

# The Influence of Digital Transformation Factors Upon Employee Performance-a Study of Bank in Guangxi

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## Abstract

The advancement of science and technology has brought growth opportunities to more and more companies. Digital transformation is one of the important breakthrough points, and digital transformation can help companies create greater competitive advantages. China is one of the leading countries in the development of financial technology in the world, and it is also a country where the financial system is dominated by the banking industry. China's banking industry also needs digital transformation to maintain its competitiveness. Guangxi's banking industry should also actively respond to the national call and promote digital transformation. Employee performance is an important influencing factor of digital transformation. Employee performance is closely related to the work results of individuals in an organization or company.

The results of the hypothesis test show that digital transformation has a significant positive impact on all factors affecting employee performance. In addition, this study also evaluated the importance of demographic factors and found that gender has a significant negative impact on employee performance, while marital status has a significant negative impact on employee performance reliability. The study shows that bank digital transformation can have a positive impact on employee performance.

**Keywords** : Digital transformation, Employee Performance, Bank, Demographics, Regression analysis

## Introduction

With the rise of digital technologies such as 5G, big data, artificial intelligence, and blockchain, the wave of digitalization has swept the world, and the world has entered the era of digital economy. Residents' consumption has shifted to online, and has shown a trend of personalization, differentiation, and diversification. The emergence of the COVID-19 epidemic has accelerated the pace of digital economic construction. In the banking industry, new financial services such as digital RMB, online loan issuance, smart wealth management, online account management, and fund screening have emerged. Digital technology promotes the digital transformation of commercial banks and enhances the competitiveness and customer service capabilities of commercial banks (Zhu Yongjie, Jin Shanyue, 2023).

The banking industry will shift to a platform-based, customer-centric model, requiring existing institutions to restructure. Many technologies such as social technology, mobile technology, and big data have played an important role in promoting changes in banking models, and technology has also completely changed the way banks operate. In summary, the advancement of information technology and the widespread use of computers, the Internet, and mobile phones have had a significant impact on the financial industry, giving rise to new companies, new financial instruments, and new products, and spreading to other industries (Panithan Phongphaew, 2022).

According to Nataša Krstić and Dejan Tešić (2016), the banking industry is one of the industries most affected by changes in recent years. In the past, customers needed to go to the bank in person or at least to a bank branch to complete most transactions. However, with the continuous advancement of technology, most transactions can now be easily completed through mobile devices such as mobile phones, tablets or personal computers. One of the

modernization issues currently facing the banking industry is the need to improve its infrastructure and achieve digitalization.

Guangxi Zhuang Autonomous Region is an important hub for cooperation between China and ASEAN countries, which means that Guangxi has a special status and role in the economy, trade, culture, education and other aspects between China and ASEAN countries. In this special context, the banking industry in Guangxi Zhuang Autonomous Region plays a very important role in the local economy, providing financial services such as financing, payment, and savings to enterprises and individuals, and promoting economic development and stability.

Technological advances have had a significant impact on all industries, and the banking industry is no exception. With the growth of Internet usage and the popularity of mobile banking and smartphones among the public in recent years, financial services have also changed. All walks of life have been affected (Toto Sugihyanto, Regina Jansen Arsiah, 2023). Banks were originally responsible for performing economic payment and transfer functions, but now the Internet has become a key tool to facilitate and even perform these functions. The Internet has changed the way transactions are recorded and stimulated the development of public and private digital currencies. In order to remain competitive in the evolving digital environment, banks must actively adapt to changes. Future banks, whether traditional or emerging, must deal with issues such as liquidity transformation, data management, trust building, competitive pressure, and the digitalization of financial services. Against this background, traditional banks are actively seeking to reinvent themselves (Daniel Broby, 2021).

Employee performance aims to assess the contribution of each individual to the organization. Comparing individual performance with organizational goals determines whether the organization can achieve its goals. In the organizational context, performance is usually defined as the degree to which organizational members contribute to the achievement of organizational goals. Performance evaluation refers to the process of identifying, evaluating and developing the job performance of employees in an organization to effectively achieve organizational goals (Rafikul Islam and Shuib bin Mohd Rasad, 2006). Employees are the key element of an organization. The success or failure of an organization depends on the performance of its employees. Therefore, organizations invest heavily in employee development. Relationship between employee development variables (employee learning, skill growth, self-direction, employee attitude) and employee performance variables. Employee performance affects organizational effectiveness (Abdul Hameed, Aamer Waheed, 2011).

