Internet Banking Information System

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ABSTRACT

This report is on online banking and information systems in online banking. It throws some light on the introduction and historical background of online banking. Next, in this term report online banking information is explained in detailed. We collected a few articles, related to internet banking, on which other researchers have worked. Then further we have brief them into a table where we have mentioned their problems and limitations. Next, we discussed them in detail, giving an overview of each article. Lastly, recommendations for the online banking sectors are also mentioned.

Keywords: Information System, Information Audit, Audit, Internet Banking

INTRODUCTION

Enormous advancement in technology has made people dependent on the internet, they prefer getting their work done through the internet in several clicks which would save their time. Due to this reason, the banking sector has also adopted this strategy of taking business transactions online. This technology is known as 'Internet Banking'. As compared to other e-commerce applications, internet banking has become the most beneficial program for the banking sector as well as for the customers[1].

Throughout the world, internet users are spending more time online which is why in most countries, banks are now offering online services to hold onto their online customers. Online banking has recently begun in Pakistan, giving them facilities to perform all of their transactions by going through the bank's online application rather than physically visiting the bank. The online banking system allows banks to achieve the desired satisfaction of customers by making the application easy to use, flexible plus secure. It gives the customers the benefit to use and control their online banking account at any time and location. These aspects make financial transactions easier, including the buying and selling process, resulting in increased competition among banks and others.

The information system is the combined group of elements that gather all the data and process that data to extract information and knowledge from it. Information systems are used in internet banking to manage all their operations, engage with customers and compete in the market.

Information systems help to achieve the desired goals by using a well-structured approach for assessing and improving the efficiency of risk management, control, and governance systems to survive in competition. It allows customers to manage their accounts whenever they want in any situation while also providing enhanced security and other features when it comes to e- banking. Banks are now using the information technology that helps them build a strong and more systematic structure that can respond quickly and compete in the market.

BACKGROUND

To compete in such competitive environment banks are now implementing new technology to grow their clients and Internet banking is undoubtedly one of the new technologies that will help in growing the bright future of banking sectors. Before internet banking was invented, all bank transactions were restricted within the boundaries of the bank rules. After major technological improvement and financial practices, this new innovative and advanced method of online banking was introduced that revolutionized the banking sector by providing ease and convenience, and dependability to

banks and account customers. Context awareness is very important to understand any technological change[2]. As a result of the availability and extensive use of the internet and banks using online banking, businesses have been able to conduct their transactions digitally. Internet banking is used as a medium channel for banking services by customers, they can use the internet and can perform all these services they can do physically. These services include transferring your money to other accounts, opening an account to deposit your money and new electronic services which allow the customer to receive their bills or can easily make an online payment for utility bills, top-up facilities, and so on. Because of internet banking customers no longer have to visit their branch to perform these activities. Different banking organizations are offering forms of online transactions. But all these activities cannot be fulfilled through internet banking for example requesting loans, and depositing cheques such activities will be performed physically in banks. So, to perform these activities customers do have to visit the banks. Historical background of Online Banking[3].

The number of financial operations expanded dramatically with the continuous expansion in the economy, making it more favorable to transfer connections. This made banking easier, convenient, speedier, and more cost-effective for everyone. The State Bank of Pakistan has a major part in the initiation of e- banking in Pakistan. State bank has tied all the banks to 1LINK or MNET which has opened doors for Pakistani banks to issue cards to their customers and allow them to access the banking services through ATMs. The SBP allowed the network functions to be connected later that year, allowing any cardholder from any bank to withdraw cash from any ATM in Pakistan.

In 1987, the start of e-banking was announced through the development of an ATM, and until the mid-1990s, it was not famous. The expansion of ATM and card authorization grew at a slow speed until 1998. Later in 1999, its growth increased tremendously and a huge number of ATMs were installed and credit cards were issued. National switches were arranged in 1999. In 2002, banks provided cards to their account holders and linked them to one either (1Link and MNET), as ordered by The State Bank of Pakistan. Pakistan was a bit late in changing from the old system to the internet banking system.

