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On the influence and challenge of internet banking to traditional banks

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Summary

As an emerging financial industry in the 21st century, Internet banking has received more and more attention for its low cost and broad prospects. Foreign banks mainly rely on the unlimited advantages of the network to achieve remote services to make up for their lack of outlets and small scale. For a long period of time in the future, financial competition will ultimately focus on the three strategies of online banking versus traditional banks. Challenge lines: domestic and foreign (Chinese and foreign), industry and outside (industry and mixed), online and offline (online banking and traditional banks). As a result, in addition to competing in traditional business areas, Chinese banks must compete with foreign banks in the field of online financial services.

Internet Bank refers to a financial site located on the Internet. It does not have a bank lobby or business outlets. It only needs to enter the site through a computer connected to the Internet and can conduct various banking services in any place 24 hours a day. Financial institutions, also known as "virtual banks (Virtual Bank). In general, online banking includes three elements: one is the need to have the Internet or other electronic communication networks, the other is a financial service provider based on electronic communications, and the third is Financial consumers based on electronic communications.

This new way of serving customers can free customers from geographical, time and space constraints. As long as they can access the Internet, they can manage their assets conveniently and quickly at home, in the office or on the road, understand all kinds of information and enjoy banking Various services. In the not-too-long period in the future, online banking will replace the existing traditional bank operations and become the main operating method of the banking industry, which will bring unprecedented impact and challenges to the traditional banking industry.

Internet banking has obvious advantages. First, it can greatly reduce operating service costs and create huge profit margins; second, business development is not restricted by time and region, and can maximize business scale; third, business operations only need to "click" on the Internet. Save the human resources of banks and customers; fourthly, speed up the flow of funds along with logistics and reduce the loss of funds in transit.

This article discusses the difference between Internet banking and traditional banks and the influence of Internet banking on traditional banks. At the same time, it discusses the functions of Internet banking, the core functions of traditional banks on the development of Internet banking, and the overall impact of Internet banking on traditional banks. Analyze the specific trends of current online banking operations.

I. Analysis of the meaning, functions and advantages of online banking

(1) Concept and classification of online banking

Since the birth of the world's first Internet bank in the United States in 1995-Safety First Internet Bank, Internet banking has been developing rapidly worldwide at an unprecedented speed. As a product of the combination of traditional financial industry and high-tech industry, online banking has become an inevitable choice for the development of the financial industry in the era of network economy. The banks in developed countries all regard the development of Internet banking as an important strategy to meet challenges, participate in competition, and gain competitive advantage. This article compares online banks and traditional banks in many ways, and determines the similarities, differences and advantages of online banks and traditional banks.

In 1998, the Basel Committee on Banking Supervision defined online banking as: "Online banking is directly aimed at banks that provide retail and micropayment products and services through electronic channels. These products and services include deposits and loans, account management, and financial advisors. , Electronic bill payment, and other electronic payment products and services such as electronic money." In 2000, the Basel Committee on Banking Supervision issued a new "White Paper on Electronic Banking Group Activities", supplementing the definition of online banking as: "Online banking is a bank that uses electronic means to provide consumers with unexpected services. Such services include retail business. , Including wholesale and large-value business." According to this definition, online banking has more reciprocal business functions than traditional banks, and has a certain independent status. Online banking is mainly divided into two categories: one is Internet-Only Bank, which refers to banking institutions that have no or very few branches and automated teller machines (ATM) and only use the Internet for financial services; the other It is a compound online bank, that is, click-Mortar Bank (Click-Mortar Bank), which has physical branches and is initiated by traditional banks. It is an online business, business outlets, self-service equipment, etc. that support each other Comprehensive service system.

Online banking is a bank that extends virtually geographically through technical means. Internet banking is also called electronic banking, online banking, and online banking. To

Due to the rapid development of online banking, its standards, development models, etc. are all evolving, it is currently difficult to define the basic connotation of online banking.

According to the definition of the Basel Committee on Banking Supervision, online banking refers to those banks that provide retail and small-value products and services through electronic channels. These products and services include deposits and loans, account management, financial advisors, electronic payments, and other electronic payment products and services such as electronic money.

The European Banking Standards Committee defines online banking as: those banks that use the Internet to provide banking services to consumers and businesses that connect to the Internet through the use of computers, Internet TVs, set-top boxes and other personal digital devices. DXDiTa9E3d

Internet banking refers to a bank established on the Internet by financial institutions using Internet network technology. This is a brand-new bank customer submission method, which allows users not to be restricted by Internet access and

time and space. As long as they can access the Internet, they can manage their assets and enjoy the bank safely and conveniently, whether at home, in the office, or on the road. Service. To

The above definition is basically a summary of the actual situation of the existing online banking, the main difference is the different identification of the extent of the online banking. Generally speaking, the basic concepts of Internet banking can be defined as follows: Internet banking refers to banks establishing sites on the Internet to provide customers with information inquiry, reconciliation, online payment, fund transfer, credit, investment and financial management through the Internet. And other financial services. More generally speaking, online banking is a virtual bank counter set up by banks on the Internet. Traditional banking services are no longer implemented through physical bank branches, but are implemented on the Internet through technical means.

(2) The difference between online banking and traditional banking

Online banking is developed based on traditional banks and combined with emerging information technology; online banking is a surpassing of traditional banks.

2.1 Traditional banking is the foundation of online banking

Online banking services are all developed on the basis of traditional banking services. Both business principles, products, service objects and functions are all based on traditional banking services. At the same time, the realization of current online banking in my country must rely on customers opening an account at a business outlet first, and mainly using online banking for original traditional business and financial derivative services. Based on traditional banking services, online banking provides customers with more convenient, safer and faster service channels than traditional banks.

