

# Analysis of Investment Bank Mergers and Acquisitions under the Digital Transformation: A Case Study of JP Morgan Chase and First Republic Bank

Xinyi Zhang \*

School of Finance, Capital University of Economics and Business, Beijing, China

\* Corresponding Author Email: 32022110104@cueb.edu.cn

**Abstract.** This paper takes JP Morgan Chase's acquisition of First Republic Bank as a case study to study the impact of digital transformation on the mergers and acquisitions (M&A) decisions of investment banks. With the rapid growth of the digital economy, digital transformation has become a core trend in the global financial industry. Technologies such as financial technology, big data, and artificial intelligence are widely applied in practice, reshaping the business models and decision-making processes of investment banks. As a leading global financial institution, JP Morgan Chase has built a robust digital system through large-scale investment and technological innovation. This includes AI-driven risk management platforms, real-time data analysis tools, and efficient customer service platforms. These digital tools not only enhance internal operations but also provide strong support for M&A decision-making. In its 2023 acquisition of First Republic Bank, JP Morgan Chase fully utilized its advanced digital systems to accelerate due diligence and streamline post-merger integration. The digital systems significantly reduced transaction costs and enhanced the efficiency and success rate of the deal. This paper provides a detailed analysis of the crucial role of digital technologies in information acquisition, big data application, and non-financial analysis. It reveals how digital transformation can create a competitive advantage for investment banks in M&A activities and offers valuable insights for financial institutions' strategic transformation and M&A practices in the digital age.

**Keywords:** Digital Transformation, Investment Banks, Mergers and Acquisitions, JP Morgan Chase, First Republic Bank, Financial Technology.

## 1. Introduction

With the rapid development of the digital economy, digital transformation has become a core trend in the global financial industry. The widespread use of financial technology, big data, artificial intelligence and other technologies is reshaping the business model and decision-making mechanism of investment banks. Digital transformation not only improves the operational efficiency of financial institutions, but also provides more accurate information support and risk assessment capabilities for M&A decisions. As a leading global financial institution, JP Morgan Chase has always been at the forefront of the industry in digital transformation. In recent years, JP Morgan Chase has built a powerful digital system through large-scale investment and technological innovation, including an AI-driven risk management platform, real-time data analysis tools, and an efficient customer service platform. These digital tools not only improve internal operations, but also support M&A decisions [1].

In 2023, JP Morgan Chase acquired First Republic Bank, one of the most representative mergers and acquisitions in the US banking industry in recent years. In the process, JP Morgan made full use of its digital systems to quickly complete due diligence on First Republic Bank and complete transaction integration in a short period of time. Through digital technology, JP Morgan Chase has not only reduced transaction costs, but also significantly improved the efficiency and success rate of mergers and acquisitions. This article will take JP Morgan Chase's acquisition of First Republic Bank as an example to analyze how digital transformation affects the M&A decisions of investment banks. Specifically, the role of digital technologies in information access, risk assessment and integration

efficiency will be explored, revealing how digital transformation can create a competitive advantage for investment banks in mergers and acquisitions.

On March 10, 2023, the collapse of Silicon Valley Bank (SVB) sparked a crisis of confidence in the entire banking sector. Lacking market and depositor confidence, First Republic Bank (FRB) suffered a severe bank run. As of March 31, 2023, FRB's total deposit volume had plummeted sharply. Such a massive outflow of deposits posed significant liquidity pressure on the bank. This situation was caused by the fragility of FRB's business model. FRB had experienced rapid growth in the previous years. However, this growth was accompanied by a high concentration of assets and funding. Borrowers had a tendency to opt for low-interest, long-term loans. This made the bank vulnerable to significant asset-liability mismatch risks when interest rates rose. Moreover, FRB had a substantial number of uninsured deposits, which was far above the industry average. These deposits were highly unstable in times of financial stress, and once customer confidence was shaken, they were likely to trigger a run on the bank. Despite the consortium of 11 banks injecting \$30 billion in deposits into FRB on March 16, 2023, in an attempt to stem the deposit outflow, and FRB's efforts to restore market confidence through liquidity support and public statements, market confidence in it had been completely lost, and no rescue measures were able to reverse the situation [2].

