INFLUENCING FACTORS ON FIRM PERFORMANCE: A STUDY OF BIG DATA PLATFORM ENTERPRISES IN HANGZHOU ZHEJIANG PROVINCE, CHINA

QI PAN

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(INTERNATIONAL PROGRAM)

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ชื่อเรื่อง ปัจจัยที่มีอิทธิพลต่อผลการดำเนินงานของธุรกิจ: การศึกษาวิสาหกิจแพลตฟอร์มข้อมูลขนาดใหญ่ ในเมืองกวางโจว มณฑลเจ้อเจียง ประเทศจีน

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บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาผลกระทบของนวัตกรรมโมเดลธุรกิจ (BMI) ทรัพยากรของบริษัท และความสามารถด้านเทคโนโลยีสารสนเทศ (IT) ที่ส่งต่อผลการดำเนินงานของบริษัท ในบริษัทแพลตฟอร์มข้อมูลขนาดใหญ่ ในเมืองหางโจว มณฑลเจ้อเจียง ประเทศจีน โดยใช้การวิเคราะห์การถดถอยพหุคูณ เก็บข้อมูลจากกลุ่มผู้มีอำนาจตัดสินใจ และพนักงานจำนวน 413 คน เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูล คือ แบบสอบถามออนไลน์ ผลการศึกษาพบว่า ปัจจัยนวัตกรรมโมเดลธุรกิจ ประกอบด้วย การสร้างมูลค่า การนำเสนอคุณค่า และการเก็บเกี่ยวคุณค่า พร้อมด้วยปัจจัยทรัพยากรของธุรกิจ (วัฒนธรรมองค์กร ทุนมนุษย์ นวัตกรรม) และปัจจัยความสามารถด้านไอที (ความสามารถด้านโครงสร้างพื้นฐานด้านไอที ความสามารถในการขยายธุรกิจไอที และความสามารถด้านไอทีเชิงรุก) มีอิทธิพลอย่างมากต่อผลการดำเนินงานของบริษัท ปัจจัยเหล่านี้สามารถทำนายผลงานการดำเนินงานธุรกิจได้ร้อยละ 30, 29, และ 29.6 ตามลำดับ ผลการศึกษาเหล่านี้ช่วยยกระดับการอภิปรายทางวิชาการเกี่ยวกับนวัตกรรมทางธุรกิจ การนำเสนอแนวทางปฏิบัติสำหรับผู้จัดการภาคเทคโนโลยี และปรับปรุงความเข้าใจเกี่ยวกับพลวัตทางธุรกิจในระดับภูมิภาค ในขณะเดียวกันก็สร้างพื้นฐานสำหรับการศึกษาในอนาคตเกี่ยวกับการบูรณาการเทคโนโลยีใหม่เข้ากับโมเดลธุรกิจที่สร้างขึ้น

คำสำคัญ : โมเดลนวัตกรรมธุรกิจ, ผลการดำเนินงาน, แพลตฟอร์มข้อมูลขนาดใหญ่, ความสามารถด้านเทคโนโลยีสารสนเทศ

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ABSTRACT

This study investigates the impact of business model innovation (BMI), firm resources, and information technology (IT) capability on firm performance in big data platform companies in Hangzhou, Zhejiang Province, China. Employing multiple regression analysis, the research analyzes data from 413 decision-makers and key employees collected through online questionnaires. The results demonstrate that BMI factors—value creation, value proposition, and value capture—along with firm resource factors (organizational culture, human capital, innovation) and IT capabilities factors (IT infrastructure capability, IT business spanning capability, and IT proactive stance capability) significantly influence firm performance. Specifically, these factors account for variances in firm performance of 30.2%, 29.3%, and 29.6%, respectively, each achieving a statistical significance level of 0.05. These results advance academic discussions on business innovation, offer practical guidelines for technology sector managers, and improve understanding of regional business dynamics while setting a basis for future studies on incorporating new technologies into established business models.

Keywords : Business Model Innovation, Firm Performance, Big Data Platform, IT Capability

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Qi Pan

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CHAPTER I
INTRODUCTION

Research Background

In the contemporary era, the significance of data as a foundational asset for enterprises has become increasingly pronounced, notably within the burgeoning field of big data platform companies that play a pivotal role in the evolving economic landscape. This transformative paradigm is exemplified by industry giants such as Amazon, Google, Facebook, Alibaba, Baidu, Tencent, and NetEase, which have not only revolutionized business operations but have also reshaped societal dynamics through the construction of expansive data ecosystems. The comprehensive approach of these companies, encompassing the collection, storage, processing, and analysis of extensive data, has resulted in the provision of intelligent solutions spanning diverse industries. This multifaceted contribution extends to fostering informed decision-making, augmenting operational efficiency, and propelling innovation.

Amidst this dynamic milieu, the strategic imperative of business model innovation(BMI) emerges as a linchpin for the sustainable development of big data platform enterprises. Over recent years, the rapid ascent of these companies has substantially transformed the operational landscape, with a profound impact on conventional business paradigms. By adeptly harnessing the potential inherent in data, these enterprises continually refine their data-driven business models, thereby proffering intelligent products and services that cater to evolving market demands. Beyond technological advancements, BMI involves the shrewd management, utilization, and value creation of data assets. Zhu Fangfang (2018) underscores the significance of the platform business model, particularly its capability to work from the demand side and consistently deliver quality products to users. This approach not only enhances enterprise performance but also serves as a catalyst for economic growth, carving out new realms for economic development.

The historical trajectory of big data development in China delineates distinct stages that have shaped its evolution. The late 1990s marked the incipient phase of informatization in China, characterized by the popularization of the internet and the

rise of e-commerce, leading to the accumulation of data. However, constraints in computing power and storage capability limited the development of big data during this period. The early 21st century witnessed rapid advancements in

information technology, culminating in improved computing and storage capability, which laid a robust technical foundation for subsequent big data development. Simultaneously, the Chinese government, recognizing the potential of big data, prioritized its application and implemented policies to stimulate its growth. As technology matured, big data applications diversified across government, enterprise, and scientific research fields.

In recent years, China's big data landscape has entered an innovative phase propelled by emerging technologies such as artificial intelligence, cloud computing, and the Internet of Things. This technological influx has led to continuous innovation in big data application scenarios and methods. Major Chinese internet companies have responded by increasing investments in big data, facilitating its deep integration and application through continuous technological breakthroughs. Despite the remarkable success achieved by big data platform companies, they confront challenges, notably in the realms of data privacy, security, and compliance. Consequently, the focus of current research has shifted towards addressing these challenges and enhancing enterprise value creation through BMI.

In summary, big data has emerged as a transformative force in enterprise technology, instigating societal change. Enterprises, capitalizing on their strengths, have made substantial investments in big data, achieving breakthroughs and progress within this new wave of data-centric innovation. However, persistent challenges, particularly in the domains of data privacy and security, underscore the need for ongoing research efforts. The resolution of these challenges and the amplification of enterprise value creation through BMI represent critical focal points in contemporary research endeavors.

Hangzhou, Zhejiang Province, China, was selected as the research site for this study. The following considerations are taken into account: First of all, Zhejiang Province, as a major economic province along the eastern coast of China, has performed particularly well in private economy and innovation-driven development in recent years. According to the Statistical Yearbook of Zhejiang Province, the growth rate of digital economy in the province continues to lead, which is important for the study of digital transformation and enterprise performance. In addition, Zhejiang Province has issued a number of policies to support big data and Internet industries, striving to build a demonstration zone for the innovation and development of digital economy.

Furthermore, Hangzhou, as the provincial capital, not only has strong economic strength, but also is the national key development of e-commerce and big

data industry base. It is one of the first national comprehensive pilot zones for big data in China, a status that gives it unique advantages in policy support, industrial agglomeration and talent attraction in the field of big data and new economy. According to the "Hangzhou Big Data Development Report", Hangzhou's big data industry chain is complete, and the annual growth rate of the added value of core industries far exceeds the national average level, reflecting its competitiveness in the field of big data.

Hangzhou also has rich higher education resources, such as well-known colleges and universities such as Zhejiang University, which provide continuous talent and technical support for big data platform enterprises. At the same time, the existence and success of well-known big data enterprises such as Alibaba demonstrate Hangzhou's leading position in big data innovation and application.

Therefore, Hangzhou is selected to study the influencing factors of big data platform enterprise performance, which can rely on its advanced industrial development status and mature policy environment to explore and reveal how big data technology promotes enterprise BMI and has a positive impact on enterprise performance. This research not only helps to provide experience for big data enterprises in Zhejiang and even other regions of China, but also provides strategic reference for the development of big data industry in similar cities around the world.

Research Questions

1. What are the levels of business model innovation (BMI), firm resources, and information technology (IT) capability in big data platform companies in hangzhou, zhejiang province, China.
2. How do business model innovation business model innovation (BMI), firm resources, and information technology (IT) capability influence firm performance in big data platform companies in hangzhou, zhejiang province, China?

Research Objectives

1. To analyze the levels of business model innovation (BMI), firm resources, information technology (IT) capability and firm performance in big data platform companies, in hangzhou, zhejiang province, China.

2. To determine the influence of business model innovation (BMI), firm resources, and information technology (IT) capability on firm performance in big data platform companies, in hangzhou, zhejiang province, China.

Scope of the Study

Scope of Demography

This study focuses on decision-makers, management, and key employees within 5751 big data platform enterprises in Hangzhou, Zhejiang Province, China. The total population targeted in this demographic is 115,920 individuals. The selection of this specific group for the study aims to gain a deeper understanding of the value innovation activities within these firms and their impact on firm performance. This comprehensive approach ensures that a broad spectrum of perspectives is considered, enhancing the reliability and applicability of the research findings.

Scope of Area

The geographical scope of the study focuses on Hangzhou, Zhejiang Province, China. As an important economic, cultural and technological innovation center in eastern China, Hangzhou was selected as an ideal location to study big data platform enterprises, and the results are expected to provide reference and guidance for other similar cities and regions.

Scope of Contents

The research content will cover the identification, evaluation and analysis of value proposition innovation, value creation innovation and value capture innovation, and how these innovation activities affect firm performance. This study aims to provide practical insights and recommendations through an in-depth analysis of corporate internal strategy, operational mode and performance data.

Scope of Time

The research programme unfolded within a carefully planned timeframe of five months from November 2023 to May 2024.

Research Significances

In embarking on an exploration of the impact of BMI on value creation in Chinese big data platform companies, this research seeks to unveil insights that transcend the confines of academic inquiry. The implications extend far beyond the theoretical realm, holding substantial relevance for practitioners, strategic decision-makers, industry players, and policymakers alike.

Strategic Decision-Making for Big Data Companies

The research provides actionable insights for big data platform companies in China, guiding strategic decision-making by quantifying the impact of distinct BMI components on value creation. This has practical implications for optimizing business models and fostering sustainable growth.

Advancing Academic Understanding of Innovation and Value Creation

By utilizing regression analysis, the study contributes to the academic understanding of the intricate relationship between BMI and value creation in the context of Chinese big data platforms. It enhances methodological advancements in studying innovation within a business framework.

Closing Gaps in Chinese Big Data Research

Focusing on major players, including Alibaba, Baidu, and Tencent, the research addresses a specific gap in the literature, providing insights that are representative of the dynamics within the Chinese big data industry. This contributes to a more comprehensive understanding of challenges and opportunities in this evolving sector.

Policy Implications for Economic Growth

The findings have implications for policymakers, guiding the formulation of policies that foster innovation within the big data industry in China. Policymakers can use the research to create an environment conducive to the development and adoption of innovative business models, thereby promoting economic growth and technological advancement.

Definition of Operational Terms

For the purpose of clarity in this study, the following key terms are defined as:

Firm performance

It refers to the performance of Chinese big data platform enterprises in terms of financial soundness and market effect, reflecting the overall achievement of enterprises in achieving strategic goals and competitive advantages.

Big data platform

It refers to a network platform that provides services through content sharing, resource sharing, channel sharing, and data sharing.

Value proposition innovation

It refers to the strategic formulation and deployment of entirely new or substantially enhanced products or services that meet customer needs in unique ways, build competitive differentiation, and improve customer engagement and satisfaction through the integration of innovative features or the application of digital technologies.

Value creation innovation

It refers to the process of developing and applying new capabilities, technologies, partnerships, and operational processes in order to generate novel and valuable products or services for customers and stakeholders in a dynamic market environment.

Value capture innovation

It refers to the strategic adaptation and creation of new revenue models and cost structures through the application of new processes, technologies and capabilities to enhance the way a firm allocates and captures value in the marketplace.

CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, a comprehensive review and analysis of relevant theories and literature utilized in the study titled “Influencing factors on firm performance: a study of big data platform enterprises in hangzhou zhejiang province, China" was conducted.

1. Exploring the Landscape: An In-Depth Analysis of Big Data Platforms in China

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Exploring the Landscape: An In-Depth Analysis of Big Data Platforms in China

Overview of Big Data Platforms in China

The development of big data platforms in China has gone through several key stages, each with its specific players and drivers. In the early stages, big data platforms in China relied heavily on traditional mainframes and minicomputers and supporting relational databases such as Oracle, DB2, and SQL Server. data warehouses at this stage were relatively costly to implement and were mainly focused on

industries such as finance, telecoms, and large-scale retail and manufacturing. With the rapid development of mobile Internet, big data platforms have entered a new phase. This stage is marked by the widespread use of Hadoop eco-technology, which allows enterprises to build big data clusters based on the Hadoop distributed computing framework using relatively inexpensive PC servers. This stage is not limited to traditional industries such as finance and telecommunications, but domestic mainstream Internet companies have also built big data platforms. At present, China's big data industry has entered a high-quality development stage. The market demand for big data software and services continues to rise, while the proportion of big data hardware has declined but still occupies a dominant position. According to CCID statistics, in the structure of China's big data market in 2021, the market share of big data hardware, big data software, and big data services will be 40.5%, 25.7%, and 33.8% respectively. In terms of application areas, big data analytics products, and services have developed from the early stage of providing operational analysis for customers in the telecom field and assisted operational decision-making such as risk control management for customers in the banking field to providing predictive analytics, autonomy and continuity analytics for customers in a variety of industry sectors, such as finance, telecom, government, the Internet, industry, healthcare and electric power, and so on. Globally, finance, manufacturing, retail, government, and professional services are the industries with the highest spending on big data, together accounting for nearly 70% of the market. In China, with the leadership of national strategies and the accelerated pace of digital transformation, the big data industry has shown rapid development. According to S&P Consulting, China's big data industry will reach 813 billion yuan in 2022, with a year-on-year growth of 15%. The hardware segment accounts for the highest proportion (about 40%), followed by the software segment (about 30%) and the service segment (about 30%). Emerging trends and developments include the increased demand for data security and privacy protection, as well as the application of artificial intelligence and machine learning in big data analytics. Meanwhile, with the rapid development of 5G, IoT, and other new-generation information technologies, big data platforms will further expand their applications in areas such as industrial internet and smart cities.

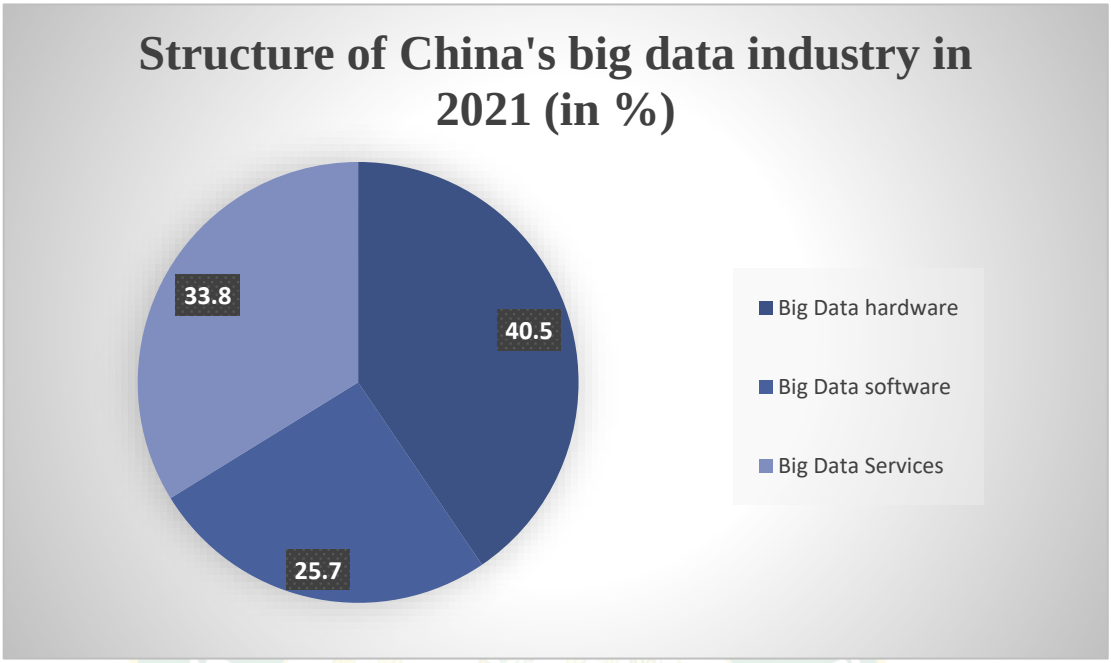

Figure 1 Structure of China's big data industry in 2021
Source: CCID Prospective Industry Research Institute

In summary, the development of China's big data platform has experienced a shift from relying on traditional mainframes and minicomputers to a Hadoop-based distributed computing framework and is now in a high-quality development stage. With the increasing demand for data security and privacy protection and the rapid development of new-generation information technology, China's big data platform will usher in more development opportunities and challenges.