2.2 Online banking is an extension of traditional banking

In addition to the technologies and channels implemented, the service objects, functional coverage, and product categories of online banking basically overlap with traditional banks, but online banking extends traditional banking services. Online banking does not simply move the traditional banking business online, but extends the banking business from the counter to any place where the Internet can be used, so that the banking business no longer has geographic restrictions; at the same time, it makes the banking business from the business day The working hours are extended to 7 × 24 hours of all-day service, so that the banking business no longer has time now; and it can also provide public information services (including interest rates, exchange rates, economic news, etc.), investment and wealth management services, and comprehensive business services (including Online shopping malls, online financial supermarkets, etc.), which greatly expands the product line of banking business, enables customers to enjoy safe, accurate and fast banking services at any time and anywhere, and also improves the bank's information service level and services quality.

2.3 Online banking has changed the business model of traditional banks

Online banking breaks the time and geographical limitations of traditional banking business, and can collect, mine and use massive amounts of information at a speed close to real-time, enabling banks to develop and serve customers in a wider area and scope. Online banking can make full use of the Internet to communicate with customers interactively, so as to promote the transformation from product-oriented traditional banking marketing activities to customer-oriented online banking marketing activities; at the same time, online banking can innovate and innovate according to customer requirements. The financial products meet the increasingly diversified financial needs of customers.

2.4 The currency in circulation of online banking is different from traditional banks

The currency of traditional banks is mainly cash and bills, while the currency circulating in online banking is electronic currency or E-currency. This currency greatly improves financial efficiency, accelerates capital flow, greatly reduces labor

costs, and reduces various human errors. The strong liquidity of electronic money cancels the traditional currency division method, and inevitably leads to changes in banks' demand for liquidity.

(3). Features of Internet Banking

Online banking provides a brand-new financial business model with the following characteristics that are different from traditional banks.

3.1 Virtuality

The virtuality of online banking is mainly reflected in the location and business of online banking, as well as the gradual virtualization of the business process. The virtuality of the business location is that the online bank has no physical business halls and outlets, but only a virtualized address, that is, a website. Virtualization of business operations means that most of the financial products and financial services operated by online banking are electronic money, digital money and network services, and their products have no specific physical form. The virtualization of the business process means that the process of online banking is all realized through digital instructions.

3.2 Super-regional and temporal

The virtual nature of online banking directly leads to the characteristics of all-day operations, unlimited geographic locations, and multiple service methods. Online banking customers can use the financial services provided by the bank at any time and any place through various digital means, making it more convenient and faster to handle banking business, and the bank can better meet customer needs. Based on the automatic online processing of online banking and back-office business systems, Bank of China's corporate online banking can provide customers with real-time, efficient, nationwide, 7×24-hour financial management, centralized fund management and cash management services.

3.3 Innovation

Innovation is the close combination of technological innovation, institutional innovation, and product innovation. Online banking itself was born with the new technology of the Internet, so it requires continuous technological innovation and absorption of new technologies. At the same time, the application of network technology has directly changed the bank's operation and service methods, which requires the adjustment and reform of the bank's old management methods and concepts, and innovations in organizational structures and management systems. With the continuous innovation of network technology and the continuous changes in customer service methods and product requirements of banks, there is also motivation and pressure for new product development.

3.4 Wide area coverage of services

Through network technology, online banking can integrate different types of financial services such as banking, securities, insurance, etc., so that financial institutions with separate operations in the background can behave as a whole, thereby increasing the degree of satisfaction and satisfaction of customer needs. Conducive to marketing new customers and retaining old customers. Using online banking as a channel to integrate the bank's advantages in funds, information, and customer base, and provide supporting securities, insurance and other financial services, the bank will evolve from a single deposit and loan center and settlement center to an omnipotent one. Financial Supermarket".

3.5 Service convenience and efficiency

Since online banking uses a large number of automatic transaction processing, its services have the characteristics of high speed and efficiency. Customers can know the transaction result immediately after submitting the transaction instruction, which greatly improves efficiency. Online banking can process thousands of transactions at the same time, and the error rate is extremely low. The speed of the network enables online banking to quickly promote and introduce products and

services to customers around the world through the Internet, and it also enables the bank's various notices to be quickly and correctly delivered to customers.

3.6 Resource sharing

Since online banking requires that all physical banks (branch banks) with business access must have a unified, computer-recognizable code and basic information, it is objectively required that these banks must synchronize and share information. At the same time, the remoteness and cross-regional nature of online banking make it possible to share the software and hardware resources of the system. Therefore, in practice, all banks share all or part of the resources realized by online banking.

3.7 Low cost

The virtuality and super-regional nature of online banking enable the operation center of online banking to concentrate personnel and hardware, and it can also be far away from expensive and prosperous commercial centers. At the same time, the automatic processing function of online banking can undertake a large number of counter services of the original traditional bank. Save the staff and business area of traditional banks, thereby greatly reducing bank operating costs. At the same time, the automatic service also greatly reduces the errors of manual services, reduces the bank's losses, and on the other hand reduces the bank's operating costs. According to a survey conducted by the British Allen Milton International Management Consultants, the average cost per payment transaction using the Internet is 13 cents or less, while the personal computer banking service using the bank's own software is 26 cents, and the telephone banking service is 54 cents, bank branch services are as high as 108 cents. The operating cost of online banking accounts for only 15%~20% of operating income, while the operating cost of traditional banks accounts for about 60% of operating income.

3.8 Interactivity

The interactivity of online banking support services. Customers can conduct a series of sequential transactions in online banking one by one, and at the same time, in a short period of time, they can adjust their own decisions at any time according to the transaction results and decide the next transaction. This is basically impossible in traditional banks.

3.9 Personalized Service

Compared with traditional banks, before the customers of online banking are spread across different terminals, traditional mass marketing methods are no longer suitable for the new customer structure. In the competitive environment of online banking, how to provide customers with personalized services according to their actual needs is the key to the success or failure of online banking competition. With the help of the complete transaction records of online banking, banks can analyze and data mining of customers' transaction behaviors, and find important customers from them. Through the analysis of customer behavior preferences, segment the service market, make use of the interactive features of the Internet, formulate marketing strategies and service content, and carry out financial innovation on products, so as to provide customers with tailor-made services.

