Designing a Digital Transformation Strategy for Human Resource Management in Bank X

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summarize summary

Currently, new digital technologies represented by 5G communications, cloud computing, big data and artificial intelligence are In the rapid development of the spread and explosive growth. China's informatization construction is also developing rapidly, and the level of digitization is increasing. Finance is the lifeblood of the modern economy, and the increasingly hot competition in the financial market has prompted major banks to accelerate the pace of digital transformation. Due to the current human resource management in many domestic banks, there are insufficient talent resources, unclear career development, low employee participation, assessment is not fair enough, incentives can not be put in place, training lack of personalization, high mobility of bank personnel, etc., and the banking industry has not yet invested sufficiently in the digital transformation of human resource management. Some banks are at the forefront of HRM digital transformation, such as ING Netherlands Bank and China Minsheng Bank, which have begun to explore and practice HRM digital transformation, and to a large extent solved the above HRM problems. It shows that the digital transformation of human resources management is very beneficial to the improvement of human resources management in banks.

Therefore, this study aims to analyze the current situation of HRM in Bank X to provide preliminary suggestions for HRM digital transformation strategies. To diagnose the existing problems of HRM in Bank X, this paper adopts the research methods of literature theory and case study to find out the direction of improvement in the areas of recruitment, performance, compensation, and training, and proposes the design of corresponding strategies. In order to ensure the smooth implementation of the digital transformation strategy of human resource management, this paper further puts forward the safeguard measures in improving the thinking of human resource management

and establishing the culture of human resource management. Finally, in the conclusion section, the main findings of this paper are reviewed and the limitations and shortcomings of this study are pointed out. Therefore, this study's design of digital transformation strategies for HRM in Bank X will provide landmark guidance for HRM in other banks.

Keywords: human resources, digital transformation, management innovation

abstract

In the present, the ever-growing cutting-edge technologies, best-known of which are 5G, artificial intelligence, block chain, cloud computing and big data, are undergoing additional world-wide explosive progress. Correspondingly, Chinese economy and society have been rapidly informatized with the country's information construction. With the heating-up competition in the financial market, banks have been accelerating the digitalization when improving their financial technology. With the heating-up competition in the financial market, banks have been accelerating the digitalization when improving their financial technology. Recognizing the central role of human in the future of any corporation, some banks have explored and started performing the digital transformation of human resource management, which brought about the development of the digitalization of human resource management. Recognizing the central role of human in the future of any corporation, some banks have explored and started performing the digital transformation of human resource management, which brought huge benefits. Among them, both the ING Netherlands bank and China Minsheng Bank largely resolved the issues such as insufficient human resource, elusive career plan, lack of participation and personalized training, unfair evaluation Among them, both the ING Netherlands bank and China Minsheng Bank largely resolved the issues such as insufficient human resource, elusive career plan, lack of participation and personalized training, unfair evaluation system, inefficient encouragement, as well as high turnover rate.

This thesis aims to reform human resource management by analyzing the data from X bank. The author started from identifying problems in their human resource management and figured out how to innovatively improve the recruitment, performance, salary and training by means of literature review, case study. The author started from identifying problems in their human resource management and figured out how to innovatively improve the recruitment, performance, salary and training by means of literature review, case dissection, comparison and causal analysis. The

author started from identifying problems in their human resource management and figured out how to innovatively improve the recruitment, performance, salary and training by means of literature review, case dissection, comparison and causal analysis. After that, differential plans would be proposed for individual issues accordingly. facilitate the implementation of HR management digitalization, the author proposes alternate measures for the sake of improving the concept of human resource management, establishing the management culture as a means of improving HR management. The author proposes alternate measures for the sake of improving the concept of human resource management, establishing the management culture as well as building the human resource environment and enhancing personal information protection. The final section highlighted the major contribution of this study and discussed on the pitfalls. In conclusion, by providing strategies and advice for digitizing the management of human resource in X bank based on the well-established theories, this study shed the light on the digitalization of HR management in other banks. In conclusion, by providing strategies and advice for digitizing the management of human resource in X bank based on the well-established theories, this study shed the light on the digitalization of HR management in other banks, and discussed on the pitfalls.

Therefore promote the sustainable development of Chinese banks and strengthen our competitiveness in the international financial market.

Key Words: Human Resource; Digital transformation; Management Innovation

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Chapter 1 Introduction

1.1 Background of the study

1.1.1 Rapid growth in global technology

Currently, the new digital technologies represented by 5G technology, cloud computing, Big Data and Artificial Intelligence are rapidly spreading and exploding. The world's "users" - not only people, but also machines - continue to generate huge amounts of data, and the amount of data generated by machines is growing rapidly. Data is generated and shared when "smart" home appliances communicate with each other or with their home servers. For example, data generated by geolocation services, web browser history, social media activity and even fitness apps. Industrial machinery in factories around the world is increasingly equipped with sensors that collect and transmit data, forming the Internet of Things to generate data. Today, anything we do online, interactions with friends on social media, smartphone use, all of these behaviors generate personal usage data and leave a digital mark on almost everything we do.

In recent years, China's informatization construction is also developing rapidly, and the level of science and technology is constantly improving. The State Council has issued a top-level design to promote the development of big data, which provides a b a s i s for the development of big data technology in China. [3] The core of China's informatization development has returned and focused on playing the core value of data from the previous decentralized application system construction, so as to improve the country's informatization level, marking the development of the application of big data in the country has entered into a high-speed expansion period. More and more enterprises, through the establishment of big data and cloud computing platform to use artificial intelligence, blockchain and other advanced technologies to improve enterprise management and business level.

1.1.2 Impact of the wave of digital change on the banking industry

The increasingly white-hot trend of competition in the financial market, major banks are paying more and more attention to the

innovation and enhancement of enterprise management, paying particular attention to the promotion of enterprise management informationization and the system construction of digital management, and have set up big data and cloud computing platforms to strengthen the digital application of the daily management of financial enterprises. It has reconfigured the customer relationship, business model, and operation system in the financial field, and has had a profound impact on the financial landscape. The value creativity and sustainability of traditional banks have encountered serious challenges, and banks must take the initiative to implement fintech strategies. Domestic banks are also accelerating the pace of transformation and increasing their investment in technology. For example, Ping An Bank d i s c l o s e d that in the first half of 2019, it continued to significantly increase its investment in technology, with capital expenditures and expenses for IT

The total year-on-year growth was 36.9%; China Merchants Bank disclosed that the bank's IT investment in the first half of the year amounted to 3.633 billion yuan, up 63.87% year-on-year, accounting for 2.81% of its operating income. Empowered by fintech, the domestic banking industry is undergoing a series of digital transformation. The integration of traditional banking business and digital technology is accelerating, and the number of

The impact of digitization technology on the domestic banking industry is deepening. Various innovative digital technology solutions Cascading, the use of digital technologies is driving the country's banking industry to digitally transform itself towards, among other things, smart banking. [1]

1.1.3 Digital transformation of HRM in the banking sector is not yet sufficient

In the increasingly competitive environment of economic globalization, people are the core resources for bank development, the core competitiveness of bank business expansion, and one of the elements necessary for bank survival.
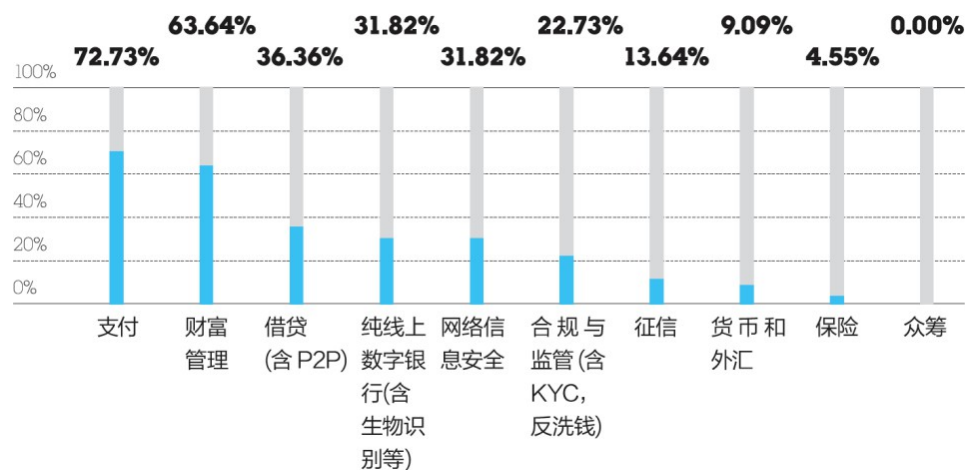
Figure 1.1 In terms of financial technology (Fintech), what areas are banks currently focusing on the most?

Source: Accenture Future Bank Innovation Report [7].

According to Accenture's research, major banks tend to invest in new technologies i n their main business, while the management of human resources, which is the core strength of corporate development, is still supported by traditional application systems and some manual work. Domestic banks have a large number of employees, and the professional division of personnel within the enterprise is relatively detailed, while the continuous expansion of the company's scale has brought new challenges to human resources. Nowadays, with the rapid development of technology, not only the number and type of bank staff

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may change due to technology, but also the nature of the career paths of banking practitioners is constantly changing. Some banks have already started exploring and practicing digital transformation of human resource management with relatively good results. ING Netherlands, a local bank in the Netherlands, is at the forefront of HRM digital transformation, having reduced its headcount in marketing, product management and channels by 30% through digital transformation. The bank's HRM digital transformation ambitions and digital culture have also attracted a lot of external talent, which has helped the bank to further strengthen its internal capabilities in HRM digital transformation. China Minsheng Bank is at the forefront of the digital transformation of HRM in domestic banks, having implemented a new The first generation of HR digital transformation project "Manpower Box," through artificial intelligence, big data, mobile internet, and other technologies.

Net and other digital technologies to create a digital transformation plan for Minsheng Bank's human resources with the concept of scenarios. Comprehensive

It improves employees' experience and satisfaction, and effectively motivates employees' initiative. Measurement results show that the overall utilization efficiency of HR-related business through "Manpower Box" has increased by nearly 70%. in July 2019, the project won the "Best Innovation Award for Technology Application Scenarios in China's Financial Industry" issued by International Data Corporation (IDC). In July 2019, the project won the "Best Innovation Award for Technology Application Scene in China's Financial Industry" issued by IDC. It can be seen how to break through the limitations of human resources, which are more and more prominent in the traditional human resource management of the banking industry, and how to combine it with the new technology of the technological era, so as to solve the problems of insufficient human resources, unclear career development, low employee participation, insufficient fairness in appraisal, failure to incentivize, and lack of personalization in training, etc., and to stimulate the potential of the human resource management that is unprecedented, and to improve human resource management automation and refinement, and to increase the efficiency of human resource management automation and refinement. The degree of automation and refinement of human resources management, but also to improve the efficiency of human resources work, improve the value of data, but also requires the entire banking industry needs to constantly accelerate the pace of digital transformation of human resources management. To this end, the main questions explored in this study include (1) What is the realization path of HRM data transformation in banks? (2) What is the proposed organizational structure for HRM data-based transformation?