Different types of banking, that do not need people to go to the branches, have increased rapidly in recent years. For example, mobile banking has a major effect on Pakistan's population. Telenor's EasyPaisa service is included in mobile banking. Ebanking is used widely in urban areas and it is growing at a steady speed. But it is difficult to spread this in rural areas where people are not aware of innovative methods and the literacy rate is also low.

RELATED WORK

In this study two theories were used to identify the factors that impact the acceptance of internet banking. But Internet banking is without internet is nothing because with the help of routers and routing protocol we transfer information from one destination to other[4]. The survey was done and all data of the responses were collected from survey[5].

This article will show element that is mostly affecting the user to use internet banking in Pakistan. The survey was done in Rawalpindi and Islamabad and all the data was collected thorough the percipient from Rawalpindi and Islamabad[6].

This article is based on the cyber security of internet banking. The article is based on data from Internet banking surveys done in Saudi Arabia, Pakistan, and India. The survey inquired about customers' Internet banking habits. All questions in the survey were focused on the participant's understanding of cyber security and knowledge of major Internet banking risks[7].

This article is based on a study to evaluate the recognition of information system safety among

internet banking customers. Survey was conducted in Nigeria where almost all the banks in Nigeria was covered to collect the data[8].

PROBLEM STATEMENT

We have analyzed the number of articles and realized that there are no articles that cover the information system of internet banking. So, our report is completely based on the information system of internet banking and we have explained in detail the whole information system of internet banking.

METHODOLOGY

The methodology consists of two things first table and second flowchart. The table consists of

15 research articles and all the methods that have been carried out in research articles are mentioned. We follow the systematic way of review[9] the table also consists of improvements or problems and limitations that are each article. And further, we have made the flow chart of the information system of internet banking that describes the information system in internet banking in detail.
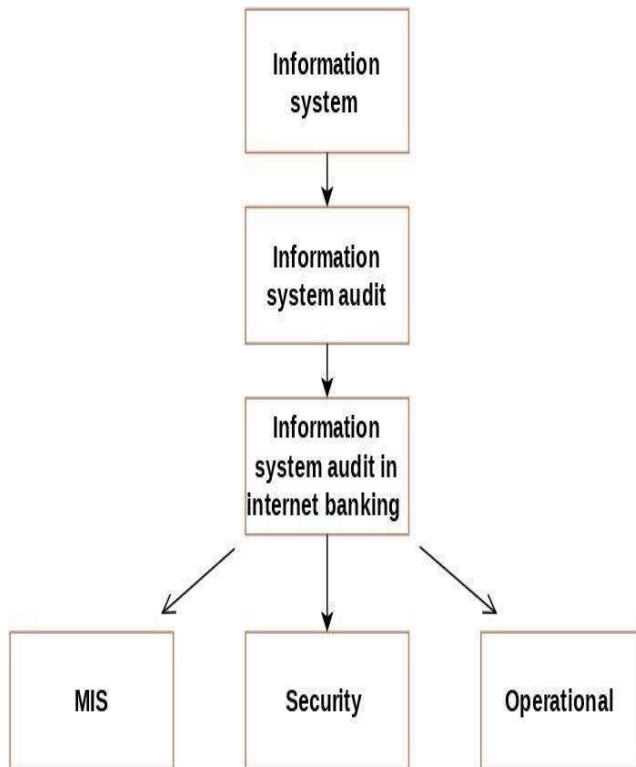
S.No	Research Paper/Article	Methods	Improvement/Problem	Limitations
1	Importance and impact of E-banking in Pakistan	Quantitative methods (Questionnaires)	The development of new pathways in internet banking has benefited both banks and clients.	Problem arises that some users were not able to understand the questionnaires
2	Aspect that effect information system quality and user acceptance on internet banking	Random sampling approach (Questionnaires)	Examine the factors that influence user satisfaction and their willingness to use this new technology in future as well.	All the users were not comfortable is filling the questioners
3	Auditing in electronic payments	Literature review	Evaluation of information system auditing in electronic payments	Security risk
4	Effect of internet-Banking Service Quality on Customer Satisfaction: from Lebanese Banking Sector	Survey		To examine the impact of the five factors mentioned on customer satisfaction
	Evaluation Information security management system for an internet banking	Literature method	review (data from and	ISMS (Information Security

