

# ***A Study on the Motivation and Path of Digital Transformation in Pudong Development Bank***

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**Abstract:** As technology continues to advance and society progresses, the market demand for digital transformation in the banking sector has been growing steadily. This article initiates an internal interview on the digital transformation project of Shanghai Pudong Development Bank (SPDB), and based on this, analyses the specific details and benefits of the project, and puts forward corresponding suggestions for SPDB to smoothly promote the digital transformation project. Through horizontal comparison, the analysis shows that digital transformation projects will bring significant economic and social benefits to SPDB, reducing cost expenditures. Overall, to effectively accomplish digital transformation, it is essential for researchers from diverse fields to collaborate and establish strong connections between various themes and disciplines. This interdisciplinary approach acknowledges the interdependence of business models and underscores the need for concerted efforts in integrating different areas of expertise.

**Keywords:** Digital Transformation, SWOT, Pudong Development Bank

## **1. Introduction**

Digital transformation, a widely adopted ICT project, involves leveraging digital technology and data analysis to enhance operational efficiency, augment customer experience, and foster innovation within enterprises or institutions [1]. Digital transformation not only includes technological progress, but also strategic adjustments and cultural transformation. In the context of financial institutions such as banks, digital transformation enables them to collect, analyse, and rationalize the use of existing large amounts of customer data. This technology can significantly enhance the data-driven decision-making capabilities of financial institutions such as banks, enabling them to better meet customer needs [2]. In addition to the aforementioned benefits, banks can harness digital technology to introduce innovative financial products and services. By leveraging digital advancements, banks can create and offer novel offerings that empower banks to explore new business and collaboration models, thereby strengthening their position within the industry and fostering a heightened competitive edge [2].

As the first joint-stock commercial bank in China, Shanghai Pudong Development Bank (SPDB) was also one of the earliest banks in China to implement an internationalization [3]. Over the past few years, SPDB has expedited the development of its digital service platform, offering a wide array of digital products and services, including the provision of online banking services and the

deployment of intelligent ATMs, among others [4]. These measures have enabled 24/7 transactions for customers. Simultaneously, SPDB actively engages in win-win cooperation with enterprises such as Alibaba to build a digital ecosystem [5]. Digital transformation has the potential to enhance service quality and efficiency for SPDB, offering increased opportunities and competitive advantages. This article will use SPDB as a case study to conduct a comprehensive analysis of the digital transformation project of SPDB through interviews. Based on the analysis of the social and economic benefits generated by digital transformation projects for commercial banks, taking SPDB as an example, this article proposes that the research value also lies in suggesting that commercial banks should make decisions after considering multiple factors in their future development and investment, in order to achieve risk avoidance as much as possible.

## **2. Analysis of the Necessity of SPDB Digital Transformation**

### **2.1. SWOT analysis of the current development status of SPDB**

#### **2.1.1. Strengths**

**Brand awareness:** As one of the representatives of China commercial bank, SPDB enjoys high brand awareness.

**Large scale customer base:** Banks have a wide range of personal and corporate customer bases, providing them with a stable source of income.

**Strong risk management capability:** The bank has established a comprehensive risk management system to effectively respond to risks and challenges.

#### **2.1.2. Weaknesses**

**Relying on traditional business models:** Shanghai Pudong Development Bank is relatively lagging behind some emerging financial technology companies in digital transformation, and relying on traditional business models may limit its innovation ability.

**Corporate culture transformation:** With the changes in market demand and technology, banks need to adapt and transform their corporate culture to adapt to the new business environment.

#### **2.1.3. Opportunity**

**Financial technology development:** Shanghai Pudong Development Bank can actively seize the development opportunities of financial technology, increase digital transformation efforts, and provide more innovative financial products and services.

**Open Financial Market:** With the opening of China's financial market, Shanghai Pudong Development Bank can expand its business scope and further expand its domestic and foreign market share.

