security of digital payments and settlement systems in India.

Table 1 : Payment System Indicators – Annual Turnover (April-March) 2019-20 to 2022-23 (Volume in 'Lakh'; Value in 'Lakh)

Item	2019-20		2020-21		2021-22		2022-23	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
A. Settlement Systems								
CCIL Operated Systems	36	1342	28	1619.43	33	2068.73	41	2587.97
B. Payment Systems								
1. Large Value Credit Transfers -RTGS	1507	1311.56	1592	1056.00	2078	1286.58	2426	1499.46
Retail Segment								
2. Credit Transfers	206661	285.72	317868	335.04	577935	427.28	983695	550.12
2.1 AePS (Fund Transfers)	10	0.00	11	0.01	10	0.01	6	0.00
2.2 APBS	16805	0.99	14373	1.11	12573	1.33	17898	2.48
2.3 ECS Credit	18	0.05	0	0.00	0	0.00	0	0.00
2.4 IMPS	25792	23.38	32783	29.41	46625	41.71	56533	55.85
2.5 NACH Credit	11406	10.52	16465	12.17	18758	12.82	19267	15.44
2.6 NEFT	27445	229.46	30928	251.31	40407	287.25	52847	337.20

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2.7 UPI	125186	21.32	223307	41.04	459561	84.16	837144	139.15
3. Debit Transfers and Direct Debits	8957	8.26	10457	8.66	12189	10.34	15343	12.90
3.1 BHIM Aadhaar Pay	91	0.01	161	0.03	228	0.06	214	0.07
3.2 ECS Debit	1	0.00	0	0.00	0	0.00	0	0.00
3.3 NACH Debit	8768	8.24	9646	8.62	10755	10.27	13503	12.80
3.4 NETC (Linked to Bank Account)	97	0.00	650	0.01	1207	0.02	1626	0.03
4. Card Payments	73012	15.36	57787	12.92	61783	17.02	63345	21.52
4.1 Credit Cards	21773	7.31	17641	6.30	22399	9.72	29145	14.32
4.2 Debit Cards	51239	8.05	40146	6.61	39384	7.30	34199	7.20
5. Prepaid Payment Instruments	53318	2.16	49366	1.97	65783	2.79	74667	2.87
6. Paper-based Instruments	10414	78.25	6704	56.27	6999	66.50	7088	71.63
Total – Retail Payments (2+3+4+5+6)	**352362**	**389.74**	**442180**	**414.86**	**724689**	**523.94**	**1144138**	**659.04**
Total Payments (1+2+3+4+5+6)	**353869**	**1701.31**	**443772**	**1470.86**	**726767**	**1810.52**	**1146563**	**2158.50**
Total Digital Payments (1+2+3+4+5)	**343455**	**1623.06**	**437068**	**1414.58**	**719768**	**1744.01**	**1139476**	**2086.87**

(Source : Compiled by Author from Statistical Data Published by RBI on its Website)

Abbreviations :
CCIL - The Clearing Corporation of India Ltd.,
IMPS - Immediate Payment Service,
RTGS - Real time gross settlement,
NACH - National Automated Clearing House,
AePS - Aadhaar Enabled Payment System,
NEFT - National electronic funds transfer,
APBS - Aadhaar Payment Bridge System, UPI - Unified Payments Interface,
ECS - Electronic Credit Transfer,
NETC - National Electronic Toll Collection

It has been noted that both the volume and value of digital transactions have been consistently and significantly increasing since 2019-20. Following the Covid lockdown, there was a drastic surge in e-banking transactions. Key indicators in the e-banking sector, such as online credit transfers, UPI payments, and card transactions (debit and credit), have contributed substantially to the overall increase in digital transactions.

Table : 2 Authorisation of Payment System Operators (end-March) (Number)

Entities	2019	2020	2021	2022	2023
A] Non-Banks – Authorised					
PPI Issuers	47	43	36	37	36
WLA Operators	8	8	4	4	4
Instant Money Transfer Service Providers	1	1	1	1	1
BBPOUs	9	9	8	9	10
TReDS Platform Operators	3	3	3	3	3
MTSS Operators	9	9	9	9	8
Card Networks	5	5	5	5	5

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ATM Networks	2	2	2	2	2
B] Banks – Approved					
PPI Issuers	61	56	56	57	58
BBPOUs	39	37	42	43	44
Mobile Banking Providers	490	547	566	648	725
ATM Networks	3	3	3	3	3

(Source : Compiled by Author from RBI Statistical Data.)