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5	system	collected reports articles)		Management System) based on ISO17799 that will successfully execute GLBA requirements and safeguard customer data held in an Internet Banking System.
6	Examine how banks in Pakistan are managing with internet banking system	Qualitative method	Internet banking system that helps clients to use an electronic banking system to get more efficient, faster, and better banking services.	All the users were not comfortable in giving information
7	Information system auditing in internet banking	Literature review method	Important guidelines and role of an IS auditor in internet banking.	some auditors were unable to follow the guideline
8	SBP order Advances of all banks Databases	Literature review method	Upgrading of database to make it more efficient	All banks were not able to update their database.
9	A consumer survey on impact of covid-19 pandemic on the adoption of online banking	Questionnaires	To examine the impact of covid-19 on line banking services	Different types of risks arise such as security risks
10	E-banking in Pakistan; Issues and challenges	Secondary sources	E-banking faces a number of threats due to a couple of reasons	Some issues do not have a solution
11	Re-engineering secure online banking for HSBC Bank	Literature review method	Research contains of methods to improve the situation of HSBC Bank because it is already lacking behind	HSBC Bank does not take any initiative to solve their problems

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12	Towards secure information systems in online banking	Questionnaires	Fraudulent activities happening in internet banking services	Educating customers about the measures to reduce fraudulent activities is difficult
13	Information success in the context of internet banking: Scale development	Questionnaires	The banking sector has realized that a considerable improvement is needed in the quality of the services provided and in customer satisfaction	The model developed showed very less results
14	Risk management for internet banking	Literature review method	A number of risks are identified in internet banking	Risks are increasing everyday
15	Secure way for internet banking	Literature review method (data collected from reports)	Flowcharts of effective and secured way of internet banking	Not all the banks are using this method

Flow Chart of the Research

The flowchart represents all the steps of the research that's why we are using flowchart[10]. so, the first step is to have advanced information and then the auditor manages the information system of internet banking. Lastly, the type of information systems in internet banking are managerial information systems, security control systems that are responsible for securing the system, and operational information systems.

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MIS   Security   Operational

DISCUSSION

This article discusses how much the E-banking system is important in Pakistan. This research mainly focuses on the need of customers for electronic banking and solutions for strong security in internet banking. All the primary data collected was used to find a way to make electronic banking services more appealing to the customers. The questionnaire was made and the primary data was collected from the questionnaire. These questionnaires were filled by customers and all the quantitative data was collected. This research is based on the Pakistani banking sector in the city of Faisalabad. HBL, UBL, Faysal bank, and standard chartered bank were covered in this article. This research is dependent on variables like products of electronic banking, security of information transactions, and cybercrime. Some of the important factors that have a direct relation to customer satisfaction are electronic banking, cybercrime, and data. These factors will influence the customers in Pakistan. After this research, we came to know many customers are afraid to make their online transactions due to a lack of security and trust.

Customers are not fully aware of IT knowledge. As crime in the banking sector is increasing on a daily basis, customers are not feeling safe using these services. The factors like trust depend upon facilities of five factors: firstly credibility, responding time to client inquiries, accuracy, clarity, and making sure that the quality of services is excellent. If internet banking is providing all the above factors, they can easily have customer trust. As the security of data is a very important factor for customers, every bank should advance their system so that hackers cannot easily hack anyone's account, and provide strong passwords so no one can easily access the accounts. all banks should use updated computers at regular intervals, with updated operating system with the updated security software. Activate automatic updates and keep in touch with your software support agent or provider if you have any concerns about security[11]. Use the most up-to-date virus protection with frequent automatic updates to defend your computer system from spyware, viruses, and Trojans, or activate a personal firewall. Keep your private information in a secure location. Because data stored on a computer can be accessed by others, we advise against storing it on your computer[12].