#### **2.1.4. Threat**

**Intense competition:** The banking industry is facing fierce competition from traditional banks and emerging fintech companies, and Shanghai Pudong Development Bank needs to find differentiated and innovative competitive strategies.

**Regulatory and compliance risks:** The regulatory and compliance requirements of the financial industry are increasing, and non-compliance with relevant requirements may result in risks such as fines and reputation losses

## 2.2. Financial Analysis based on the Annual Reports of SPDB from 2020 to 2022

Based on various financial data in SPDB's annual reports from 2020 to 2022, the financial status and development trends of Pudong Development Bank are analyzed as follows.

### 2.2.1. Profitability assessment

Table 1: Financial Statistics of SPDB from 2020 to 2022

	operating revenue	total profit	net profit after tax	ROA	ROE	cost-benefit ratio
<b>2020</b>	196384	66682	58325	0.79%	10.81%	23.78%
<b>2021</b>	190982	50971	53030	0.67%	8.75%	26.17%
<b>2022</b>	188622	56149	51171	0.62%	7.98%	27.89%

From the above data, it can be seen that the total net profit of Pudong Development Bank fluctuated between 2020 and 2022, with a decrease in 2021 and a slight rebound in 2022. ROA and ROE also showed a similar trend, but slightly decreased in 2022. The cost-benefit ratio has increased in three years, which indicates that SPDB may have some pressure on operating cost control during the COVID-19 epidemic.

### 2.2.2. Asset quality evaluation

According to figure 1, the NPL ratio of Pudong Development Bank remained relatively stable from 2020 to 2022, indicating that the overall asset quality of the bank is good.

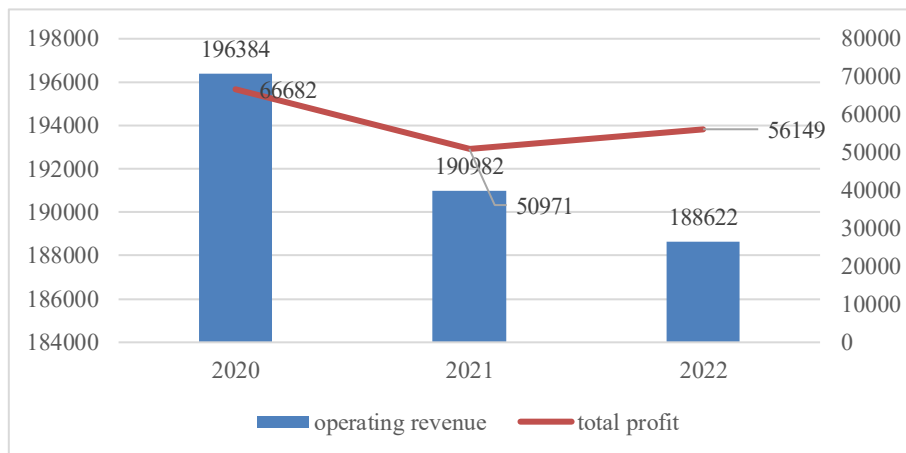


Figure 1: Asset quality evaluation of SPD Bank

### 2.2.3. Liquidity assessment

According to figure 2 and figure 3, it can be seen that the total deposit volume of Shanghai Pudong Development Bank gradually increased between 2020 and 2022. The Loan to Deposit Ratio was higher in 2020 and has since decreased. The Net stable funding ratio is relatively stable, indicating that the bank's stable funding source is relatively sufficient and abundant.