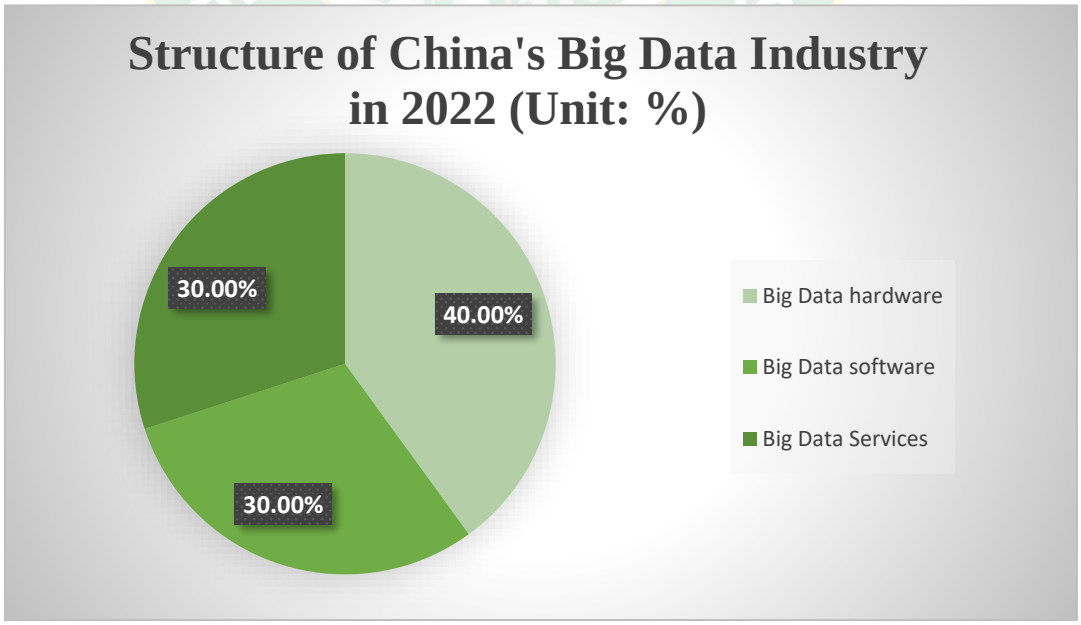

Figure 2 Structure of China's big data industry in 2022
Source: CCID Prospective Industry Research Institute

Industry Applications of Big Data Platform

Big data platforms are widely used in various industries. In the financial industry, big data platforms are mainly used for risk assessment and fraud detection. For example, banks can use big data to analyze customers' consumption behavior and transaction records to identify and prevent potential fraud. In addition, big data platforms can be used for personalized investment and financial planning, providing personalized investment advice and financial planning solutions through comprehensive analyses of an individual's or business's financial situation. For example, some financial institutions use big data to analyze customers' investment preferences, risk tolerance, and return objectives to provide more accurate investment portfolio solutions. Roxanne Jamba (2021) found that as a practical exploration of technology-led financial development, the financial big data platform provides a platform and technological foundation for regional financial work and research. Through big data collection, data storage, and other functions, the jurisdiction of the financial data collection standardized processing, not only to save manpower costs at the same time but also to improve the efficiency of the work.

In the healthcare industry, big data platforms are mainly used to improve diagnosis and treatment programs and enhance the quality and efficiency of healthcare. For example, medical institutions can analyze patients' historical cases and medical records through big data to diagnose diseases more accurately and provide more personalized treatment plans. In addition, big data platforms can be used to predict epidemics and outbreaks, providing timely and effective warnings and responses to public health departments. For example, some medical institutions use big data to analyze patients' consultation records and disease prevalence trends to provide a scientific basis for the prevention and control of infectious diseases such as influenza. In 2019, the First Affiliated Hospital of the University of Science and Technology of China (FASHC) was awarded the national healthcare information hospital information interconnection standardization maturity level 5B (the highest level that has been achieved by domestic healthcare institutions at present), and it has already realized the enterprise service bus (ESB) based on the Enterprise Service Bus (ESB), using data warehouse technology (Extract- Load- Transform, ETI) to establish Clinical Data Repository (CDR) to support clinical services in healthcare management, etc.

In the e-commerce industry, big data platforms are mainly used to optimize product recommendations and customer service. For example, Taobao can analyze users' shopping history and browsing records through big data to recommend relevant

goods and services for users and improve their shopping experience and conversion rate. Li Fan (2018) completes the task of personalized recommendation of movies to users through an e-commerce big data platform, proving that the e-commerce big data platform performs the recommendation task with good performance in terms of recommendation efficiency and effectiveness. In addition, big data platforms can be used to improve logistics and distribution efficiency and optimize inventory management. For example, some e-commerce platforms use big data to analyze users' shopping habits and demand forecasts and arrange logistics distribution and inventory management in advance to reduce operating costs and improve customer satisfaction. Big data platforms can provide more comprehensive data collection and analysis for logistics management, all help logistics management to effectively avoid the shortcomings of the traditional model, and innovate the profit of the logistics management industry, in the context of big data platforms, logistics management can achieve rapid and efficient development (Li Yaoping, 2021).

In conclusion, big data platform has a wide range of application prospects in various industries, through in-depth mining and analysis of data, to provide more accurate, efficient, and personalized services for the industry. With the continuous progress of technology and the expansion of application scenarios, big data platforms will play an important role in more fields.

Government Initiatives and Policies

The Chinese government attaches great importance to the development of the big data industry and has formulated a series of policies to promote its development. For example, the "13th Five-Year Plan for the Development of National Strategic Emerging Industries" explicitly proposes accelerating the development of the big data industry, strengthening the construction of big data infrastructure, improving the level of big data applications, and promoting the integration of big data with various industries. In addition, the government has issued a series of documents such as the Outline of Action for Promoting the Development of Big Data and the Development Plan for Big Data Industry (2016-2020), which provide protection for the development of the big data industry from the policy level. The government has provided financial support for big data enterprises through the establishment of special funds, tax incentives, and other measures. For example, the state has set up a big data development fund, which focuses on supporting big data infrastructure construction, technological innovation, industrial development, and application promotion. Meanwhile, the government also provides tax incentives to qualified big data

enterprises to reduce their operating costs. The government attaches importance to the cultivation of big data talents and supports colleges universities and training institutes to carry out big data-related majors and courses by formulating relevant policies and setting up special funds to cultivate high-quality big data talents. In terms of regulatory framework, the Chinese government has issued a series of laws, regulations, and standards to regulate the healthy development of the big data industry. For example, laws and regulations such as the Cybersecurity Law and the Personal Information Protection Law make clear provisions on data security and privacy protection, requiring companies to strengthen data security management and privacy protection measures. In addition, the government has formulated a series of standards and specifications, such as the White Paper on Big Data Standardisation, to promote the standardization of the big data industry and provide a guarantee for the long-term development of enterprises. Research on big data security has become a hotspot in both industry and academia. International standardization organizations, industry alliances, enterprises, and research institutes have all carried out relevant research to address the issue of big data security. 2012, the Cloud Security Alliance (CSA) set up the Big Data Working Group, which aims to find solutions to big data security and privacy issues. 2016, the National Information Security Standardisation Technical Committee formally set up the Task Force on Big Data Security Standards, which is responsible for the development of security standardization work related to big data and cloud computing. computing-related security standardization development work (Chen Xingshu et al., 2017). In the field of big data security products, two types of development modes platform vendors and third-party security vendors have been formed. Alibaba is not only the country's largest e-commerce company, but also the largest public cloud service provider, around its mastery of e-commerce, and smart city data, is committed to data governance, anti-fraud, and other data security work (Zhang Fengjun, 2020).

In summary, the Chinese government has provided strong support for the development of the big data industry in terms of policy, funding, and talent training, and has also introduced a series of laws, regulations, and standards to regulate the healthy development of the big data industry. These policies and regulatory frameworks provide a favorable environment guarantee for the operation of big data platforms and promote the rapid development of the big data industry.

Data Privacy and Security Measures

With the convergence and development of technologies such as artificial intelligence, cloud computing, mobile Internet, and the Internet of Things, traditional network security protection based on boundary security domains and based on known feature libraries can no longer effectively deal with new security threats in the big data environment. The characteristics of big data 5V and the new technical architecture subvert the traditional way of data management and bring revolutionary changes in data sources, data processing data use, and data thinking, which brings serious challenges to the security protection of big data. The security of big data is not only the security of the big data platform but also the security of the whole life cycle around the data as the core. During the flow of data at all stages of the full life cycle, new security challenges are faced in data collection and aggregation, data storage and processing, and data sharing and use (Li Shudong et al., 2017). Big data platforms need to take a series of measures to ensure data privacy and security to ensure the confidentiality, integrity, and availability of data. Encryption of data is a common security measure. By using encryption algorithms, data can be converted into cipher text to prevent unauthorized access and theft. On big data platforms, either symmetric encryption or asymmetric encryption algorithms can be used to protect the confidentiality of data. For handling sensitive data, big data platforms can use data desensitization techniques to replace sensitive data with forged data or delete it to protect user privacy and data security. To detect and respond to security incidents, big data platforms should record all accesses and operations on data and conduct regular audits and log analyses. This allows for the timely detection of abnormal behavior and potential security threats. To prevent data loss and corruption, big data platforms should back up data on a regular basis and develop appropriate recovery plans to ensure data availability and integrity.

Big data platforms face multiple challenges in protecting user data. First, data diversity is an important consideration, as these platforms typically need to handle various types of data, including structured and unstructured data, each of which brings different security needs and challenges. Secondly, the huge volume of data is also a key issue, as big data platforms usually deal with massive amounts of data, it becomes more difficult to perform precise security processing on each piece of data, increasing the difficulty of security protection. Finally, different countries and regions have set their own regulations on data processing and storage, and big data platforms must comply with these compliance requirements to ensure the legitimacy and security of data. Together, these challenges constitute a complex task for big data

platforms in protecting user data.To address these challenges, big data platforms can take the following innovative measures: Continuously focus on and apply the latest security technologies and products to improve the data security and privacy protection capability of big data platforms. Adopt advanced data anonymization and privacy protection algorithms, such as differential privacy, k-anonymization, etc., to reduce the risk of sensitive information leakage. Establish a comprehensive data governance mechanism to clarify data ownership, responsibility, and security requirements, standardize the process of data processing and storage, and ensure compliance and security. Utilise automated tools for real-time monitoring and security incident response to identify and deal with security threats and abnormal behaviors in a timely manner and increase sensitivity to potential risks.Cooperate with other organizations and enterprises to establish a multi-party security cooperation mechanism to jointly address security threats and challenges, and strengthen cooperation and information sharing in the field of data security to form a stronger line of defense. These innovative measures help big data platforms better protect user data, improve security, and safeguard data privacy. By adopting these approaches, big data platforms can adapt to the evolving threat environment and provide users with more trustworthy data services.

Global Competitiveness

China's big data technology research and development capability have reached an international leading level. For example, Tencent and Aliyun have introduced internationally leading big data computing technologies. These technological advantages provide Chinese big data platforms with competitiveness in the global market. As the world's largest Internet market, China has a huge volume of data and market demand. This provides vast space and opportunities for the development of China's big data platforms, giving them a unique advantage in global competition. The Chinese government has given high priority and policy support to the big data industry, including the establishment of special funds and tax incentives. These policies are conducive to promoting the rapid development of the big data industry and enhancing its global competitiveness. The Chinese market is rich in application scenarios, covering a wide range of fields such as e-commerce, finance, healthcare, and education. This diversity gives Chinese big data platforms rich experience and innovative capability in solving practical problems, enhancing their global competitiveness. Compared with their international counterparts, Chinese big data platforms still have some gaps in certain aspects. For example, some leading

international big data platforms have high standards and mature technologies in data security and privacy protection. In addition, some international big data platforms have a richer experience in globalized operations and can better meet the needs of multinational enterprises.

Challenges and Future Outlook

With the wide application of big data, data security, and privacy protection have become the primary challenge. How to satisfy users' needs while ensuring that data security and privacy are not infringed upon is an important issue for China's big data platforms to address. Big data technology is changing rapidly, so how to keep up with the pace of technological development and continuing technological R&D and innovation in order to maintain competitiveness in the global market is one of the challenges facing China's big data platforms. Data quality and accuracy are crucial for big data analysis. How to effectively manage and govern data to improve data quality and accuracy is a concern for China's big data platforms. With the rapid development of big data, related regulations, and policies are constantly changing. Chinese big data platforms need to pay attention to changes in domestic and international regulations and policies to ensure compliant operations. There is a high demand for talent in the big data field and a relative shortage of big data talent with professional skills and experience. How to attract and cultivate excellent big data talents is a challenge that Chinese big data platforms need to face. With the progress of science and technology and the development of the times, it has become possible to capture, manage, and process massive, high-growth rate and diversified information resources, and our society has quietly entered the era of big data. Accompanied by the development of cloud computing and Internet technology, big data is beginning to influence all walks of life, affecting the survival and development of enterprises. With the support of Internet technology, much business information that could not be captured and quantified in the past can be transformed into data for storage and processing, thus bringing numerous opportunities for the development of enterprises. At the same time, the era of big data also puts forward new requirements for enterprises, so that they face new challenges. Technology is a double-edged sword with both advantages and disadvantages. In the context of the big data era and in the face of the rapid development of science and technology, enterprises should calm down and think deeply about the mode of development of enterprises. Not only should they keep pace with the times, constantly adapt to the new changes in society, correctly understand and reasonably use big data, and grasp the opportunities of the new era,

but also should improve the enterprise's ability to manage and apply data, strengthen the security and protection of information, and improve their own ability to cope with the new challenges of the times, and moreover, they should set up the faith to meet the challenges and overcome the challenges, so that they can face the changes of the times calmly and continue to healthily promote the development of the enterprise (Wang Ke, 2016). Chinese big data platforms should pay more attention to globalized operations and international cooperation in order to expand international markets and enhance competitiveness. At the same time, through exchanges and cooperation with international counterparts, we can jointly promote the prosperity and development of the big data industry.

Theoritical Review

Business Model Innovation (BMI)

BMI refers to the fundamental rethinking and transformation of a firm's business model to create new value, new ways of capturing value, or both. This innovation may involve changing how a company delivers value to customers, how it generates revenue, or how it operates internally. It can include introducing new revenue models, pricing mechanisms, sales and distribution channels, or redesigning the way products and services are delivered through digital transformation and leveraging new technologies. The purpose of BMI is to improve the competitiveness of enterprises, enhance customer value and open up new market opportunities. It requires corporate leadership with a forward-looking vision, a willingness to accept change and take risks.