The Federal Deposit Insurance Corporation (FDIC) were able to determine that FRB needed to be taken over in a short period of time and organize financial institutions such as JP Morgan Chase to participate in the bidding. The bidding institutions were able to complete the asset and liability analysis of First Republic Bank and submit quotations within a few days, all based on the relatively accurate and timely statement data of First Republic Bank. This case shows that digital transformation can reduce the information asymmetry of both parties to mergers and acquisitions, ease the financing pressure, promote the efficiency of mergers and acquisitions, and have a positive impact on investment banks' mergers and acquisitions decisions [3].

## 2. Literature review

Currently, mainstream research generally holds that digital transformation enables investment banks to utilize big data analysis technologies to integrate and analyze vast amounts of market, financial, and customer data. This allows for more precise assessments of target companies' value, market potential, and risks in mergers and acquisitions decision-making [4]. In corporate management, digital transformation is one of the most common managerial challenges in the information age. During the process of digital transformation, companies need to combine digital technologies with technical talent and skills to unleash the power of the transition.

In recent years, academic attention to digital transformation has been on the rise, with a significant increase in the number of publications in this field. Domestic and international research has focused on three major dimensions: technological innovation, business restructuring, and regulatory adaptation. Efforts are continuously being made to better apply digital technologies to corporate management and decision-making.

### 2.1. The Application of Digital Technologies

With the rapid development and extensive application of digital technologies, digital transformation has brought disruptive innovation to the traditional financial industry. For example, financial institutions use digital technologies to provide personalized and customized services to meet the diverse needs of customers and enhance their experience. They also employ big data and artificial intelligence for risk assessment and compliance monitoring, thereby improving the security and efficiency of financial services. In addition, the exploration of digital currency issuance and circulation, as well as the application of block chain technology in financial transactions, has increased the transparency and credibility of the financial system [4].

As digital technologies evolve, consumer financial behavior and preferences are increasingly influenced by online interactions and social platforms. Financial firms need to co-create value with

customers and capture consumer demands to innovate financial products and services. Digital technologies have made financial infrastructure more interconnected. Emerging digital platforms, networks, and ecosystems are changing the market structure of the financial industry, leading to intensified cross-industry competition. Meanwhile, the free flow of digital goods has weakened property rights and increased the risk of counterfeiting [5].

Financial technology leverage tools such as machine learning, artificial intelligence, and block chain to collect and process vast amounts of information, thereby enhancing information-based decision-making. Traditional financial services often face issues such as information asymmetry. The development of financial technology can reduce the information asymmetry between banks and enterprises and improve the efficiency of financial resource allocation [6].

## **2.2. The Application of Big Data Analysis**

Research has found that the development of financial technology can improve the financing environment for businesses, provide more financial support for M&A activities, and thus promote corporate M&A. Analysis of the underlying mechanisms has revealed that financial technology can alleviate corporate financing constraints, thereby positively influencing corporate M&A behavior. At the same time, the development of financial technology can enhance the information-gathering capabilities of market participants regarding businesses. Through information technologies such as big data, blockchain, the information transparency of businesses can be effectively improved. This, in turn, reduces the information asymmetry faced by acquiring firms during the M&A process and increases their willingness to engage in M&A [6].

## **2.3. The Impact of Digital Transformation on Investment Banking M&A**

Digital transformation played a crucial role in the consideration of non-financial factors. Although financial data is the foundation of M&A decision-making, non-financial factors such as cultural differences between companies, employee adaptability, and customer satisfaction can also have a profound impact on the success or failure of a merger and acquisition. Research has found that the development of financial technology can enhance the information-gathering capabilities of market participants regarding businesses. Through information technologies such as big data, blockchain, the information transparency of businesses can be effectively improved. This, in turn, reduces the information asymmetry faced by acquiring firms during the M&A process and increases their willingness to engage in M&A [6].

Secondly, the application of automated processes improves the efficiency of due diligence, document handling, and compliance checks in M&A transactions. It also reduces errors and shortens transaction times. In addition, the use of smart contracts increases the transparency and security of transactions, further enhancing the efficiency of transaction execution. Lastly, in terms of cost savings, the use of digital tools reduces operating costs, decreases reliance on manual labor, and optimizes resource allocation to ensure that the resources invested in M&A transactions yield the maximum return [7].