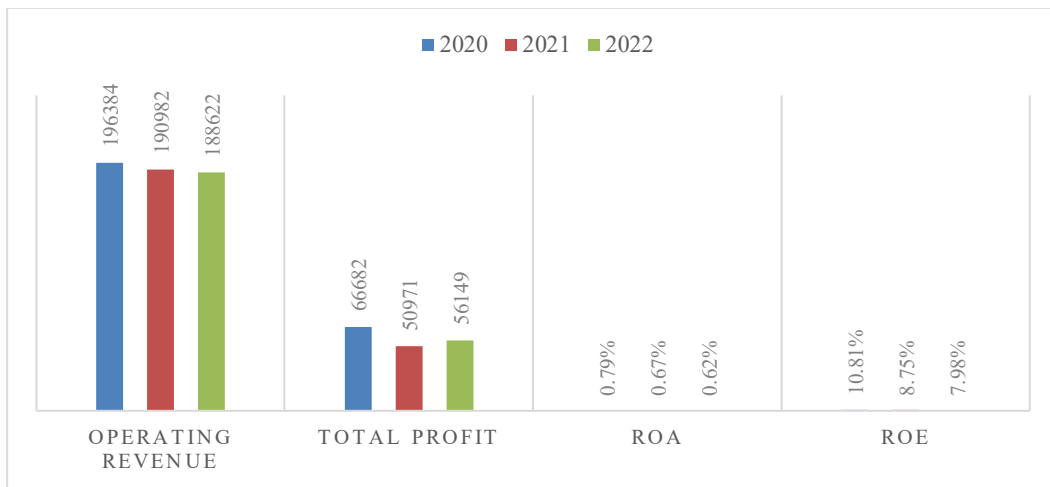


Figure 2: Liquidity assessment of SPDB from 2020 to 2022

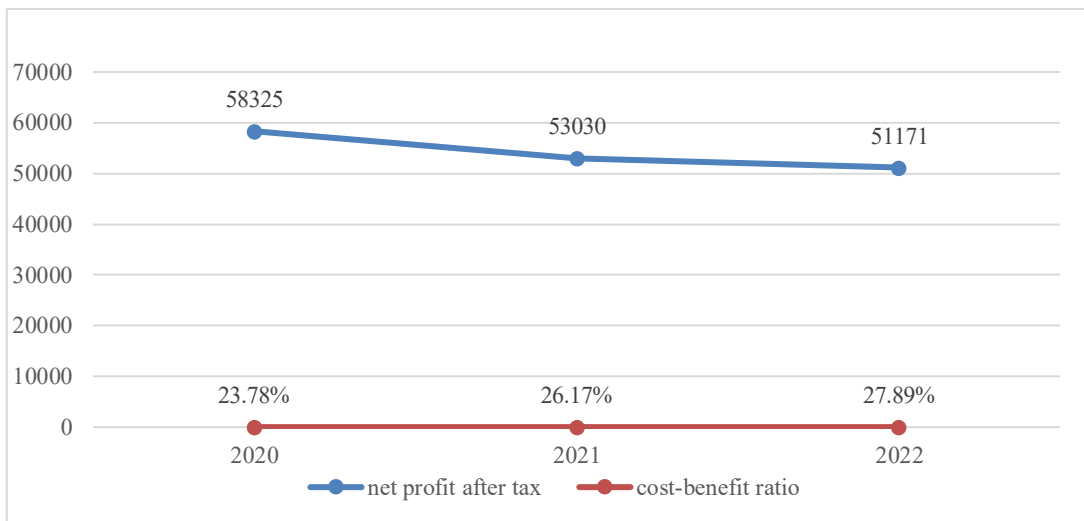


Figure 3: Liquidity assessment by Loan to Deposit Ratio & NSFR

#### 2.2.4. Capital Adequacy Assessment

As shown in figure 4, the capital adequacy ratio of Pudong Development Bank has remained relatively stable and compliant over the past three years.

In summary, based on the provided data, a financial analysis of Pudong Development Bank can draw the following conclusions.

- During the period from 2020 to 2022, the net profit, ROA, and ROE indicators of Pudong Development Bank fluctuated slightly, with an increase in cost-return ratio. However, the overall performance was still acceptable;
- In terms of asset quality, the NPL ratio remains relatively stable, indicating good asset quality;
- In terms of liquidity, the total deposit volume gradually increases, and stable sources of funds are reliable and sufficient;
- In terms of capital adequacy ratio, it has always maintained a relatively stable level.