II. The functions of online banking at this stage

From a business perspective, online banking only has two major functions:

1. An extended virtual counter business. Covering all the counter services that traditional banks do not need to design cash, physical objects and physical verification, mainly include: (1) information inquiry services; (2) transfer deposit and withdrawal, payment services; (3) general consulting services; (4)) Some financial cross-cutting businesses that do not involve fact verification (such as bank-securities transfers, fund purchases, etc.); (5) online risk-controllable asset businesses such as small mortgages, pledge loans, and credit overdrafts. For this type of business, online banking has

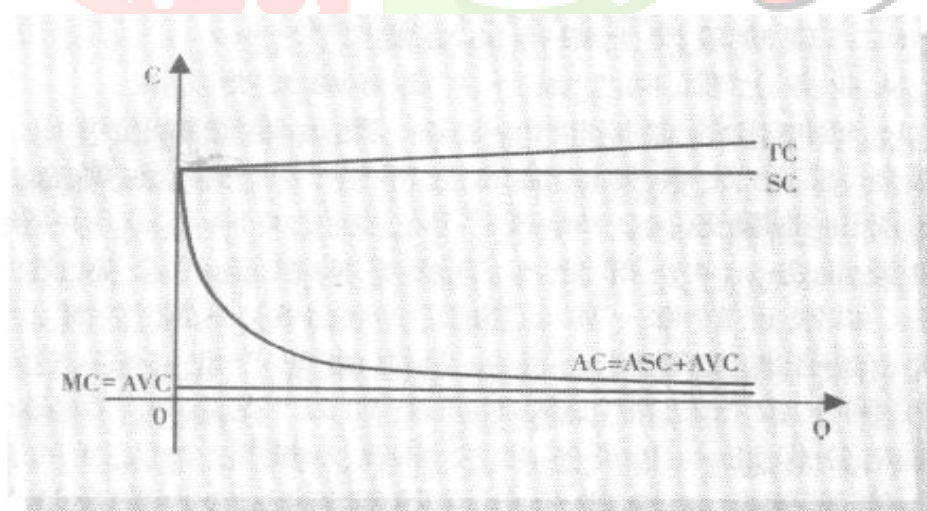
been able to "clone" essentially. On the premise that security is fully guaranteed and the legal effect of electronic signatures is fully recognized, these services of traditional banks will gradually be replaced by online banking with the popularization of the Internet.

2. Auxiliary handling of complex business. Designing cash, physical objects, and fact verification services, online banking cannot replace traditional banks. However, some have implemented process optimization for this type of business, so that customers can complete part of the process in advance as much as possible, thus greatly improving the efficiency of traditional banks in handling business, and even achieving "one-stop" completion of some business varieties. This type of business mainly includes: (1) application services, including account opening, blank check application, balance of payments declaration, application for issuance of letter of credit; (2) asset services; (3) appointment services; (4) cash And physical services, such as cash appointment deposit and withdrawal, safe deposit box business, etc.

III. Analysis of the special advantages of online banking

1. Efficient and convenient 3A automatic service. The basic strategy of online banking operation is the integration of front-end and back-end business and data processing, providing bank customers with convenient and flexible services available at any time, any place, and in any way, namely 3A services of Anytime, Anywhere, and Anystyle. Moreover, the current advanced computer system of banks can centrally process a large number of online banking services at the same time, so online banking can eliminate or reduce inefficient factors such as queues and repeated communication that traditional banks cannot overcome, and greatly improve customers' business handling. effectiveness.

2. The average cost is low and continues to decrease. The "Snuk-cost" (SC) of online banking construction is fixed, and there is no need to pay a lot of daily expenses. As can be seen from the figure below, the marginal cost (MC) of each new business (or each new customer) of online banking is almost negligible, so that the average cost (AC) of each business is maintained as the business volume grows. Decrease, the total cost curve (TC) grows very slowly. Therefore, after online banking reaches a certain scale of use, it will have a clear cost advantage over traditional banks and maintain an increase. According to foreign survey statistics, the cost of each transaction at physical bank outlets is US\$1.07, telephone banking is US\$0.45, ATM self-service banking is US\$0.27, and the cost of each transaction of online banking is only US\$0.01.



网上银行的成本分析

3. The lock-in effect on customers is strong. The learning cost of being familiar with an online banking system is very high. Some customers also purchase high-cost durable physical devices such as digital certificates due to security requirements. When the customers' "switching costs" are high enough At a certain level, it will produce a "lockIn" (LockIn) effect. This effect enables online banks with strong innovation capabilities to receive certain "special rewards". Even when it is difficult to obtain patent protection, it will not produce excessive competition compared with most products of

traditional banks.

4. Conducive to the establishment of brand image and quality standards. The long-term graphical interface interaction process between online banking and customers can provide ample opportunities to show customers a graphic image, and the services provided are more standard and standardized than business outlets, which avoids the staff's business quality and mood. The resulting difference in service satisfaction can also avoid a large number of controllable factors in the work quality of traditional banks.

IV. The important role of traditional banking core functions in the development of online banking

The problems of pure online banking fully demonstrate that traditional banks still have irreplaceable core advantages and functions, which play a strong basic support role for the development of online banking, and have a clear positioning and important value in the development of banking network. Core functions should not be degraded in the development of network, but should be continuously strengthened.