As times continue to evolve, business models are becoming increasingly rich and continuously changing. This gradual and innovative change gives business models a dynamic development trend, gradually moving in a direction that is favorable to enterprises. Therefore, by focusing on BMI, we are actually concerned with the impact of such changes on enterprise value. As early as 1934, Schumpeter, J. A (1934) proposed five types of innovation: product, process, market, source of supply, and organizational approach, with the conviction that innovation is a powerful engine for driving enterprise value creation and future development. In fact, BMI is one of the many ways to innovate, and various elements of a business model may be a source of innovation. (Osterwalder et al 2010) The ultimate goal of BMI is to enhance the value of the firm, so most BMIs originate from new value propositions (Chesbrough, 2002). Business models are not fixed, different business models may be chosen at

different stages and can be adapted to the dynamics of the business, which is one of the key pillars to motivate the business and create value. The motivation for business models can be analyzed from both economic and management perspectives. From an economic perspective, the business model represents a firm's strategic and innovative intention to integrate its organizational structure to achieve net profit with clear internal and external conditions (Luo Min, 2005). Makadok (2001) points out that a firm's net profit derives from the theory of firms' economic rents, which can be categorized into three types, namely, Ricardian, monopoly, and Schumpeterian rents. Asymmetry of market information and uncertainty of activities lead to the generation of economic rents, while Schumpeterian rents originate from information asymmetry in an unbalanced market state. Therefore, we can infer that BMI is more inclined to seek Schumpeterian Rents (SRs), which create differences with the market through continuous innovation of the model to gain excess profits. This highlights the fact that the pursuit of economic rents is the core of BMI and that it is necessary to seek opportunities outside the market and enhance the accumulation of capability within the enterprise in order to realize the combination of internal and external to promote BMI. From a management perspective, many enterprises have become industry leaders due to successful BMI, and these success stories are actually innovations in corporate strategy. In actual business activities, many companies are prone to fall into difficulties after entering the maturity stage of development. Similar competitive strategies and similar programs and plans in the same industry, as well as mutual imitation of each other, will slowly lead to a price war between enterprises, and eventually, they will lose to each other. In addition, there are also companies that try to enter an industry but slowly disappear on their way to imitate the industry leader. We all know that in order to be successful, we have to have a business model that can bring value to the enterprise, and we have to constantly make the enterprise one step ahead of others, win the first opportunity, and form a unique business model and enterprise characteristics that are different from others.

Mentera, Gocke, and Zeeb proposed in 2022 that BMI has a significant impact on organizations, in which progressive BMI enhances the fit between individuals and organizations, while radical BMI reduces it. The importance of exploring changes in the internal organizational dynamics of BMI beyond financial performance measures is highlighted. Hai Guo(2022) put forward the view, emphasizing that BMI is the key to the success and survival of digital start-ups, especially by decomposing the BMI architecture into three elements: value proposition, value creation and value capture, to explore how these innovations promote digital start-up performance. Based on a

survey of digital start-ups in China, we find that value proposition innovation is positively related to digital start-up performance and that this relationship is mediated through value creation and value capture innovation. By examining the impact mechanism of BMI on corporate performance, this study provides new insights into the field of business model research and strengthens the understanding of the demand-side perspective of BMI.

BMI is not only product or service innovation, but also the overall transformation of core business activities such as value proposition, value creation and value capture.In this study, we will refer to the view put forward by Hai Guo(2022), which believes that the BMI architecture can be decomposed into three elements: value proposition, value creation and value capture.

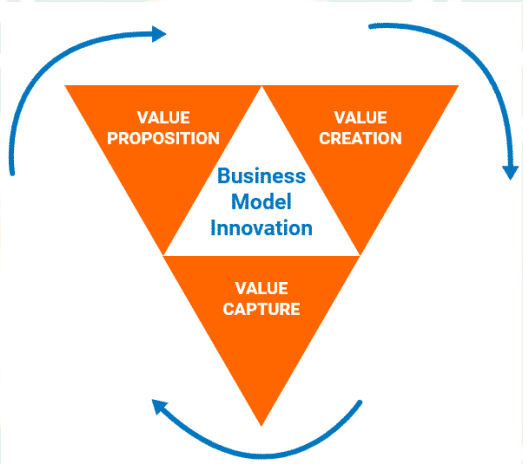

Figure 3 Business Model Innovation (BMI)

Sources: Innolytics (2019)

Value Proposition Innovation encompasses the strategic formulation and deployment of novel or substantially enhanced offerings that distinctly address customer requirements, establish competitive differentiation, and elevate customer engagement and satisfaction,frequently through the integration of innovative features or the application of digital technologies.

Value Creation Innovation refers to the process of developing and applying new capabilities, technologies, partnerships, and operational processes to generate novel and valuable offerings for customers and stakeholders in a dynamic market environment.

Value Capture Innovation refers to the strategic adaptation and creation of new revenue models and cost structures, utilizing novel processes, technologies, and capabilities to enhance how a firm distributes and captures value in the marketplace.

Firm Resources

Firm Resources usually refer to all assets, capabilities, organizational processes, corporate attributes, information and knowledge, etc. owned and controlled by a firm to achieve its goals and strategies. In management and corporate strategy studies, firm resources are seen as a key factor in gaining competitive advantage and improving performance. These resources can be tangible, such as financial capital, physical assets, etc. It can also be intangible, such as brand awareness, corporate culture, patented technology, human capital and innovation ability.

Salih and Ahmet (2012) proposed that the various dimensions of organizational culture have no impact on a company's financial performance. This finding is different from much of the literature that emphasizes the importance of organizational culture for the effective operation and performance of organizations, indicating that the empirical results regarding the relationship between organizational culture and performance are mixed and inconclusive.

Philip and Somboon (2003) highlighted the existence of a positive link between human capital and organizational performance, demonstrating the increasing dependence of market value on intangible resources, especially human resources. By reviewing and analyzing the literature, the authors show that while recruiting and retaining top employees is critical, organizations also need to leverage the skills and capabilities of their employees by encouraging individual and organizational learning and creating supportive environments.

Muhammad, et al. (2012) put forward the view that through in-depth literature review, a novel conceptual framework was established, It is believed that there is a causal relationship between innovation and entrepreneurship, company resources, brand building and company performance. In particular, they stressed the importance of innovation for small and medium-sized enterprises (SMEs) in developing countries.

Firm Resources in the study of big data platform enterprises in China are defined as the strategic deployment of humancapital and innovation to foster competitive advantage and elevate firm performance.

In this study, we will refer to the view put forward by Salih and Ahmet (2012) Organizational culture; Human Capital proposed by Philip and Somboon (2003); Innovation proposed by Muhammad, et al. (2012).

Organizational culture encompasses the collective beliefs, values, practices,and artifacts that define an organization, shaping member behaviors and influencing its adaptability, innovation,and performance within competitive contexts.

Human Capital is conceptualized as the aggregate of employees' and managers' capabilities, expertise,and innovative potential, which collectively underpin the firm's competitive advantage and performance.

Innovation refers to the process of transforming ideas, information,and knowledge into new or significantly improved products, services, processes,or practices that contribute to a firm's competitiveness and sustained competitive advantage.

Information Technology (IT) Capability

Information Technology (IT) Capability refers to an organization's ability to acquire, deploy, and utilize information technology resources (such as hardware, software, data, and networks) to support business objectives, improve operational efficiency, and create competitive advantage. This includes not only the selection and application of the technology itself, but also the technical skills of the people, the information technology management processes within the organization, and the support for innovation and technology use in the corporate culture.

In today's digital age, information technology capabilities are seen as one of the key factors for firms to gain and maintain competitive advantages. It can not only improve the operational efficiency and productivity of enterprises, but also promote innovation, by providing new services or improving existing services to meet customer needs, so as to stand out in the fierce market competition. IT Capability refers to a firm's capacity to effectively utilize information technology resources, skills,and knowledge in conjunction with other organizational resources to improve coordination, information processing,and business processes, thereby achieving strategic objectives and competitive advantage.

Sunil, et al. (2004) put forward the view that the research shows that information technology (IT) infrastructure capability has a significant impact on company performance, But this effect is mediated through the three dynamic capabilities of customer management, process management and performance management.

Hefu , et al. (2013) proposed that based on the dynamic capability perspective and capability hierarchy view, Their research model explores how information technology (IT) capabilities (namely flexible IT infrastructure and IT assimilation) affect firm performance in a supply chain context through absorptive capacity and supply chain agility.

Joseph and Yaman (2016) made the point that the study found that IT capability has a positive impact on company performance. In addition, their findings also show that digital transformation positively affects innovation and company performance, while reconfirming that innovation has a positive impact on company performance.

In this study, we will refer to the view put forward by Joseph and Yaman (2016) that IT capabilities have a positive impact on company performance.

Information technology capability is usually divided into three main dimensions:

IT infrastructure Capability:refers to a firm's capacity to provide a comprehensive suite of IT services,including data management, network connectivity, application support, and operational facilities, ensuring reliability,security,and adaptability to meet business needs.IT Infrastructure Capability refers to a firm's ability to utilize itstechnological resources, including hardware, software, networks, and shared services, to ensure reliable, secure,and adaptable IT operations that support business processes and enable efficient knowledge exchange.

IT business spanning Capability:refers to the managerial ability to align and integrate technical IT resources withorganizational strategic goals,thereby enhancing the understanding and value of IT investments and contributing to organizational agility.

IT proactive stance Capability:refers to an organization's deliberate and strategic orientation towards continuously seeking andimplementing IT innovations to discover and capitalize on new business opportunities,thereby enhancing its competitive positioning.

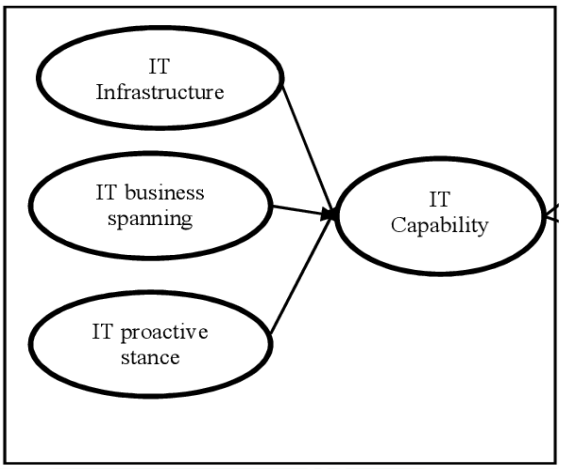

Figure 4 IT Capability

Sources: Nwankpa, J. K., & Roumani, Y. (2016)

Firm performance

Firm performance refers to the extent to which a firm has achieved its goals and strategies over a specific period of time, and is usually assessed by a series of quantitative and qualitative indicators. These metrics can include aspects such as financial performance, market performance, operational efficiency, customer satisfaction, and employee satisfaction.

In a highly competitive business environment, corporate performance not only reflects the current health status and success of an enterprise, but also provides important information for corporate management, investors and other stakeholders to help them make strategic decisions. Excellent firm performance usually indicates that the firm has effective management practices, strong competitive advantages, and good market positioning.

HERCIU Mihaela (2017) proposed that corporate performance can be defined and measured through a variety of dimensions, including not only traditional financial indicators, such as profitability, growth, market value, total shareholder return and economic value added, but also non-financial indicators, such as customer satisfaction, based on the expectations of stakeholders. While financial analysis has been a traditional tool for investors, decision makers, creditors, and other stakeholders to evaluate firm performance, stakeholder considerations of firm performance go beyond financial performance. According to the definition of Freeman (1984), enterprise performance is regarded as the total value created by the enterprise through its activities, that is, the sum of the utility created for each legitimate stakeholder. Hansen and Wernerfelt since 1989 have identified

determinants of firm performance that, in combination with organizational, environmental and human factors, lead to the development of organizational climate, which in turn affects individual behavior and organizational performance. Rothaermel (2017) developed a similar corporate performance model 25 years later, taking into account three standard performance dimensions - accounting profitability, shareholder value and economic value, while also integrating the balanced scorecard and triple bottom line framework.

In this study, we will refer to the view put forward by HERCIU Mihaela (2017) proposed the definition of corporate performance from Financial performance and Market Performance.Firm performance in big data platform enterprises in China encompasses both financial robustness and market effectiveness, reflecting the overall achievement of strategic goals and competitive advantage.

Financial performance is defined as the quantitative assessment of a firm's efficiency in revenue generation,profitability, asset utilization, market presence, and liquidity management.

Market performance in big data platform enterprises in China encapsulates a multidimensional evaluation of non-financialmetrics like market share, customer satisfaction, loyalty, and brand equity,reflecting the efficacy of marketing strategies in enhancing customer and investor value perceptions.

Related Studies

Research Related to Business Model Innovation (BMI)

BMI: This theory offers researchers a framework for Influencing factors on firm performance.

Table 1 Research related to BMI

annual	Authors	Findings
2009	Guo, L.	This study put forward the concept of value chain integration and optimization, which enables enterprises to carry out their own BMI from the value chain perspective.
2014	Yu, Laiwen, & Feng, Zhiyong	This study believe that BMI is composed of six elements: organizational capability, profit model, capital operation, resource integration capability, Industry Choice and Strategic Positioning, value creation.
2016	Chen, X. H. et al.	This study argue that business models are reflected in six main areas: strategic positioning, resource integration, profit model, financing model, marketing approach, and value creation.
2020	Shakeel, J. et al.	The study concludes that digital transformation has impacted value creation, delivery and capture in almost all industries, giving rise to a variety of new business models, such as frugal innovation and circular economy models.
2021	Vaska, S.et al.	The field of digital transformation is evolving rapidly, calling for more research and greater collaboration between researchers and practitioners in developing countries.

Sources: Author

By analyzing studies on the factors that influence the performance of big data platforms between 2009 and 2021, we identified several key trends. First of all, the integration and optimization of the value chain are regarded as the cornerstone of the promotion of enterprise BMI. Subsequently, the elements of BMI, including organizational capabilities, profit models, etc., are clearly defined and extensively explored. In addition, the impact of digital transformation on value creation, delivery and capture is receiving increasing attention, especially in driving the development of frugal innovation and circular economy models. Recent research has also highlighted the importance of collaboration between digital transformation research and practice in developing countries. In summary, these studies reveal the complex role of information technology in driving innovation capability, competitiveness and firm performance, while pointing out potential directions for future research, such as in-depth exploration of how different BMI elements affect firm competitiveness and performance.

Research related to Firm Resources

Firm Resources: This theory offers researchers a framework for Influencing factors on firm performance.The literature on the impact of firm resources on firm performance illustrates the trajectory of theoretical and empirical research in this area.

Table 2 Research related to Firm Resources

annual	Authors	Findings
1991	Barney, J.	The study applies a model to assess how various firm resources can foster a durable competitive edge and discusses the broader implications of this model for the field of business.
2007	Sirmon, D. G. et al.	This abstract revises the Resource-Based View (RBV) by connecting resource management with value creation in dynamic environments, proposing a framework for how firms can structure, bundle, and leverage resources to achieve competitive advantage and wealth generation.
2021	Ghasemaghaei, M.	The study examines how big data's key traits—volume, velocity, and variety—affect firm performance in the U.S., highlighting the distinct influences of data value and veracity as mediators in these relationships.
2022	He, W.et al.	The abstract suggests that enhanced property-rights protection in China prompts private firms to invest more in assets than state-owned ones, influenced by equity and debt financing, revealing the connection between asset types and investment strategies.
2023	Giustiziero, G. et al.	The summary theorizes that digital firms' unique resource attributes encourage a business model characterized by intense specialization and significant scaling, offering a new perspective on digital firm growth dynamics.

Sources: Author

Since Barney's 1991 model for assessing how firm resources contribute to durable competitive advantage, firm resource theory has provided researchers with a framework for studying the factors that influence firm performance. Barney's work highlights the influence of firm resources on the broad meaning of the business domain.

From the early discussion on the theoretical model of how enterprise resources build lasting competitive advantages, to the later in-depth analysis of resource management, big data characteristics, investment strategies, and the impact of digital enterprise resource attributes on corporate performance, these series of studies reveal the important role and influencing mechanism of enterprise resources on corporate performance in different periods. In particular, these studies highlight the effective management and utilization of resources in a dynamic environment, the value of data resources, and the impact of property rights protection on resource investment strategies, as well as the contribution of enterprise resource characteristics to business models and growth drivers in the era of digital transformation.

This provides a valuable perspective for future research, especially in exploring how to promote firms to maintain competitiveness and improve performance in a rapidly changing market environment by optimizing resource allocation and utilization.Firm resources, whether traditional or emerging digital, play a key role in shaping firm competitiveness and performance.

Research Related to Information Technology (IT) Capability

In the field of research exploring the relationship between information technology (IT) capability and corporate performance, various studies have shown that IT capability has a significant positive impact on corporate performance, and this impact is mediated by factors such as digital transformation.