(3) How to build a digitalized talent system for bank HR? (4) How to prepare bank HR digital workplace? (5) How does artificial intelligence

drive bank talent recruitment management? (6) How can big data integrate the management of performance appraisal? (7) How to transform the management of bank compensation to improve motivational effects? (8) How can knowledge mapping improve bank personnel training? This paper addresses the above issues, tries to do the overall architecture analysis of the digital transformation of the bank, makes a logical design for the digital platform architecture of human resource management, stands on the perspective of human resource management to put forward the idea of human resource organization structure adjustment, puts forward the proposal of the construction of the talent system and the workplace based on the characteristics of digitization, points out the way to improve the incentive effect by combining the status quo of the compensation management, and then finally applies the Finally, the neural network is used to construct customer profiles and formulate personalized training strategies by combining with knowledge mapping.

1.2 Purpose and significance of the study

1.2.1 research purpose

Based on the principles of accessibility and reference, this paper chooses the human resource management (HRM) issue, which is the key issue constraining the profitability of Bank X, as the entry point of the study, and hopes to achieve the following two objectives through the study of this paper:

First, from the current situation of human resource management in Bank X, based on the fact that the existing human resource management mode of Bank X is still in the stage of partial digitization, and has not given full play to the value brought by financial technology, and the human resource system is still to be perfected, and based on the relevant theories of human resource digitization management, we will focus on the human resource management of Bank X, and focus on the human resource management of Bank X.

Banks' problems in human resource management and their main reasons are analyzed, and new technologies are proposed as a means of To design an optimization strategy for the transformation of human resource management in Bank X, so as to provide opinions and suggestions for the future improvement of the efficiency of human resource management in Bank X. At the same time, it also helps Bank X to fully improve the initiative of employees, effectively motivate the bank's staff at all levels to improve their work efficiency and create more value for the enterprise.

Secondly, based on the referability of the business structure and management style among domestic banks, the article summarizes and reviews the research literature in this field, discusses the digital transformation of human resource management in the banking industry, and provides a b a s i s for the digital transformation and innovation of human resource management in other banking institutions in the future, so as to carry out a more in-depth mining and excavation of the existing business data and personnel information, and to achieve the goal of To lay a good foundation for financial technology to empower enterprises, effectively reduce duplicated construction of systems, eliminate ineffective demand, significantly save management and technology development costs, and better utilize the value of human resources in the banking industry.

1.2.2 research significance

Competition in the banking industry has been transformed into competition for talent, for many banks in China, if you want to build their own good competitive advantage, you must fully attract outstanding talent, and do a good job in the rational use of talent. From the previous background analysis, it can be seen that the increasing competition in the financial market in the age of science and technology has prompted the banking industry to pay more attention to the informatization of human resources management, and digital transformation is the key to the efficient and rational use of human

resources. Based on this, this study can provide the relevant managers of the banking industry with the idea of digital transformation of human resources, which can be used to improve the enterprise's human resource management thinking and promote the sustainable development of the enterprise, which has realistic theoretical significance and practical implications:

(1) theoretical significance

From the viewpoint of the existing research status at home and abroad, the human resource management literature in the banking industry, mainly focusing on human resources recruitment, performance, incentives, compensation and other aspects, has formed a number of high-quality research results, and has also formed a more complete banking industry human resource management theory system. However, on the whole, there are still fewer studies that focus the research perspective on this more detailed research direction such as the issue of digital transformation strategy of human resource management in the banking industry. Therefore, it is necessary to deepen this issue.

Research on the digital transformation of human resource management can help human resources departments to improve the management function and work efficiency at the same time, this paper also puts forward proposals for related strategies, with measurable (using quantitative analysis, data or indicators of the calculation) traceable (data can be traced back, including the comparison with the historical data, unstructured data) comparable (in the same industry, the comparison of similar business models) Provide a more comprehensive theoretical basis for the direction of digital transformation of human resource management in the domestic banking industry, and enrich the digitalization of human resources in China's banking industry.

(c) The management system of digitalization. From a developmental perspective, as digital technology is utilized in all aspects of human resources management, it can be used to develop a more efficient and effective management system.

To apply, the Chinese banking industry on the topic of digital transformation of human resource management, can indicate in the future of the banking industry on the trend of human resource management technology empowerment, the relevant research content and conclusions of this paper on the reality of the banking industry human resource management digital transformation has to provide theoretical reference role.

（2）relevance

As the use of digital technology in human resources management in China's banking sector spreads, the organization of human resources departments and their roles will change. As a result of improved management efficiency, HR departments are transformed from single-departmental management to an interactive management style that involves both senior leaders and junior staff. The HR department can be reorganized on a project basis, as both senior management and junior staff can carry out personnel processes autonomously with the help of digital technology. In this way, HR staff can devote more time and energy to improving work efficiency, rather than just dealing with the day-to-day administrative tasks of HR management. For example, using big data platforms to analyze data to gain clearer insights; or directing employee training, etc.; as well as continuously deepening their understanding and application of employee initiative drivers. This study systematically analyzes the current situation of HRM in Bank X, which can provide basic information support for HRM in Bank X. This study also provides a detailed analysis of the current situation of HRM in Bank X, which can provide basic information support for HRM in Bank X. This paper also provides a detailed design and research on the problems, causes and digitalization strategies of HRM in Bank X, which

will also promote the digitalization of HRM in Bank X. The study will also help to improve the digitalization of HRM in Bank X. Ultimately, through the improvement of human resource management, the efficiency of human resource work is improved, and the cost of human resource management is reduced at the same time. Human resource management becomes more automated and refined, and at the same time provides a reference for the accelerating pace of human resource management data transformation in the entire banking industry. Therefore, it is of great practical significance to study and explore the issue of HRM digital transformation strategy design in enterprise management.

1.3 Research content and methodology

1.3.1 Research

This paper takes the human resource management of Bank X as a "case" to study the design of digital transformation strategy of human resource management. Firstly, it introduces the current situation of HRM in Bank X, then analyzes the problems of digital transformation of HRM in Bank X, and finally proposes the design of digital transformation strategy of HRM in Bank X. This paper is divided into six parts. This paper is divided into six parts:

（1）preface

This section takes a look at the changes and impact that the advent of the global wave of digital change has had on the banking industry, mediating

It introduces the background, purpose and significance of the paper, the content and methodology of the study, and draws on domestic and international financial sciences

Cases of successful transformation of human resource management in banks at the forefront of technology have made it clear that digital transformation of human resource management can be effective in improving the level of human resource management.

（2）Literature review

This part mainly introduces the relevant conceptual definitions, theoretical knowledge and existing relevant studies on digital transformation of human resource management (HRM), including HRM, digitalization of HRM, and successful cases of digital transformation of HRM for the study of this thesis.

(3) Status of human resource management in Bank X

Starting from the development history and overview of Bank X, this part introduces the internal human resource allocation and the current situation of human resource management in Bank X. It also analyzes the requirements for the existing work of human resource management from the practical point of view. From the practical perspective of human resources management in Bank X, it analyzes the requirements for the existing work of human resources management and highlights the features and functions of the management information system platform established on the basis of such requirements.

(4) Analysis of Problems in Human Resource Management in Bank X

This section analyzes the problems of HRM in Bank X, points out that digital transformation of HRM has a positive effect on solving the problems, and uses this to conduct a needs analysis of digital transformation of HRM.

(5) X Design of digital transformation strategy for human resource management in banks

From the overall perspective of scientific planning of financial

technology, this part elaborates on the corresponding countermeasures and suggestions for the design of digital transformation strategy of human resource management of Bank X in terms of artificial intelligence in recruitment management, expansion and deepening of performance management, data integration of compensation management, and improvement of the design of training management in response to the problems of digital transformation of human resource management of Bank X. The section also provides a comprehensive overview of the development of digital transformation strategy of human resource management of Bank X. The section also provides a comprehensive review of the development of human resource management of Bank X.

（6）Implementation Assurance for Digital Transformation Strategy

This section proposes safeguards for the implementation of the digital transformation strategy of HRM in Bank X from the aspects of improving HRM thinking, establishing HRM culture, building HR talent ecology and increasing HR information protection, respectively.

（7）Conclusion and outlook

This thesis concludes with a summary and outlook of this research, analyzes the shortcomings in the thesis, and points out that the digital transformation of human resource management is an inevitable trend of development, and that enterprises must pay attention to the digitalization of human resource management.

design construction and application of word-based transformation strategies, and expects the banking industry in China to digitize human resource management in the

The path of transformation can be able to go faster, higher and farther.

1.3.2 Research methodology

The research methodology used in this dissertation research mainly contains:

(1)　bibliographic analysis

Literature analysis is a method of studying and researching the results of the literature through searching, extracting, summarizing and organizing the literature with reference to the existing literature and forming a scientific cognition on the basis of it. This study reads relevant books on digital technology and human resource management, screens the latest information on the development of digital technology and human resource management on the Internet, and searches and collects literature related to the topic of this dissertation from China Knowledge Network, Wanfang Database and other periodicals, especially the literature on the theories of human resource management, the application of financial science and technology, and the strategy of digital transformation of human resources, and refers to the existing research results and practical experience. In particular, we read the literature on human resource management, application of financial technology and digital transformation strategy of human resource management, refer to the existing research results and practical experience, and use them to provide the theoretical basis for this paper to study the digital transformation strategy of human resource management of X bank. There are four main sources of literature in this paper: the first one is books and magazines related to digital technology and human resource management, which have both relevant theories and data support; the second one is data databases like Wanfang and Zhi.com, in which we search and collect relevant papers, journals and other materials related to human resource theories, human resource management in banks,

human resource management in foreign banks, and new technological innovations, and draw on their theoretical perspectives for academic qualifications and practical experience. The third is the Internet information, which has a wide range of sources and a fast update speed, through which we can screen the annual reports of banks and the latest developments in science and technology; the fourth is the internal information of Bank X, which can be more scientifically analyzed and researched in the digital transformation strategy of human resource management of Bank X by adopting the detailed internal data information.

（2） case study method

The case study method is mainly used to support the relevant content of the study by drawing on the more typical cases in the current relevant research field. In this paper, through the study of digital technology at home and abroad, combined with the relevant theories of the digital transformation strategy of bank human resource management, drawing on the advanced management concepts and methods at the level of theoretical research. Combined with the typical domestic and foreign bank human resource management digital transformation innovation strategy, analyze their use of cutting-edge technology in the digitalization of human resource management to adopt a variety of innovative means of transformation, drawing on their successful experience in human resource management digitalization, for this paper on the design of human resource management digital transformation strategy of Bank X to provide further in-depth references and bases.

1.4 Possible innovations in this paper

The possible innovations of this paper are mainly twofold:

On the one hand, this paper examines digital technology in conjunction with human resource management, HRM

The digital transformation of HRM is a very cutting-edge topic, and there is no consensus in either the practical or theoretical fields on what digital transformation of HRM is, how to do it, and how to do it well. These new technologies are still under development, and people's application of these digital technologies is also in the development stage. This paper combines theoretical research with practical application to propose design programs and construction paths that can be taken by enterprise human resource management in the age of technology.

On the other hand, this paper focuses on the application of digital transformation in human resource management in the banking industry. Existing research generally focuses on the main business of the banking industry, such as payment, lending, risk control, cross-selling, etc., and there are relatively few studies on how to apply technology to empower the digital transformation of human resource management in the banking industry. This paper takes the human resource management of Bank X as the object of analysis, which is typical and makes the study more relevant to the actual situation, and tries to provide some inspiration for other banks to apply the digital transformation strategy of human resource management.