Abbreviations :
PPI - Prepaid Payment Instruments
WLA - White Label ATM
BBPOUs - Bharat Bill Payment Operating Units
TReDS - Trade Receivables Discounting System
MTSS - Money Transfer Service Schemes

It has been observed that the number of non-bank Prepaid Payment Instrument (PPI) issuers has decreased from 47 to 36 between 2019-20 and 2022-23. Conversely, the reduction in the number of Bank-approved PPI issuers has been minimal. The number of Mobile Banking Providers has experienced a notable increase, likely influenced by the growing adoption of smartphones. However, no significant changes have been noted in the case of other Payment Service Providers (PSOs).

B] Risk Factors Associated with E-banking Transactions

One of the primary drivers for the rapid expansion of the e-banking sector worldwide is its recognition as an exceptionally cost-efficient avenue for delivering banking services. However, this growth has introduced a new dimension of risks and novel forms of risk. Below are the key risks confronting e-banking services:

a) Operational / Transactional Risk:

This risk emerges from inaccuracies in transaction processing, unenforceable contracts, compromises in data integrity, privacy breaches, unauthorized system access, and transactions, among others. Weaknesses in information system design, technology inadequacies, negligence by stakeholders, and fraudulent activities contribute to these risks.

b) Security Risk:

• The internet, being a public domain, enables unrestricted access, making controlling access to banking systems complex. Ensuring a secure environment for transactions is imperative.
• Unauthorized access to critical bank information such as accounting and risk management systems poses security threats, potentially leading to financial losses and reputation damage.
• Banks are vulnerable to security risks from internal sources such as employee fraud and external threats like data interception.
• Without proper protection, banking data transmitted over the internet can be intercepted by unauthorized parties.
• Quick alert systems and robust access controls are necessary to detect and address unauthorized alterations to data promptly.

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• User authentication mechanisms are vital for identifying individuals conducting e-banking transactions and preventing identity misrepresentation.

c) System Architecture and Design Risk:

• Risks arise from technology selection, inadequate system design, and deficient control processes, necessitating appropriate system architectures and control systems.
• Reliance on outdated or unproven technology can lead to investment loss, security vulnerabilities, and business disruption.
• Outsourcing services may increase operational risk as service providers gain access to critical bank information, requiring careful vendor selection.
• Banks with outdated systems are at risk of operational disruptions and security breaches.

d) Reputational Risk:

• Negative public opinion can erode trust in a bank's ability to perform critical functions, resulting in customer attrition.
• System deficiencies, security breaches, and inadequate communication can damage a bank's reputation.
• Misinformation about banking products from other institutions can mislead customers.
• Viruses and system integrity issues can further undermine a bank's reputation.
• Measures such as virus scanning, backups, and contingency plans are essential for safeguarding against reputational damage.

e) Legal Risk:

• Legal risks stem from improper legal frameworks, violation of laws, and uncertainty regarding electronic agreements and customer disclosures.
• Linking bank websites with third-party sites and authentication responsibilities can introduce legal risks.
• Banks must adhere to legal and regulatory requirements to mitigate legal risks associated with cross-border operations.
• Foreign exchange transactions carry market risks due to exchange rate fluctuations.

f) Money Laundering Risk:

• Banks must implement robust customer identification and screening measures to prevent money laundering.
• Audit trails, compliance reviews, and reporting mechanisms are essential for detecting and reporting suspicious activities.

g) Cross-Border Risks:

• Geographic expansion exposes banks to legal, regulatory, and market risks.
• Foreign-based service providers may pose operational and compliance risks.
• Currency exchange transactions carry market risks.

h) Strategic Risk:

• Introducing new products or services entails strategic risks, requiring careful planning, resource allocation, and technological considerations.
• Proper surveys, expert advice, and achievable goals can mitigate strategic risks.

i) Other Risks:

• Credit, liquidity, interest rate, and market risks are influenced by the evolving nature of e-banking.

• Inadequate evaluation of customers may lead to credit risks.
• Electronic money transfers and liquidity management present additional risks.
In short, while e-banking offers numerous benefits, it also exposes banks and the banking system to a variety of risks.

V. CONCLUSION:

E-banking represents a revolution in the realm of internet and technology, profoundly impacting the banking sector. Its adoption has significantly streamlined banking operations and reduced human intervention, leveraging electronic devices and internet connectivity. The convenience of conducting transactions via mobile phones has made e-banking ubiquitous among the public. However, despite its operational efficiencies, e-banking is not without risks. Both banks and customers must exercise caution during online transactions and information sharing. In India, e-banking is still in its nascent stages, with rural areas facing challenges due to banking illiteracy and limited adoption. As e-banking continues to evolve, addressing these challenges will be crucial for its widespread adoption and success.

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