Table 3 Research related to IT Capability

annual	Authors	Findings
2016	Nwankpa, J. K., & Roumani, Y.	Although IT capability directly positively affects firm performance, this effect is mediated through digital transformation and digital transformation has a positive impact on innovation and firm performance, while confirming the positive impact of innovation on firm performance.
2018	Chae, H. C.et al.	In industries where IT strategic actors dominate the "transformation," the control group outperforms the IT leaders. Similarly, IT leaders in "automated" IT strategy industries did not exhibit better business performance than control firms.

Table 3 (Continued)

annual	Authors	Findings
2019	Alam, S.et al.	The use of information technology has a direct positive impact on innovation capability, competitiveness and firm performance.
2020	Rahman, J. M., & Zhao, N.	There is no significant relationship between the IT capabilities of firms in the sample of US firms and their performance. This research will help academics and practitioners better understand how the adoption and application of IT capability-derived BDA affects firm performance.
2022	Ilmudeen, A.	This study shows that the IT governance mechanism positively impacts on IT-enabled dynamic capabilities. Further, IT-enabled dynamic capabilities positively impact on agility and innovative capability that in turn support to achieve firm performance.

Firm Performance in Big Data Platform Enterprises

In big data platform enterprises, the influencing factors of corporate performance have undergone extensive research, covering all aspects of corporate governance, corporate resources, information technology capabilities, BMI (BMI) to digital innovation.

The research shows that these factors affect corporate performance through different ways, including direct effects and indirect effects through mediating variables such as enhancing corporate absorptive capacity, entrepreneurship, efficiency growth, organizational capacity and revenue growth. In particular, digital innovation and digital industrialization have a significant positive impact on enterprise performance in terms of improving labor productivity, reducing operating costs and enhancing competitive advantages, which further strengthens the positive correlation between digital innovation and enterprise performance. These findings provide key insights for big data platform firms to enhance their performance in the ever-changing digital economy. These studies demonstrate a growing field in which firm performance is influenced by multiple factors, including but not limited to BMI, resource allocation, IT capabilities, and digital innovation.

Table 4 Firm performance in big data platform enterprises

annual	Authors	Findings
2008	Bhagat, S., & Bolton, B.	This paper examines how corporate governance is measured and how it relates to performance, taking into account the endogeneity among corporate governance, performance, capital structure and ownership structure.
2015	Price, D., & Stoica, M.	This paper analyses the relationship between firm resources and performance, with particular emphasis on the importance of entrepreneurial orientation and knowledge-based resources for SME performance.
2020	Rehman, N. et al.	The indirect effect of IT capability on firm performance through absorptive capacity and entrepreneurship is explored, and IT is found that absorptive capacity and entrepreneurship partially mediate the relationship between IT capability and firm performance.
2020	Latifi, M. A et al.	The direct link between BMI and firm performance is not significant, but it is significantly influenced through the full mediating effect of efficiency growth, organizational capacity and revenue growth.
2023	Huang, Q. et al.	This study found that digital innovation positively improves firm performance by increasing labor productivity, reducing operating cost and enhancing competitive advantage, and digital industrialization strengthens the positive correlation between digital innovation and firm performance

Conceptual framework

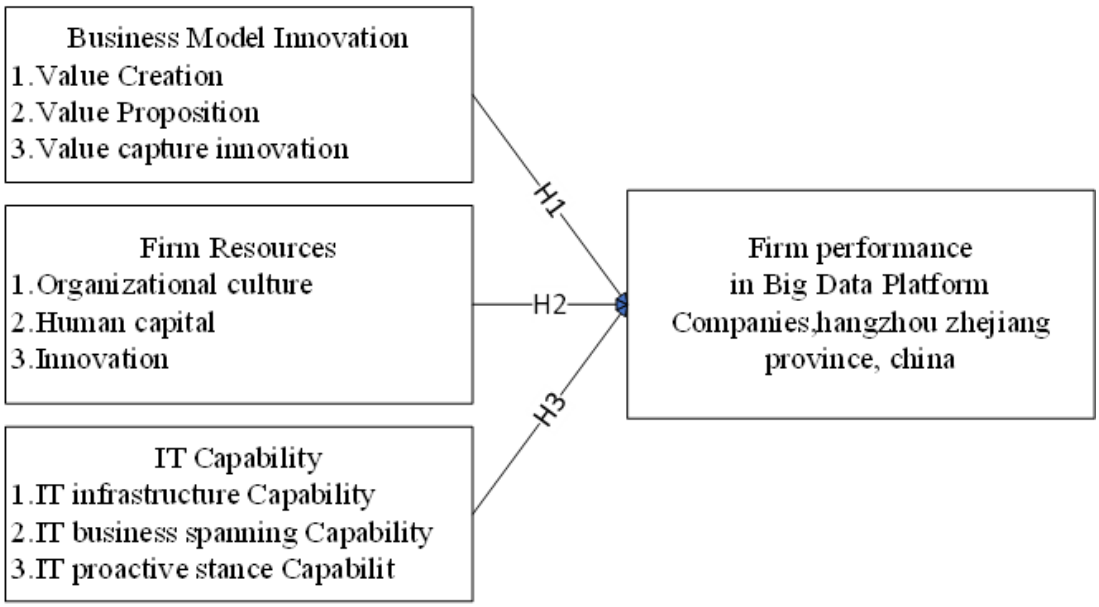

Figure 5 Conceptual Framework

Sources: Author

Research Hypothesis

H1: BMI positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H1a: The level of Value Creation innovation in big data platform enterprises positively influences their firm performance.

H1b: The level of Value Proposition innovation in big data platform enterprises positively influences their firm performance.

H1c: The level of Value Capture innovation in big data platform enterprises positively influences their firm performance.

H2: Firm Resources positively affect firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H2a: Organizational culture in big data platform enterprises positively influences their firm performance.

H2b: Human capital in big data platform enterprises positively influences their firm performance.

H2c: Innovation within big data platform enterprises positively influences their firm performance.

H3: IT Capability positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H3a: IT infrastructure Capability in big data platform enterprises positively influences their firm performance.

H3b: IT business spanning Capability in big data platform enterprises positively influences their firm performance.

H3c: IT proactive stance Capability in big data platform enterprises positively influences their firm performance.

CHAPTER III

RESEARCH METHODOLOG

In this chapter, a comprehensive explanation is provided on the research methodology employed in the study entitled "Influencing factors on firm performance: a study of big data platform enterprises in hangzhou zhejiang province, China".

1. Research Design

2. Population and Sampling

2.1 Population

2.2 Sample

2.3 Sample Selection Method

3. Research Instrument

3.1 Construction of Research Tools

3.2 Development Process for the Questionnaire

4. Quality Testing of Research Instruments

4.1 Reliability Testing

4.2 Validity Analysis

5. Data Collection

5.1 Primary Data

5.2 Secondary Data

6. Data Collection

6.1 Primary Data

6.2 Secondary Data

7. Data Analysis

Research Design

In this section, quantitative methods are used to present the research design of this study. This study aims to evaluate the factors that affect the performance creation of Chinese big data platform enterprises. This paper analyzes the impact of BMI, firm resources and IT capabilities on the corporate performance of Chinese big data platform companies. The design of this study is consistent with the research objectives and involves a quantitative assessment of these factors and their relationships.

A quantitative approach was adopted, using a questionnaire to collect data. The statistics were analyzed using the SPSS program and the results are summarized in tables and corresponding discussions.

Population and Sampling

Population

The population of interest for this study consists of decision-makers, management, and key employees within the 5,751 identified big data platform enterprises located in Hangzhou, Zhejiang Province, China. The total number of individuals in this demographic is 115,920. The selection of this specific population aims to explore and understand the activities related to value innovation within these firms and their impact on firm performance.

Sample

The sample size for the population was calculated using the formula proposed by Yamane (1967), with an error tolerance of 5%. The formula for a known population size is:

$$n = \frac{N}{1 + N(e^2)}$$

n= Sample size
N= Total number of individuals in the populatione= error tolerance (5%)
e= Error tolerance (5%)

Substituting the values into the formula is shown below,

$$n = \frac{115{,}920}{1 + 115{,}920(0.05^2)}$$

$$= 399$$

From the calculation, an appropriate sample size of 399 was determined. However, to ensure a representative sample, the researcher collected data through online questionnaires from a total of 413 participants.

Sample Selection Method

To ensure the representativeness of the study, the sampling method employed is a random selection approach across the population of 5,751 companies, encompassing 115,920 individuals, in Hangzhou, Zhejiang Province, China. This method aims to provide each individual within these companies an equal opportunity to participate in the study, thereby ensuring a fair representation of the demographic's functions and organizational roles.

Questionnaires will be distributed electronically to identified respondents, with follow-up actions implemented to achieve high response rates and collect high-quality data. High participation rates are anticipated given the study's relevance and targeted approach to respondents. Once responses are collected, they will be rigorously screened to verify their completeness and relevance, ensuring that the data analysis is based on valid and comprehensive input from participants.

Research Instrument

Construction of Research Tools

The research tools used in this study include questionnaires, a study of big data platform enterprises in hangzhou zhejiang province, The development of research tools for China firm performance Influencing factors is based on relevant journals and papers. This questionnaire is divided into six different sections to comprehensively assess the research variables:

Part 1: Questionnaire for respondent screening

The questionnaire in this part aims to identify respondents who are over 21 years old and working in a big data platform enterprise in Hangzhou, Zhejiang Province, which was specified according to the nature of the study. The questionnaire was in the form of a checklist consisting of three questions:

1. Do you work in a big data platform enterprise?
   - ☐ Yes
   - ☐ No (end of the questionnaire)
2. Do you work in Hangzhou, Zhejiang Province?
   - ☐ Yes
   - ☐ No (end of the questionnaire)
3. Are you over 21 years old?
   - ☐ Yes
   - ☐ No (end of the questionnaire)

Part 2: Demographic respondents

This section comprises questions about the demographic characteristics of big data platform enterprise, including gender, age, education level,The size of company, position, length of service, and personal monthly income.The questionnaire was in the form of single-choice questions and included 7 questions:

1. Gender:
   - ☐Male
   - ☐Female
2. Age:
   - ☐21~25years old
   - ☐26~30years old
   - ☐31~35years old
   - ☐36~40years old
   - ☐41~45years old
   - ☐46-50years old
   - ☐51-55years old
   - ☐Above 56years old
3. Education level (including studying)
   - ☐Junior high school and below
   - ☐High school
   - ☐Junior college
   - ☐Undergraduate degree
   - ☐Postgraduate (Master and Doctor)
4. The size of your company
   - ☐Less than 50 people
   - ☐51-200 people
   - ☐201-500 people
   - ☐501 and above
5. Your position
   - ☐Ordinary and general staff
   - ☐Grassroots manager
   - ☐Middle management
   - ☐Senior management
6. Your length of service
   - ☐2 years or less
   - ☐2 to 4 years

☐4 to 6 years
☐6 to 8 years
☐8 years or above

7. Your personal monthly income
☐3001-6000 yuan
☐6001-9000 yuan
☐9001-12,000 yuan
☐12,001-15,000 yuan
☐15,001-18,000 yuan
☐More than 18,000 yuan

Part 3: Business Model Innovation

The BMI questionnaire adopts Likert 5-point scale and contains 3 criteria (9 items in total):

1. Value Creation innovation
2. Value Proposition innovation
3. Value capture innovation

Part 4: Firm Resources

The Firm Resources questionnaire adopts Likert 5-point scale and contains 3 criteria (9 items in total):

1. Organizational culture
2. Human capital
3. Innovation

Part 5: IT Capability

The IT Capability questionnaire adopts Likert 5-point scale and contains 3 criteria (9 items in total):

1. IT infrastructure Capability
2. IT business spanning Capability
3. IT proactive stance Capability

Part 6: Firm performance

The Firm performance questionnaire adopts Likert 5-point scale (6 items in total).

Measurement of Variables

Based on the content of this study, the specific measurement items of each variable were developed, as shown in Table 5 below:

Table 5 Variable measurement items and reference sources

Variable	Code	Measurement Items	Reference Source
Value Creation innovation	VC1	1.Our firm regularly updates its technology and equipment to stay at the forefront of industry innovation.	Vaska, S. et al. (2021); Mentera. et al. (2022); Hai Guo, (2022)
	VC2	2.We actively seek and establish partnerships that contribute to new and enhanced value in our offerings.	
	VC3	3.We continue to optimize our operational processes to better meet market needs.	
Value Proposition innovation	VP1	1.Our firm consistently introduces products or services that are significantly innovative compared to existing market offerings.	Vaska, S. et al. (2021); Mentera, et al. (2022); Hai Guo, (2022)
	VP2	2.We prioritize understanding and addressing specific, unmet customer needs through our product or service development	
	VP3	3.Our products enhance customer engagement by integrating innovative features or applying digital technologies.	
Value capture innovation	VCI1	1.Our company has successfully developed and implemented new revenue models that have opened up additional income streams.	Vaska, S. et al. (2021); Mentera, et al. (2022); Hai Guo. (2022)
	VCI2	2.We have innovatively altered our cost structures to gain a competitive edge in pricing while maintaining or improving quality.	
	VCI3	3.The introduction of new technologies has significantly enhanced our ability to capture value from our market offerings.	

Table 5 (Continued)

Variable	Code	Measurement Items	Reference Source
Organizational culture	OC1	1. Our organization actively cultivates an environment that encourages innovation and creative problem-solving.	Philip and Somboon (2003); Salih and Ahmet (2012); Muhammad, et al. (2012)
	OC2	2. The core values of our organization are well-understood and embraced by all members.	
	OC3	3.Our organizational practices are designed to swiftly adapt to changes in the competitive landscape.	
Human capital	HC1	1.We effectively retained key employees and ensured high job satisfaction.	Philip and Somboon (2003); Salih and Ahmet (2012); Muhammad, et al. (2012)
	HC2	2.Our workforce is comprised of individuals with expert knowledge and skills in their respective areas.	
	HC3	3.Our firm excels in attracting talent with the specialized knowledge and skills essential for our business needs.	
Innovation	I1	1.Our firm has successfully launched a significant number of new services in the market recently.	Philip and Somboon (2003); Salih and Ahmet (2012); Muhammad, et al. (2012)
	I2	2.We have made numerous impactful modifications to our existing services to enhance their value.	
	I3	3.Our organization is proactive in identifying and developing potential new services to meet emerging market needs.	

Table 5 (Continued)

Variable	Code	Measurement Items	Reference Source
IT infrastructure Capability	ITI1	1.Our IT infrastructure consistently delivers reliable performance, crucial for our day-to-day business operations.	Joseph K. and Yaman. (2016); Rahman, J. M., & Zhao, N. (2020); Ilmudeen, A. (2022)
	ITI2	2.We ensure the security of our IT systems to protect company data and maintain confidentiality.	
	ITI3	3.Our IT infrastructure is adaptable, allowing us to quickly respond to changing business demands.	
IT business spanning Capability	ITB1	1.Our IT and business strategic planning processes are closely aligned and mutually supportive.	Joseph K. and Yaman. (2016); Rahman, J. M., & Zhao, N. (2020); Ilmudeen, A. (2022)
	ITB2	2.Functional and general managers clearly understand the value of our IT investments.	
	ITB3	3.We have established a flexible IT planning process that is responsive to our business's evolving needs.	
IT proactive stance Capability	ITP1	1.We consistently monitor and adopt the latest IT innovations relevant to our industry.	Joseph K. and Yaman. (2016); Rahman, J. M., & Zhao, N. (2020); Ilmudeen, A. (2022)
	ITP2	2.Our organization actively experiments with emerging IT solutions to assess their business value.	
	ITP3	3.Leveraging new IT technologies is a key part of our strategy to maintain a competitive advantage.	

Table 5 (Continued)

Variable	Code	Measurement Items	Reference Source
Firm performance	FP1	1.Our company has significantly increased its sales revenue over the past fiscal year.	HERCIU Mihaela, (2017); Latifi, M. A.et al. (2020); Huang, Q.et al. (2023)
	FP2	2.Our return on investment (ROI) and return on assets (ROA) improved during the most recent fiscal period	
	FP3	3.Our market share in the big data platform sector has expanded compared to the previous year.	
	FP4	1.Sales from existing customers increased and we succeeded in attracting more new customers.	
	FP5	2. Customer satisfaction and loyalty have been significantly improved.	
	FP6	3. The service quality we provide has been greatly improved.	

Quality Testing of Research Instruments

In this study, a preliminary questionnaire was conducted, the results of which were incorporated into the questionnaire and pretested to ensure the reliability and validity of the questionnaire during its use. To ensure the validity and reliability of the questionnaire, we used an electronic questionnaire platform and utilized a variety of electronic methods to conduct the questionnaire. To verify the reliability and validity of the survey, the questionnaire was randomly distributed to the survey instruments and analyzed for reliability and validity.