Chapter 2 Literature Review

2.1 Definition of relevant concepts

2.1.1 Concepts in the human resources management category

（1） human resources

The study of human resources has a long history, and the first to define human resources was management guru Peter Drucker, who, in his book The Practice of Management, defined human resources as "Human resources complete with human beings are the most productive, useful, and prolific of all available resources." [23]

The earliest definition of "human resources" in China was given by Prof. Zhao Shuming, who defined it as follows in his book Research on Human Resource Management: "Human resources are a kind of production capacity contained in human beings, and they are resources expressed in the quality and quantity of workers, which play a productive role in the economy and make the national income grow continuously". It plays a productive role in the economy and keeps the national income growing." [4]

（2） Human resources management

Human resource management refers to the planned and rational allocation, organization and deployment of human resources according to the requirements of enterprise development strategy, combined with modern scientific methods and certain material resources, through the recruitment, training, use and evaluation of employees. Enterprises through planning, organizing, directing, controlling and coordinating a series of activities such as human resources, mobilize the enthusiasm of employees, give full play to the potential of employees, to achieve the goal of creating value for the enterprise to bring benefits to the enterprise. Human resource management activities mainly include human resource planning, recruitment and deployment, training and development, performance appraisal, pay and benefits, and labor relations. Human resource management focuses on selecting,

educating, hiring and retaining people so that people can do their best. Employees grow with the company.

（3） psychological contract

The psychological contract was developed by E.H. Schein, a leading American management psychologist, who saw it as a partnership between an individual's dedication and the organization's desire to provide for the individual's expectations in return. Even though it is not a tangible contract, it is a contractual relationship. The company clearly understands the needs and developmental aspirations of each employee and strives to fulfill them. Employees also believe that the company is able to fulfill their needs and aspirations and hence they contribute to the development of the company. It can be described as a state where the growth of the company and the development of the employees is not described in a written contract, but where the company and the employees can still find the individual "focal points"for decision-making, e.g. the same paper contract. In other words, the company can clearly understand and meet the development expectations of each employee; and each employee contributes to the growth of the company because they believe that the company can meet their expectations. [11]

2.1.2 Digital technology-based concepts

（1） artificial intelligence (AI)

Artificial Intelligence is a branch of computer science that seeks to understand the nature of intelligence and produce a new type of intelligent machine that responds in a manner similar to human intelligence. Research in this field includes robotics, speech recognition, image recognition, natural language processing and expert systems. Since the birth of AI, the theory and technology have become more and more mature, and the field of application has been expanding. It is conceivable that the technology products brought by AI in the future will become the "container" of human intelligence. Artificial intelligence can simulate the information process of human consciousness and thinking. Artificial intelligence is not human intelligence, but intelligence that can think like humans and may surpass human intelligence.

（2） knowledge map

Knowledge Graph is a new concept proposed by Google in 2012. From an academic point of view, we can give a definition of a knowledge graph "A knowledge graph is essentially a knowledge base for the semantic web." But that's a bit abstract, so from another perspective, from a practical point of view, you can simply understand a knowledge graph as a multi-relational graph. A knowledge graph describes concepts, entities and their relationships in the objective world in a structured form. It is an interdisciplinary discipline that combines cognitive computing, knowledge representation and reasoning, information retrieval and extraction, natural language processing, Web technologies, machine learning, and big data mining.

（3） machine learning

Machine learning (ML) is the scientific study of algorithms and statistical models that are used by computer systems to perform specific tasks without the use of explicit instructions, relying instead on patterns and inferential

reasoning, which is considered a subset of artificial intelligence. Machine learning algorithms build mathematical models based on sample data (called " training data") in order to make predictions or decisions without being explicitly programmed to perform the task. Machine learning algorithms are used in a variety of applications, such as email filtering and computer vision, where it is difficult or infeasible to develop conventional algorithms that perform tasks efficiently.

Mathematical optimization research provides methods, theories and application areas for the field of machine learning. Data mining is a research area in machine learning that focuses on exploratory data analysis through unsupervised learning. In applications across business problems, machine learning is also known as predictive analytics.

Banks and other businesses in the financial industry use machine learning technology for two main purposes: to identify important insights in data and to prevent fraud. These insights can identify investment opportunities or help investors know the

When to trade. Data mining can also identify customers with high-risk profiles, or use web

monitoring to identify warning signs of fraud.

（4） cloud computing

Cloud computing (cloud computing) is a kind of distributed computing, refers to the network "cloud" will be huge data computing processing program decomposed into countless small programs, and then, through the system composed of multiple servers to process and analyze these small programs to get the results and return to the user. In the early days of cloud computing, simply put, it was simple distributed computing that solved the problem of distributing tasks and merging the results of calculations. Thus, cloud computing is also known as grid computing. With this technology, processing of tens of thousands of data can be accomplished in a very short period of time, resulting in powerful web services.

（5） user profile

The concept of user portraits was originally introduced by Alan Cooper, the father of interaction design:" Personas are concrete representations of target users." [8] A user portrait is a virtual representation of a real user, which is a model of the target user based on a set of attributes. With the development of the Internet, we are talking about user profiles that now encompass new meanings. Typically, a user profile is a labeled, abstract user model based on information such as demographic characteristics, Web browsing content, online social activities, and consumer behavior. The core task of constructing a user portrait is to analyze and mine the large amount of data stored on servers and in databases, and to label the user with "tags"that represent the user profile and express certain dimensions of the user's characteristics.

（6） big data

Big data is used to describe massive amounts of huge data that are difficult to process using traditional database and software technologies. In most

enterprise scenarios, the amount of data is too large or moves too fast or beyond current processing capabilities. Big data has the potential to help companies improve operations and make faster, more informed decisions. Data is collected from many sources, including email, mobile devices, applications, databases, servers and other means. When captured, formatted, manipulated, stored and analyzed, this data can help companies gain useful insights to increase revenue, attract or retain customers and improve operations. Examples of big data can be petabytes in size!

(1,024 terabytes) or EB-level (1,024 petabytes) data, which consists of billions to trillions of records of millions of people-all from different sources (e.g., Web, sales, customer contact centers, social media, mobile device data, etc.) The data is often loosely structured, often incomplete and inaccessible.

2.2 theoretical foundation

2.2.1 Collection and organization of human resources management literature

An early researcher on human resource management is White Barker, who pointed out in his book Human Resource Management (1958) that human resource management is one of the most important tasks of enterprises. In his book Human Resource M a n a g e m e n t (1958), Barker pointed out that human resource management is one of the most important work of enterprises.[13] Chen Yingfeng analyzed the current characteristics of enterprise human resource management and put forward five trends for the future development of human resource management. [13] Chen Yingfeng puts forward five trends for the future development of human resource management by analyzing the characteristics of the current enterprise human resource management and proposes effective paths for the realization of enterprise human resource management innovation from the aspects of conceptual innovation, determining the decision-making status of human resource management department, establishing effective talent incentive mechanism and applying big data. Chen Rui believes that with the development of the network era, the traditional mode of human resource management in the market competition gradually appeared shortcomings and disadvantages, the need to adjust the corresponding human resource strategy; to the customer center and other perspectives of human resources change put forward countermeasures and suggestions.

2.2.2 Collection and organization of big data literature

In recent years, China's informatization construction is also developing rapidly, and the level of science and technology is constantly improving. The State Council has issued a top-level design to promote the development of big data, providing a b a s i s for the development of big data technology in China. The core of China's informatization development has returned and focused on playing the core value of data from the previous decentralized application system

construction, so as to enhance the country's informatization level, marking the development of the application of big data in the country has entered into a high-speed expansion period. More and more enterprises, through the establishment of big data and cloud computing platform to use artificial intelligence, blockchain and other advanced technologies to improve enterprise management and business level.

2.2.3 Collection and organization of digital enterprise literature

Zhang Ruimin, the president of Qingdao Haier, once said, "There is no successful enterprise, only the enterprise of the times." And our era is a digital era, so in the era of digitalization can survive and long-term win the enterprise must be digital, this is a definite conclusion. This can be verified by the large number of digital enterprises that have emerged in recent years and disrupted traditional industries. For example, UBER, the world's largest cab company, does not own any operational vehicles, and Ali, a famous retailer, does not have any merchandise inventory. The secret to the success of these companies in disrupting traditional industries is the digital technology capabilities behind them.

IBM has also concluded, after researching the digital enterprise, that a digital enterprise should include three elements: a digital business front-end, a digital enterprise foundation capability, and a digital enterprise back-end. [17]

1. Digital business front-end

The so-called digital business front-end, i.e., redefining the connection between customers, friends, partners and enterprises

The aim of the system is to create better value through customer experience and reconfiguration of the ecosystem. The way to do this is to use the latest digital technologies, such as Big Data, Artificial Intelligence, Cloud Computing, etc., which themselves can be used as a kind of productivity to transform and reshape the enterprise's products/services themselves and the tools they rely on, such as the production line.

For example, when we shop at Jingdong, we place an order online, and from the beginning of the order to the delivery, logistics status, receipt, evaluation to complete the order, the whole customer is establishing a connection with Jingdong. This is a typical case of using the digital front-end to transform the relationship between customers and Jingdong or retailers. Such a shopping experience is a completely different experience from going to the supermarket.

2. Digitalization of foundational competencies

Both the digitized back office and the digitized business front end need to be supported by digitized basic capabilities. Digital human resource management capability is another very important part of the enterprise digitalization foundation capability.

3. Digital Back Office

The so-called digital backstage is to reshape the enterprise from an end-to-end perspective and solidify it with the help of IT, including digital processes and digital management, with the aim of improving operational efficiency through integrated management. We use the supply chain process as an example, the supply chain process from the beginning of the generation of a procurement demand, through the search for suppliers, and suppliers to establish a long-term strategic partnership, order to the settlement with the supplier to form a closed-loop system, the entire process is actually an end-to-end process. Such

an end-to-end process is actually very complex if it is not solidified with the help of IT.

2.3 Studies related to digital transformation of human resources

2.3.1 Overseas research on

Under the environment of intensifying competition in a globalized economy, enterprises are increasingly recognizing that personnel are the core content of enterprise development, the core competitiveness of business expansion, and one of the core elements on which they depend for survival. The impact of technological advances on human resources is becoming increasingly clear, so foreign companies have been paying attention to it from a very early stage and have been leading in this field.

IBM proposes that the digital transformation of human resource management is a 3E-centered and 3D-centered m e t h o d o l o g y , with Efficiency referring to efficiency, Experience referring to experience, and Engage referring to the strong emotional connection established between the enterprise and its employees, similar to the term of psychological contract in management science. The digital age

Human resource management should be centered around these three E's. The three Ds include Digital HR, Digital HRM, Digital Workplace, i.e. digital talent, digital human resource management and digital workplace. HRM should be people-centered, what is people-centered, and fundamentally employee experience-centered. Therefore, among the three E's, Experience i.e. employee experience is the most important, i.e. how to use advanced and cutting-edge digital technology to transform the way of enterprise-employee interaction, the way of employee-work interaction, and bring a better work experience to the employees.Ms. Diane Gherso, Senior Vice President of Human Resources of IBM, believes that the future professionals of human resource management should no longer be be merely expert people (subject matter).

experts) but also custodians of the employee and manager experience (custodians of the employee and manager experience) [14]

人力资源管理的数字化转型（**HR Digital Reinvention**）

Figure 2.1 Digital transformation of human resources management

Source: IBM, "Problems and directions in the digitization of human resources" [14].