(1) Payment in base currency and long-term accumulated credit guarantee. Many people believe that with the development of the Internet and electronic money, currency issuance, circulation and management are no longer the prerogative of the state's monopoly. Commercial banks, non-bank financial institutions and other companies can all issue and manage their own electronic money according to market needs. This led to the demise of traditional banks. In fact, the electronic money issued by some companies is strictly said to be a kind of corporate debt, relying only on commercial credit; the electronic money issued by pure online banking has many barriers to conversion with the base currency, resulting in its solvency and currency Value, security, liquidity, etc. are all low; there is no need to pay huge costs for building reputation. Melancholy e-money is a competitive credit currency, and will eventually have the effect of "good money driving out bad money", which is the opposite of minted money. The e-money issued by the first two will not be able to meet the requirements of e-commerce development due to relatively low credit.

(2) Financing funds in non-standardized and risk-based internal methods. The particularity of traditional bank management risk is mainly reflected in two aspects: First, traditional bank risk management tools are mainly non-standardized, that is, every loan issued by a bank is designed according to the specific needs of the borrower, and it is related to the borrower. People's unique future cash flow corresponds to that; at the same time, the information basis and the investigation, review, issuance, and recovery process when issuing loans are also non-standard. The second is that traditional banks internalize risks in the process of managing risks. Commercial banks directly convert the financial risks they manage into their own risks, and then manage these risks by various specific methods. These two core characteristics determine the scarcity and universal acceptance of bank credit, which distinguish commercial banks from other non-bank financial arrangements. This is the reason why pure online banking cannot completely replace traditional banks. Because there is no universal reputation mechanism in the world, the network economy greatly increases the amount and timeliness of information obtained by financial market participants, but the ability to identify information and authenticity is difficult to simultaneously improve and may even weaken. Simply using online information as the basis for risk management is insufficient in depth and accuracy, and even a lot of malicious deception and misleading have occurred. The Basel Committee on Banking Supervision announced in July 2003 that the risk management principles for electronic banking business stated: "The provision of financial services through the Internet can greatly change or even increase the risk of banking business", indicating that the development of online banking does not require risk management. Decrease but increase. Traditional bank risk management practices cannot die out due to the emergence of online banking. Only by combining the two can make risk management more efficient.

(3) Strengthen the control over the profit model through multiple channels. All the advantages of pure online banking in terms of transaction costs can provide interest rate conditions that are conducive to traditional commercial banks. However, the credit activities of traditional banks have the ability to create living deposits and have considerable deposit requirements for customers who have difficulty in obtaining loans. Obtain a higher deposit "multiplier", plus traditional banks, especially traditional banks, which have higher credit, lower risks, stronger comprehensive service capabilities, alternative handling methods and more value-added services, etc., so that they can Make up for the lack of interest rates on their deposits. In addition, a considerable part of the profits of pure online banking will be transferred to traditional banks due to a single operating channel. For example, customers who go out of online banking need to make their bank deposits and withdrawals at the ATMs of other traditional commercial banks, and must pay other traditional commercial banks. This is essentially the same as traditional banks reducing operating costs through online banking. It's just a different direction. However, the pure online banking model weakens the adjustment and control of profits and is vulnerable to competition restrictions related to traditional banks. When traditional banks complete the contraction of inefficient institutional outlets and transfer all the services that can be replaced by online banking to online processing, the profitability of composite online banking can be completely higher than that of pure online banking.

(4) Master core development resources with active customer management. The development of an enterprise cannot rely solely on the superiority of technology and products. Even technologically advanced enterprises represented by Microsoft must rely on marketing and customer management systems to strengthen their competitiveness. For commercial banks, first of all, risk management, sales services, and product design must have sufficient customer information, especially risk customer information, in order to be able to actuarially calculate risk costs and enhance their competitiveness. Therefore, a large number of private business information of enterprises and individuals controlled by traditional banks, especially financial reports and financial statements of various enterprises, are valuable information resources. Its development and accumulation require long-term and hard work, which is the competition of commercial banks. Important source of Secondly, increasingly fierce competition requires banks to actively understand customer needs and profit opportunities in the market in a timely manner. The virtuality and passivity of online banking in customer management have determined that it has insurmountable defects in this respect and can only rely on Customer surveys, pre-sales and after-sales services, and customer relationship maintenance provided by traditional banks serve as important support. Facts have shown that traditional bank customer management personnel have unique problems in psychological analysis, handling frustration, relationship sales, and relationship maintenance, etc., which cannot be replaced by online banking. In terms of customer management, banks can only be in the position of tools and platforms.

(5) Reduce banking costs and improve service quality

Modern commercial banks are facing all-round competition in capital, technology and management. Various banks continue to introduce new service methods, such as telephone banking, self-service banking, ATM, and customer terminals. According to investigations and forecasts by authoritative organizations in the United States, due to the use of the Internet and reducing service personnel, the service fee of online banking is only 10% of ordinary operating expenses. With Internet banking, people can enjoy payment, transfer and other banking services at any time and anywhere. Moreover, Internet banking can provide more vivid, flexible and diverse services than telephone banking, ATM and early corporate terminal services. At the same time, compared with business locations, the services provided by online banks are more standardized and standardized, avoiding differences in service quality caused by different personal emotions and business levels, and can better improve the service quality of banks.

(6) Reduce bank software and hardware development and maintenance costs

The client of the Internet bank uses public browser software, which does not require the bank to maintain or upgrade, which can greatly save the bank's customer maintenance costs, so that the bank can concentrate on the development of service products and the mining of service methods. Because customers use public Internet network resources, the bank avoids the cost and maintenance costs of establishing a dedicated customer network. At the same time, customer costs

are reduced, customer operations are more vivid and friendly, and customers can use banking services as long as they access the Internet, which truly realizes banking services that span space and time constraints. Customers in different places can also save on international and domestic long-distance calls through online banking services. Customers can enjoy customer service with pictures and texts by using public browsers. In addition, online banking can realize the release of bank advertisements, promotional materials and public information. For example, information such as bank business types, processing procedures, latest notices and annual reports can all be published online. This is the most basic and simplest function of online banking. Online banking can also enable customers to inquire about various account information in the bank, reflect the financial status of customers in a timely manner, and achieve safe customer transactions, including transfers, credit, and stock trading. This shows that online banking is a means for banks to expand their service space and provide new financial services. In the United States, about 4.5 million households currently use the Internet banking function or the function of paying bills online at least once a month. This number will rise to 33.5 million in 2005, accounting for 31% of all American households.