Reliability Testing

Reliability test is a common method to assess the reliability and accuracy of a questionnaire. There are various methods of reliability testing, including split reliability, retest reliability, and the famous Cronbach's alpha coefficient method. In this paper, Cronbach's Alpha coefficient method was chosen to assess the reliability

of the designed questionnaire variables. Reliability analysis aims at detecting the agreement between two or more identical items, and the results show that higher agreement means that the content analysis is more credible. In general, good questionnaire reliability coefficients are usually above 0.8. If the coefficient is between 0.7 and 0.8, the reliability of the questionnaire is acceptable; if the coefficient is less than 0.6, the questionnaire should be considered to be discarded.

In this paper, the statistical software SPSS27.0 is used to measure the questionnaire items Value Creation innovation, Value Proposition innovation, Value capture innovation, Organizational culture, Human capital, Innovation, IT infrastructure Capability, IT business spanning Capability, The sample data of IT proactive stance Capability, and Firm Performance should be tested for reliability, and the test results are shown in Table 6.

Table 6 Reliability Statistics

Variable	Number	Cronbach α	Analysis
Value Creation innovation	3	0.813	>0.8
Value Proposition innovation	3	0.808	>0.8
Value capture innovation	3	0.805	>0.8
Organizational culture	3	0.826	>0.8
Human capital	3	0.822	>0.8
Innovation	3	0.821	>0.8
IT infrastructure Capability	3	0.834	>0.8
IT business spanning Capability	3	0.823	>0.8
IT proactive stance Capability	3	0.800	>0.8
Firm Performance	6	0.915	>0.9
Overall questionnaire	33	0.937	>0.9

Validity Analysis

For each variable in the paper, based on the previous reliability analysis, we continue to conduct validity tests. Validity is categorized into two types: intrinsic validity and extrinsic structural validity. Intrinsic validity is concerned with the accuracy and truthfulness of the research statements, while extrinsic validity considers the issue of correctness of reasoning. To ensure the validity of the variables, we mainly used scales that are well-established by scholars, which ensured the measurement validity of the paper's variables to a certain extent. Before the variables

were subjected to principal component analysis, in order to assess the structural validity of the potential variables, we conducted the KMO test and sphericity test, which prepared us for the next factor analysis. According to Kaiser, KMO is very suitable for factor analysis when it is greater than 0.9, while it is not suitable for factor analysis when it is less than 0.5; in the case of between 0.6 and 0.7, factor analysis can be performed though barely.

In Table 7, the Kaiser-Meyer-Olkin (KMO) measurement sampling suitability score is 0.922, indicating that the data are very suitable for factor analysis. A KMO value greater than 0.9 indicates that the data are very suitable for factor analysis. The approximate chi-square value obtained by Bartlett's test of sphericity is 6884.584 with 528 degrees of freedom and a significance level of.000, which indicates that there is sufficient correlation among the variables for factor analysis.

Table 7 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.922
Bartlett's Test of Sphericity	Approx. Chi-Square	6884.584
	df	528
	Sig.	0.000

Through principal component analysis and rotation of Caesar's normal maximum variance method, the variables are divided into 10 factors, each of which contains different variable dimensions, such as value creation innovation, value proposition innovation, value capture innovation, organizational culture, human capital, innovation, IT infrastructure capability, IT business spanning capability, IT positive posture capability and firm performance.

Table 8 Variable factor analysis results

variable	Code	Element									
		1	2	3	4	5	6	7	8	9	10
	VC1			0.785							
Value Creation innovation	VC2			0.803							
	VC3			0.758							
	VP1						0.736				
Value Proposition innovation	VP2						0.789				
	VP3						0.765				
	VCI1										0.743
Value capture innovation	VCI2										0.817
	VCI3										0.791
	OC1					0.815					
Organizational culture	OC2					0.766					
	OC3					0.778					
	HC1							0.741			
Human capital	HC2							0.805			
	HC3							0.766			
	I1		0.800								
Innovation	I2		0.784								
	I3		0.751								
	ITI1									0.764	
IT infrastructure Capability	ITI2									0.781	
	ITI3									0.780	
	ITB1				0.797						
IT business spanning Capability	ITB2				0.790						
	ITB3				0.738						

Table 8 (Continued)

variable	Code	Element									
		1	2	3	4	5	6	7	8	9	10
IT proactive	ITP1								0.802		
stance	ITP2								0.761		
Capability	ITP3								0.798		
	FP1	0.798									
	FP2	0.753									
Firm	FP3	0.757									
performance	FP4	0.794									
	FP5	0.760									
	FP6	0.789									
Characteristic root value (before rotation)		11.00	2.09	1.73	1.60	1.47	1.38	1.36	1.29	1.20	1.14
Variance explained rate %(before rotation)		33.34%	6.32 %	5.23 %	4.86 %	4.45 %	4.19 %	4.12 %	3.91 %	3.64 %	3.44 %
Cumulative variance explained rate %(before rotation)		33.34%	39.66%	44.90%	49.75%	54.20%	58.39%	62.51%	66.42%	70.06%	73.50 %
Characteristic root value (after rotation)		4.39	2.24	2.23	2.23	2.22	2.21	2.20	2.19	2.18	2.17
Variance explained rate %(after rotation)		13.31%	6.79 %	6.75 %	6.74 %	6.73 %	6.70 %	6.66 %	6.65 %	6.60 %	6.56 %
Cumulative variance explained rate %(after rotation)		13.31%	20.11 %	26.86%	33.60%	40.33%	47.03%	53.69%	60.34%	66.94%	73.50 %

Extraction method: principal component analysis.
Rotation method: Caesar normalized maximum variance method.
a. The rotation has converged after seven iterations.

The factor loading values of each variable on different factors are listed in Tables 3-4, and these values indicate the degree of correlation between the variable

and the factor. For example, value creation innovations (VC1, VC2, VC3) are mainly related to the third factor, with factor loading values of.785,.803, and.758, respectively. The eigenvalue and variance explanation rate before and after rotation show the contribution degree of each factor to the total variance, and the rotated data are more helpful to explain the explanatory power of each factor to the variables.

Data Collection

In this study, we will first rely on two main sources of information,

Primary Data

Primary data were collected through Chinese online questionnaires produced through Questionnaire Star and distributed to respondents from big data platform companies with data collected in Hangzhou through QQ and WeChat. The online questionnaire was used in this study because it is efficient and less costly.

Secondary Data

Secondary data includes information collected from a variety of sources, including literature reviews, concepts, theories, and related studies about the paper. This category also includes data obtained through internet searches of academic databases, institutional websites, and reputable online resources. These secondary sources played a vital role in shaping the questionnaire and enhancing the overall understanding of the research variables.

Data Analysis

Data analysis can be divided into two categories: descriptive analysis and hypothetical analysis.

1. Descriptive analysis is used to clarify the general nature of the sample data. Based on its purpose, the analysis can be divided into the following categories:

Part 1: This part consists of the demographic characteristics of the respondent, including gender, age, education level, firm size, position, job tenure, and personal monthly income. The analysis will use descriptive statistics and the results will be expressed as percentages.

Part 2: This part is divided into questionnaire survey, which mainly studies the questionnaire part of independent variable BMI, enterprise resources, and IT capability. The data will be analyzed using descriptive analysis statistics including mean and standard deviation.

Part 3: This is the part of the questionnaire on the dependent variable enterprise performance question. Data were analyzed using descriptive analysis statistics, including mean and standard deviation.

Therefore, the class stratification is 0.8 and is used to classify the mean and criterion scores with the following descriptions:

Range of Score	Level of agreement
4.21 – 5.00	Strongly Agree
3.41 – 4.20	Agree
2.61 – 3.40	Neutral
1.81 – 2.60	Disagree
1.00 – 1.80	Strongly Disagree

2. Hypothesis analysis is to use SPSS statistical package to study the sample data and test the hypotheses.The analysis will involve correlation analysis and linear regression analysis to assess the impact of independent variables (BMI, firm resources, IT capabilities) on the dependent variable (firm performance).

CHAPTER IV

RESULTS

The formal online questionnaire employed in this study comprised 43 items, from which a total of 413 questionnaires were successfully collected. As detailed in Chapter III, these questionnaires underwent rigorous reliability testing and validity analysis prior to the statistical evaluation.

1 Descriptive Statistical Analysis

1.1 General Demographic Characteristics of the Respondents

1.2 Factors of Business Model Innovation

1.3 Factors of Firm Resources

1.4 Factors of IT Capability

1.5 Factors of Fir Performance

2 Inferential Data Analysis for Hypothesis Testing

2.1 Correlation Analysis

2.2 Regression Analysis

3 Hypothesis Testing and Conclusion

Descriptive Statistical Analysis

General Demographic Characteristics of the Respondents

This study conducted a questionnaire survey involving 413 participants to explore consumer demographics. Table 4-1 details the frequency and percentage of participants' gender, age, education level, company size, job level, length of service, and personal monthly income.

Table 9 Demographic variables analysis (N=413)

Variable	classification	Frequency	Percentage
Gender	male	198	47.94
	female	215	52.06
Age	21~25years old	29	7.02
	26~30years old	97	23.49
	31~35years old	74	17.92
	36~40years old	69	16.71
	41~45years old	64	15.5
	46-50years old	41	9.93
	51-55years old	26	6.3
	Above 56years old	13	3.15
Educational level (including current studies)	Junior high school and below	33	7.99
	high school	51	12.35
	Junior college	148	35.84
	Undergraduate degree	147	35.59
	Postgraduate (Master and Doctor)	34	8.23
The size of your company	Less than 50 people	20	4.84
	51-200 people	75	18.16
	201-500 people	201	48.67
	501 and above	117	28.33
Your position	Ordinary and general staff	112	27.12
	Grassroots manager	144	34.87
	Middle management	141	34.14
	Senior management	16	3.87
Your length of service	2 years or less	78	18.89
	2 to 4 years	47	11.38
	4 to 6 years	52	12.59
	6 to 8 years	64	15.5
	8 years or above	172	41.65
Your personal monthly income	3001-6000 yuan	109	26.39%
	6001-9000 yuan	177	42.86%
	9001-12,000 yuan	91	22.03%
	12,001-15,000 yuan	23	5.57%
	15,001-18,000 yuan	11	2.66%
	More than 18,000 yuan	2	0.48%

Gender: The gender distribution shows that 198 participants (47.94%) are male and 215 participants (52.06%) are female, indicating a slight female majority in the sample.

Age: The age distribution predominantly features participants aged 26-30 years, with 97 participants (23.49%), and 31-35 years, with 74 participants (17.92%), highlighting a concentration in the young and middle-aged cohorts.

Education Level: Participants with a college or bachelor's degree make up 71.43% of the total sample. Specifically, 148 participants (35.84%) have a college degree and 147 participants (35.59%) hold a bachelor's degree, underscoring the higher educational background of the participant group.

Company Size: The majority of respondents are employed in medium-sized enterprises (201-500 employees), accounting for 201 participants (48.67%) of the sample, suggesting predominant participation from this sector.

Job Level: The survey included grassroots managers (144 participants, 34.87%), middle management (141 participants, 34.14%), and ordinary/general employees (112 participants, 27.12%), showcasing a diverse range of participants across career levels.

Length of Service: The tenure distribution reveals that 172 respondents (41.65%) have been in their current position for over 8 years, indicating a significant presence of experienced professionals.

Factors of Business Model Innovation

The Business Model Innovation factors that affect firm performance in big data platform companies, Hangzhou, Zhejiang Province, China include value creation, value proposition, and value capture innovation. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 10 Mean and Standard Deviation of Business Model Innovation

Business Model Innovation (BMI)	Mean	Standard Deviation	Definition of Level
Value creation	3.39	0.980	Neutral
Value proposition	3.31	0.983	Neutral
Value capture innovation	3.38	0.965	Neutral
Total	**3.34**	**0.743**	**Neutral**

From Table 10, it was found that the respondents had opinions about Business Model Innovation (BMI) at the level of neutral, with an overall mean score of 3.34. Specifically:

Value creation was rated neutral, with a mean score of 3.39 and a standard deviation of 0.980. This suggests that respondents had a balanced view regarding the firm's efforts in creating value through innovative business models.Value proposition was also rated neutral, with a mean score of 3.31 and a standard deviation of 0.983. This indicates that respondents neither strongly agreed nor disagreed with the effectiveness of the firm's value propositions.Value capture innovation received a neutral rating as well, with a mean score of 3.38 and a standard deviation of 0.965. This reflects a moderate stance among respondents on the firm's ability to capture value through innovative means.

Table 11 Mean and Standard Deviation of Value creation in BMI

Value creation	Mean	Standard Deviation	Definition of Level
1. Our firm regularly updates its technology and equipment to stay at the forefront of industry innovation.	3.35	1.121	Neutral
2. We actively seek and establish partnerships that contribute to new and enhanced value in our offerings.	3.31	1.165	Neutral
3. We continue to optimize our operational processes to better meet market needs.	3.36	1.187	Neutral
Total	**3.34**	**0.988**	**Neutral**

From Table 11, it was found that the respondents had opinions about Value Creation in BMI at the level of neutral (Mean = 3.34). Specifically:

Respondents had neutral opinions about the firm's efforts in regularly updating its technology and equipment to stay at the forefront of industry innovation, with a mean of 3.35.Opinions were also neutral regarding the firm's activity in seeking and establishing partnerships that contribute to new and enhanced value in their offerings, with a mean of 3.31.Lastly, respondents expressed neutral opinions about the firm's continuous optimization of operational processes to better meet market needs, with a mean of 3.36.

Table 12 Mean and Standard Deviation of Value Proposition in BMI

Value Proposition	Mean	Standard Deviation	Definition of Level
1.Our firm consistently introduces products or services that are significantly innovative compared to existing market offerings.	3.32	1.159	Neutral
2.We prioritize understanding and addressing specific, unmet customer needs through our product or service development.	3.30	1.151	Neutral
3.Our products enhance customer engagement by integrating innovative features or applying digital technologies.	3.32	1.157	Neutral
Total	**3.31**	**0.983**	**Neutral**

From Table 12, it was found that the respondents had neutral opinions about the Value Proposition in the BMI, with an overall mean score of 3.31. Specifically:

Respondents had neutral opinions about the firm's efforts to consistently introduce products or services that are significantly innovative compared to existing market offerings, with a mean score of 3.32.The firm's priority in understanding and addressing specific, unmet customer needs through product or service development also received neutral opinions, with a mean score of 3.30.The firm's products enhancing customer engagement by integrating innovative features or applying digital technologies were rated neutral as well, with a mean score of 3.32.

Table 13 Mean and Standard Deviation of Value capture innovation in BMI

Value capture innovation	Mean	Standard Deviation	Definition of Level
1.Our company has successfully developed and implemented new revenue models that have opened up additional income streams.	3.34	1.141	Neutral
2.We have innovatively altered our cost structures to gain a competitive edge in pricing while maintaining or improving quality.	3.40	1.094	Neutral
3.The introduction of new technologies has significantly enhanced our ability to capture value from our market offerings.	3.41	1.176	Agree
Total	**3.38**	**0.965**	**Neutral**

From Table 13, it was found that the respondents had opinions about Value Capture Innovation in the BMI at the level of neutral, with an overall mean score of 3.38. Specifically:

Respondents had neutral opinions about the company's success in developing and implementing new revenue models that have opened up additional income streams, with a mean score of 3.34.The company's innovative alterations to cost structures, aimed at gaining a competitive edge in pricing while maintaining or improving quality, were also rated neutral, with a mean score of 3.40.The introduction of new technologies significantly enhancing the company's ability to capture value from market offerings received a rating of agree, with a mean score of 3.41.

Factors of Firm Resources

The Firm Resources factors that affect firm performance in big data platform companies, Hangzhou, Zhejiang Province, China include organizational culture, human capital, and innovation. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 14 Mean and Standard Deviation of Firm Resources

Firm Resources	Mean	Standard Deviation	Definition of Level
Organizational culture	3.37	0.98	Neutral
Human capital	3.32	1.039	Neutral
Innovation	3.34	1.017	Neutral
Total	**3.34**	**0.791**	**Neutral**

From Table 14, it was found that the respondents had opinions about Firm Resources at the level of neutral, with an overall mean score of 3.34. Specifically:

Organizational culture was rated neutral, with a mean score of 3.37 and a standard deviation of 0.98. This suggests that respondents had a balanced view regarding the firm's organizational culture and its impact on firm resources.Human capital was also rated neutral, with a mean score of 3.32 and a standard deviation of 1.039. This indicates that respondents neither strongly agreed nor disagreed with the effectiveness of the firm's human capital.Innovation received a neutral rating as well, with a mean score of 3.34 and a standard deviation of 1.017. This reflects a moderate stance among respondents on the firm's innovative capabilities.