Accenture and Success Factors research shows that companies that have adopted a human capital management solution have experienced a 15.2 percent decrease in employee turnover, a 13.7 percent increase in job openings, and an increase in productivity.

At 5.4 percent, David Ludlow, vice president of SAP's HR Business Solutions Division, said,"We've found that the digital revolution not only

improves HR efficiency, but also introduces innovative w a y s of working in HR and ultimately improves implementation rates and yields higher returns."

A set of real-world data on the digital transformation of human resource management at IBM shows that fruitful progress has been made through digital transformation of HRM. One, 45 percent of 2017 operating revenue came from businesses that didn't even exist five years ago; two, seven out of every 10 IBM employees have the critical skills needed for strategic transformation; and three, IBM's 2017 organizational structure, compared to 2011, has six fewer IBM's human resources systems have been reduced from 1,400 around 2000 to fewer than 50; five, 82 percent of IBM's training is high-impact, low-cost online training; six, IBM measures the quality of its employees' workforce; and seven, IBM's human resources systems have been reduced to fewer than 50.

The metric of satisfaction, NPS, is net referrals (i.e., how many employees would recommend a friend to work at IBM, and how many would recommend a friend to work at IBM).

willingness to recommend as positive, unwillingness to recommend as negative) by 22% compared to five years ago, which is a phenomenal improvement; and finally, IBM's HR p r o c e s s e s , which have been transformed using advanced digital technologies such as WATSON, saved IBM $100 million in 2017 alone. [14]

IBM's HR transformation journey

Our Strategy	Our Expertise	Our Structure	Our Systems	Our Learning	Our Culture
Strategic Shift	New Skills	Simpler Organization	New Ways of Working	New Ways of Learning	Agility and Innovation
45%	7:10	-6	>1400 to <50	82%	+22
Clarity of direction & new sources of revenue.	Skills at scale deliver on the strategy.	Designed for the future, faster decisions.	Speed & Agility	Energizing IBMers in new ways	Driving IBM's growth and leadership in the marketplace.

Figure 2.2 IBM's HR transformation journey

Source: IBM, "Problems and directions in the digitization of human resources" [14].

Some banks are already exploring and practicing digital transformation of human resource management, with good results. ING Netherlands, a local bank in the Netherlands, is at the forefront of HRM digital transformation, having reduced its headcount in marketing, product management and channels by 30% through the implementation of digital transformation. At the same time, the bank's HRM digital transformation ambitions and digital culture have attracted a lot of external talent, which has helped the bank to further strengthen its internal capabilities in HRM digital transformation.

2.3.2 Relevant studies in the country

The research on digital transformation of human resource management is relatively limited compared to foreign countries, and is currently focused on some large enterprises, such as Ali, Haier, Capital

Airport, Hanergy Group and HR SaaS-related among some Internet companies. For example, Ali was hosted by HR Home on April 13, 2019, the 2019 Digital Transformation

The advanced version of the Intelligent Personnel System was demonstrated on the site of the Industry Connect Summit. On the basis of the original 9 major functions, it added functions such as automatic calculation of salary and year-end bonus, one-click generation of the latest tax declaration, one-click generation of pay stubs, and online calculation of social security provident fund, etc., which really liberated the HR from the cumbersome analysis of reports and payroll statistics. Intelligent HR Advanced Edition, by connecting HR data, attendance data, payroll data, and social security data, makes typical "slow work" efficient and accurate, and generates immeasurable business value.

In the domestic banking industry, China Minsheng Bank is at the forefront of digital transformation of banks' human resource management.

Minsheng Bank has implemented a new-generation human resources digital transformation project called "Manpower Box", which is a scenario-based digital transformation plan for Minsheng Bank's human resources through the use of artificial intelligence, big data, mobile internet and other technological means. It has comprehensively improved the user experience and satisfaction of MSB employees, and effectively motivated them to exert their initiative. Measurement results show that the overall efficiency of HR-related businesses is increased by nearly 70% through "HR Box", and in July 2019, the project won the "Best Innovation Award for Technology Application Scenarios in China's Financial Industry" issued by International Data Corporation (IDC). " It can be seen that the research on digital transformation of human resource management, especially in the banking industry, is still in its infancy.

Chapter 3 X The Current State of Human Resource Management in Banks

3.1 History and Overview

Bank X, a Chinese bank with a long history, was founded in the Qing Dynasty and is one of the oldest banks in China and one of the note-issuing banks in modern China.In the 1980s, the reorganized Bank X officially opened for business and became a national state-owned joint-stock commercial bank.

Bank X's business scope covers traditional banking deposit and loan business, trust, offshore finance, offshore securities, debt-to-equity conversion, asset management, financial leasing, funds and insurance. As of the end of June 2019, Bank X had a total of

242 domestic branches have been established. Of these, 30 are provincial branches, and the number of provincial branches has reached

The number of branches has reached 205, and the number of directly-affiliated branches has reached 7, including 242 prefectural and above-prefectural cities in the country.

There are a total of 3,176 banking outlets in 162 counties or county-level cities in China.

3.2 Internal human resources allocation

In terms of internal staffing, Bank X currently has a total of more than 70,000 regular employees, 5,514 labor dispatchers and 255 local employees of foreign institutions as of 2018. The age structure, education structure and regional distribution of employees are as follows:

Table 5.1 Age structure

年龄	员工数（人）	占总数百分比（%）
30岁以下	21219	28.66
31至40岁	16127	21.78
41至50岁	28119	37.98
51至59岁	8324	11.24
60岁以上	247	0.33
合计	74036	100

Source: Bank X human resources data

Table 5.2 Academic Structure

学历	员工数（人）	占总数百分比（%）
博士研究生	98	0.13
硕士研究生	5475	7.4
大学本科	40722	55
大学专科	21320	28.8
中专	3170	4.28
高中及以下	3251	4.39
合计	74036	100

Source: Bank X human resources data

Table 5.3 Regional Distribution

地区	员工数（人）	占总数百分比（%）
长江三角洲	14193	19.17
珠江三角洲	9299	12.56
中部地区	16478	22.26
西部地区	13944	18.83
东北地区	7407	10
总行	12460	16.83
海外	255	0.35
合计	74036	100

Source: Bank X human resources data

3.3 X Status of Human Resource Management in Banks

3.3.1 Employee Management

Bank X adopts its independent human resources information management system for the integration and storage of basic information on personnel, covering basic information on personal, academic and political backgrounds, etc. The functions of employee management mainly include the following modules: 1) file management; 2) salary management; 3) personnel mobilization management; 4) exit management, etc. At present, it still implements the traditional employee management mode, with the employee's performance appraisal as the main core. By summarizing the external data for data consolidation, so as to grasp the status of employee information.

3.3.2 Performance management

Bank X's performance management is based on product pricing and combines data from various lines of business systems to compile and measure key appraisal indicators for all levels of departments, types of business, and various business personnel. At present, there is an independent performance appraisal system for data collection and processing, and the latest changes can be queried every day and provided for use by departments and personnel at all levels.

3.3.3 compensation management

The main way to motivate employees is through payroll management. Bank X currently adopts an independent payroll

management system, which is based on the payroll structure, and realizes the payroll management of staff at all levels and departments through appropriate adjustments to convey the bank's incentive policy. The current payroll management can be divided into three parts, including daily payroll, social security benefits and others, which are processed through the corresponding system function modules.

3.3.4 Training management

Bank X has an independent training management system, and the training center provides diversified on-site training and e-learning at the enterprise level. The Training Center regularly organizes and engages professional institutions, lecturers and various e m p l o y e e s in the industry to conduct on-site lectures. At the same time, employees can select the topics they are interested in from the training system online.

We have the capacity to conduct independent learning and to enhance our professional knowledge. The establishment of each year's training program is mainly built on various channels

On the basis of training needs, the training courses are conducted according to the management training requirements of each business line, which are divided into groups such as grades, positions, and business lines.

Chapter 4 Analysis of Human Resource Management Issues in X Banks

4.1 Lack of intelligence in recruitment management

4.1.1 Limited recruitment channels

Bank X's human resources recruitment is still relying on the mainstream recruitment methods, such as campus recruitment, on-site recruitment, bank website, and third-party recruitment websites, such as MileagePlus, Wisdomlink, and Hire.com, etc. Among them, campus recruitment accounts for 45% of the employees, and third-party online recruitment platforms account for 36% of the employees. Among them, campus recruitment accounts for 45%, third-party online recruitment platforms account for 36%, bank websites account for 17%, and other ways of recruitment account for 2%. It can be seen that the proportion of employees recruited through the third-party online recruitment platform and the bank's website reaches 53%, indicating that Bank X attaches more importance to the use of the Internet for recruitment.

But at the same time, it can also be seen that X bank recruitment channels lack social media and internal retreat of these emerging ways, new recruitment methods are indeed convenient and accurate enough to save more human and material resources. For example, LinkedIn, which is the main recruitment channel, fully utilizes its social advantages, which not only enables recruiters to know more about the social information of job seekers, saves the cost of recruiting and improves the quality of recruiting, but also increases the channels for job seekers to know the information of the companies they apply for. Using big data from social networks, HR departments can obtain rich personal information from direct applicants and even access to recommendations provided by others about them, which allows them to build a more complete user profile of candidates for accurate matching.X The lack of new channels in banks is mainly due to the weak support of recruiting

systems that are unable to search for and identify suitable candidates through the discovery of social media behaviors and emotional activities. candidates.

4.1.2 Inability to eliminate subjective recruitment bias

In the context of digital technology era, the decision making process in the recruitment process still avoids not human subjective bias. Human resource managers select appropriate candidates from the many resumes received and choose the most suitable candidate from multiple candidates. The whole process relies more on the subjective judgment of recruiters and lacks effective scientific evaluation tools. As a result, recruiters only know some basic data about candidates, such as schools, majors, internships, etc., but it is difficult to objectively judge other qualities and abilities beyond the resumes. The reason for this is that Bank X is still using the traditional recruitment model, and intelligent technology has not been used.

4.1.3 Lack of interfaces to existing systems

The existing recruitment system of Bank X is only for the storage and management of recruitment information, candidate information, and the process management of recruitment work. Because the system is independent, it is not integrated with the employee time and attendance system, payroll management, and other systems.

The system, performance appraisal system, etc. are connected and are not integrated into Bank X's data warehouse platform, which does not allow for the integration of the data warehouse into Bank X's data warehouse. facilitate data analysis. It also lacks docking with systems outside the bank, and cannot fully utilize the information resources of third-party platforms, resulting in becoming an information island. The reasons for this are, first, the system is relatively old and lacks integrated architecture design. The second is that the system is not cloud-based, and it is impossible to dock and handle external interfaces in the enterprise intranet.

4.2 Human intervention in performance management

4.2.1 Incomplete scope of performance appraisal

Because Bank X implements a results-oriented performance appraisal culture, it makes managers focus only on business departments such as outlets and marketing, which have main business performance related to them, and neglect the supportive and enabling work of the management department, as well as the qualitative assessment of the work of the management staff. Incomplete scope of performance appraisal, often the scoring will lose fairness and impartiality. Leads to for performance appraisal in form, has its name but not in fact. The reason for this is the failure to incorporate the information on the work of the management department of Bank X into the performance appraisal system and big data platform for holistic and automated processing.