## **3. Case Description**

### **3.1. JP Morgan Chase and First Republic Bank**

First Republic Bank, established in California in 1985, is a commercial and trust bank with its headquarters in San Francisco. Its business is concentrated in major cities, and it is known as a "boutique bank" for its high-quality and personal service. It offers a variety of financial products and focuses on customer service, quality loan and deposit growth. Its loans are mostly related to real estate, and its wealth management services are targeted at specific customers. As of the end of 2022, its assets were 212.6 billion US dollars, loans were 166 billion US dollars, deposits were 176.4 billion US dollars, shareholders' equity was 17.4 billion US dollars, net income was 1.6 billion US dollars, and net interest margin was 4.8 billion US dollars.

JP Morgan Chase & Co. is a global financial services giant based in New York, USA, with extensive international operations. It is one of the world's largest banks and leads in multiple business areas including investment banking, consumer and small business financial services, commercial banking, and asset and wealth management. The company's business is divided into four main segments: Consumer and Community Banking, Corporate and Investment Banking, Commercial Banking, and Asset and Wealth Management. In 2022, the company managed assets of \$3.66 trillion, had loans of \$1.14 trillion, deposits of \$2.34 trillion, shareholders' equity of \$292.33 billion, and net income of \$37.68 billion.

### 3.2. Background and M&A Process

Since 2022, the Federal Reserve implemented aggressive interest rate hikes to curb inflation, leading to a significant decline in the bond and asset prices. This has caused a severe contraction in the bond investment portfolios held by banks, resulting in widespread impairment of their assets. In the high-interest-rate environment, the cost of financing for businesses and individuals has risen, and loan demand has decreased. Meanwhile, the increase in deposit interest rates has driven up the cost of funds, further squeezing the interest income and profit margins of banks. For example, First Republic Bank, which focused on the highly interest rate-sensitive real estate sector, faced increased market cooling and rising default risks due to the rate hikes. The deterioration of asset quality has heightened its operational pressures.

On March 10, 2023, the collapse of Silicon Valley Bank exposed the widespread risks of uninsured deposits and maturity mismatches in the U.S. banking industry. First Republic Bank, facing similar issues, suffered a deposit run, with its share price dropping 70% on March 13 and halving again on March 20. It became one of the most severely affected institutions in this crisis. The Silicon Valley Bank incident marked the manifestation of systemic risks in the U.S. banking system.

On May 1, 2023, JP Morgan Chase acquired the majority of the assets of First Republic Bank from the FDIC and assumed some of its liabilities, with a transaction value of \$67.8 billion. The assets included \$30 billion in securities and \$153 billion in loans, among others. The liabilities of \$121.6 billion included \$87 billion in deposits. JP Morgan Chase issued \$50 billion in five-year notes to the FDIC and reached a loss-sharing agreement. Under the agreement, the Commercial Shared-Loss Agreement (CSLA) covers 80% of credit losses on commercial loans, and the Single-Family Shared-Loss Agreement (SFSLA) provides the same coverage for residential real estate-related loans. JP Morgan Chase deposited \$5 billion into First Republic Bank on March 16, 2023, which was settled during the acquisition, and the remaining \$25 billion was repaid on May 9. This acquisition strengthened JP Morgan Chase's wealth management strategy, with an expected annual profit of over \$500 million. It also stabilized the banking system and allowed First Republic Bank to operate normally [2].

### 3.3. The Motivation for the Acquisition

First Republic Bank's customer base includes high-net-worth individuals, corporations, and small and medium-sized enterprises, and it has significant strengths in wealth management and private banking, with a strong market position among high-net-worth clients in the United States. Through this acquisition, JP Morgan Chase can rapidly expand its share in the U.S. high-end wealth management market. The acquisition will also extend JP Morgan's wealth management and private banking operations.

Moreover, JP Morgan Chase expects the acquisition to generate significant synergies through both cost savings and revenue growth. By integrating First Republic Bank's operations, JP Morgan can optimize its business processes, eliminate redundancies, and leverage its economies of scale to enhance operational efficiency. After the acquisition, JP Morgan can utilize its advanced technology and platforms to improve the customer service experience of First Republic Bank while reducing operational costs.

During financial crises, JP Morgan's acquisition activities can help stabilize the financial market and boost market confidence. As a large, diversified bank, JP Morgan's involvement can alleviate concerns over the stability of the banking system and reduce systemic risks. Acquiring First Republic Bank not only helps to address the liquidity issues of that bank but also sends a positive signal to the market, demonstrating JP Morgan's confidence and support for the entire banking industry. By integrating First Republic Bank's business, JP Morgan can increase both interest and non-interest income while leveraging its robust risk management capabilities to mitigate potential credit risks.