There are also benefits of online banking: if people move, they don't have to change financial institutions, because their banks can provide online services, which can be accessed anywhere. Therefore, in the ever-changing market, the Internet is likely to become a stabilizing factor to ensure that most banks continue to increase their income. Not only that, the establishment of online banking can also inject new operating methods and new vitality into the bank itself, prompting the bank to improve service quality, reduce service costs, create new profits, and expand service space.

V. The influence of online banking on traditional banks

With the advent of the Internet economy era, new financial technologies such as online banking have greatly improved the operating efficiency of financial funds. Traditional banks have more and more functions that can be implemented and replaced by online banking, and they are also facing technical "disintermediation". Danger. Some pure online banks believe that with the development of technology and the further improvement of the network, all banking services can be conducted online, and pure online banking can completely replace traditional banks. Some large technology companies see that commercial banks increasingly rely on third parties to perform key e-banking functions, and intend to use their technological advantages to enter the field of banking services. However, careful analysis reveals that the situation is not as "optimistic" as these pure online banking and technology companies expected. Many pure online banks in Western countries have been in trouble this year, and some have been forced to pursue mergers with traditional banks. The survey shows that the current operating conditions are basically composite online banks, and pure online banks that are separated from traditional banks have many problems:

- (1) Difficulties in capital operation and high comprehensive operating costs. The high-tech operation makes the transaction cost of pure online banking lower. The cost of a pure online bank opened in the United States in 1999 was US\$1 million. A US technology service company called Front even claimed that it could cost 50,000 The low fees of US dollars can establish an "online branch for almost any bank within 3 months. However, due to the low market entry barriers, the technology adopted is easy to be imitated or replaced, and almost all pure online banks are difficult to achieve effective Differentiation usually involves price competition, which makes it difficult or very low for most transaction services such as transfers and electronic payments, and deposit interest has to be much higher than the market level, which makes financing costs very high. At the same time, pure online banking It is difficult to use the funds obtained by electronic means to issue high-yield assets such as loans. Usually they can only be invested in treasury bonds, government funds or other conservative assets. Capital operation is very inefficient, plus marketing costs and risk costs. It is very expensive, so from the actual situation, the comprehensive operating cost of pure online banking is not as advantageous as expected.

(2) The target market positioning is not clear, and the business varieties cannot meet the needs of customers. Pure online banking cannot effectively provide customers with important show-off services involving funds, physical goods and large loans, and cannot adapt to the form of cash preference that will still exist for a long time and the demand for multi-channel personalized wealth management continues to grow, such as the pure online Restricted by factors such as business scale and financial strength, banks are competing for the protection of traditional banks that have a high preference for safety and liquidity, especially their core customers. For customers in the fund, securities and other industries with greater risk appetite, the benefits that online banking can provide are obviously not particularly attractive.

(3) It is difficult to obtain profile income, and the profit channel is relatively single. The income of online banking includes two parts: direct income and indirect income, most of which are indirect. Pure online banking will inevitably result in a large amount of waste or loss of indirect income; compound online banking can adopt multiple strategies such as product bundling and price adjustments, while ensuring competitiveness, while distributing income and reflecting different types of associations In the business, rely on comprehensive services to obtain a wide range of profit sources.

(4) Operational risks are transferred to customers, and moral hazard is greatly increased. Pure online banking can only provide self-service services, and its target customers are limited to those who can use computers and the Internet. However, compared with traditional bank employees with strict internal control and professional training, these customers have unparalleled fraudulent websites and input errors. The possibility of risk will still be greatly increased, and most of them often do not really recognize and are willing to bear this risk. At the same time, pure online banking has very few physical assets and personnel, which implies that customers have lost “physical guarantees”, but they often have more per capita liabilities (deposits) than traditional banks. The possibility of moral hazard and the possibility of occurrence Moral hazard is far more destructive than traditional banks. If these two types of risks occur, they can easily be amplified by propaganda and cause a crisis of trust, which can even cause a fatal blow to the entire pure online banking.

But in summary, it does not affect the challenge of online banking to traditional banks. With the continuous expansion of information, online banking has begun to approach traditional banks. Brings huge challenges to traditional banks.

As a brand-new new industry, Internet banking brings various convenient services to customers. This new way of serving customers can free customers from geographical and time-space constraints. As long as they have access to the Internet, they can manage their assets conveniently and quickly at home, in the office or on the road, learn about various information and enjoy banking In the near future, Internet banking will replace the existing traditional banking business methods and become the only operating means of the banking industry. This will be unmatched by the traditional banking industry.

VI. Internet banking has a huge impact on the traditional banking industry, mainly in the following points:

(1) Weakening the advantages of traditional banking. In the past, the advantage of traditional banks was that they had institutions all over the world, high-rise office buildings that represented a symbol of strength, and local talents. However, the development of online banking only needed to have a payment network interface in China to provide banking services to customers almost across the country. Services such as the Safety First Internet Bank in the United States can provide financial services across the country with only a few dozen employees.

(2) Change the marketing methods of traditional banks. In the information society, the network finds the most convenient way for the customer base. The online banking operating network is a channel for communication and intermediary between the two parties to the transaction through the mutual promotion and financing of the huge flow of people, logistics, information and capital on the Internet, which greatly improves the efficiency of transactions, and greatly reduces the operating costs of the banking industry. ; The amount is greatly improved. However, the personnel

promotion and outlet promotion methods of traditional banks have to be completely changed.

(3) Change the operating philosophy of traditional banks. Regarding magnificent high-rise buildings as a symbol of the bank's credibility, the business philosophy of paving sites and increasing the face-to-face contact between bank staff and customers will be high-tech, high-security, more convenient and quicker, and not directly restricted by time or region. Replaced by meet up service.