ARTICLE 2

The article examines the aspects that affect satisfaction of users and their desire to use this new technology in the future as well. The participants covered in this study are customers of different banks like Bank BCA, Bank Mandiri, Bank BRI, etc. Random sampling was used and a sample of 156 responses were collected. 6 variables were used in this article quality of the system, quality of the information, quality of services, perceived utility, satisfaction of user, and desire to continue. An information system is complex and it needs skilled employees and proper management to implement it. The 5 factors that influence the quality of the information system. After the survey, the result showed that quality of information has no major impact on satisfaction of user. Whereas user satisfaction is mainly affected by the quality of the system and its services and its

usefulness. This shows that consumer satisfaction with internet banking is strong if the quality of the system and its services is excellent. The other factors like the satisfaction of users and perceived benefits have a strong impact on the customer continuation of internet banking. This shows that if customers rate user satisfaction, and the perceived benefit of internet banking as high, they are most likely to continue using it. Customers will surely be fully satisfied with the good quality and excellent services of internet banking. This will benefit both banks and customers. They are providing the highest quality of internet banking services to make their clients fully satisfied and to make sure that customers are continuing using the services because good quality internet banking will automatically make customers highly satisfied. This study shows if banks have these factors in their system, then acceptance of customers to their services is more. Furthermore, banking sector should also adopt new and upgrades internet banking services to make banking activities more convenient for the customers[13].

ARTICLE 3

This whole article tells how auditing is performed in internet banking. His duty is to know the standard of business, and regulators in which they are operating. auditors need to establish a strong internet banking audit program to efficiently determine the risk underlying the solution, security measures that are minimizing the risk and their efficacy, and processes to check the controls in place to ensure their efficiency in minimizing identified risks.

During the audit, upcoming risks can be examined and recorded by auditors, and then all these findings will be recorded into the organization's risk list to allow for risk tracking. First duty of an auditor is to review the security of the application. Application is reviewed to enable all the transactions and other services that the application is offering. Control transactions by applying limits for individual transactions and password security control such as passwords should have alphabet,

numbers, and security questions to check further authentication. During the auditing, the application's functional requirements are examined to check that application is up to standards and fulfills the standard of all the customers. Check that users that are permitted database access, either directly or through Windows Active Directory (AD), are approved and have a need for it. To stop all the unauthorized access, all Service accounts in the database must be accounted for and their use checked to avoid unauthorized access[14]. All the database trace logs are kept on and externally backed up on a DAM tool (data activity monitor) like SEIM for storage. All the data is automatically backed up and all application data is managed in compliance recovery point objective and recovery time objective. Auditors need to check the security of the operating system to prevent unauthorized access, an application system for access should be implemented to make sure that all access of users to the application is checked daily access and that all invalid access is swiftly deleted/deactivated. If there is any security violation there should be access logs or audit trails such as login audit trail (successful/failed/attempted), and logout audit trail. It includes IP addresses or names used by users to access the application. All the customer's personal information like all of the debit and credit cards is coded in the database and is concealed[15].

ARTICLE 4

According to the literature, four major elements of customer satisfaction with online banking services quality include data protection, data security, accuracy, effectiveness, reactivity, and engagement. To analysis the impact of the factors mentioned on customer satisfaction, a survey was created. The initial section of the survey consists of the above-mentioned scale items that gathered banking customers' opinions on the factors under analysis. Client reviews were taken using scale ranging from 1 to 5 with 1 representing strong disagreement and 5 representing strong agreement. The remaining half of the survey was developed to

obtain some important personal information from participants. Each person's information was based on their age, gender, education, earnings, duration of time, and consistency of using online banking. These samples of questions were delivered to the bank locations that agreed to fill the questionnaires.