### **Research objective**

1. Identify factors related to digital transformation and employee performance.
2. Examine the correlation between digital transformation factors and employee performance.

### **Literature review**

In the context of digital technologies, companies across all industries are facing significant advances in the popularity and reliability of high-speed Internet services. This is fundamentally reshaping their operations and business models, leading to a series of significant changes in their activities, processes and approaches. In order to adapt to this new trend, enterprises adopting digital transformation strategies need to re-examine and modify the operating model under the current structure to effectively absorb the disruption caused by the introduction of digital technology in order to maintain competitive advantages (Alessia Correani, Alfredo DeMassis, Federico Frattini, Antonio Messeni Petruzzelli, Angelo Natalicchio, 2020). Emerging digital technologies promote innovation in services and products and generate radical organizational changes. This change involves establishing physical infrastructure and equipment for transmitting and processing digital data, supporting new services and organizational innovation (Jonas Valbjørn Andersen, 2016). Disruptive changes brought about by digitization are considered to be caused by rapid or disruptive digital technology innovations,

which may make current businesses obsolete. Therefore, the triggering of digital transformation in different environments also brings with it a high degree of uncertainty, and companies in various industries strive to adapt to this change (Sascha Kraus, Paul Jones, Norbert Kailer, Alexandra Weinmann, Nuria Chaparro-Banegas, Norat Roig-Tierno, 2021). The main focus of the digital transformation of the banking industry is to provide comprehensive digital services for traditional financial services and to utilize digital transformation in Regulation, information technology and mobile banking (Florian Diener, Miroslav Špaček, 2021).

The use of information technology has the potential to enhance a business's ability to establish and sustain competitive advantage. Therefore, companies need to establish management practices to manage these changes. Although society, as a whole, is facing rapid and radical digital transformation due to the global proliferation and ubiquity of IT, it must be acknowledged that digital transformation is also the same (Dhanalakshmi Arumugam Malar, Viktor Arvidsson, Jonny Holmstrom, 2019). Advances in information technology have impacted many functional areas, including cloud computing, big data and data analytics, digital identity and biometrics, blockchain technology, and mobile technology. The information available is richer and available through more and more channels (Tracey Gail Savary-Torres, 2021).

Mobile banking refers to applications developed by banks using mobile technology to enable customers to easily perform various banking services through smartphones or tablets, including but not limited to transfers, payments, deposits, etc. The focus of banks' digital transformation is the development of electronic payments, including online payments and mobile payments through the Internet and mobile devices. This payment method not only provides faster payment experience but is also more secure. Therefore, mobile payment has become one of the payment methods favored by more and more consumers. As more consumers have adapted to digital interactions in several areas of their lives, they have also been clamoring for financial services that are available around the clock, just like the social networks or email solutions they use every day friendly user. Given the profound changes in demand for financial services, banks are responding to digital challenges using different approaches and at different speeds. In this regard, traditional banks committed to digital banking are undergoing a transformation that allows them to compete in the new Maintain a competitive advantage in the ecosystem. They will focus more on mobile devices and focus on retail payments, and mobile banking is the new service channel (Carmen Cuesta, Macarena Ruesta, David Tuesta, Pablo Urbiola, 2015).