4.2.2 Human intervention assessment results

As mentioned above, when Bank X conducts performance appraisal, due to the lack of digital appraisal of the management's work, the subjective definition of the leadership and the excessive intervention authority on the appraisal results, it is very easy to be affected by the proximate cause effect, the halo effect, and the herd effect to make the appraisal results biased, and most of these factors are

very difficult to avoid by the evaluator, resulting in unsatisfactory appraisal results, and there will be a problem in communicating with the employees. Although these subjective factors exist in the appraisal process, the appraisal error will certainly exist, but in the long run, employees will feel that the entire appraisal process is not rigorous, it is possible that the performance of the good aspects are not identified, while some small errors may lead to different chastisement, which will make them feel that the performance appraisal is unfair, leading to the appraisal of the work of the exclusion of the mentality, and even with indifference, non-cooperation, non-compliance attitude! This will make them feel that the performance appraisal is unfair, which will lead them to reject the appraisal work and even treat it with indifference, non-cooperation and non-compliance. Finally, managers do not use enough data to support the evaluation of employees. The reasons for the lack of sufficient data are: first, the lack of system support, managers do not have the energy to pay attention to every piece of w o r k of each employee, and do not have time to make detailed records. Secondly, some leaders are subjectively unwilling to record the poor performance of employees and do not want to be the "bad guy".

4.3 Compensation Management Information Silos

4.3.1 Closure of payroll information

As Bank X adopts a secret payroll system, the design, development, operation and maintenance of the attendance, performance and payroll systems are independent, resulting in the bank's payroll and other human resources systems becoming information silos, and the data have not been integrated into the Data Center.

warehouses, the consolidated calculation workload becomes more prominent, and by the time payroll is due each month, the relevant HR department personnel, it would require overtime, creating a bottleneck in implementing Bank X's employee incentives in a timely manner. The main reasons for information closure are: first, managers do not understand the technology of information encryption and are reluctant to integrate the system for fear of data leakage. Second, managers did not foresee the disadvantages of information silos and did not have the global thinking of integrated design.

4.3.2 Insufficient effective incentives

As mentioned before, there is a large human intervention error due to the fact that the management's job information is not assessed through systematization, which not only affects the results of the remuneration, but also because of this unfairness in the human resource management, the bank's employees do not have a high degree of subjective motivation. In addition Bank X's compensation is broken down hierarchically, department by department, and salaries and rewards within the department are decided directly by the department head. This distribution model makes performance appraisal one thing and compensation and rewards another. The rigorous results calculated through the system did not play a practical role, and finally returned to the original manual processing mode. So much so that people feel that it doesn't matter if they do a good job or a bad job, it's all up to the leaders to decide, and they don't take their work seriously enough to implement Bank X's employee incentive policy. The reasons for the lack of effective incentives mainly lie in the following: First, there is no unified and systematic management of the management's work and other information, and there is a lot of room for human adjustment, resulting in unfair distribution. Secondly, the information is not open, lack of fairness and impartiality, losing the trust of employees.

4.4 Inadequate data systems for training management

4.4.1 Inadequate training needs analysis

Bank X's training needs analysis was inadequate and HR training managers were too subjective in developing training programs. According to the data of Bank X's training center, only 5% of the training plans are based on the analysis of employees' work data; 29% of the training plans are based on the voting will of the employees, which is not bad; and 54% of the training plans are based on the training managers' own experience and intuition. If the ideas and opinions of training managers are strongly subjective, it will be very easy for training methods, time and content to be not in line with the actual needs of training. The main reasons for the lack of training needs analysis are: First, the lack of intelligent analysis of staff training needs, and staff training needs are out of touch, it is easy to make the staff to produce dissatisfaction, they will feel that it is a waste of time, even if it is done, the effect of training will be greatly reduced. Second, training managers do not have a complete knowledge map, it is difficult to develop a plan and content that meets the training needs of employees.

4.4.2 Absence of a mobile training system

Bank X's training system now adopts the BS structure, and the interactive mode of courseware has been very comprehensively supported by computers, but the mobile client of the training system has not been developed, resulting in the fact that employees can only sit in front of the computer to participate in online training, and they can't reasonably utilize the fragmented time for learning, which leads to a longer training cycle. The main reasons for the lack of mobile training system are: First, the system design and development did not use HTML 5 and other technologies, can not adapt to the cell phone, PAD mobile access. Secondly, there is no design and development of training mobile client for iOS, Android and other platforms, which lacks support for mobile training.

4.4.3 Insufficient individualized training

At present, the training mode of Bank X is to provide training in batches and stages according to the level of employees and business lines. For example, induction training for new employees, business training for personal funds and corporate lines, and management training for middle-level cadres. There is no personalized training for the differences in employees' personal background, knowledge structure, experience, ability, learning speed and so on. The main reasons for the lack of personalized training are: First, there is no user profile of employees to provide personalized training needs analysis, HR trainers do not know the differences in the knowledge structure of each employee to provide tailor-made training. Secondly, there is no p r o f e s s i o n a l , objective and clear regulation of employee career development. Employees generate a variety of digital information from the moment they join the company, during various training and work processes, but Bank X does not record, analyze, and reasonably use this data in a completely objective manner.

4.4.4 Inadequate training communication channels

Nowadays, the main communication channels for Bank X's training are direct communication between teachers and students in the classroom, between employees, and the comment section below the courseware is also a supplementary communication method for people to evaluate and interact with the courseware. These training communication channels are relatively homogenous, lacking social media, internal communication software, corporate training forums, and other such common and effective channels designed to promote employee participation, and are unable to quickly connect among students, faculty, and employees. Human resources departments can use social media, internal communication software, corporate training forums, and other such channels to enhance collaboration and become a very good complement to employee training communication channels. The main reasons for the inadequacy of training communication channels are: first, the training system of Bank X lacks regularization, and it is still stuck in the era of Internet thinking, and it has not considered the design of training tools based on social media. Secondly, the training system is relatively independent, not integrated with other human resources systems, and it is not easy to utilize the channels of other systems to provide communication for employees.

Chapter 5 X Digital Transformation Strategy for Human Resource Management in Banks

5.1 Science-based planning for human resources digital technology architecture

5.1.1 Integrated planning for the future

The prerequisite for digital transformation of HRM is a scientific planning of the technical architecture, definition of the system building objectives, and further study of the system framework, module design and logic chain. Looking at the big picture, Bank X has the option of expanding existing investments in cloud computing platforms at the head office level, including the core HR platform and other cloud and big data-based applications. HR professionals are very busy, so in the future they will need a platform that integrates seamlessly with other programs, is easy to use and requires little maintenance. The first priority of a cloud computing platform is to provide users with stable and high-quality cloud service capabilities, versatility in functionality, and centralized data processing. The main advantages of centralizing an all-in-one HRMS are as follows:

1. unified platform

Bank-wide unified planning, with existing equipment and technical strength at the head office level, attempts to integrate these HR-related cloud services in a common technical platform, which greatly reduces the number of integrations required when adding new services, and also facilitates local branches to call various HR s e r v i c e s provided by the head office's cloud platform through the network, reducing the development and maintenance work of local branches.

2. standardize

Centralized provision of cloud services, bank-wide unification of functional standards for cloud services, digital standards for external interfaces, standards for information content, and standards for data

entry and exit, facilitating unified management of information and mutual internal institutional data.

3. Unified Development

The technical staff of the head office will unify the development of cloud services and functions, and carry out the design and development of artificial intelligence for human resources management in accordance with the model of "software as a service", making full use of the advantage of centralized technical research and development personnel to provide better development quality and faster response time, thus accelerating the innovation of human resources management.

4. Unified maintenance

The data center of the head office can centralize the maintenance o f services in terms of hardware, software, network and backup, unify the procurement of equipment resources, efficiently and timely handle and solve various hardware and software problems of the platform, guarantee the high availability of cloud services, and at the same time reduce the maintenance costs of local branches.

5. unified data

Utilizing the existing data platform, centralize the data resources of the whole bank in the cloud to provide current and historical data information. The centralization and sharing of information facilitates the global horizontal management of operational staff at the head office, as well as the local branches.

rows of vertical drill-downs are used. It also provides the consistent data needed to obtain a user profile of the employee.

It is a way to automate and expand management processes and seamlessly connect various channels for employee interaction and support.

5.1.2 Customized Cloud Services

Cloud computing makes it easy to add various HR services on-demand. IT organizations should deploy cloud service functions that can focus on integrating HR management needs to support various HR management processes such as recruitment, training and learning, performance appraisal, and compensation management for bank employees, and to improve the user experience feeling, so that the users can do their work freely and better on any device they use.

5.1.3 Scalability and flexibility

There are many factors that can affect scalability, and IT and HR should work with vendors to provide scalability and flexibility of HR cloud computing services in their own organizations. It is also important to ensure that specific services can be adapted to different HR processes. In this way the HR department of an organization, with the new management capabilities gained through the flexible scalability of cloud services, will be able to further free itself from the day-to-day work of HR management and focus its time and energy on activities that can create value for the organization and that can have a positive impact. For example, researching how to improve compensation packages for bank employees, employee mobility, career development planning, and recruiting talent so that HR departments can adapt to the ever-changing demands of HR innovation.

5.1.4 Gain insight with analytical tools

X Bank can use technology to create relevant evaluation metrics to monitor the effectiveness of HR efforts and their impact on the business. At the same time, analytical tools can be used to gain insights

and enhance HRM processes. For example, developing applications can help a company analyze s e a r c h e s for internal training resources or materials to better understand what they are learning and how they are learning, and provide a basis for its training strategy. And

And, analytics tools can help deepen understanding of employees and their capabilities. For example, determining the match between a company's skill needs and talent locations, or even forecasting corporate and individual needs to synchronize skill structures and learning progress with business development. In reality, many HR teams are not currently using analytics tools effectively. And much of it requires data collection. X Banks can use certain business analytics software such as Tableau, IBM SPSS, SAS and other data analytics tools to process data from Headquarters' Unified Data Warehouse service. This avoids the drawbacks of having to manually integrate various data due to different data sources or large-scale data modeling. With the support of these analytical tools, HR can easily integrate traditional business and

Talent data is cross-analyzed with information gathered from data warehouses, such as social media and customer feedback.
to access the capabilities and needs of your employees. Insights. Such analytics tools will be a key element of digital HR, and will also facilitate a "marketing HR" model. Not only will it enable HR teams to understand historical company trends, but it will also allow for a more forward-looking approach to aligning talent strategies with business needs.

5.1.5 Human resources mobile management

Maureen Brosnan says, "HR and talent management mobile apps have become widely used in areas such as corporate recruiting and employee relations." Technology companies like SAP will now be the first to look at designing applications for mobile for talent management and HR activities, including employee learning and performance management anytime, anywhere. X Banks should take advantage of the 5G business opportunity to develop mobile-based customer programs based on 5G technology. Some mobile apps help employees move beyond simply "staying in touch." For example, they can provide sophisticated tools to support effective learning, allowing employees to interact with experts online and complete courses. At the same time, mobile technology can be used to facilitate personalized promotions related to people, personal development opportunities and progress toward goals. Mobile apps can also facilitate recruiting teams, speed up the hiring process or facilitate the collection of performance information so that performance feedback can be provided to employees more frequently. Mobile technology is important for frequent communication, energizing employees and expanding a company's reach.