Table 15 Mean and Standard Deviation of Organizational culture in Firm Resources

Organizational culture	Mean	Standard Deviation	Definition of Level
1. Our organization actively cultivates an environment that encourages innovation and creative problem-solving.	3.41	1.149	Agree
2. The core values of our organization are well-understood and embraced by all members.	3.37	1.135	Neutral
3.Our organizational practices are designed to swiftly adapt to changes in the competitive landscape.	3.33	1.162	Neutral
Total	**3.37**	**0.98**	**Neutral**

From Table 15, it was found that the respondents had opinions about Organizational Culture in Firm Resources at the level of neutral, with an overall mean score of 3.37. Specifically:

Respondents agreed that the organization actively cultivates an environment that encourages innovation and creative problem-solving, with a mean score of 3.41.Opinions about the core values of the organization being well-understood and embraced by all members were neutral, with a mean score of 3.37.The organization's practices being designed to swiftly adapt to changes in the competitive landscape also received neutral opinions, with a mean score of 3.33.

Table 16 Mean and Standard Deviation of Human capital in Firm Resources

Human capital	Mean	Standard Deviation	Definition of Level
1.We effectively retained key employees and ensured high job satisfaction.	3.30	1.227	Neutral
2.Our workforce is comprised of individuals with expert knowledge and skills in their respective areas.	3.30	1.181	Neutral
3.Our firm excels in attracting talent with the specialized knowledge and skills essential for our business needs.	3.36	1.222	Neutral
Total	**3.32**	**1.039**	**Neutral**

From Table 16, it was found that the respondents had opinions about Human Capital in Firm Resources at the level of neutral, with an overall mean score of 3.32. Specifically:

Respondents had neutral opinions about the firm's effectiveness in retaining key employees and ensuring high job satisfaction, with a mean score of 3.30.The workforce being comprised of individuals with expert knowledge and skills in their respective areas also received neutral opinions, with a mean score of 3.30.The firm's excellence in attracting talent with the specialized knowledge and skills essential for business needs was also rated neutral, with a mean score of 3.36.

Table 17 Mean and Standard Deviation of Innovation in Firm Resources

Innovation	Mean	Standard Deviation	Definition of Level
1.Our firm has successfully launched a significant number of new services in the market recently.	3.28	1.190	Neutral
2.We have made numerous impactful modifications to our existing services to enhance their value.	3.38	1.167	Neutral
3.Our organization is proactive in identifying and developing potential new services to meet emerging market needs.	3.35	1.200	Neutral
Total	**3.34**	**1.017**	**Neutral**

From Table 17, it was found that the respondents had opinions about Innovation in Firm Resources at the level of neutral, with an overall mean score of 3.34. Specifically:

Respondents had neutral opinions about the firm's success in launching a significant number of new services in the market recently, with a mean score of 3.28.The firm's impactful modifications to existing services to enhance their value received neutral opinions, with a mean score of 3.38.The organization's proactivity in identifying and developing potential new services to meet emerging market needs was also rated neutral, with a mean score of 3.35.

Factors of IT Capability

The IT capability factors that affect firm performance in big data platform companies, Hangzhou, Zhejiang Province, China include IT infrastructure capability, IT business spanning capability, and IT proactive stance capability. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 18 Mean and Standard Deviation of IT Capability

IT Capability	Mean	Standard Deviation	Definition of Level
IT infrastructure capability	3.30	1.056	Neutral
IT business spanning capability	3.29	0.998	Neutral
IT proactive stance capability	3.33	0.969	Neutral
Total	**3.31**	**0.768**	**Neutral**

From Table 4-10, it was found that the respondents had opinions about IT Capability at the level of neutral, with an overall mean score of 3.31. Specifically:

IT infrastructure capability was rated neutral, with a mean score of 3.30 and a standard deviation of 1.056. This suggests that respondents had a balanced view regarding the firm's IT infrastructure and its reliability for business operations.IT business spanning capability was also rated neutral, with a mean score of 3.29 and a standard deviation of 0.998. This indicates that respondents neither strongly agreed nor disagreed with the alignment and mutual support between IT and business strategic planning processes.IT proactive stance capability received a neutral rating as well, with a mean score of 3.33 and a standard deviation of 0.969. This reflects a moderate stance among respondents on the firm's proactive efforts in monitoring and adopting the latest IT innovations relevant to the industry.

Table 19 Mean and Standard Deviation of IT infrastructure Capability in IT Capability

IT infrastructure Capability	Mean	Standard Deviation	Definition of Level
1.Our IT infrastructure consistently delivers reliable performance, crucial for our day-to-day business operations.	3.23	1.231	Neutral
2.We ensure the security of our IT systems to protect company data and maintain confidentiality.	3.33	1.200	Neutral
3.Our IT infrastructure is adaptable, allowing us to quickly respond to changing business demands.	3.33	1.224	Neutral
Total	**3.30**	**1.056**	**Neutral**

From Table 19, it was found that the respondents had opinions about IT Infrastructure Capability in IT Capability at the level of neutral, with an overall mean score of 3.30. Specifically:

Respondents had neutral opinions about the IT infrastructure consistently delivering reliable performance, which is crucial for day-to-day business operations, with a mean score of 3.23.The security of IT systems to protect company data and maintain confidentiality received neutral opinions, with a mean score of 3.33.The adaptability of IT infrastructure, allowing quick responses to changing business demands, was also rated neutral, with a mean score of 3.33.

Table 20 Mean and Standard Deviation of IT business spanning Capability in IT Capability

IT business spanning Capability	Mean	Standard Deviation	Definition of Level
1.Our IT and business strategic planning processes are closely aligned and mutually supportive.	3.27	1.166	Neutral
2.Functional and general managers clearly understand the value of our IT investments.	3.30	1.156	Neutral
3.We have established a flexible IT planning process that is responsive to our business's evolving needs.	3.31	1.163	Neutral
Total	**3.29**	**0.998**	**Neutral**

From Table 20, it was found that the respondents had opinions about IT Business Spanning Capability in IT Capability at the level of neutral, with an overall mean score of 3.29. Specifically:

Respondents had neutral opinions about the alignment and mutual support between IT and business strategic planning processes, with a mean score of 3.27.The understanding of the value of IT investments by functional and general managers also received neutral opinions, with a mean score of 3.30.The establishment of a flexible IT planning process that is responsive to the business's evolving needs was rated neutral, with a mean score of 3.31.

Table 21 Mean and Standard Deviation of IT proactive stance Capability in IT Capability

IT proactive stance Capability	Mean	Standard Deviation	Definition of Level
1.We consistently monitor and adopt the latest IT innovations relevant to our industry.	3.35	1.149	Neutral
2.Our organization actively experiments with emerging IT solutions to assess their business value.	3.32	1.151	Neutral
3.Leveraging new IT technologies is a key part of our strategy to maintain a competitive advantage.	3.33	1.138	Neutral
Total	**3.33**	**0.969**	**Neutral**

From Table 21, it was found that the respondents had opinions about IT Proactive Stance Capability in IT Capability at the level of neutral, with an overall mean score of 3.33. Specifically:

Respondents had neutral opinions about the firm's consistent monitoring and adoption of the latest IT innovations relevant to their industry, with a mean score of 3.35.The firm's active experimentation with emerging IT solutions to assess their business value also received neutral opinions, with a mean score of 3.32.Leveraging new IT technologies as a key part of the firm's strategy to maintain a competitive advantage was rated neutral, with a mean score of 3.33.

Factors of Fir Performance

In the descriptive statistical analysis of company performance, six main aspects are as follows:

Table 22 Mean and Standard Deviation of of Firm performance

Firm performance	Mean	Standard Deviation	Definition of Level
1.Our company has significantly increased its sales revenue over the past fiscal year.	3.22	1.216	Neutral
2.Our return on investment (ROI) and return on assets (ROA) improved during the most recent fiscal period	3.31	1.195	Neutral
3.Our market share in the big data platform sector has expanded compared to the previous year.	3.32	1.248	Neutral
4.Sales from existing customers increased and we succeeded in attracting more new customers.	3.31	1.214	Neutral
5. Customer satisfaction and loyalty have been significantly improved.	3.25	1.182	Neutral
6. The service quality we provide has been greatly improved.	3.27	1.163	Neutral
Total	**3.28**	**1.008**	**Neutral**

From Table 22, it was found that the respondents had opinions about Firm Performance at the level of neutral, with an overall mean score of 3.28. Specifically:

Respondents had neutral opinions about the company's significant increase in sales revenue over the past fiscal year, with a mean score of 3.22.The improvement in return on investment (ROI) and return on assets (ROA) during the most recent fiscal period received neutral opinions, with a mean score of 3.31.The expansion of the company's market share in the big data platform sector compared to the previous year was also rated neutral, with a mean score of 3.32.The increase in sales from existing customers and the success in attracting more new customers received neutral opinions, with a mean score of 3.31.Customer satisfaction and loyalty improvements were also rated neutral, with a mean score of 3.25.The significant improvement in service quality provided by the company received neutral opinions, with a mean score of 3.27.

Inferential Data Analysis for Hypothesis Testing

Correlation Analysis

Table23 shows that there is a positive correlation between various innovation capabilities and firm performance:

There is a positive correlation between Value Creation innovation and Value Proposition innovation (r=0.419, p<0.01).There is a positive correlation between Value Creation innovation and Value capture innovation (r=0.322, p<0.01).There is a positive correlation between Value Creation innovation and Organizational culture (r=0.341, p<0.01).There is a positive correlation between Value Creation innovation and Human capital (r=0.384, p<0.01).There is a positive correlation between Value Creation innovation and Innovation (r=0.364, p<0.01).There is a positive correlation between Value Creation innovation and IT infrastructure Capability (r=0.448, p<0.01).There is a positive correlation between Value Creation innovation and IT business spanning Capability (r=0.348, p<0.01).There is a positive correlation between Value Creation innovation and IT proactive stance Capability (r=0.322, p<0.01).There is a positive correlation between Value Creation innovation and Firm performance (r=0.413, p<0.01).

There is a positive correlation between Value Proposition innovation and Value capture innovation (r=0.353, p<0.01).There is a positive correlation between Value Proposition innovation and Organizational culture (r=0.354, p<0.01).There is a positive correlation between Value Proposition innovation and Human capital (r=0.329, p<0.01).There is a positive correlation between Value Proposition innovation and Innovation (r=0.415, p<0.01).There is a positive correlation between Value Proposition innovation and IT infrastructure Capability (r=0.443, p<0.01).There is a positive correlation between Value Proposition innovation and IT business spanning Capability (r=0.416, p<0.01).There is a positive correlation between Value Proposition innovation and IT proactive stance Capability (r=0.381, p<0.01).There is a positive correlation between Value Proposition innovation and Firm performance (r=0.428, p<0.01).

There is a positive correlation between Value capture innovation and Organizational culture (r=0.389, p<0.01).There is a positive correlation between Value capture innovation and Human capital (r=0.377, p<0.01).There is a positive correlation between Value capture innovation and Innovation (r=0.318, p<0.01).There is a positive correlation between Value capture innovation and IT infrastructure Capability (r=0.321, p<0.01).There is a positive correlation between Value capture innovation

and IT business spanning Capability (r=0.346, p<0.01).There is a positive correlation between Value capture innovation and IT proactive stance Capability (r=0.350, p<0.01).There is a positive correlation between Value capture innovation and Firm performance (r=0.420, p<0.01).

There is a positive correlation between Organizational culture and Human capital (r=0.427, p<0.01).There is a positive correlation between Organizational culture and Innovation (r=0.389, p<0.01).There is a positive correlation between Organizational culture and IT infrastructure Capability (r=0.359, p<0.01).There is a positive correlation between Organizational culture and IT business spanning Capability (r=0.396, p<0.01).There is a positive correlation between Organizational culture and IT proactive stance Capability (r=0.326, p<0.01).There is a positive correlation between Organizational culture and Firm performance (r=0.419, p<0.01).

There is a positive correlation between Human capital and Innovation (r=0.418, p<0.01).There is a positive correlation between Human capital and IT infrastructure Capability (r=0.425, p<0.01).There is a positive correlation between Human capital and IT business spanning Capability (r=0.427, p<0.01).There is a positive correlation between Human capital and IT proactive stance Capability (r=0.351, p<0.01).There is a positive correlation between Human capital and Firm performance (r=0.438, p<0.01).

There is a positive correlation between Innovation and IT infrastructure Capability (r=0.412, p<0.01).There is a positive correlation between Innovation and IT business spanning Capability (r=0.409, p<0.01).There is a positive correlation between Innovation and IT proactive stance Capability (r=0.331, p<0.01).There is a positive correlation between Innovation and Firm performance (r=0.420, p<0.01).

There is a positive correlation between IT infrastructure Capability and IT business spanning Capability (r=0.423, p<0.01).There is a positive correlation between IT infrastructure Capability and IT proactive stance Capability (r=0.331, p<0.01).There is a positive correlation between IT infrastructure Capability and Firm performance (r=0.436, p<0.01).

There is a positive correlation between IT business spanning Capability and IT proactive stance Capability (r=0.355, p<0.01).There is a positive correlation between IT business spanning Capability and Firm performance (r=0.426, p<0.01).There is a positive correlation between IT proactive stance Capability and Firm performance (r=0.390, p<0.01).

Table 23 Correlation analysis

	Value Creation innovation	Value Proposition innovation	Value capture innovation	Organizational culture	Human capital	Innovation	IT infrastructure Capability	IT business spanning Capability	IT proactive stance Capability	Firm performance
Value Creation innovation	1									
Value Proposition innovation	0.419**	1								
Value capture innovation	0.322**	0.353**	1							
Organizational culture	0.341**	0.354**	0.389**	1						
Human capital	0.384**	0.329**	0.377**	0.427**	1					
Innovation	0.364**	0.415**	0.318**	0.389**	0.418**	1				
IT infrastructure Capability	0.448**	0.443**	0.321**	0.359**	0.425**	0.412**	1			
IT business spanning Capability	0.348**	0.416**	0.346**	0.396**	0.427**	0.409**	0.423**	1	.	
IT proactive stance Capability	0.322**	0.381**	0.350**	0.326**	0.351**	0.331**	0.331**	0.355**	1	
Firm performance	0.413**	0.428**	0.420**	0.419**	0.438**	0.420**	0.436**	0.426**	0.390**	1

Remark: **. Correlation is significant at the 0.01 level (2-tailed).

Regression Analysis

Regression Analysis of the BMI

The analysis is conducted with the factors of Value Creation innovation, Value Proposition innovation, and Value Capture innovation affecting firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

Hypothesis 1:BMI positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H1a: The level of Value Creation innovation in big data platform enterprises positively influences their firm performance.

H1b: The level of Value Proposition innovation in big data platform enterprises positively influences their firm performance.

H1c: The level of Value Capture innovation in big data platform enterprises positively influences their firm performance.

Multiple Regression Analysis is used in the analysis to investigate the relationship between the independent and dependent variables. The regression model's independent variable selection process uses the Enter technique. There is a 95% degree of confidence in the analysis. Therefore, if the significance (Sig.) value is less than or equal to 0.05, the alternative hypothesis (H1) will be accepted and the null hypothesis (H0) will be rejected.

The following independent variables have been designated for inclusion in the analysis:

X1 = Value Creation innovation

X2 = Value Proposition innovation

X3 = Value Capture innovation

Y = Firm performance

From the table, it shows that the multiple regression analysis examining the impact on firm performance revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H1). This indicates that at least one aspect of the innovation capabilities significantly influences firm performance with statistical significance at the 0.05 level.

The table provides the analysis results about the impact of Value Creation innovation (X1), Value Proposition innovation (X2), and Value Capture innovation (X3) on firm performance. The findings indicate that the variables Value Creation innovation, Value Proposition innovation, and Value Capture innovation collectively

account for 30.2% of the variance in firm performance, as evidenced by an adjusted R2 value of 0.302.