(4) Adjust the operating strategy of traditional banks. It is the transformation of traditional bank operations from product-oriented to customer-oriented. Tailor-made personal financial services that meet the increasing diversity of customers to the greatest extent, rapidly change the way banks communicate with customers, reduce bank branch outlets, and invest in the construction of advanced networks, network equipment, systems and software products.

(5) Cause changes in the competitive landscape of banks. Traditional banks once occupied an absolute monopoly position in the payment intermediary business. The current rapid development of e-commerce and the relative backwardness of banking have provided competitors with excellent market entry conditions. The development of e-commerce will not stop because of the unsupported bank online payment. Many non-professional organizations, including factories and non-financial companies, are trying to share this market. For example, as early as 1994, Microsoft bid to acquire an "intuition" company specializing in home financial software. Although it failed, it has already issued a warning to the banking industry; the dominance of banks in the payment business is changing. Banks in all countries in the world are facing this threat. The competitive landscape of the banking industry has evolved from competition among the same industry to competition among multi-industry banks and more market players, making competition more diversified and complicated.

Internet banking has obvious advantages. First, it can greatly reduce operating service costs and create huge profit margins; second, business development is not limited by time, and can maximize business scale; third, business operations only need to "click" on the Internet, to save the human resources of banks and customers; the fourth is to speed up the flow of funds along with logistics and reduce the loss of funds in transit.

Since the establishment of the world's first new type of online bank in 1995, the American Safety First Internet Bank, more than 1,000 banks worldwide have entered the Internet to carry out online banking services. Among the top 100 World Banks, 577 have provided online financial services. The number of online banking customers in the United States has increased from 970,000 at the end of 1998 to more than 3 million at present, with an annual growth rate of over 80%. Since the Bank of China developed my country's first online bank in 1998, there are now over 20 More than 200 branches of the bank have websites and homepages. Among them, there are more than 50 institutions that carry out substantive network business, and the number of customers exceeds 400,000. The construction of online banking has become a common strategic choice for the banking industry of all countries.

At present, the People's Bank of China has taken the lead in organizing 12 commercial banks to jointly build the China Financial Certification Center and it has been put into operation. my country's Internet banking is still in its infancy. It should speed up the development of Internet banking, train and establish experts in Internet finance, strengthen research on the development of Internet banking, study the regulatory issues of Internet banking, and provide good information for Internet development Legal environment and physical environment.

At the same time, all commercial banks must actively adjust their development strategies, take online banking as an important development direction in the future, track the world's advanced technologies, continue to innovate online banking service methods and service methods, and invest the maximum in the construction of online banking.

VII. Internet banking has a huge impact on the traditional banking industry

1 Weaken the advantages of traditional banking

In the past, the advantage of the traditional banking industry was that it had institutions all over the world, high-rise office buildings that represented a symbol of strength, and local talents. However, the development of online banking can provide banks online to customers almost across the country as long as there is a payment network interface in China. Business services, such as the Safety First Internet Bank in the United States, can provide financial services nationwide with only a few dozen employees.

2 Changing the marketing methods of traditional banking

In the information society, the Internet is the most convenient way to find customer groups. Internet banking uses the Internet as a channel for communication and intermediary between transaction parties to promote and facilitate the mutual promotion and accommodation of the huge flow of people, logistics, information and capital gathered on the Internet. The efficiency of transactions is greatly improved, the operating costs of the banking industry are greatly reduced, and the business volume is greatly increased. However, the personnel promotion and outlet promotion methods of traditional banks have to be completely changed.

3 Transform the business philosophy of traditional banks

Regarding magnificent high-rise buildings as a symbol of the bank's credibility, the business philosophy of paving sites and increasing the face-to-face contact between bank staff and customers will be high-tech, high-security, more convenient and quicker, and not directly restricted by time or region. Replaced by meet up service.

4 Adjust the business strategy of the traditional banking industry

The operation of the traditional banking industry is transformed from product-oriented to customer-oriented. To satisfy customers' increasingly diversified and tailor-made personal financial services needs to the greatest extent, quickly change the contact between banks and customers, reduce bank branch outlets, and invest in the construction of advanced networks, network equipment, systems and software products.

5 Cause changes in the banking competition landscape

Traditional banks once occupied an absolute monopoly position in the payment intermediary business. The current rapid development of e-commerce and the relative backwardness of bank electronics provide competitors with excellent market entry conditions. The development of e-commerce will not stop because of the unsupported bank online payment. Many non-professional organizations, including factories and non-financial companies, are trying to share this market. For example, as early as 1994, Microsoft bid to acquire an "intuition" company specializing in home financial software. Although it failed, it had already issued a warning to the banking industry that the dominance of banks in the payment business was changing. Banks all over the world are soberly aware of this threat. The competitive landscape of the banking industry has evolved from competition among the same industry to competition among multiple industry players entering the banking industry and more market players, making competition more diversified and complicated.

VIII. Current risks faced by my country's online banking

(1) System risk

(a) Operating system risk. The operating system is the direct manager of computer resources. It directly deals with hardware and provides interfaces for users. It is the basis for the normal and safe operation of computer systems. Windows operating system has many security vulnerabilities, UNIX operating system is an open system, and the source code has been made public. According to the Common Criteria for IT Security Evaluation (CC Standard) jointly formulated by the United States, the Netherlands, France, Germany, Britain, and Canada, the security of Microsoft's Windows operating system and most UNIX operating systems only reaches C2 level security, and the security level of the operating system of the online bank should be at least level B.

(b) Application system risk. There are loopholes in the network business system design. Currently, network application software has the following security vulnerabilities: invalid parameters, invalid access control, invalid accounts, cross-site scripting vulnerabilities, buffer overflows, command injection vulnerabilities, error handling issues, insecure use of cryptographic systems, remote management vulnerabilities, network And application software server misconfiguration.