Risk management refers to a series of practices that banking financial institutions must effectively manage and supervise various potential risks that may have a negative impact on their operations and financial conditions. These risks may involve market fluctuations, credit risks, operational risks, etc. Effective risk management includes establishing and maintaining quality control systems and using strategic information technology combined with business capabilities and competitive advantages to prevent and reduce possible risks. Risk management in banking financial institutions must be effective because improper risk management practices will have a negative impact on the global economy (Indra Saputra, Etty Murwaningsari, Yvonne Augustine, 2023). Digital transformation regulatory systems are being actively used by banking financial institutions to provide technological solutions such as improving transaction security levels, simplifying usage and expanding the range of remote banking products and services. Another hallmark of digitalization is banks' desire to automate processes, focusing not only on back-office work but also on the front-office, such as using sophisticated AI-based analytics to improve customer credit scores, customize banking products for customers, or provide personalized Consulting services (Abdullaev Altinbek Yangibaevich, 2023). Digital transformation also enables banks to integrate, store and analyze large amounts of data, and conduct in-depth analysis through the application of data mining, machine learning and other technologies to identify potential risk signals and patterns, thereby more accurately preventing and predicting possible risks.

Employee performance is designed to assess each individual's contribution to the organization. Individual performance against organizational goals determines whether the organization achieves its goals. In an organizational context, performance is often defined as the extent to which organizational members contribute to the achievement of organizational goals. Performance appraisal is defined as the process of identifying, evaluating and developing the job performance of employees in an organization in order to effectively achieve the goals and objectives of the organization (Rafikul Islam

and Shuib bin Mohd Rasad, 2006). A key decision area for managers is the performance evaluation of people, either individually or as members of a team. Performance appraisal is crucial to effectively manage an organization's human resources and evaluate employees, which helps develop individuals, improve organizational performance, and is incorporated into business planning (Imtiaz Ahmed and Ineen Sultana, 2013). Employees are a key element in an organization. The success or failure of an organization depends on the performance of its employees. Therefore, organizations invest a lot of money in the development of their employees. Relationship between employee development variables (employee learning, skill growth, self-direction, employee attitudes) and employee performance variables. The performance of employees affects the efficiency of the organization (Abdul Hameed, Aamer Waheed, 2011). Therefore, employee performance can be divided into four dimensions, namely quality, quantity, reliability and attitude in task execution (Christian Wiradendi Wolor , Solikhah Solikhah , Nadya Fadillah Fidhyallah, Deniar Puji Lestari, 2020).

### Theoretical framework

H1: Demographic variables have a positive impact on employee performance.

H1a: Gender has a positive impact on employee performance.

H1b: Marital status has a positive impact on employee performance.

H1c: Age has a positive impact on employee performance.

H1d: Education has a positive impact on employee performance.

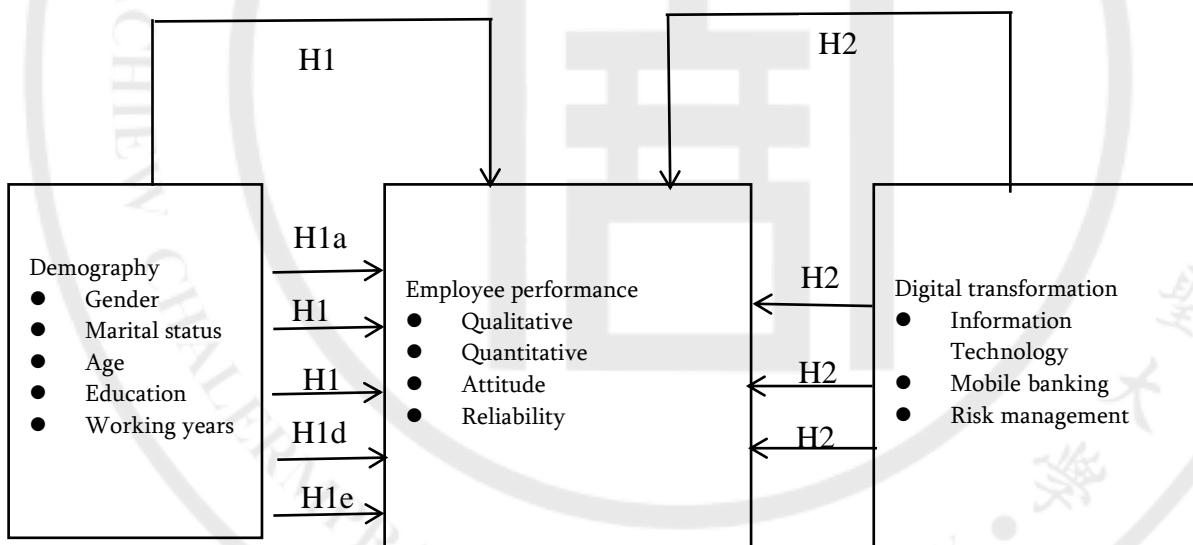
H1e: Working years have a positive impact on employee performance.