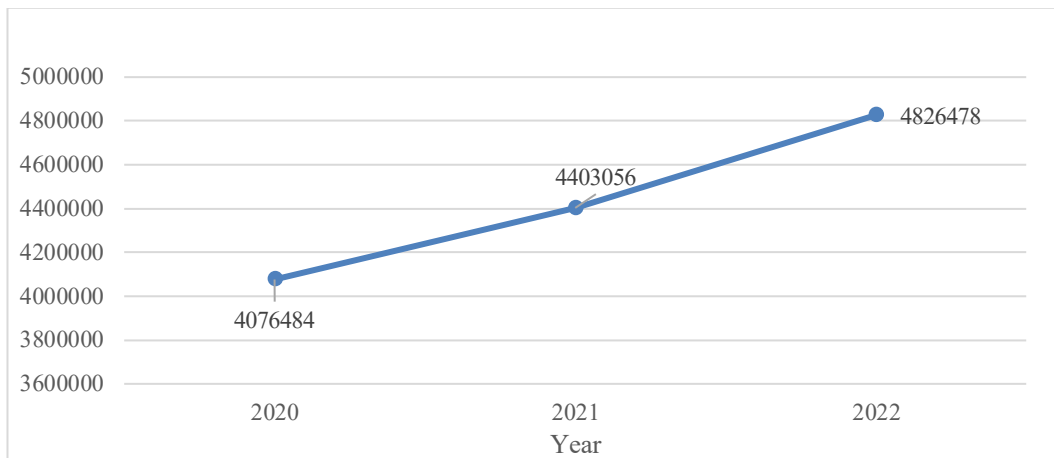


Figure 4: Trend of changes in total deposits of SPDB from 2020 to 2022

### 2.3. Analysis of SPDB Digital Transformation Planning Based on Internal Interviews

Marco, the Human Resources Manager of SPDB, highlighted the challenges and opportunities that the financial industry faces in the digital era. SPDB, a prominent commercial bank in China, actively embraces the national strategy for digital transformation and takes the initiative in implementing digital transformation projects. The primary objective of SPDB's digital transformation endeavour is to foster the seamless integration of banking operations with cutting-edge digital technology. In an effort to enhance service levels, streamline organizational management, and explore novel business models and directions, SPDB aims to leverage the opportunities presented by digital transformation. By embracing digital transformation, SPDB aspires to bolster the competitiveness of enterprises and seize new avenues for growth.

Marco emphasized that SPDB has incorporated Information and Communication Technology (ICT) extensively across various aspects in the planning of specific digital transformation projects. With the objective of effectively carrying out digital transformation and bolstering SPDB's competitiveness in the financial industry, the bank is actively integrating multiple digital technologies into its projects. Through the implementation of robust ICT systems, SPDB strives to offer customers financial services that are more intelligent, efficient, and secure. For example, Pudong Development Bank has received intelligent devices and technical support [6].

## 3. Benefits of Digital transformation in SPDB

Digitalization is the trend in many industries today. The business purpose of commercial banks, including Pudong Development Bank, is to further strengthen customer service, achieve efficiency, humanization, and comprehensiveness [7]. The digital transformation undertaken by SPDB holds the potential to not only enhance organizational productivity but also generate diverse social and economic advantages.

### 3.1. Social Benefits in Digital Transformation Project of Shanghai Pudong Development Bank

The SPDB's digital transformation can have a number of positive societal effects. Digital transformation can make it simpler for people to obtain financial services, particularly those who live in distant and underdeveloped locations [8]. Currently, the nationwide presence of SPDB includes nearly 4000 branches and over 20000 self-service devices, resulting in a relatively high bank account penetration rate [9].