In the design process, it only pays attention to the design of "how the computer completes the task", the program control or inspection in the running process is not considered comprehensively, the system does not leave an interface for the audit, and it is difficult to conduct real-time audit.

(c) Data storage risk. Risks caused by data access, confidentiality, and hard disk damage.

(d) Data transmission risk. Risks such as theft and modification during data transmission.

(2) Operational risk

Operational risk of online banking refers to the risk of direct or indirect loss of online banking due to imperfections or errors of internal procedures, personnel, systems, and external events. The reasons for operational risk are as follows:

(a) Online banking has a weak awareness of operational risks.

(b) Unclear organization responsibilities.

(c) Insufficient internal control system or poor execution.

(d) There is no suitable online bank auditing department.

(3) Credit risk

The credit risk of online banking is mainly manifested in the malicious overdraft of customers using credit cards on the Internet for payment, or the use of fake credit cards to deceive banks.

(4) Information asymmetry risk

Information asymmetry is manifested in two aspects. On the one hand, it is because the online bank cannot get enough customer information, and the other is because the customer cannot get enough information about the online bank. Information asymmetry makes it easier for online customers to conceal their information and actions, and make behaviors that are good for themselves but not good for online banking. It also makes customers unable to correctly evaluate the merits of online banking.

(5) Legal risks

my country lacks corresponding regulations on online banking and online transactions. Such as: how to collect and manage online taxation, whether digital signatures are legally effective, cross-border transactions, intellectual property issues, electronic contract issues, electronic currency issues, and electronic transfer issues.

VIII About my country's Internet Banking Risk Prevention Countermeasures

(1) Prevention of system risks

(a) Physical security. Mainly refers to the security and defense measures for key equipment such as computer equipment sites, computer systems, network equipment, and keys. In order to prevent electromagnetic leakage, it is necessary to install filters on power lines and signal lines to reduce transmission impedance and cross-coupling between wires, while protecting radiation.

(b) Apply secure operating system technology. The secure operating system can not only prevent hackers from using the loopholes of the operating system platform to attack the online banking transaction system, but it can also shield some security loopholes in the application software system to a certain extent. The United States has successively developed various levels of security operating systems, including DG UX B1/B2 security operating systems from Data General, and HP-UX CMW B1 security operating systems from HP. Major domestic scientific research institutions and companies have also developed high-level security operating systems, such as the SECLINUX security operating system developed by the Information Security Engineering Research Center of the Chinese Academy of Sciences, and the COSIX LINUX system developed by China Soft Corporation. At present, China Construction Bank's online banking system is based on a secure operating system platform, which is based on the HP9000 hardware platform and uses HP's B1 secure operating system.

(c) Application of data communication encryption technology. Encrypting the data stream in transmission can be divided into link encryption, node encryption, and end-to-end encryption according to the communication level that realizes encryption. In the case of a large number of links and low requirements for traffic analysis, the "end-to-end encryption" method is suitable. In the case of high requirements for traffic analysis, a combination of "link encryption" and "end-to-end encryption" can be used: use "link encryption" to encrypt the header of the message to prevent traffic analysis, and then use "end-to-end encryption" to encrypt and protect transmitted messages. There are two main algorithms for data encryption: DES and RSA. DES belongs to a private key encryption system (also known as a symmetric encryption system). Its advantages are fast encryption and decryption, easy implementation of algorithms, and good security. The disadvantage is that key management is inconvenient. RSA is a public key encryption system (also known as asymmetric encryption system). Its advantages are good security and easy key management in the network. Therefore, a comprehensive encryption system combining DES and RSA can be used: DES algorithm is used to encrypt data, and RSA algorithm is used to encrypt keys.

(d) Application system security. Application system security mainly includes the identification of both parties to the transaction and the confirmation of the transaction. In the online banking system, the user's identity authentication relies on the digital signature mechanism and the double check of the login password. In the future, the identity authentication can be carried out through the automatic fingerprint authentication system. Digital signatures also ensure the non-repudiation of transaction instructions submitted by customers. Public Key Infrastructure-PKI (Public Key Infrastructure) is a good solution to the problem of trust and encryption in a large-scale network environment. At the same time, the secure electronic transaction protocol is adopted. The current main protocol standards are: Secure Hypertext Transfer Protocol (S-HTTP), Secure Socket Layer Protocol (SSL), Secure Transaction Technology Protocol (STT), and Secure Electronic Transaction Protocol (SET). SET covers credit card transaction agreements, information

confidentiality, data integrity and data authentication, digital signatures, etc., and has become a de facto industry standard. Strengthen the audit of the application system development process and real-time audit during the operation of the application system.

(e) Apply database security technology. Application of access control technology, data encryption technology, hard disk partition protection technology, database security audit technology, fault recovery technology, etc.

(f) Apply firewall security technology. Establish a fourth-generation firewall that integrates computer virus detection technology, proxy service technology and packet filtering technology, provides security services such as DES encryption, support for link encryption or virtual private networks, virus scanning, and has real-time reports, real-time monitoring, and recording of illegal logins, Statistical analysis and other functions. When setting the fire wall, it is necessary to cut off all TCP and UDP connections from 135 to 142, change the default configuration port, reject PING packets, and implement the packet filtering function by setting the filtering rules of ACCESS LIST. Adopt firewall dual-system cold backup strategy. Perform intrusion detection and regular vulnerability scanning.