This acquisition was not merely a business move by JP Morgan Chase for its own interests, but rather an action encouraged by the regulatory authorities, who hoped that JP Morgan would step forward to help stabilize and strengthen the U.S. financial system. During the financial crisis, First Republic Bank faced a precarious situation. The acquisition helped avoid greater financial turmoil and enhance market confidence.

### 3.4. Comparison of the Financial Statements of JP Morgan Chase and First Republic Bank Before and After the Acquisition

As can be seen from Table 1, after the acquisition, JP Morgan Chase's total assets increased from \$36,657.43 billion at the end of 2022 to \$38,579.74 billion, a growth of approximately \$1,922.31 billion. This increase was primarily due to the assets of First Republic Bank. JP Morgan Chase's liabilities rose from \$33,734.11 billion to \$35,475.15 billion, and its shareholders' equity increased from \$2,923.32 billion to \$3,278.78 billion. Following the acquisition of First Republic Bank, JP Morgan Chase experienced a significant performance improvement [2].

**Table 1.** Comparison of JP Morgan Chase's and First Republic Bank's balance sheet (in millions USD).

Project	JP Morgan Chase December 31, 2022	JP Morgan Chase December 31, 2023	First Republic Bank December 31, 2022	First Republic Bank March 31, 2023
Asset	3,665,743	3,875,393	212,639	232,944
Liability	3,373,411	3,547,515	195,193	214,954
Equity	292,332	327,878	17,446	17,990

In the financial integration following JP Morgan Chase's acquisition of First Republic Bank, the contributions of First Republic Bank to JP Morgan Chase were significant. As can be seen from Table 2, First Republic Bank contributed 8.29% to JP Morgan Chase's net income. It contributed \$370 million to net interest income, accounting for 4% of the total net interest income, primarily due to the growth in business from the consumer segment. In addition, in terms of non-interest income, First Republic Bank brought \$280 million in bargain purchase gains to JP Morgan Chase. This was because JP Morgan Chase acquired First Republic Bank's assets at a price below their fair value during the acquisition process.

**Table 2.** The Contribution of First Republic Bank to JP Morgan Chase

Project	Contribution of First Republic Bank
Net income	8.29%
Net Interest Income	\$370 million (accounting for 4%, mainly from the consumer department)
Non-interest Income	\$280 million in bargain purchase gains
Asset Management Department	2.54%

In the field of asset management, First Republic Bank contributed 2.54%, indicating that its expertise in wealth management and servicing high-net-worth clients has brought new growth momentum to JP Morgan Chase's asset management business [3]. By integrating First Republic Bank's wealth management resources, JP Morgan Chase is better positioned to serve the high-net-worth client segment and further enhance its competitiveness in the wealth management market.

Beyond delivering direct financial benefits, the integration of First Republic Bank allowed JP Morgan Chase to fully leverage its strengths in consumer lending and deposit services through

complementary business operations and synergies. This has enhanced JP Morgan Chase's market position and customer service levels across multiple business areas. The acquisition has successfully helped JP Morgan Chase stabilize the financial market during the crisis while achieving business expansion and financial enhancement.

## **4. Case Analysis**

### **4.1. The Digital Transformation Measures and Impact of JP Morgan Chase**

JP Morgan Chase actively invests in digital technologies, applying advanced technologies such as big data and artificial intelligence to all aspects of investment banking. These digital initiatives have significantly enhanced the efficiency and quality of its M&A business.

During the deal screening stage, by leveraging big data analytics tools, JP Morgan Chase can rapidly process vast amounts of market data and corporate information to accurately identify potential M&A targets, thereby effectively saving time and resources. With the help of artificial intelligence - assisted valuation modeling software, a variety of valuation scenarios can be quickly generated, enabling clients to more comprehensively assess the value of target companies. Digital communication platforms have strengthened real - time interaction with clients, allowing the bank to more promptly understand client needs and provide customized recommendations, thus increasing client satisfaction and loyalty and enhancing its competitiveness in the M&A market [8].