Then these questionnaires were filled out by the banking customers. This questionnaire was also uploaded on several online platforms such as google survey. A total of 258 valid survey samples were collected and examined. This survey consists of 49.2% males and 50.8% females and the major response we got was from ages less than 25 years old. (32.2%). The measurement model has been used to examine the reliability and validity. The reliability and validity scores were obtained. The reliability and validity scores were 0.93% and 0.83%. Speediness scored 0.66%. Effectiveness scored 0.75%. Data protection and security scored 0.46%. The outcome of this research revealed that service quality is not the only factor in consumers' satisfaction with online banking, but reliability is the most important attribute of service quality in determining customer satisfaction. The factors mentioned in this survey are the independent variables connected with the importance of online banking services and have a major impact on consumers' satisfaction in the Lebanese banking sector. Through this survey, we analyzed that the effectiveness and convenience of the use of the surveys are important aspects of the survey's excellence. According to this, online banking service allows customers to be cost-saving in their transactions by reducing not just their money but also their time. The results show that a higher level of effectiveness leads to a better level of customer satisfaction with online banking. Whereas, data protection and security lead to a positive response from customers hence greater customer satisfaction[16].

ARTICLE 5

This article introduces an ISMS (Information Security Management System) based on ISO17799 that will successfully execute GLBA requirements and safeguard customer data held in an Internet Banking System. This article is based on internet banking information system management in which all the information of the customer data shared with RBP's (reliable banking partner) core processing system and internet banking system will be included in the ISMS specified in this document. The Internet Banking System was a turning point solution obtained from Quick and Easy Inc. (Q&E), which contains the full Web interface, Internet Banking System management (IBS), and connectivity with RBP's core banking system. Because security problems are considered important, the security of such a program and the consumer information associated with it is essential to banks. Furthermore, all the banks must establish controls governing this use in order to comply with GLBA's standards.

All of the data is frequently audited for conformity by the government departments. To detect any type security vulnerabilities, SBI implements a logging, alerting, and frequent auditing system. Security policies, basic management and security maintenance practices are always in place to maintain the security of the IBS. The system is secured by an IBS (internet banking system) administrator that must complete a lot of activities on a daily basis for example: Make a record list of any unusual transactions that require further investigation. Make a record list of people who have been active in the last 24 hours. Manually reviewing web server log files for indicators of any illegal work is done. Any Suspicious behavior is reported to the networking team for further investigation. The IBS administrator generates a total record of the transaction arising from the IBS once a week. The compliance officer checks the quantity of transactions to look for any irregularities that could suggest that the IBS has been hacked. SBI could face a multitude of serious implications if an existing vulnerability on the system is exploited by an external attacker, including: Unauthorized copying of the IBS website; stealing of user usernames and passwords; accessibility to administrative credentials; possible accessibility to internal systems; DOS (Denial of Service) assaults on the IBS[17].

ARTICLE 6

This study is to find out how valuable E-banking technology banking is to Pakistani banks and which banks offer these services to their customers. The objective of this article is to analyses and examine E-banking in Pakistan, as well as to monitor how Pakistani banks are implementing this new advanced technology. In Pakistan, the system of manual banking was mostly used which was a measure drawback for the customer. If a customer has to make the transaction of its money to other banks it will take approximately seven to eight days. Banks didn't have enough cash for businessmen for cash transferring due to all these banking sectors going into a loss. Competition in the Pakistani banking sector is increasing, which means every bank needs to upgrade its system from old to new and advanced technology. Internet banking is a must for all the banks in Pakistan and every bank should provide these facilities to their customers. Compared to the old system, internet banking has many advantages, and most importantly it is increasing customer satisfaction. Customers are very happy with internet banking because it is saving their time, and they can easily make transactions at their homes.

According to the article, Online customers expect the proper amount and quality of service at all times, as guaranteed by banks. Rapidity, efficiency, and enhancement are important factors of consumers' perceived service quality. In the 1990s, MCB and RBS were among the first banks in Pakistan to launch ATMs and credit cards. Although the online banking system was launched many years ago, it became popular a few years back when there was a rapid increase in the advancement of technology. The online services Pakistani banks provide are inquiry (where customers can get inquiries about their account balance, statements, fixed deposits, and cheque statements), secondly, make payments (customers can make online payments by credit card or debit card, transfer funds, pay utility bills), thirdly Requests (customers can request for drafts, request for cheque book and request to stop payments),

lastly, download (customers can easily download their statements, profile and other information[18].