Furthermore, this transformation has the potential to mitigate financial risks. Statistics reveal that 40% of bankrupted banks in the Asia Pacific region suffered from an unstable risk management framework [10]. The SPDB's risk management structure has been enhanced as a result of the adoption of digital transformation. The business uses tools like data analysis and risk models to identify and manage risks, lowering the possibility that human mistakes would result in problems and enhancing the stability and safety of financial institutions. [10].

Digital transformation has also served as a catalyst for financial innovation within SPDB. This transformation has opened up broader horizons and opportunities for financial institutions, enabling them to explore and introduce innovative offerings, such as digital currencies and smart contracts built on blockchain technology [11]. The introduction of these innovative financial products and services not only caters to the evolving needs of customers but also drives the growth and advancement of the financial market. In recognition of its efforts, SPDB was awarded multiple awards in 2018, including the "Best Contribution Award for Precision Poverty Alleviation" by the China Banking Association [4].

Simply put, the digital transformation of SPDB brings forth a multitude of benefits to society, including increased convenience, efficiency, and innovation in financial services. By leveraging digital technologies, SPDB can offer more streamlined and user-friendly solutions to meet the evolving needs of customers. This transformation leaves a positive impact on society by driving progress and enhancing the overall financial landscape.

### **3.2. Economic Benefits in Digital Transformation Project of Shanghai Pudong Development Bank**

ICT has also fueled the expansion of economic benefits in the project of digital transformation. According to research, the expansion of the ICT index throughout the digital transformation has greatly enhanced the profitability of 39 banks in Vietnam [12]. This indicates that the ICT solutions have led to substantial improvements in financial performance, underscoring the positive impact of digital transformation on the banking sector's economic viability. Facts prove that ICT has the capacity to lower costs for financial institutions, such as banks, during project implementation, support flexible business expansion, and enhance service quality [13]. Furthermore, the project incorporates the concept of intelligent wealth management banks, leveraging ICT to achieve advantages such as precise identification of customer needs, provision of multi-scenario services, flexible business expansion, and on-demand enhancement of service quality, collectively enabling SPDB to reduce costs and increase profits

Likewise, ICT has the potential to assist financial institutions, including banks, in overcoming barriers imposed by geographical distances and enhancing operational efficiency [14]. In SPDB's digital transformation journey, ICT plays a pivotal role in facilitating the expansion of its overseas business, particularly by enabling efficient operations through digital networks. Furthermore, ICT can aid SPDB in effectively navigating the adverse effects of the COVID-19 pandemic, reducing obstacles to business growth during challenging periods, and sustaining competitiveness in the evolving business and economic landscape [15]. These observations underscore how the adoption of ICT can unlock greater business possibilities and enhance adaptability for financial enterprises like SPDB across a range of diverse business environments.

Nevertheless, the adoption of ICT in the project may also introduce additional costs. Firstly, implementing ICT entails expenses related to equipment installation, which can contribute to an overall increase in project costs. During the project implementation phase, it becomes crucial to consider factors such as power coverage, the relatively higher costs associated with intelligent equipment, and the availability of skilled professionals to mitigate any potential negative impact on the project. According to expert recommendations, in order for digital transformation related to ICT



to succeed, multiple factors must be carefully considered, including creating a supportive social environment for the development of the digital economy, the widespread demand for digital transformation, and establishing strong connections among stakeholders [16].

#### 4. Suggestions of SPDB's Digital Transformation

Digital transformation presents both opportunities and challenges for SPDB. On one hand, it offers the prospect of harnessing information technology through digital banking, which provides banks with a competitive edge and a substantial boost in profitability. Additionally, it can enhance customer experience and deliver positive social outcomes. However, on the other hand, digital transformation also poses considerable challenges as it disrupts traditional banking systems. According to statistics from McKinsey, over 30% of industries struggle to sustain digital transformation. Based on the current development status of SPDB and the successful experience of other commercial banks, this article proposes the following suggestions to promote the successful digital transformation of SPDB.