5.1.6 Bringing Employees Closer with Social Media

Companies can promote employee engagement and approach employee relations through social media. X Banks should design and

develop, or purchase, enterprise-level internal communication software, and could also develop a corporate forum service. The HR department can use the technology to enhance teamwork and can speed up HR management processes. In addition, Bank X could access WeChat through an API or develop WeChat applets to develop online training tools based on social media that can quickly connect employees to each other and help them easily access the information and data they need. In addition, Bank X can connect performance appraisal systems Unity , develop cloud services for collaborative performance management based on cloud computing to facilitate the co-creation and sharing of performance goals among employees.

5.2 Digital Reinvention of the Human Resources Department

Organizations in the digital era have also begun to possess new characteristics. Chen Chunhua, in The Logic of Organization and Management in the Digital Era, suggests, "When strong individuals generally appear, the relationship between the individual and the goal, and the relationship between the individual and the organization will naturally change in the management of the organization. Today's organization-individual relationship is already symbiotic

relationships, and there is no longer a way for organizations to be bigger than individuals; we must be a symbiotic design with each other, and organizations

The individual must be accepted as strong." [2] We can see that many advanced organizational forms have begun to change, starting to shift to the symbiotic model of "big platform + small front-end", activating employees and empowering individuals through various means such as independent operation, self-supporting profit and loss, and task adoption. At this time, the human resources department works with the organization's managers to reshape the organization and create an agile and empowered organizational model.

5.2.1 New human resources organizational structure

In the future, the matching of people and jobs is dynamic, whether internally or externally, the organization consists of dynamic links between people and tasks. x The transformation brought by the digital transformation of bank HRM to the HR organizational structure is decentralization, the HR department becomes flat, the trend of nationwide and global deployment becomes more and more obvious, and off-site synergy and cooperation across time zones become very high-frequency. All behaviors are online, and intelligent management based on data becomes the center of human resource management, based on which human resource managers go to do problem identification, organizational diagnosis, management discovery, rewarding and punishing the best and the worst. Flat management, at the same time, also the organizational structure of the human resources department, adjusted to become easy to project-based management organizational structure. The HR staff can be re-distributed and re-grouped to work in small project teams, with Bank X providing the specific support needed for the HRM project teams to manage autonomously, including training, data, technology, tools, and so on.

Transforming Human Resource Management in the Digital Age of Banking Not only is the number and type of bank staff likely to change

due to technology, but the nature of the career paths of banking professionals is also changing. With the digital transformation of HRM freeing HR employees from tedious day-to-day tasks, digitalization has brought about change and broken down office silos. HR managers have more time and energy to spend on balancing the business with the organization and facilitating decision-making with quantitative data metrics. The original HR department is no longer just a back-office administration department, but has been transformed into a shared department within the organization. Providing services to other functions or providing guidelines as a partner to business people.

5.2.2 Next Generation Artificial Intelligence Assistants

Deploying a few AI assistants is a proven way to reorganize the HR department if it is digitized. Artificial intelligence assistants can help HR departments deliver HR expertise and services without interruption and drive strategic value to the organization, and the new digital power of HR is reshaping the relationship between companies and their employees. In the workplace, AI assistants can not only provide a personalized one-on-one employee experience, but also automate simple tasks. Relying on a user-centered design philosophy, AI assistants will provide a new digital HR experience.

Artificial intelligence assistants are automated programs used to answer user questions via text or chat. Currently. AI assistants are already used in a wide range of scenarios and can already interpret the nuances o f human language. In other contexts, AI assistants can even talk and communicate with humans using their natural language. bank X could consider building an HR AI assistant and making HRM experiences and policy explanations readily available to the bank's employees in a shared manner. The AI assistant enhances the engagement of Bank X's employees and accelerates the digital reinvention of the HRM department by establishing employee-centric usage experiences and support standards.

5.3 Creating a digital talent ecosystem for HR

Digital talent is a digitally aware employee armed with digital tools and digital assets. Digital awareness solves the problem of employees' heart, i.e. employees should have the awareness and habit of working and solving problems with digitalization. Digital assets to solve the problem of the employee's brain, that is, the enterprise should provide employees with a powerful collection of a large number of cutting-edge information and best practices in the data background, so that employees are not alone in the fight, but with a strong digital brain at work. Digital tools to solve the problem of employees' hands, that is, enterprises should provide employees with similar computers, cell phones and other tools that can help them easily to extract the information and knowledge of the background to help them realize the digital work tools. Hand, brain and heart of the full range of digitalization is digital talent. Hand digitization should be the simplest and easiest to achieve, brain digitization is the most difficult, because it requires enterprises to have a strong knowledge management capabilities, the heart of the digitalization is the slowest, the need for long-term training and penetration of the enterprise.

5.3.1 Planning the future workforce for personalized change

Use Bank X's business strategy and current operating model as a basis for measuring company-specific job requirements and the number of digital employees needed to meet the bank's business needs. Considering that this is not easy, Bank X needs to examine the technology landscape and understand the impact of technology on the workforce. In an environment where technology talent resources are scarce, companies need to weigh the areas where they build teams of in-house talent as well as areas where they can outsource operations. The digital workforce requires grit, digital literacy, and P&L management skills, and communication skills are also a key factor in leading change and gaining customer insight. Tapping into digital innovation talent is far more important than industry experience. x Banks should focus on gathering relevant information about the labor market in each region and identifying possibilities for implementing differentiated strategies in different regions. Model potential operational scenarios over different time horizons and identify areas of business risk associated with skilled talent shortages. Create development and training programs to fill skill gaps and eliminate redundant skills. Organize the bank's head of HR, business unit heads, IT directors, and other stakeholders to discuss the development of better

of the talent strategy. Focus on the experience of employees and candidates, and the impact of employee experience on Bank X's ability to acquire and retain people

Talent Impact. Gathering and analyzing data from internal and external sources, identifying good and bad experiences for employees and candidates, and making improvements to refine those efforts can help create a unique image for Bank X. You can also use design thinking to improve your hiring process, focus on highly skilled talent, improve the employee experience, and participate in building the digital talent ecosystem. Look for external partners such as technology partners, talent providers and learning platforms to help bridge critical skills gaps, offer internships and other short-term job opportunities and identify talent early. Provide continuing education for employees to meet emerging needs and offer development opportunities. Transformative innovation means driving unprecedented market change, and X Banks should focus on disruptors outside the industry. Personalize transformation by placing bank employees at the heart of digital transformation through the use of digital and social channels for communication and collaboration. x Create an empathetic and responsive approach to change management that incorporates the bank's employee experience into the conversion process in order to listen and act quickly.

5.3.2 Digital forces are reshaping the relationship between businesses and their employees

The market is extremely competitive, and the way HR departments attract and train talent is changing dramatically, driven by this dynamic model. With the increase in job opportunities, there are more choices for bankers, and employees can easily move to other companies via the Internet. If Bank X is to retain its talent, it must impress its employees with the details, meet their needs more accurately, provide better opportunities for them to grow, and become a banking company with

"people-centered" management. Building a digital talent ecosystem for HR is key to digital transformation. x Banks can expand the pool of new talent and skills they bring in to fuel digital transformation. Recruitment should be both inbound and outbound, with active implementation of digital initiatives and a commitment to identifying change agents from within. By building skill-diverse teams and organizing rotations, companies can expose more bank employees to new ideas, foster digital awareness across the board, and work together on digital transformation.

5.3.3 Support with digital platforms

Together with Bank X's digital platform, which is very powerful in terms of both data and functionality, storing a huge quantity and quality of banking and management data, Bank X's employees can find these assets very easily and quickly, and they are the ones they want, which means that when an employee is facing a customer, it's not just one person, but a big platform that gathers the intelligence of tens of thousands of people, and it's a battlefield that can be imagined.

5.4　Building the digital workplace

　　The digital workplace is very important for the digital transformation of HR at Bank X. It consists of three aspects:

5.4.1　physical environment

　　Such as the design of the office, wall postings, spacing between neighboring workstations. For knowledge-based employees, the physical environment should aim to scene employee unity (i.e., the unity of heaven and mankind as pursued in traditional culture) encourage open communication, and promote seamless collaboration, for example, Google allows employees to design their own offices, and there are graffiti walls encouraging employees to write down their ideas at any time, and so on.

5.4.2　the work itself

　　This includes the way employees are connected to their work, to processes, to information, and to the tools and equipment they use to do their work. a large number of Bank X's employees are bank account managers who work at the customer site or at home all year round. One of the reasons why it is so important for these mobile workers to be able to work efficiently and agree with the digital transformation of Bank X's human resources is the software and tools that are built into their personal work platforms such as computers, iPads and cell phones that are linked to the bank's back-office. With these software and tools, employees can easily check the latest data of Bank X, handle business processes and tasks pushed by supervisors online, conveniently access Bank X's powerful back-office knowledge base, and complete business trip applications and expense reimbursements, and so on.

5.4.3　banking community

　　It is the connection between employees and their bank colleagues. Organizational behavior theory says that there are formal and informal organizations within an enterprise, but in fact, both are communities that aim to connect employees in individual form to form a strong

organization that works together. In the digital era, Bank X should think about how to use digital technology to reconstruct the "collaborative network" among employees. There are three forms of reconstructing the "collaboration n e t w o r k " within Bank X. The first is a formal organization, which is mainly sustained by digital processes and rules, and is built around a certain theme, such as project management, digital transformation, integrated product development, and customer relationship management, etc.; the second is an informal organization empowered by digital technology, where the collaboration network between organizations is not only WeChat groups with a strong network of employees, but also a strong network of employees who are connected by digital technology. The second type is informal organizations empowered by digital technology, where inter-organizational collaboration networks have functions such as blogs, forums, knowledge sharing, and expert searching, in addition to the functions of WeChat groups; and the third type is informal organizations organized by interpersonal relationships or acquaintance societies, which rely more on culture to exert influence. Colleague relationships in the digital workplace should be simple and free to allow bank employees to have more multidimensional connections. Digital culture encourages diversity and encourages employees to be their best selves, which makes coworker relationships very equal and simple. In short, it is about using digital technology to "make more connections, make bigger pipes, and make better pathways",

Do more content" to reinvent the organization itself. Being more connected means making it easy for employees to connect with more employees. connected; the so-called bigger pipeline is to allow more and faster information flux on each link; the so-called better pathway is that what can be connected directly from employee to employee should not be relayed through a third party; and the so-called richer content is that the information running on the link is more diversified and valuable.X Banks should establish many different types of online communities empowered by digitization, where employees can create and participate in different communities according to their own specialties and also their interests. different communities, in which colleagues can freely communicate and connect with each other. Ten years ago, Bank X had established an internal forum to break the geographical limitations, so that bank employees all over the country could exchange information and share knowledge in the forum, but it was closed down because of high management costs and low input-output ratio due to administrative intervention. After the closure of the internal forum, Bank X employees from all over the country were very sorry and nostalgic. Re-establishing a new online community was a very important factor in enabling Bank X employees to work efficiently and buy into the digital transformation of HR.