JP Morgan Chase faces challenges such as rapid technological iteration, data security, talent competition, and regulatory compliance in its digital transformation. To address these challenges, JP Morgan Chase continues to increase its research and development investment, strengthen data security measures, actively attract and cultivate composite talents, and maintain close cooperation with regulatory authorities to ensure that innovation complies with regulatory requirements. In addition, JP Morgan Chase also improves its market response speed and customer experience by building a strong digital platform and optimizing its organizational structure. These strategies not only improve the operational efficiency and market competitiveness of JP Morgan Chase, but also provide strong support for the innovation and development of its M&A business [8].

Overall, the digital transformation of JP Morgan Chase has driven innovation and development in its M&A business, enabling it to maintain a leading position in the fiercely competitive market.

### **4.2. The Role of Big Data Analysis**

In the case of JP Morgan Chase's acquisition of First Republic Bank, big data analysis played a crucial role. By deeply analyzing vast amounts of financial data and market information, JP Morgan Chase was able to accurately assess the value and risks of First Republic Bank, optimizing the merger and acquisition decision. Big data technology not only helped identify credit and operational risks but also provided strategic support for business integration and market expansion after the acquisition through customer profiling and market dynamics analysis. Moreover, big data analysis facilitated the deep integration of digital assets of both parties, optimized business processes, and enhanced customer experience, laying a solid foundation for JP Morgan Chase's long-term strategic goals and sustainable development.

So, Big data analysis played a crucial role throughout the M&A process. From the initial stages of value assessment and risk identification to the post-merger integration and strategic planning, it provided JP Morgan Chase with robust data support and a basis for decision-making. This significantly enhanced the efficiency of the M&A process and the synergies between the two entities, facilitating their in-depth integration and development against the backdrop of digital transformation.

### **4.3. Digital Mergers and Acquisitions**

In the process of JP Morgan Chase's acquisition of First Republic Bank, the application and integration of digital technologies played a crucial role. By leveraging digital technologies, JP Morgan Chase was able to conduct a more comprehensive analysis of non-financial factors. Moreover,

the integration of digital platforms provided strong support for the cultural integration and customer relationship management between the two parties. This ensured that the realization of business synergies and the enhancement of customer experience could be quickly achieved after the merger.

Digital transformation not only optimized JP Morgan Chase's decision-making process during the acquisition of First Republic Bank but also provided a solid guarantee for the post-merger integration and operations. By accurately assessing and managing non-financial factors, JP Morgan Chase was able to effectively reduce merger and acquisition risks, enhance the long-term value of the acquisition, and promote in-depth integration and sustainable development between the two parties in the digital age.

In addition, the integration of digital assets and technologies also played a key role in this acquisition. JP Morgan Chase realized data sharing and business collaboration by integrating the digital platforms and technological resources of both parties, thereby improving operational efficiency and service quality. The digital technologies of First Republic Bank, such as advanced data analysis tools and customer management systems, brought new technological advantages to JP Morgan Chase. These technological integrations not only optimized internal processes but also provided customers with more personalized and efficient service experiences. Meanwhile, digital integration laid the foundation for JP Morgan Chase's innovation in the field of financial technology and further consolidated its market competitiveness.

#### **4.4. Long-term Value Creation**

By acquiring First Republic Bank, JPMorgan Chase rapidly expanded its market share in the high-end wealth management and private banking sectors in the United States. This expansion not only enhanced JPMorgan Chase's influence among high-net-worth clients but also strengthened its market position in affluent regions such as California and the Northeast. After the acquisition was completed, JPMorgan Chase anticipated generating over \$500 million in profits annually. This revenue synergy primarily stemmed from cost optimization and revenue growth following the business integration. JPMorgan Chase could leverage its advanced technological platform and extensive customer network to further explore the financial needs of First Republic Bank's clients, offering a diverse range of financial products and services, thereby achieving long-term revenue growth.

#### **4.5. Coping with an Unstable Market Environment**

The financial market has viewed banks past technology mergers and acquisitions (M&A) as a signal of their digital growth strategy. Investors believe that these acquisitions can enhance the banks' digital capabilities and resilience. This means that the market sees past technology M&A activities by banks as a signal or indication that the bank is implementing a digital growth strategy. Investors generally assume that banks that have engaged in technology M&A are more likely to successfully achieve digital transformation. As a result, they are better able to adapt and withstand market shocks, such as the COVID-19 pandemic. This shows that the market's view of technology M&A is generally positive, as it is believed that such acquisitions can help banks improve their competitiveness and stability in the digital age [9].