Firstly, service automation is crucial. The banking industry should prioritize the establishment of a digital operational service system that centres around customer value and utilizes digital technology to enhance industry operations and customer service. A survey conducted by research institutions on over 550 banks revealed that 69% of customers declined to cooperate due to inadequate service systems. Multi scenario marketing methods, including mini program applications, online banking, offline branches, and other channels, can effectively integrate online and offline operations, achieve data diversion, meet the constantly diverse needs and preferences of customers, improve operating efficiency. In addition, online operations can partially reduce costs and address inefficiencies. Compared to queuing for offline transactions, online banking achieves user friendliness, comprehensive functionality, and significantly higher efficiency.

The second option is to digitize products and technological means. Banks can develop various digital financial products in various business categories and actively and widely apply advanced technology to daily operations. Digital banking is centred around customer account systems, with the main goal of enhancing customer experience and involving digital innovation of existing products. From the perspective of existing business categories, most commercial banks have made digital improvements to products such as online loans, aggregated payments, digital wealth management, and virtual currencies, effectively meeting customer expectations. In addition, digitization can further optimize risk control management by integrating risk management into customer processes. Through digitization, SPDB can ensure timely updates of accurate and reliable risk data, enabling it to make reliable predictions of the market, aiming to better support risk prediction in different scenarios.

Additionally, the establishment of digital platforms such as mobile banking provides convenience and accessibility for customers, enabling them to access banking services anytime and anywhere, improving customer satisfaction and overall banking experience. Secondly, digital platforms help banks reduce operational costs by promoting self-service options and reducing reliance on traditional channels. By executing transactions and centralizing account management through digital platforms, banks can optimize other resources and focus on providing value-added services. In addition, digital platforms empower banks to use data analysis to gain a deeper understanding of customer behaviour, preferences, and trends, which helps commercial banks, including SPDB, provide personalized services, create targeted marketing activities, and develop innovative financial products. Overall, in an increasingly digital world, building digital platforms is crucial for commercial banks to maintain competitiveness, meet customer expectations, improve operational efficiency, and promote inclusive finance.

## 5. Conclusion

In summary, this article provides a deep understanding and analysis of the business case of SPDB's digital transformation. Firstly, commercial banks, including SPDB, are undergoing digital transformation in response to changes in digital technology, increasingly fierce digital competition, and the resulting digital customer behaviour. Next, by initiating internal interviews and investigating relevant cases, conducting SWOT analysis, financial indicator analysis, and SPDB digital transformation planning analysis based on internal interviews, it is necessary for SPDB to carry out digital transformation. Finally, by focusing on the social and economic benefits brought by digital transformation projects to SPDB, constructive suggestions are proposed in a targeted manner.

Over the past few decades, SPDB has made substantial investments in technology, which have been instrumental in driving the progress of digital transformation and are poised to significantly enhance overall performance. Digital transformation has become increasingly prevalent among commercial banks, including SPDB, as it enables the creation of novel business models, applications, streamlined processes, and innovative products [17,18]. Consequently, digital transformation carries significant implications for the market, financial institutions, and the services offered by commercial banks, thereby bringing about transformative changes. By analysing the feasibility of the SPDB digital transformation project and proposing suggestions, other commercial banks and financial institutions can be inspired to accelerate the overall digital transformation process of commercial banks and improve the overall digital level of the industry. At the same time, this also helps commercial banks identify innovation opportunities in digital transformation.

However, this analysis still has the following shortcomings. Firstly, in the business analysis of the SPDB digital transformation project, there may be a lack of depth in mining details and specific data, making it difficult to fully understand and evaluate the specific strategies, measures, and effects of the project. In addition, due to the constantly evolving and changing market, technology, and business environment, business analysis and corresponding recommendations for SPDB digital transformation projects may not be the optimal choice or may not have future feasibility.

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