5.5 Intelligent Recruitment Management

The core value created for recruitment is to recruit better talent to help business success. As the main work of human resource managers, the recruitment task has always been arduous, and how to sift through the huge amount of job information, how to find the right candidate, how to manage it easily, how to improve efficiency, and how to save costs are all pain points that need to be solved. x Banks should base on digital platforms to create a full range of scenarios for recruitment, and to improve the eco-acquisition of talent capability. Establish its brand image among the competition of many banks and attract more

excellent talents. Use big data technology to expand the source of talent, and at the same time increase the number of credible candidates with the help of internal employee relations data mining, use artificial intelligence technology to match personnel and job requirements, and accurately locate candidates, thus solving the pain points of Bank X's previous recruitment management.

5.5.1 Create scenario recruitment in all aspects to establish your own brand image

Bank X has accumulated a lot of competitive advantages in its long-term business operation, such as brand, customers, technology, data, etc. However, how can Bank X fully utilize these advantages to provide better digital recruitment scenarios in a personalized form? However, how Bank X can give full play to these advantages and provide better digital recruitment scenarios in a personalized form, such as showing the office environment, staff relations, workflow, commuting routes and other scenarios that match the job search of candidates after joining the company in a variety of ways, so as to improve the user experience of candidates, meet the needs of candidates for both job applications and non-applications, and improve the ability to acquire talents is an important goal for the digital transformation of human resource management at Bank X. The digital transformation of human resource management is an important goal to achieve. Under the situation of serious homogenization of banks and unsustainable competition in the same industry, Bank X has to carry out the construction of ecosystems such as alliances closely surrounding the high-frequency life scenarios such as clothing, food, housing and transportation of candidates, and to realize the mutual empowerment of the financial industry and the non-financial industry through the provision of "financial+non-financial" services, which will help Bank X to reach more candidates and obtain massive amounts of candidates from the scenarios. Candidates and access to a large number of

candidates

People data to continually strengthen the talent acquisition foundation for the digital transformation of Bank X's HR. Develop a clear of communication tools to reflect the brand values of Bank X. Target quality candidates and create an irresistible value proposition for candidates based on their needs. For some candidates, a career in cutting-edge technology-related work makes them irresistible. For others, the company's mission and values were the deciding factor in their staying. Sentiment recognition compares the tone and content of competing job descriptions to the sentiment of a candidate's job description and allows Bank X to win the search for talent. Can candidates easily apply for jobs on their phones, conveniently through a mobile client? Can a candidate easily access Bank X's job postings through social networking sites? Can the candidate clearly track his or her work schedule? Does the hiring manager respect the candidate's time and attractiveness? Create a hiring process that makes candidates feel good about themselves when they use Bank X as a potential employer, and make Bank X known in the job market, establishing itself as a unique brand.

5.5.2 Deepen the application of big data to enhance data-driven recruitment marketing capabilities

Data is a prerequisite for delivering "possibilities". In the midst of global digitalization trends, Bank X can access local and global labor market information by tapping into macroeconomic data, job boards, job boards and other public information sources, in addition to the traditional channels of data collection such as school recruiting, the bank's website, and third-party job boards such as 51job and WisdomJobs. Massive amounts of data are the backbone of recruitment marketing, increasing "likelihood"through accurate search recommendations, timely access to cloud talent pools, and big data push and analytics. You can also reach out to candidates through social media and interact with them on APPs that they have been using for a

long time, so as to collect more accurate and detailed talent data, including candidates' browsing preferences, positioning, online behaviors, and user sentiments, at a lower cost and in real-time or near-real-time. Identify topic and opinion trends with online cognitive data based on neuroscience research, which can be used to better understand candidates' ability to interact with different kinds of job-related activities, and engagement patterns. Study the whereabouts and aggregation of candidates throughout the day to better understand their collaboration patterns and identify sources of knowledge sharing and innovation, information that is critical to candidate operations and service innovation. Data-driven recruitment marketing capability is to use the above data as a starting point to organize marketing management activities by treating talent as customers, forming a closed loop of big data application. The closed loop of big data application requires Bank **X to** go from data acquisition and data analysis to the formation of insights, from insights to the formulation of strategies to strategy execution, to the formation of new data and analysis of the application results, to the continuous iteration of strategies, and ultimately to the formation of a closed loop of strategy, execution, and feedback iteration. In this process, whether it is the formation of insight, or the formation and implementation of strategy, people are the most important factor, so to mobilize the data chain of all parties to the

Motivation to develop collective intelligence through joint participation, better understanding of data, understanding of insights, and formation of strategy.X Banks can also use the talent data collected through these channels to provide timely follow-up and inventory of resume information through algorithms.

Networking will be the next focus of recruitment marketing. Bank X can use big data technology to screen out resumes with connections for hiring managers, i.e., accurately locate related employees to invite potential candidates for them, which will help hiring managers to understand the background of candidates, increase the trust of candidates, and allow employees to become "Bole".

5.5.3 Enhancing ecological access to talent with artificial intelligence technology

Artificial Intelligence can be used to make HR recruitment better, with information gathering, data collection and analysis, as well as primary risk control, all done by AI. From an HR professional perspective, AI can be used to streamline the hiring process. From conducting detailed research on candidates to using chatbot technology to ask the best questions to ask new potential employees.

Artificial Intelligence helps the human resources department of Bank X to automatically screen resumes by analyzing the recruitment behavior of a large number of human resources managers, such as screening resumes, arranging interviews and other work, and establishing a simulation model for human resources to screen resumes, and at the same time combining with combining with the artificial intelligence automatic text content, speech matching, big data personality analysis and other technologies, and the current recruitment needs of Bank X, the requirements of the position, the departmental situation, Candidate preferences, historical behavior and other information to quickly screen a large number of resumes, which can help the human resources department to significantly improve the

efficiency of screening resumes.

X Bank can use AI machine learning technology to interact with advanced computing systems with the ability to sense, infer and think through natural language to quickly discover patterns in complex data and easily explore multiple hypotheses. Feed the cognitive results of personalized analytics back to the candidate to answer what the candidate knows about the position and what the match is, and for most candidates, machine learning technology is likely to provide them with new and more valuable roles within Bank X. Bank X can also employ predictive modeling, for example, using robust predictive models to anticipate turnover inside and outside the bank and to forecast the future supply of, and demand for, specific roles Bank X can also use predictive modeling, such as using robust predictive models to anticipate turnover within and outside the bank, as well as predict future supply and demand for specific roles, to accurately identify good passive candidates ahead of time, and even to help HR easily recruit internationally.

Artificial Intelligence can also be used in Bank X's recruitment process to relatively eliminate the influence of human subjective bias in hiring, to select and develop the best talent in a fair and legal manner, and to provide a better working environment for the men and women in the workforce.

Artificial Intelligence will dramatically improve recruiting efficiency, and it will become more and more refined as the data sinks in. Quasi. Compared with the past, today's AI has a very prominent feature: the previous AI was closely related to the program and settings, and it was a matching mode based on the standard fields of instructions and searches; while the new generation of AI is a machine-learning-type mode, which can be pre-determined and repeatedly learned and verified based on the records of previous behaviors and matches, so today's level of AI is more advanced than the previous one, and this provides a good opportunity for Artificial Intelligence recruitment provides a good technical guarantee. Reasonable application of AI in recruitment can enable these digital technologies to be optimally configured and maximized, so that the recruitment efficiency of human resources can be increased exponentially, thus creating a better recruitment experience and higher value for Bank X Recruitment.

5.6 Expanding and deepening performance management

Suggestion X Banks can deepen their existing performance appraisal system using artificial intelligence and data mining technologies to study problems that arise in performance appraisals and identify changes in employee sentiment. Develop performance appraisal mobile applications to facilitate real-time viewing by account managers and other banking staff to understand business progress.

5.6.1 Identify employee emotions and gain insight into implementing change

By analyzing the bank's employee behavioral data and performance metrics, Bank X can assess the impact of the digital transformation of HR management. These insights through AI cognitive technologies can provide more comprehensive, effective information to help Bank X sense and respond to the entire HR digital transformation process and adjust change strategies in a timely manner. The performance appraisal system can define change insight dashboards from the employee's

perspective and conduct employee sentiment perception analysis, which can identify employee attitudes and help Bank X managers better understand how to implement changes in the bank-wide HRM digital transformation.

5.6.2 Integrate the performance platform and expand the scope of appraisal

Meanwhile, since Bank X's appraisal system insists on using a product pricing model, it can integrate non-product appraisals such as projects, services, scientific research, security, infrastructure, culture, etc. through a big data platform, and also incorporate management work appraisal data into the data warehouse to expand the scope of performance appraisal management. Through the construction of digital transformation of performance appraisal work, a rich data analysis model has been established to realize multi-dimensional analysis and query of performance process data and result data, and provide data support for strategic and operational decisions. The integration of the performance appraisal platform helps Bank X to realize the management of the whole business process of performance appraisal with different management dimensions and different control cycles, and to realize the strategic goals of the enterprise.

5.6.3 Analyzing assessment results to optimize collaboration

By analyzing the results of Bank X's performance appraisals, big data is used to obtain a knowledge map of cross-agency staff collaboration relationships. This process of dividing a task into a knowledge map of which people to complete, and then to these portraits organized, can clearly conclude that the same work tasks, what functions of the staff organization together, the task will be completed faster, the quality of the output is better. The data, business backend, performance backend unified together will find that the final decision can be made to let what more efficient combination of employees to complete the task more efficiently. These knowledge graphs can be reused in the subsequent work, which can effectively improve the overall efficiency of Bank X and enhance the bank's performance.

5.6.4 Developing a performance mobile client to improve employee satisfaction

Through the development of the mobile client of the HR performance appraisal system after digital transformation, the motivation and innovation aspects of the employees of Bank X are not only reflected in the individual performance mobile query and management, but also other employees can have mutual assessment functions, which can motivate the employees to make progress on their own. This people-oriented management mechanism not only helps to enhance the adhesion between the enterprise and the employees, but also has a useful role in promoting the development of the enterprise's employees and helps to improve employee satisfaction. In addition, Bank X can develop services that support collaborative performance management based on the HR digital management system and facilitate the joint establishment and sharing of performance goals among employees.

5.7 Resource consolidation for payroll management

In the case of Bank X's independent human resources system and

scattered data, it is particularly important to build an integrated big data platform with incentive properties and a people-oriented digital management system, optimize resource allocation, and establish a strategically oriented incentive mechanism for Bank X to effectively improve employee motivation.

5.7.1 Optimization of resource allocation and establishment of a strategically oriented remuneration mechanism

Digital transformation will bring great changes to the bank's business model, with the emergence of new business units such as channels, platforms, ecosystems, scenarios, and technology subsidiaries. In line with this, the way resources are allocated will also have to c h a n g e .x Previously, banks' resource allocation was based on institutions as the main body for distribution, and it was a crude accounting and resource allocation model oriented to performance results. After the digital transformation, with customer acquisition and customer management as the core indicators, precise accounting to scenes, channels, ecosystems, business groups, and even data use cases, the bank has established an online performance recognition and resource accounting system to scientifically and reasonably evaluate the value contribution and resource consumption of each marketing unit in performance creation. At the same time, resource allocation should adhere to the strategic orientation, i.e., the overall resources according to the strategic orientation

Allocation, and in the case of implementation, more discretionary powers are given to operational entities based on the business operating model, effectively

Mobilize the operating units and continuously catalyze the work of the employees.