(2) Prevention of operational risks

Operational risks mainly come from within the bank. The internal control system of the online bank should be improved, scientific operating specifications should be established, and internal control mechanisms should be strictly enforced. Incompatible duties such as the separation of administrators and operators, programmers and operators, and producers Separate from the executor, implement IC card identification for supervisors and operators, and add passwords at the same time. Any operation entering the system must be recorded in a log. Establish an operational risk management center, provide technical training for employees to prevent operational risks, supervise the implementation of various operational risk management systems, evaluate the operational risks of online banking, and take corresponding measures. Establish an operational risk emergency response center, conduct research on business influencing factors, identify situations that may lead to business suspension, system backup and regular testing of the company's disaster emergency plan, and provide technical support and solutions to security problems that arise. Use insurance to offset those "low frequency, high harm" operational risks. Establish an operational risk audit center to monitor and scan all online banking businesses in real time, and use audit records to audit business operators and computer system managers. Operational risks from outside, especially online banking financial fraud, not only need to monitor the retail business of personal services, but also strengthen the monitoring of companies logging in to the online banking, and analyze suspicious fund transactions through data mining software to prevent utilization Illegal fund transactions on the Internet.

(3) Prevention of credit risk

Establish a nationwide user credit management information system, divide users into different credit levels, and take different management measures for different levels of users. The customer information database should be shared, and cooperation with other commercial banks, insurance companies and other non-bank financial institutions, and world banks and other financial institutions should be used to record the customer's trustworthiness and breach of contract in the database in a timely manner.

(4) Prevention of information asymmetry risks

Establish an information disclosure system to strengthen the quality of information disclosure. The fair information on the operating activities and financial status of online banking audited by certified public accountants should be released regularly, and information about the magnitude of the risks of the online banking, the measures taken by the online banking to avoid risks and the protection of consumer rights should be disclosed. Establish a social supervision system and conduct mutual supervision among online banks.

(5) Prevention of legal risks

The Interim Measures for the Management of Online Banking Business should be fully utilized and implemented, and the Contract Law, Accounting Law, Bills Law, Payment and Settlement Measures and other laws should be fully utilized to formulate Internet banking-related agreements and formulate relevant business processes and procedures. Business processing regulations should make full use of currently implemented administrative regulations on network security, such as the "Computer Information System Security Protection Regulations", "Interim Regulations on the Management of International Networking of Computer Information Networks," etc., and make full use of the China Financial Certification Center's certification technology The authority and the rationality of third-party certification. Online banks should pay attention to the custody of transaction data and prepare evidence for possible disputes or litigation. Establish a legal supervision system for online banking, formulate external penalties for online banking and a market exit mechanism for online banking. Establish a legal system for online banking business operations, such as establishing the "Electronic Banking Law", "Electronic Signature Law", "Electronic Funds Transfer Law" and other laws and regulations, and at the same time enrich and modify existing laws and regulations. Improve the construction of supporting laws and regulations for online banking, mainly including tax collection and management law, international tax law, e-commerce law, criminal law, procedural law, bill law, securities law, commercial banking law, consumer rights protection law, anti-unfair competition law, etc. Laws and regulations. Strengthen exchanges and cooperation with international legislation and judicial practice, and increase efforts to combat online money laundering, online theft and other electronic crimes.

conclusion

At present, the People's Bank of China has taken the lead in organizing 12 commercial banks to jointly build the China Financial Certification Center and it has been put into operation. my country's online banking is still in its infancy. It should speed up the development of online banking, train and establish professional talents for online financial issues, strengthen research on the development of online banking, and study the regulatory issues of online banking for the healthy development of online banking Provide a good legal and physical environment.

At the same time, all commercial banks must actively adjust their development strategies, take online banking as an important development direction in the future, track the world's advanced technologies, continue to innovate online banking service methods and service methods, and invest the maximum in the construction of online banking.

1. From traditional bank to online bank is a process of "sublation". The evolution and development process of the banking industry

The movement process also has a movement process from low to high in form. New things and old things are interrelated in development

New things are produced and developed on the basis of old things. Internet banking is produced and developed on the basis of traditional banks.

Online banking promotes the transformation and development of traditional banks to a higher level. For a long period of time, online banking has not

Law completely replaces traditional banks, and it is a relationship of mutual promotion, interdependence and common development with traditional banks. From traditional banks to Internet banking is a process of "sublation" in the development of things.

2. Internet banking must be based on traditional banks. Internet banking is the work of traditional banks in the industrial revolution and the advancement of information technology.

The result of continuous evolution and development is the result of the banking industry's use of science and technology and advanced tools. Internet banking still reflects

The financing function, payment function and financial management function of the bank are nothing more than the most advanced scientific and technological means. The existence and development of online banking

The development is still and must be based on traditional banks, especially the foundation for the survival and development of any banking industry for hundreds of years-credit

system. In the open Internet network, the information flow, capital flow and logistics of e-commerce are connected to each other, leaving the traditional Banks cannot exist.

3. Online banking cannot completely replace traditional banks. The many advantages of online banking and its rapid development momentum make people feel

The future existence of traditional banks has raised doubts. Some people even assert that traditional banks will become the dinosaurs of the 21st century. Traditional banks really

Will it cease to exist? The author believes that for a long period of time in human history, traditional banks will not only not be eliminated, but will continue to innovate and develop. Because traditional banks are not only an objective matter, but also a kind of social relationship and social existence, with internal operating mechanisms to promote its development, just like the development of technology, intelligent robots cannot replace humans themselves.

4. Internet banking is the direction of the development of the banking industry. With the application and development of electronic money, automatic payments and automatic transfers have become

In reality, capital flows will gradually become electronic sports. In the banking business, it is gradually moving towards publicity and popularization, forming customers' self-reliance.

I serve. No-go financial management, self-service, multinational financial products, personalized family financial management, no physical financial products, cashless society

Meetings have become the general trend and goal. Online banking services allow customers to be free from restrictions on bank business locations, thus forming a

A fully open banking system that integrates financial extension bank accounts and the bank itself will inevitably promote the implementation of a cashless and cheque-free society.

Now. Therefore, online banking will be the future development trend of the banking industry.

In short, compared with traditional banks, online banking has great advantages over traditional banks. Online banking is not only a support point for the development of e-commerce, but also a new growth point for financial development and a way out for the future financial industry.

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