Consequently, a linear prediction equation can be formulated as follows:

Y=0.762+0.232×Value Creation innovation+0.247×Value Proposition innovation+0.273×Value Capture innovation

Table 24 Regression analysis of the BMI on Firm performance

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	.762	.192		3.974	.000		
	Value Creation innovation	.232	.047	.228	4.916	.000	.790	1.266
Firm performance	Value Proposition innovation	.247	.048	.241	5.144	.000	.772	1.296
	Value capture innovation	.273	.047	.262	5.820	.000	.839	1.192
R				.554				
R Square				.307				
Adjusted R Square				.302				
F	60.406			sig			.000	

Regression Analysis of Firm Resources

The analysis is conducted with the factors of Organizational culture, Human capital, and Innovation affecting firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

Hypothesis 2:Firm Resources positively affect firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H2a: Organizational culture in big data platform enterprises positively influences their firm performance.

H2b: Human capital in big data platform enterprises positively influences their firm performance.

H2c: Innovation within big data platform enterprises positively influences their firm performance.

Multiple Regression Analysis is used in the analysis to investigate the relationship between the independent and dependent variables. The regression model's independent variable selection process uses the Enter technique. There is a 95% degree of confidence in the analysis. Therefore, if the significance (Sig.) value is less than or equal to 0.05, the alternative hypothesis (H1) will be accepted and the null hypothesis (H0) will be rejected.

The following independent variables have been designated for inclusion in the analysis:

X1 = Organizational culture

X2 = Human capital

X3 = Innovation

Y = Firm performance

From the table, it shows that the multiple regression analysis examining the impact on firm performance revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H1). This indicates that at least one aspect of the firm resources significantly influences firm performance with statistical significance at the 0.05 level.

The table provides the analysis results about the impact of Organizational culture (X1), Human capital (X2), and Innovation (X3) on firm performance. The findings indicate that the variables Organizational culture, Human capital, and Innovation collectively account for 29.3% of the variance in firm performance, as evidenced by an adjusted R2 value of 0.293.

Consequently, a linear prediction equation can be formulated as follows:

Y = 0.957 + 0.229 × Organizational culture + 0.238 × Human capital + 0.228 × Innovation

Table 25 Regression analysis of Firm Resources on Firm performance

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
Firm performance	(Constant)	.957	.182		5.271	.000		
	Organizational culture	.229	.048	.225	4.748	.000	.764	1.309
	Human capital	.238	.047	.245	5.110	.000	.743	1.346
	Innovation	.228	.047	.230	4.876	.000	.771	1.297
R				.546				
R Square				.298				
Adjusted R Square				.293				
F	57.992			sig			.000	

Regression Analysis of IT Capability

The analysis is conducted with the factors of IT infrastructure Capability, IT business spanning Capability, and IT proactive stance Capability affecting firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

Hypothesis 3:IT Capability positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H3a: IT infrastructure Capability in big data platform enterprises positively influences their firm performance.

H3b: IT business spanning Capability in big data platform enterprises positively influences their firm performance.

H3c: IT proactive stance Capability in big data platform enterprises positively influences their firm performance.

Multiple Regression Analysis is used in the analysis to investigate the relationship between the independent and dependent variables. The regression model's independent variable selection process uses the Enter technique. There is a 95% degree of confidence in the analysis. Therefore, if the significance (Sig.) value is less than or equal to 0.05, the alternative hypothesis (H1) will be accepted and the null hypothesis (H0) will be rejected.

The following independent variables have been designated for inclusion in the analysis:

X1 = IT infrastructure Capability

X2 = IT business spanning Capability

X3 = IT proactive stance Capability

Y = Firm performance

From the table, it shows that the multiple regression analysis examining the impact on firm performance revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H1). This indicates that at least one aspect of IT capability significantly influences firm performance with statistical significance at the 0.05 level.

The table provides the analysis results about the impact of IT infrastructure Capability (X1), IT business spanning Capability (X2), and IT proactive stance Capability (X3) on firm performance. The findings indicate that the variables IT infrastructure Capability, IT business spanning Capability, and IT proactive stance Capability collectively account for 29.6% of the variance in firm performance, as evidenced by an adjusted R^2 value of 0.296.

Consequently, a linear prediction equation can be formulated as follows:

Y=0.908+0.251×IT infrastructure Capability+0.239×IT business spanning Capability+0.228×IT proactive stance Capability

Table 26 Regression analysis of IT Capability on Firm performance

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	.908	.185		4.896	.000		
	IT infrastructure	.251	.045	.263	5.627	.000	.783	1.277
Firm performance	Capability							
	IT business spanning Capability	.239	.048	.237	5.029	.000	.769	1.300
	IT proactive stance Capability	.228	.047	.219	4.833	.000	.834	1.199
R				.548				
R Square				.301				
Adjusted R Square				.296				
F	58.656			sig			.000	

Regression Analysis of Firm Performance

The inferential data analysis covered in this section is essential to the thorough investigation of the study's hypotheses. The analysis is conducted with the factors of Value Creation innovation, Value Proposition innovation, Value Capture innovation, Organizational culture, Human capital, Innovation, IT infrastructure Capability, IT business spanning Capability, and IT proactive stance Capability affecting firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

Hypothesis 1: BMI positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H1a: The level of Value Creation innovation in big data platform enterprises positively influences their firm performance.

H1b: The level of Value Proposition innovation in big data platform enterprises positively influences their firm performance.

H1c: The level of Value Capture innovation in big data platform enterprises positively influences their firm performance.

Hypothesis 2: Firm Resources positively affect firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H2a: Organizational culture in big data platform enterprises positively influences their firm performance.

H2b: Human capital in big data platform enterprises positively influences their firm performance.

H2c: Innovation within big data platform enterprises positively influences their firm performance.

Hypothesis 3: IT Capability positively affects firm performance in big data platform companies in Hangzhou, Zhejiang Province, China.

H3a: IT infrastructure Capability in big data platform enterprises positively influences their firm performance.

H3b: IT business spanning Capability in big data platform enterprises positively influences their firm performance.

H3c: IT proactive stance Capability in big data platform enterprises positively influences their firm performance.

Multiple Regression Analysis is used in the analysis to investigate the relationship between the independent and dependent variables. The regression model's independent variable selection process uses the Enter technique. There is a 95% degree of confidence in the analysis. Therefore, if the significance (Sig.) value is

less than or equal to 0.05, the alternative hypothesis (H1) will be accepted, and the null hypothesis (H0) will be rejected.

The following independent variables have been designated for inclusion in the analysis:

X1 = Value Creation innovation

X2 = Value Proposition innovation

X3 = Value Capture innovation

X4 = Organizational culture

X5 = Human capital

X6 = Innovation

X7 = IT infrastructure Capability

X8 = IT business spanning Capability

X9 = IT proactive stance Capability

Y = Firm performance

From the table, it shows that the multiple regression analysis examining the impact on firm performance revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H1). This indicates that at least one aspect of the independent variables significantly influences firm performance with statistical significance at the 0.05 level.

The table provides the analysis results about the impact of Value Creation innovation (X1), Value Proposition innovation (X2), Value Capture innovation (X3), Organizational culture (X4), Human capital (X5), Innovation (X6), IT infrastructure Capability (X7), IT business spanning Capability (X8), and IT proactive stance Capability (X9) on firm performance. The findings indicate that the variables collectively account for 38.6% of the variance in firm performance, as evidenced by an adjusted R^2 value of 0.386.

Consequently, a linear prediction equation can be formulated as follows:

Y=0.090+0.104×Value Creation innovation+0.104×Value Proposition innovation+0.145×Value Capture innovation+0.106×Organizational culture+0.106×Human capital+0.096×Innovation+0.100×IT infrastructure Capability+0.095×IT business spanning Capability+0.101×IT proactive stance Capability

Overall, the model shows that the factors value innovation, value proposition innovation, value capture innovation, organizational culture, human capital, innovation, information technology infrastructure capability, IT business boundary

spanning capability and IT initiative capability all have a significant positive impact on firm performance.

We can rank the standardized coefficient, Beta, from highest to lowest in absolute value to determine which variable has the highest relative importance for firm performance. Here is the order of the variables:

Value capture innovation>Human capital>IT infrastructure Capability>Organizational culture>Value Creation innovation>IT proactive stance Capability>Innovation>IT business spanning Capability>Value Proposition innovation.

Through multiple linear regression analysis,this model indicates that the factors of value innovation, value proposition innovation, value capture innovation, organizational culture, human capital, innovation, IT infrastructure capability, IT business spanning capability, and IT proactive stance capability all have a significant positive impact on firm performance.

The higher the average score of Value Creation innovation, the higher the average score of Firm performance. When the average score of Value Creation innovation by one unit, the average score of Firm performances will increase by 0.104 units. Therefore, the hypothesis H1a can be accepted.The higher the average score of Value Proposition innovation, the higher the average score of Firm performance. When the average score of Value Proposition innovation by one unit, the average score of Firm performances will increase by 0.104 units. Therefore, the hypothesis H1b can be accepted.The higher the average score of Value Capture innovation, the higher the average score of Firm performance. When the average score of Value Capture innovation by one unit, the average score of Firm performances will increase by 0.145 units. Therefore, the hypothesis H1c can be accepted.

The higher the average score of Organizational culture, the higher the average score of Firm performance. When the average score of Organizational culture by one unit, the average score of Firm performances will increase by 0.106 units. Therefore, the hypothesis H2a can be accepted.The higher the average score of Human capital, the higher the average score of Firm performance. When the average score of Human capital by one unit, the average score of Firm performances will increase by 0.106 units. Therefore, the hypothesis H2b can be accepted.The higher the average score of Innovation, the higher the average score of Firm performance. When the average score of Innovation by one unit, the average score of Firm performances will increase by 0.096 units. Therefore, the hypothesis H2c can be accepted.

The higher the average score of IT infrastructure Capability, the higher the average score of Firm performance. When the average score of IT infrastructure

Capability by one unit, the average score of Firm performances will increase by 0.100 units. Therefore, the hypothesis H3a can be accepted.The higher the average score of IT business spanning Capability, the higher the average score of Firm performance. When the average score of IT business spanning Capability by one unit, the average score of Firm performances will increase by 0.095 units. Therefore, the hypothesis H3b can be accepted.The higher the average score of IT proactive stance Capability, the higher the average score of Firm performance. When the average score of IT proactive stance Capability by one unit, the average score of Firm performances will increase by 0.101 units. Therefore, the hypothesis H3c can be accepted.

Table 27 Regression analysis on Firm performance

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
Firm performance	(Constant)	.090	.201		.449	.654		
	Value Creation innovation	.104	.048	.102	2.193	.029	.686	1.458
	Value Proposition innovation	.104	.049	.101	2.106	.036	.645	1.551
	Value capture innovation	.145	.047	.138	3.060	.002	.728	1.374
	Organizational culture	.106	.048	.104	2.222	.027	.683	1.463
	Human capital	.106	.047	.109	2.265	.024	.641	1.560
	Innovation	.096	.047	.097	2.051	.041	.669	1.495
	IT infrastructure Capability	.100	.046	.105	2.160	.031	.633	1.580
	IT business spanning Capability	.095	.048	.094	1.975	.049	.656	1.525
	IT proactive stance Capability	.101	.047	.098	2.171	.030	.739	1.354
R				.632				
R Square				.400				
Adjusted R Square				.386				
F	29.790			sig			.000	

Hypothesis Testing and Conclusion

Tables 28 summarize the results and conclusions of the hypothesis tests, covering the impact of value creation innovation, value proposition innovation, value capture innovation, organizational culture, human capital, innovation capability, IT infrastructure capability, IT business boundary spanning capability and IT forward-looking stance capability on corporate performance in big data platform enterprises. The following is a summary and conclusion of the test results of these hypotheses:

Table 28 Hypothesis test results and conclusions

Conclusion	Results
H1a: The level of Value Creation innovation in big data platform enterprises positively influences their firm performance.	**Supported**
H1b: The level of Value Proposition innovation in big data platform enterprises positively influences their firm performance.	**Supported**
H1c: The level of Value Capture innovation in big data platform enterprises positively influences their firm performance.	**Supported**
H2a: Organizational culture in big data platform enterprises positively influences their firm performance.	**Supported**
H2b: Human capital in big data platform enterprises positively influences their firm performance.	**Supported**
H2c: Innovation within big data platform enterprises positively influences their firm performance.	**Supported**
H3a: IT infrastructure Capability in big data platform enterprises positively influences their firm performance.	**Supported**
H3b: IT business spanning Capability in big data platform enterprises positively influences their firm performance.	**Supported**
H3c: IT proactive stance Capability in big data platform enterprises positively influences their firm performance.	**Supported**

CHAPTER V

CONCLUSION, DISCUSSION AND RECOMMENDATION

The conclusion of this study summarizes its findings and confirms the importance of the research question. The discussion section provides insightful information about the larger context by critically analyzing the results, addressing their limitations, and comparing them with previous research. These insights lead to recommendations that give people or organizations specific ways to improve procedures or rules. This thorough approach promotes a greater understanding of the subject matter by summarizing the contributions of the research and providing guidance for future research and practical applications. The topics covered in this chapter are listed below:

1 Conclusion
2 Discussion
3 Research Contribution and Implications
4 Research Limitations
5 Recommendations for Future Research

Conclusion

The impact of business model innovation, firm resources and information technology capabilities on firm performance

This study assesses various dimensions of business model innovation such as value creation, proposition, and capture innovations, which show significant impacts on firm performance due to their roles in adapting to market demands, fulfilling unmet needs, and financial innovation. Additionally, the research examines firm resources highlighting that an organizational culture fostering innovation and the strategic management of human capital are critical in enhancing firm performance. The analysis extends to IT capabilities where robust infrastructure, alignment of IT with business strategies, and proactive adoption of technological advancements play fundamental roles in supporting daily operations and strategic initiatives.

Key drivers of performance of Hangzhou Big Data Platform companies

This study explored in depth the significant impact of business model innovation, organizational resources, and information technology capabilities on firm performance. Continuous innovation activities, through the launch of new services or

the value-added improvement of existing products, are key to maintaining competitive advantage. Business model innovation, especially innovative practices in value creation, value proposal and value capture, not only responds to market demand and unmet needs of customers, but also improves revenue model and cost structure through financial innovation, thus directly promoting the improvement of enterprise performance.

Organizational resources, especially those that foster a cultural environment that fosters innovation and problem solving, and strategic management of key talent, are shown to be key factors in improving firm performance. In addition, enhanced information technology capabilities, including building a robust IT infrastructure, ensuring close alignment of IT with business strategy, and proactive adoption of industry-relevant technological innovations, provide solid support for day-to-day operations and strategic plans. This multi-dimensional comprehensive ability strengthens the market competitiveness and overall performance of enterprises.

The findings indicate that the variables Value Creation innovation, Value Proposition innovation, and Value Capture innovation collectively account for 30.2% of the variance in firm performance. The findings indicate that the variables Organizational culture, Human capital, and Innovation collectively account for 29.3% of the variance in firm performance. The findings indicate that the variables IT infrastructure Capability, IT business spanning Capability, and IT proactive stance Capability collectively account for 29.6% of the variance in firm performance. The findings indicate that the variables collectively account for 38.6% of the variance in firm performance.

The higher the average score of Value Creation innovation, the higher the average score of Firm performance. When the average score of Value Creation innovation by one unit, the average score of Firm performances will increase by 0.104 units. Therefore, the hypothesis H1a can be accepted.The higher the average score of Value Proposition innovation, the higher the average score of Firm performance. When the average score of Value Proposition innovation by one unit, the average score of Firm performances will increase by 0.104 units. Therefore, the hypothesis H1b can be accepted.The higher the average score of Value Capture innovation, the higher the average score of Firm performance. When the average score of Value Capture innovation by one unit, the average score of Firm performances will increase by 0.145 units. Therefore, the hypothesis H1c can be accepted.

The higher the average score of Organizational culture, the higher the average score of Firm performance. When the average score of Organizational culture by one

unit, the average score of Firm performances will increase by 0.106 units. Therefore, the hypothesis H2a can be accepted.The higher the average score of Human capital, the higher the average score of Firm performance. When the average score of Human capital by one unit, the average score of Firm performances will increase by 0.106 units. Therefore, the hypothesis H2b can be accepted.The higher the average score of Innovation, the higher the average score of Firm performance. When the average score of Innovation by one unit, the average score of Firm performances will increase by 0.096 units. Therefore, the hypothesis H2c can be accepted.