H2: Digital transformation has a positive impact on employee performance.

H2a: Information Technology has a positive impact on employee performance.

H2b: Mobile banking has a positive impact on employee performance.

H2c: Risk management has a positive impact on employee performance.



### Research question

It is not clear what factors of Guangxi Bank's digital transformation will affect employee performance.

It is necessary to determine whether digital transformation has a positive impact on employee performance.

### Research methodology

This study adopted quantitative research methods. Quantitative methods allow numerical data to be collected and analyzed to identify potential relationships between digital transformation and employee performance.

The sample size was calculated based on the sample size formula proposed by Yamane in 1973, with a confidence level of 95% and a sampling error of 5% or 0.05. The sample population is

5,500 people(all bank employees), where  $N$  represents the overall size of the study,  $n$  represents the number of samples used in the study, and  $e$  represents the error of the random sample set to 0.05. According to the above formula, at least 373 questionnaires need to be collected for this questionnaire survey. However, in order to ensure the accuracy and effectiveness of the sample data, this study will expand the number of samples issued to 400.

We will develop a standardized survey instrument based on relevant literature and existing measurement methods. The survey questionnaire will be translated into Chinese, sampled using WJX, and piloted with a small sample to ensure that it is clear and understandable.

WJX (Wenjuanxing) is an online platform owned by Changsha Ranxing Information Technology Co., Ltd., which can be used for questionnaires, exams, or polls.

We will conduct a power analysis to determine the minimum sample size required to detect a certain size effect at a desired confidence level, taking into account factors such as effect size and desired confidence level.

Before conducting data analysis, the questionnaire needs to be tested for reliability. The sample size for this test is 30. Table 4 shows the results after Cronbach's alpha test. It can be seen that the alpha value of the entire questionnaire is 0.939, which is greater than 0.6, indicating that the reliability of this questionnaire is very high, so further correlation analysis can be performed.

This study will adhere to strict ethical considerations throughout the research process.

These include:

**Informed consent:** Participant will be provided with clear information about the study's purpose, procedures, and potential risks and benefits before their participation.

**Anonymity and confidentiality:** All data will be anonymized and kept confidential to protect the privacy of participants.

**Data security:** Data will be stored securely and accessed only by authorized personnel.

This chapter has outlined the research methodology for investigating the impact of digital transformation on employee performance in the Guangxi's banking industry. The chosen methods and strategies aim to ensure a comprehensive and ethical investigation, providing valuable insights into this critical topic.

## Results

After data analysis, this paper draws a clear conclusion: digital transformation has a positive impact on employee performance. In terms of demographics, gender has a negative impact on employee performance, and marital status has a negative impact on the reliability of employee performance.

## Suggestion

1. Strengthen digital transformation implementation
2. Use mobile banking as a performance catalyst to enhance user-centric design
3. Cross-functional collaboration to integrate IT, mobile banking and risk:
4. Unified data analysis: Use a shared digital platform to correlate IT adoption rates, mobile banking usage rates, risk events and performance results - thereby identifying optimization hotspots.

## Discussion

In the multivariate linear regression analysis of demographic characteristics and employee performance, gender has a significant negative impact on employee performance (employee performance quality, employee performance quantity, attitude, reliability), and marital status has a significant negative impact on reliability. Other factors have no significant effect. Demographic variables only explain a small part of employee performance, with variances of 0.040, 0.027, 0.042, and 0.039, respectively, which indicates that other factors not included in the model may have a greater influence.

The finding that gender has a negative impact on employee performance indicates that changes in the gender variable are associated with decreased performance quality in the research sample. It is worth noting that this negative impact does not necessarily mean that all female employees perform worse than male employees but rather indicates that gender as a variable is associated with decreased performance quality in the research sample. This study explains that there may be hidden operating

mechanisms in organizational systems, and management practices should focus on creating a fair ecological environment. This result confirms the conclusions of Galletta S et al., who believe that organizations should interpret these results with caution and consider deeper analysis and interventions to ensure fairness and inclusiveness. (Galletta S, Mazzù S, Naciti V et al., 2022).