ARTICLE 7

This article will tell the role of an IS auditor in internet banking. IS auditors play a very important role in banking managing all the operations in the banks. In Internet banking, the auditor's objective is to provide control in the system. The audit of internal controls must support the IS auditor in delivering adequate confidence that the controls are effective and working effectively. The auditors check the system reliability of technical planning such as effectiveness, speed and etc. they also check whether the control of the system is following banks' rules and standards. All the data and services should be available. The auditor needs the check the data integrity for protecting all the data. Data protection and security standards, involve access control for employees and consumers. All the banks should have a risk management approach to control and manage risk in their technologies. IS auditors should have all the special skills and expertise to access the ability of technology used and identify all the risks in the internet banking system. The IS auditor checks whether the system and its offering are according to its objective. Plus, evaluation of data encryption and data security structure like firewalls or virus scanning can only be done if the auditor has a full understanding of banks' rules and standards. Information like the bank's goal, the method it uses to achieve those goals, and how the bank uses Internet technology in its client relationships is collected by an auditor which helps the auditor easily identify the risk. A risk management approach should be used by an auditor to examine the risk associated with internet banking. The risk they need to identify for example security procedures of customers, check customer authentication, fraud that is done both internally and externally, system control of authorization, security of data and database[19].

ARTICLE 8

Studies are working on model and whenever we use analytics in any domain we use mathematical modeling[20]. This article will cover the part where all bank systems were updated by the state bank of Pakistan order. State banks gave the instruction to all banks to update their database. All commercial banks in Pakistan were guided by the state bank of Pakistan to make changes to their old system. Under BCP (Business Continuity Planning) exercise and internal auditors are responsible to check that all the given guidelines are being allowed. They told them to install advanced databases and software in their systems. So that accurate and complete information about specific account holders is sent to the central banks within 48 hours. SBP will examine the system's availability and adherence with the deposit protection framework. The system should be able to change the data, all changes in deposited data should be noted down and system effectiveness and reliability should be checked in a timely manner. These activities should be checked by internal auditors of banks to see whether their banks are performing these activities. The necessary database should be efficient enough to comprehend all depositor's deposits on just about any stated period as well as the total liability of banks on that account. The Management Information System (MIS) will be used by SBP's subsidiary Depositors Protection Corporation (DPC) in the case of payback within a specific time frame. MIS system will be used to modernize a database to obtain a depositor view while using a unique identifier number. It should also be linked with CNIC, SNIC, or NICOP. All bank staff needs to give information to examine protected accounts on the necessary MIS[21].

ARTICLE 9

This research was conducted to understand the attitudes, intentions and consumer behavior of customers who use online banking services, and digital marketing strategies used during the pandemic. A questionnaire was floated around to gather significant data. 347 questionnaires from 360 questionnaires were considered to be significant. We got to know that overall, 50 percent of the consumers have shifted to online banking in the pandemic. The younger generation is already attracted to online solutions, but the proportion of people above 45 years and over has increased drastically who have started using online banking. This proportion has shown great interest in online banking. The research concluded in a number of ways. It shows that customers intent to adopt online banking due to the attitude of banks and it implies a positive effect on them. As a result of the findings, using internet banking has a negatively affecting on perceived usefulness, and the goal is negative. While customers use online banking services, they learn that it is not easy to use, learn and remember the method of using internet banking. In this way, factors such as ease to use are negatively affecting the attitude part.

It is also concluded that people who are connected with the customers influence the suspects to use internet banking. the results of the trust factor show, the research concluded that it plays a major role in the adoption of internet banking because customers feel very safe while performing transactions. The results also concluded that online banking is likely to prevail in the future as a permanent. In order to provide technical support to customers using customer service centers, banks should invest more in fulfilling the needs for designing campaigns for customers and building a customer service center[22].