In 2020, under the impact of the COVID-19 pandemic, JPMorgan Chase, leveraging the advantages of its digital transformation, not only achieved rapid growth in asset size but also fully fulfilled its social responsibilities. For example, the number of users opening checking or savings accounts through digital channels exceeded 1 million in 2018, and in 2019, 28 million users accessed the bank through digital channels daily. Since 2014, the self-service functions of digital channels have reduced the average transaction volume of traditional branch users by 49%. In addition, in 2020, the number of active users on JPMorgan Chase's digital platform exceeded 55 million, a year-on-year increase of about 6%, with the number of digital channel users reaching a new high, which further highlights the achievements of its digital transformation [10].

## 5. Conclusion

JP Morgan Chase's acquisition of First Republic Bank in 2023 is a typical case of how digital transformation affects the decision-making of investment banks and post-merger integration. The acquisition was characterized by its urgent context and the large transaction amount. Leveraging its advanced digital technologies and information systems, JP Morgan Chase was able to rapidly assess the target assets, identify potential risks, and seize opportunities to make wise decisions in a complex and volatile market environment.

The integration of First Republic Bank's business in wealth management and private banking posed a significant challenge for JP Morgan Chase, but digital transformation provided an effective way to address this challenge. By integrating the digital platforms of both parties, JP Morgan Chase achieved the sharing and analysis of customer data, optimized service processes, enhanced customer experience, and thereby increased customer loyalty and market share. After the acquisition, JP Morgan Chase quickly integrated First Republic Bank's business into its existing operating system, ensuring service continuity. By sharing technology platforms and management experience, it improved operational efficiency and facilitated a smooth transition and integration of the two banks, which helped restore market confidence.

Moreover, First Republic Bank's customer base and expertise in affluent regions such as California and the Northeast complemented JP Morgan Chase's business well. This further solidified JP Morgan Chase's market position in private banking and wealth management, enhanced its influence and competitiveness among high-net-worth clients, and achieved synergistic business growth.

In conclusion, this acquisition demonstrates the critical role of digital transformation in merger and acquisition decisions and integration. It reveals a feasible path for financial institutions to achieve strategic goals through technological innovation in the digital age, and provides valuable insights for the digital transformation and merger and acquisition practices of other financial institutions.

## References

- [1] Zhong Qianling. Analysis of the Models and Economic Benefits of Digital Transformation of Securities Firms—Taking Guotai Junan as an Example. Guang Zhou University, 2024.
- [2] Tasinato Filippo. Rescuing Financial Institutions: case study analysis of bank M&As during the 2023 US Banking Crisis. University of Padua, 2024.
- [3] Hu Xiaofan, Mo Yiyi, Xu Yue. JP Morgan Chase's Acquisition of First Republic Bank. *China Finance*, 2023, (10): 20 - 21.
- [4] Kraus Sascha, Durst Susanne, Ferreira Joao J., Veiga Pedro, Kailer Norbert, Weinmann Alexandra. Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management*, 2022, 63 (4): 102466.
- [5] Nadkarni Swen, Prügl Reinhard. Digital transformation: a review, synthesis and opportunities for future research. *Management review quarterly*, 2021, 71: 233 - 341.
- [6] Xu Zhen. Research on the Mechanism and Strategies of Fintech's Impact on the Performance of Corporate Mergers and Acquisitions. *Communication of Finance and Accounting*, 2024, 22: 54 - 58.
- [7] Wewege Luigi, Lee Jeo, Thomsett Michael C. Disruptions and digital banking trends. *Journal of Applied Finance and Banking*, 2020, 10 (6): 15 - 56.
- [8] Parihar Shashank Benisingh. Investment Analysis of JP Morgan Chase & Co. Rashtrasant Tukadoji Maharaj Nagpur University, 2022.
- [9] Curi Claudia, Lozano-Vivas Ana, Murgia Maurizio. Do Technology M&As Predict Industry Winners? Evidence From Vertical Acquisitions in Banking. Working paper, 2024.
- [10] Zeng Ting. Research on the JP Morgan in Digital Ecosystem. *Business Prospects*, 2022, 3 (2): 10 - 18.