In China, married employees face greater work pressure, which comes from their own mortgages, child support, and retirement funds, which cost a lot of money, so they try their best to keep their jobs stable. This also confirms that the negative effect of marital status on reliability may be related to factors such as increased family responsibilities, work-family conflict, emotional exhaustion, and work stress, which may lead to fluctuations in job performance and reliability among married employees (Giao H N K, Vuong B N, Huan D D, et al., 2020).

In the multivariate linear regression analysis of digital transformation and employee performance, the coefficients of information technology and mobile banking are significant in all four models (significance less than 0.05), indicating that digital transformation has a significant positive impact on attitude, reliability, employee performance quantity and employee performance quality; risk management, as a predictor variable, also shows a significant positive impact in all models.

The application of information technology provides employees with more efficient tools and resources, enabling them to complete tasks faster. This technology empowerment can significantly improve employee efficiency. The introduction of information technology is often accompanied by the optimization of workflows. Automation and digital processes reduce errors and time consumption in manual operations, thereby improving employee performance. This also confirms the conclusion of Heslina H and Syahrini A that information technology improves communication channels and collaboration tools, enabling team members to communicate and collaborate more effectively, and this improvement helps to improve overall team performance. The positive impact of information technology on employee performance shows that the application of technology not only improves the efficiency and quality of employee work but also promotes the overall development and competitiveness of the organization. This emphasizes the importance of continuous investment and optimization of information technology by modern organizations. But there are also limitations. The first is how to introduce information technology, and the second is whether employees have received information technology training and whether they can adapt to information technology.

The availability of mobile banking affects users' attitudes and acceptance of technology. High availability can increase users' trust in mobile banking facilities, thereby increasing their willingness to use them. The greater the perceived usefulness of mobile banking services, the more positive the user's attitude and willingness to use them. This perceived usefulness directly affects the user's attitude and has a significant positive impact on the user's acceptance of mobile banking. The innovation and convenience of mobile banking provides banks with a competitive advantage. By integrating resources and conducting online business, banks can improve service efficiency and further promote the transformation and development of banks (Manser Payne E H, Peltier J, Barger V A., 2021).

The implementation of risk management prompts employees to pay more attention to the risk status of the enterprise and enhance risk awareness. This enhanced awareness helps employees to be more cautious and efficient in their daily work. By incorporating risk management results into employee performance appraisals, employees can be encouraged to actively participate in the formulation and implementation of risk response measures. This practice not only increases employee participation in risk management but also improves employee work performance. An effective combination of performance management and risk management can help organizations better achieve their goals. This also shows that by ensuring effective performance management and risk management, organizations can better respond to the challenges of the external environment, maintain competitive advantages, and achieve long-term sustainable growth and success (Durst S, Hinteregger C, Zieba M., 2019). These positive effects show that risk management is not only an important part of corporate operations, but also a key factor in improving employee performance and overall organizational performance.

## Conclusion

The objectives of this study are first to determine the influencing factors of digital transformation and employee performance, and secondly to examine the correlation between digital transformation and employee performance, as well as consider the correlation between Demographics

and employee performance, and make relevant suggestions to improve employee performance. In this study, three factors were selected to measure the factors of digital transformation: information technology, mobile banking, and risk management. Four factors were selected to measure employee performance: performance quality, performance quantity, reliability, and attitude. Through multiple linear regression analysis, it was found that the three factors of digital transformation had a significant positive impact on employee performance. In terms of demographics, gender had a negative impact on employee performance, and marital status had a negative impact on reliability in employee performance.

The study showed that digital transformation had a significant positive impact on all aspects of employee performance (attitude, reliability, performance quantity, and quality) through the three key factors of information technology, mobile banking, and risk management. This impact shows that digital transformation not only improves the work efficiency and quality of employees but also enhances the overall performance and competitiveness of the organization.

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