ARTICLE 10

This research was conducted to determine the issues and challenges that are faced by the online banking system. E-banking has helped banking sectors in such a way that they can provide quick service to their customers. As every bank is adopting online banking service, there comes some problems faced by the customers which are discussed in this research. This research was conducted to determine the issues and challenges that are faced by the online banking system. It also focuses on the applications of online banking in Pakistan. Electronic banking is important for banks nowadays. It has a few benefits and drawbacks. The main advantage of E-banking is that it

provides a 24/7 service. Moreover, customers can access their information and transactional history easily. They don't need to stand in long queues, waiting for their turn. It is time saving because money can easily be withdrawn from ATMs at any time. Some disadvantages are that people fear to use this technology. They find it difficult to adopt new innovation. Moreover, E-banking is also costly. It also has security issues. Some current issues of electronic banking include IT framework issue, security issue, space issue, trust issue, issue to website's design, and money fraud issue. These issues can be solved if banks start considering the demands of their customers so that they can expect positive feedback from their customers and gain customer's loyalty. The banks should make e-banking effective and efficient for their customers[23].

ARTICLE 11

t has become important in banking sectors that all financial institutions and their customers need secure internet banking. As security methods are becoming more emergent, hackers are becoming more alert and talented. As increasing threats to internet banking are directly proportional to the increase in the customers, reengineering is needed. This research consists of the security architecture of HSBC Bank's internet banking system. A solution is suggested which is called a three- factor two-path authentication. As increasing threats to internet banking are directly proportional to the increase in the customers, reengineering is needed. HSBC can strengthen their internet banking services in significant ways so that they can provide comfort as well as to their customers. Firstly, HSBC can use a two-factor authentication method to reduce security risks. In this authentication method, the bank sends an OTP (one-time password) to customers using text message. It also uses a secure key device where it sends a 6-digit code to the customer's device which they can enter on the website. Secondly, three-factor authentication can be used. In this authentication, customers are asked three

questions. These questions will be asked from customers in the beginning, the customers will answer according to their knowledge, and these answers will be saved and will be used when a customer faces any issue. Through these questions, the identity of customers will be identified. Thirdly, cookies can be used to make websites easier to use. Cookies are a safe method where they store some personal information of a customer like age, name, address, cell phone number. Banks websites should use cookies to save such information because they are the safest method right now. By implementing all these methods, HSBC's customers will trust them and protect the bank's honesty, privacy and availability of the bank[24].

ARTICLE 12

This study scrutinizes the challenges faced by internet banking information security. It also comes to light some real life illegal and fraud operations that were successful in the past. Moreover, this research also evaluates and expands data from previous researches related to internet banking and its information security issues, and provides several suggestions to protect against the fraud. In this modernity, security for the information over the internet has become very important because the globe is now highly associated with the internet. Every person is using internet banking because it is an easy method but they are also at risk of some threats at the same time. To elaborate and analyze the findings of this research, a few steps are needed. Firstly, giving brief review about online banking and its information system. Secondly, the warning to online banking are scrutinized. Thirdly, the factors for the success are evaluated. And lastly, some solutions are drawn. By using these steps, some recommendations would be given which will help the customers in evolving the understanding of education, and improve online services provided by the banks[25].

ARTICLE 13

This research proposes a few strategies for online banking information systems through scale