5.7.2 Data integration, payroll management harmonization

Since Bank X's attendance, performance, and compensation systems are independent of each other and the data have not been integrated into the data warehouse, the consolidated calculation workload is more prominent, and when it comes to payroll every month, the relevant human resources personnel need to work overtime, forming a bottleneck for the implementation of Bank X's employee incentive policies in a timely manner. It is suggested that Bank X can integrate the functions of attendance, performance, scoring, and compensation to form an integrated incentive system, and first unify the data into an integrated big data platform to realize the integrated operation and management of the data and system, facilitate the recording and precipitation of the data, and credit and quantify the data to provide visual analysis to improve the ability of management decision-making, and then unify them into a complete and integrated HR management system for Bank X globally. Human Resource Management System.

5.8 Improved design of training management

5.8.1 Individualized education, tailored to the individual

X Banks can personalize education and tailor it to the needs of their employees by combining the big data platform with the knowledge graph and user profiles of artificial intelligence on the training system they have now. First, data is utilized to build a training user portrait of bank employees. These data include not only traditional basic employee information, but also employee training behavior data. Examples of employee portrait and label generation are designed in terms of data

collection, data preprocessing and model construction, and employee portraits are constructed from static and dynamic dimensions to provide a panoramic view of employee portraits and to understand the existing knowledge structure and career development path of each employee. Secondly, the complete knowledge architecture required by each employee is drawn through knowledge mapping to get a personalized knowledge map for each employee. Finally, the neural network method is used to calculate the similarity of employees' learning, and the algorithm is based on collaborative filtering to build a prediction model and evaluate the model to provide personalized courses and knowledge recommendation for employee training in the context of big data.

5.8.2 Establishment of social media for knowledge exchange and sharing

Training communication is a highly valued part of training for Bank X employees during and after the training period.Bank X can build social media to quickly connect employees, including instructors, to support effective learning by accessing WeChat interfaces, developing a mobile client for the social media-based training system, or purchasing internal corporate communications software and developing a corporate forum. Allowing employees to interact with experts or complete live training sessions that

to facilitate knowledge exchange and sharing among employees. The human resources department of Bank X can use this technology to to increase collaboration, accelerate HR training management processes and improve employee training.

Chapter 6 Implementation Assurance for Digital Transformation Strategy

6.1 Enhancing human resources management thinking

In the age of digitalization, many companies have made "digitalization" a strategic goal for their enterprises. To ensure the success of HRM digital transformation, top leaders must keep an open attitude towards digital transformation. First and foremost, they should lead and spearhead the digital transformation of HR at Bank X. The future vision of the company must be dynamic and evolving. The company's vision for the future must be dynamic, and Bank X's managers should embrace change. They must be prepared to think digitally by adopting new technologies such as artificial intelligence in the HR area and rethinking development goals and ways to achieve them more frequently. To encourage bank employees to remain open to digital transformation as well, business leaders should work closely with their employees to set strategic development goals and make digital decisions.

6.6.1 Establishment of a sound mechanism for the management of innovation

Bank X should strengthen its focus on the regulation of digital innovation products in human resources and other neighboring areas, and introduce basic and common regulatory requirements. Fully mobilize personnel from branches at home and abroad to expand participation. Engage industry experts and consulting firms to provide advice, strengthen internal control and external assessment, and utilize a flexible regulatory approach of information disclosure, product publicity, and common supervision to make digital technology innovation rule-based and regulated. Ensure that fintech products are business-compliant, technically safe and risk-controllable, and that innovative products do not trigger systemic financial risks.

6.6.2 Increased policy support

In view of the new features of digital technology, Bank X should study how to adjust and improve the previous corporate policies that are not adapted to the needs of the development of digital transformation, and promote the introduction of relevant rules and regulations to promote the application of digital transformation technology for human resources. It should clarify the functions, rights and obligations of the human resources department and the IT technology department, break down artificial and technical barriers to information sharing, and create a fair, open and impartial environment to provide policy protection for the integration of human resources and digital technology transformation and development. At the same time, it has increased funding for the digital transformation of human resources in the budget, focusing on increasing support for funding in artificial intelligence, big data, mobile Internet and other areas.

6.6.3 Strengthening organizational integration

Bank X should strengthen organizational coordination, take into account the actual situation, plan scientifically, coordinate, study and formulate specific implementation methods according to the functional positioning and division of tasks, improve the positive incentive mechanism, and increase the enthusiasm of the relevant departments in the bank to promote the digital transformation of human resources to form the human resources department, the IT department, and the business department,

In addition, a close cooperation, mutual learning and mutual assistance pattern of work among other management departments has been established to ensure that all human resources are utilized in an effective and efficient manner.

A strategy for digital transformation of source management can be put in place.

6.2 Establishing a culture of human resources management

In order to ensure the implementation of Bank X's HR digital transformation strategy, every employee should be mobilized to participate in the change of HRM digital culture transformation, take the initiative to interpret the policy within the company, and create a culture that values education and lifelong learning.

6.2.1 Advocacy and implementation

We take the initiative to do a good job of policy interpretation, open and transparent policies and measures related to the digital transformation of the human resources of Bank X, and positively guide the staff's cognition of the digital transformation, so as to ensure that the policies related to the digital transformation of human resources are accurately communicated and effectively implemented. We actively use a variety of channels and forms to widely publicize the digital transformation of human resources, popularize the knowledge related to the application and development of digital technology, improve employees' digital skills, cultivate digital concepts and enhance business capabilities, and create a good corporate environment and working atmosphere for the development and implementation of the digital transformation strategy of human resources.

6.2.2 Shared value, interaction and mutual assistance

Implementing a long-term strategy and communicating it clearly to employees in advance, first assessing the tasks required for the digital transformation of HR, then leveraging existing talent by using artificial intelligence algorithms to help identify in-house talent and transferable

skills, mapping the functional tasks of digital transformation to specific departments and people, and finally providing employees with up-to-date resources and new knowledge needed to fill talent gaps through training. Use neuroscience techniques, for example, to improve employee learning efficiency and to help them quickly improve their skills. Tongjin encourages employees to teach, mentor or help other employees to progress together through interactive learning, to create a sense of well-being for transformational change in the new digital workplace, to realize a common vision, and to create a shared culture of interaction and lifelong learning for change.

6.2.3 Strengthening International Exchange

We will further deepen close ties and communication with banks, technology companies and international consulting organizations in other countries and regions around the world, strengthen exchanges and cooperation in terms of knowledge, technology and experience, improve the global governance system of Bank X's digital transformation of human resources, and push forward the integration of the digital transformation strategy of human resources to achieve win-win results and common development in Bank X's domestic and overseas branches, so as to continuously improve Bank X's ability and level of utilizing digital technology. The ability and level of Bank X's utilization of digital technology will be continuously improved.

Chapter 7 Conclusions and Outlook

7.1 Findings

This paper takes the human resource management of Bank X as the research object, conducts an in-depth study on the design of digital transformation strategy for human resource management, and summarizes the key features of the bank's establishment and application of "5G", "big data platform" in human resource management, "artificial intelligence", "user profile" and "knowledge graph" in human resource management, and draws the following conclusions:

1. Digital transformation is an important means for banks to improve their management and service capabilities, this paper builds on the literature theory and actual cases in Chapter 2 for the digital transformation neighborhood of HRM at home and abroad, and puts forward the necessity of the design of digital transformation strategy for HRM in banks.

2. The third chapter of this paper takes the current situation of HRM in Bank X as a starting point and introduces the overview and development history of Bank X, its internal human resource allocation, and the current status of HRM. It is used to illustrate the corporate environment in which the design of the digital transformation strategy for HRM is proposed, and to provide a reference for future research in other banking enterprises.

3. Chapter 4 of this paper presents the problems in recruitment, performance, compensation, and training in the existing human resource management of Bank X. It analyzes the reasons for these management problems, highlights the space available for the digital transformation of human resource management, and provides a reference for future research.

4. Chapter 5 of this paper focuses on the problems in human resource management of Bank X. It proposes to build an integrated architecture of cloud computing, big data platform and artificial intelligence at the head office level as the basis, and provides suggestions for the digital

reinvention of the human resource department, the creation of a talent ecology and the construction of a digital workplace, and proposes specific transformational measures for the intelligentization of recruitment management, the deepening and expanding of performance management, the integration of resources for compensation management, the design of training management and the improvement of training management for the attention of the bank in its future decision-making. It also puts forward specific transformation measures for banks to pay attention to in their future decision-making.

5. Chapter 6 of this paper puts forward the safeguards for the implementation of the digital transformation strategy of human resource management, and suggests that bank managers should improve the thinking of human resource management and establish the culture of enterprise human resource management, so as to bring certain reference value for the subsequent research on the digital transformation of human resource management in banks.

7.2 Practical Implications

Through the empirical research on the relationship between digital technology such as artificial intelligence and big data and the enhancement of digital transformation of human resource management, it is known that digital technology is a powerful means for enterprises to solve the actual problems of human resource management and enhance the efficiency of human resource management. In order to make greater use of the advantages of digital technology to promote human resource management.

In our future work, I believe that the following issues deserve further study:

1. Establishment of a comprehensive cloud computing platform

Enterprises investing in the establishment of an integrated cloud computing platform is the foundation for the formation of digital transformation and a prerequisite for facilitating the subsequent establishment of data centralization and intelligent systems. Especially with the growing maturity of the public cloud products of international leading technology companies such as Google, Amazon, Microsoft, etc., banks can consider adapting their cloud computing platforms to the architecture of a hybrid cloud by putting things like HR recruitment and training into the public cloud to improve the stability of services and reduce the cost of later maintenance.

2. Breaking down human resistance

Enterprises to promote the digital transformation of human resource management, the biggest obstacle is not the technical barriers, but because of the conflict of interest caused by the change, this time there must be artificial resistance from different parties. If enterprises want to keep up with the times and not be buried by the wheel of history, they need to be bold enough to break this artificial resistance and remove the conceptual barriers to digital transformation.

3. Science and technology are people-centered

Enterprises should pay attention to the survival of the core is talent, science and technology to people-oriented even more in the digital era of science and technology, science and technology talent, management personnel and business talent scarcity is the key to the gap between enterprises. Enterprises should study how to attract high-quality talent, increase investment in talent and enhance the innovation ability of talent.

7.3 Research Shortcomings and Future Research Prospects

The study of digital transformation strategy of bank human resource management is an emerging research direction of management science,

and this paper simplifies the analysis process to highlight the research focus, so there are also bound to be certain limitations, which need to be further explored and improved in the future research.

1. Limited to subjective and objective conditions, the sample data used in this study are static point-in-time data, which cannot yet reflect the real-time nature of the problems in human resource management in banks, nor can they cover all the problems in human resource management in banks. Subsequently, the historical data of enterprises can be collected to conduct objective and comprehensive comparative analysis using big data analysis.

2. This study takes the human resource management of Bank X as the object of analysis, which is typical, but there are no more sample banks to carry out a generalized study, and we can only strive to provide some inspiration for other banks to apply the digital transformation strategy of human resource management. In the future, if possible, we can collect and compare the HRM problems of more banks to enhance the generalizability of the study.

3. For research purposes, only the current technological achievements of digital technology have been selected for this study, and as the era of

developmental changes, and there will be a constant influx of new technologies in the future. In subsequent studies, it is possible to update better digital
technology, to propose better design solutions for digital transformation strategy of bank HRM, so as to provide more valuable and meaningful references for different enterprises.

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postscript