development. This research uses empirical methods to assess and validate the results for improved and understandable security. The information was collected from 520 people who are the customers of India's Nationalized Bank The internet has transformed services across the globe. As information transmission has a high frequency, the banking sector has realized that a considerable improvement is needed in the quality of the services provided and in customer satisfaction. This research proposes a few strategies for online banking information systems through scale development. It tries to modify the measuring tool's efficiency on one's success. It also looks closer at user satisfaction, information, individual impact and system. People who participated in this survey should have a minimum of six months of online banking experience. For each factor, the correlation score of each inter item was computed, and any value less than 0.5 was removed. The inter correlation items for service quality were all less than.5, so they were all removed. System quality is rated as 4, information quality is rated perceived security is rated as 5, intention to use is rated as 4, user happiness is rated as 4, and net benefits is rated as 4. Finally, 26 objects were chosen for further investigation[26].
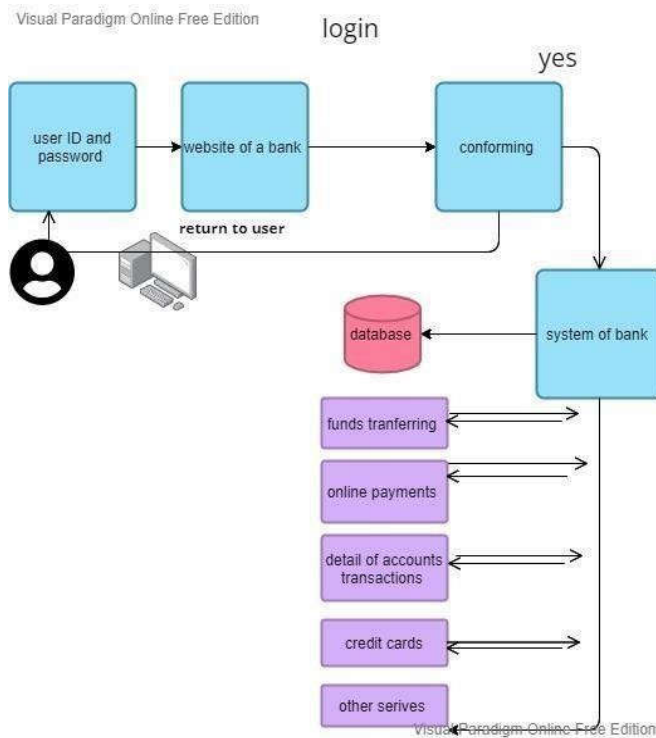
ARTICLE 14

As organizations create techniques for recognizing, analyzing, leading, and supervising the issues connected with E-banking and E-money, this study provides the organizations with managerial authorities. Many components of risk are not entirely apparent or easily quantified at this early stage in the development of some electronic banking and electronic money activities. Possible risks to E-banking and E-money include risk of operational and legal risk. If customers misuse the electronic banking systems, operational risks are likely to prevail. Operational risks include security issues, system's maintenance, infrastructure and design, and the misuse of products and services by customers. Reputational risk is when an institution faces a negative opinion about themselves by the public that is a threat to their reputation. These

risks can arise when systems do not work according to the expectations of the customers. Legal risks occur when there is violence of rules, regulations and practices that describes that a transaction was not well functional. There may be some other risk as well i.e., liquidity risk, market risk, credit risk etc., that may damage a bank's electronic system. A risk management system is needed which includes 3 steps. First is assessing risks. Second, controlling risk exposure. And third is monitoring risk[27].

ARTICLE 15

This article will explain in detail the flowchart of internet banking security. The first step is the verification steps and for that user to enter their ID and password then before giving the access bank website will check whether the user id and password are correct and valid. If the id and password of the user match with the store database that user will be granted access to their account. If it will not match with the store database the website will automatically show the option of an invalid user and that person will not be given any access. The authorized user will be granted access and then he can use all the internet banking services like online payment of bills, funds transferring, deposits. Customers can also check the details of their account like how much balance is left in their account, all their debit and credit details will also be available. Finally, all details of transactions are stored in the database. All these services customers can easily do at any place. it is then convenient for customers as they don't have to bank for every transaction or bills payment etc. the flow of chart internet banking security is shown below[28].

As a result, banks should not only provide online banking services, but also make online access easier and introduce new features.

- As customers complain a lot about receiving inappropriate information from online banking services, such misconceptions can be cleared

- Majority of the clients are older people who are not aware of internet banking services because they require modern technology. Every bank should have a group of professionals who would guide these customers on using online banking systems.

- As security of online banking is a common threat nowadays, banks need to use updated programs and use strong firewalls so that they can prevent their software from viruses.

CONCLUSION

In today's banking sector, the key to success is having an updated information system. banks cannot survive in this competitive market without implementing advanced technology in their system. Internet banking has a major impact on the entire banking sector, this advanced technology has tremendously made huge progress in the banking sector. It has made everyone's life much easier and has benefited both banks and their clients. Even with a number of advantages, it also has some disadvantages like increasing risk and security issue in internet banks are increasing day by day.

RECOMMENDATIONS

- This is the reality today, since social media is used by the vast majority of people all over the world. As a result, leveraging social media applications to boost online banking usage will assist banks in reaching more banking consumers.

- Banks are improving the infrastructure required to maximize online banking usage.

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