The higher the average score of IT infrastructure Capability, the higher the average score of Firm performance. When the average score of IT infrastructure Capability by one unit, the average score of Firm performances will increase by 0.100 units. Therefore, the hypothesis H3a can be accepted.The higher the average score of IT business spanning Capability, the higher the average score of Firm performance. When the average score of IT business spanning Capability by one unit, the average score of Firm performances will increase by 0.095 units. Therefore, the hypothesis H3b can be accepted.The higher the average score of IT proactive stance Capability, the higher the average score of Firm performance. When the average score of IT proactive stance Capability by one unit, the average score of Firm performances will increase by 0.101 units. Therefore, the hypothesis H3c can be accepted.

Discussion

The study supported that business model innovation (value creation, value proposition, value capture) influences firm performance. This result aligns with Hai Guo(2022), who states that innovative business models play a critical role in firms' success by adapting to market changes and creating value for customers and the firm. It is also consistent with Mentera, Gocke, and Zeeb proposed (2022), who highlight that a well-structured business model enhances performance by efficiently capturing and delivering value.

The study also supported that firm resources (organizational culture, human capital, innovation) significantly impact firm performance. This finding is in line with Salih and Ahmet (2012) , who argues that organizational resources and capabilities are crucial for achieving competitive advantage. It is also consistent with Philip and Somboon (2003), who emphasizes that the strategic management of resources, including human capital and organizational culture, is essential for sustained firm performance(Muhammad, et al, 2012).

The study further supported that IT capabilities (IT infrastructure capability, IT business spanning capability, IT proactive stance capability) influence firm performance. This result corresponds with Joseph and Yaman (2016), who demonstrates that IT capabilities are integral to improving business processes and enhancing performance. It also aligns with Hefu , et al. (2013), who show that IT investments contribute to firm performance by enabling better strategic alignment and operational efficiency.

Research Contribution and Implications

Integration of Business Model Innovation, Firm Resources, and IT Capabilities

This study provides a comprehensive framework that integrates business model innovation, firm resources, and IT capabilities, demonstrating their combined impact on firm performance. This integrative approach enriches the existing literature by providing a holistic view of the factors that drive firm success.

Empirical Evidence on Innovation's Role

The study offers empirical evidence supporting the critical role of various types of innovation (value creation, value proposition, and value capture) in enhancing firm performance. It substantiates the theory that continuous innovation is essential for maintaining a competitive edge in dynamic markets.

Organizational Culture and Human Capital

By highlighting the importance of organizational culture and human capital in driving firm performance, the research contributes to the understanding of how internal resources and capabilities can be leveraged for strategic advantage. This emphasizes the need for firms to foster a culture of innovation and strategically manage their human resources.

IT Capability's Impact

The study provides new insights into how IT infrastructure capability, IT business spanning capability, and IT proactive stance capability influence firm performance. It underscores the necessity for firms to align IT strategies with business goals and proactively adopt technological advancements.

Research Limitations

Although this study provides valuable insights for big data platform enterprises, there are some limitations. Firstly, as the research design uses self-reported data, there may be subjective bias that affects the accuracy of the results. Secondly, the research focuses on big data platform enterprises, and the results may not be applicable to other industries or fields.

Recommendations for Future Research

In view of the limitations of the current study, future research can take the following directions:

Longitudinal research design was adopted: a more accurate understanding of the causal relationship between different factors and firm performance was achieved through a long-term follow-up study, thus providing deeper insights.

Expand the scope of research: explore the impact of the above factors on enterprise performance in different industries or fields, and verify the universality and applicability of these findings.

Deepening the interaction research among factors: in-depth analysis of how the interactive influence among organizational culture, human capital and technological capability jointly promotes enterprise innovation and reveals the internal mechanism for improving enterprise performance.

Through the exploration of these future research directions, more comprehensive and in-depth insights can be provided for theory and practice, which can help enterprises achieve sustained success in the competitive market environment.

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APPENDICES

Appendix A

English Questionnaire

Influencing factors on firm performance: a study of big data platform enterprises in hangzhou zhejiang province, China

Explain

Designed by the Master of Business Administration in Digital Economy and Management Innovation of Meizhou University International College the theme is Influencing factors on firm performance: a study of big data platform enterprises in

hangzhou zhejiang province, China. The main objective is to have a comprehensive understanding of the basic factors that affect the performance of big data platform enterprises.

The questionnaire is divided into 6 sections, which are summarized as follows:

Part 1: Questionnaire for respondent screening
Part 2: Demographics of the respondents
Part 3: Business Model Innovation
Part 4: Firm Resources
Part 5: IT Capability
Part 6: Firm performance

The researcher sincerely requests your cooperation in filling out this questionnaire. Thank you very much for your participation. We value your taking the time to respond to these inquiries.

Contact Person
Name: Pan Qi
Email Address:1085670098@qq.com
International College of Meizhou University

Confidentiality Statement:

Your responses to the questions and any other provided information will be treated with the utmost confidentiality.

Part 1: Screened questionnaires for respondents

Instructions: Please place a checkmark √ in the box corresponding to the answer that most accurately reflects your information.

1. Do you work in a big data platform enterprise?
   ☐Yes
   ☐No (end of the questionnaire)
2. Do you work in Hangzhou, Zhejiang Province?
   ☐Yes
   ☐No (end of the questionnaire)
3. Are you over 21 years old?

☐Yes
☐No (end of the questionnaire)

Part 2: Demographic respondents

1. Gender:
   ☐Male
   ☐Female
2. Age:
   ☐21~25years old
   ☐26~30years old
   ☐31~35years old
   ☐36~40years old
   ☐41~45years old
   ☐46-50years old
   ☐51-55years old
   ☐Above 56years old
3. Education level (including studying)
   ☐Junior high school and below
   ☐High school
   ☐Junior college
   ☐Undergraduate degree
   ☐Postgraduate (Master and Doctor)
4. The size of your company
   ☐Less than 50 people
   ☐51-200 people
   ☐201-500 people
   ☐501 and above
5. Your position
   ☐Ordinary and general staff
   ☐Grassroots manager
   ☐Middle management
   ☐Senior management
6. Your length of service
   ☐2 years or less
   ☐2 to 4 years

☐4 to 6 years
☐6 to 8 years
☐8 years or above

7. Your personal monthly income
☐3001-6000 yuan
☐6001-9000 yuan
☐9001-12,000 yuan
☐12,001-15,000 yuan
☐15,001-18,000 yuan
☐More than 18,000 yuan

Part 3: Business Model Innovation

Instructions: Please place a checkmark (✓) in the box that best corresponds to your opinion.

Score: 1 = Strong Disagree, 2 = Disagree, 3 = Neural, 4 = Agree, 5 = Strongly Agree

Business Model Innovation	Level of Agreement				
	1	2	3	4	5
1)Value Creation innovation					
1.Our firm regularly updates its technology and equipment to stay at the forefront of industry innovation.	1	2	3	4	5
2.We actively seek and establish partnerships that contribute to new and enhanced value in our offerings.	1	2	3	4	5
3.We continue to optimize our operational processes to better meet market needs.	1	2	3	4	5
2)Value Proposition innovation					

1.Our firm consistently introduces products or services that are significantly innovative compared to existing market offerings.	1	2	3	4	5
2.We prioritize understanding and addressing specific, unmet customer needs through our product or service development	1	2	3	4	5
3.Our products enhance customer engagement by integrating innovative features or applying digital technologies.	1	2	3	4	5
3)Value capture innovation					
1.Our company has successfully developed and implemented new revenue models that have opened up additional income streams.	1	2	3	4	5
2.We have innovatively altered our cost structures to gain a competitive edge in pricing while maintaining or improving quality.	1	2	3	4	5
3.The introduction of new technologies has significantly enhanced our ability to capture value from our market offerings.	1	2	3	4	5

Part 4: Firm Resources

Instructions: Please place a checkmark (✓) in the box that best corresponds to your opinion.

Score: 1 = Strong Disagree, 2 = Disagree, 3 = Neural, 4 = Agree, 5 = Strongly Agree

Firm Resources	Level of Agreement				
	1	2	3	4	5
1)Organizational culture					
1. Our organization actively cultivates an environment that encourages innovation and creative problem-solving.	1	2	3	4	5
2. The core values of our organization are well-understood and embraced by all members.	1	2	3	4	5
3.Our organizational practices are designed to swiftly adapt to changes in the competitive landscape.	1	2	3	4	5
2)Human capital					
1.We effectively retained key employees and ensured high job satisfaction.	1	2	3	4	5
2.Our workforce is comprised of individuals with expert knowledge and skills in their respective areas.	1	2	3	4	5
3.Our firm excels in attracting talent with the specialized knowledge and skills essential for our business needs.	1	2	3	4	5
3)Innovation					
1.Our firm has successfully launched a significant number of new services in the market recently.	1	2	3	4	5
2.We have made numerous impactful modifications to our existing services to enhance their value.	1	2	3	4	5
3.Our organization is proactive in identifying and developing potential new services to meet emerging market needs.	1	2	3	4	5

Part 5: IT Capability

Instructions: Please place a checkmark (✓) in the box that best corresponds to your opinion.

Score: 1 = Strong Disagree, 2 = Disagree, 3 = Neural, 4 = Agree, 5 = Strongly Agree

IT Capability	Level of Agreement				
	1	2	3	4	5
1)IT infrastructure Capability					
1.Our IT infrastructure consistently delivers reliable performance, crucial for our day-to-day business operations.	1	2	3	4	5
2.We ensure the security of our IT systems to protect company data and maintain confidentiality.	1	2	3	4	5
3.Our IT infrastructure is adaptable, allowing us to quickly respond to changing business demands.	1	2	3	4	5
2)IT business spanning Capability					
1.Our IT and business strategic planning processes are closely aligned and mutually supportive.	1	2	3	4	5
2.Functional and general managers clearly understand the value of our IT investments.	1	2	3	4	5
3.We have established a flexible IT planning process that is responsive to our business's evolving needs.	1	2	3	4	5
3)IT proactive stance Capability					
1.We consistently monitor and adopt the latest IT innovations relevant to our industry.	1	2	3	4	5
2.Our organization actively experiments with emerging IT solutions to assess their business value.	1	2	3	4	5
3.Leveraging new IT technologies is a key part of our strategy to maintain a competitive advantage.	1	2	3	4	5

Part 6: Firm performance

Instructions: Please place a checkmark (✓) in the box that best corresponds to your opinion.

Score: 1 = Strong Disagree, 2 = Disagree, 3 = Neural, 4 = Agree, 5 = Strongly Agree

Firm performance	Level of Agreement				
	1	2	3	4	5

1.Our company has significantly increased its sales revenue over the past fiscal year.	1	2	3	4	5
2.Our return on investment (ROI) and return on assets (ROA) improved during the most recent fiscal period	1	2	3	4	5
3.Our market share in the big data platform sector has expanded compared to the previous year.	1	2	3	4	5
4.Sales from existing customers increased and we succeeded in attracting more new customers.	1	2	3	4	5
5. Customer satisfaction and loyalty have been significantly improved.	1	2	3	4	5
6. The service quality we provide has been greatly improved.	1	2	3	4	5

Appendix B

Chinese Questionnaire

浙江省杭州市大数据平台企业绩效影响因素的调查

解释

由梅州大学国际学院数字经济与管理创新专业工商管理硕士设计，主题为“企业绩效影响因素：中国浙江省杭州市大数据平台企业的研究”。 主要目标是全面了解影响大数据平台企业绩效的基本因素。

调查问卷分为 6 个部分，概括如下：
第 一 部分：受访者筛选问卷
第 二 部分：受访者的人口统计
第三部分：商业模式创新
第四部分：公司资源
第五部分：IT 能力
第六部分：公司业绩

研究者真诚地请求您配合填写本调查问卷。 非常感谢您的参与。 我们重视您花时间回复这些询问。

联络人
姓名：潘琦
电子邮件地址：1085670098@qq.com
梅州大学国际学院

保密声明：
您对问题的回答以及任何其他提供的信息将得到最大程度的保密。

第一部分：针对受访者筛选的问卷
说明：请在最准确反映您信息的答案对应的方框中打勾√。
筛选问题
1.您在大数据平台企业工作吗？
☐是
☐否（问卷结束）
2.您在浙江省杭州市工作吗？

☐是

☐否（问卷结束）

3.您已超过 21 岁吗？是

☐否（问卷结束）

第二部分：受访者人口统计

1. 性别:

☐男性

☐女性

2. 年龄:

☐21~25 岁

☐26~30 岁

☐31~35 岁

☐36~40 岁

☐41~45 岁

☐46~50 岁

☐51~55 岁

☐56 岁以上

3.受教育程度（含就读）☐初中及以下

☐专科

☐高中

☐本科

☐研究生（硕士、博士）

4. 贵公司的规模☐少于 50 人

☐201~500 人

☐51~200 人

☐501 及以上

5. 您的职位

☐普通员工

☐基层管理者

☐中层管理者

☐高层管理者

6. 您的服务年限☐2 年以下

☐2~4 年

☐4~6 年

☐6~8 年

☐8 年以上

7. 您的个人月收入☐3001~6000 元

☐6001~9000 元

☐9001~12,000 元

☐12,001~15,000 元

☐15,001~18,000 元

☐18,000 元以上

第三部分：商业模式创新

说明：请在最符合您意见的方框中打勾（✓）。

分数：1 = 强烈不同意，2 = 不同意，3 = 一般，4 = 同意，5 = 非常同意

商业模式创新	符合程度				
	1	**2**	**3**	**4**	**5**
1）价值创造创新					
1.我公司定期更新技术和设备，保持行业创新的前沿	1	2	3	4	5
2.我们积极寻求并建立合作伙伴关系，为我们的产品带来新的和更高的价值	1	2	3	4	5
3.我们不断优化运营流程，更好地满足市场需求	1	2	3	4	5
2）价值主张创新					

1.我们公司不断推出与现有市场产品相比具有显着创新性的产品或服务	1	2	3	4	5
2.我们优先通过产品或服务开发来理解和解决特定的、未满足的客户需求	1	2	3	4	5
3.我们的产品通过集成创新功能或应用数字技术来增强客户参与度	1	2	3	4	5
3）价值捕捉创新					
1.我们公司已成功开发并实施了新的收入模式，开辟了额外的收入来源	1	2	3	4	5
2.我们创新性地改变了成本结构，在保持或提高质量的同时获得价格竞争优势	1	2	3	4	5
3.新技术的引入显着增强了我们从市场产品中获取价值的能力	1	2	3	4	5

第四部分：公司资源

说明：请在最符合您意见的方框中打勾（✓）。

分数：1 = 强烈不同意，2 = 不同意，3 = 一般，4 = 同意，5 = 非常同意

公司资源	符合等级				
	1	**2**	**3**	**4**	**5**
1）组织文化					
1.我们的组织积极营造鼓励创新和创造性解决问题的环境。	1	2	3	4	5
2.我们组织的核心价值观得到所有成员的充分理解和接受。	1	2	3	4	5
3.我们的组织实践旨在快速适应竞争格局的变化。	1	2	3	4	5
2）人力资本					
1.有效留住骨干员工，确保较高的工作满意度。	1	2	3	4	5
2.我们的员工队伍由在各自领域拥有专业知识和技能的人员组成。	1	2	3	4	5
3.我们公司擅长吸引具有我们业务需求所必需的专业知识和技能的人才。	1	2	3	4	5
3）创新					
1.我们公司最近在市场上成功推出了大量新服务。	1	2	3	4	5
2.我们对现有服务进行了许多有影响力的修改，以提高其价值	1	2	3	4	5
3.我们的组织积极主动地识别和开发潜在的新服务，以满足新兴市场的需求	1	2	3	4	5

第五部分：IT 能力

说明：请在最符合您意见的方框中打勾（✓）。

分数：1 = 强烈不同意，2 = 不同意，3 = 一般，4 = 同意，5 = 非常同意

IT 能力	符合等级				
	1	**2**	**3**	**4**	**5**
1）IT 基础设施能力					
1.我们的 IT 基础设施始终提供可靠的性能，这对于我们的日常业务运营至关重要	1	2	3	4	5
2.我们确保 IT 系统的安全，以保护公司数据并维护机密	1	2	3	4	5
3.我们的 IT 基础设施具有适应性，使我们能够快速响应不断变化的业务需求	1	2	3	4	5
2）IT 业务跨越能力					
1.我们的 IT 和业务战略规划流程紧密结合、相互支持	1	2	3	4	5
2.职能经理和总经理清楚地了解我们 IT 投资的价值	1	2	3	4	5
3.我们建立了灵活的 IT 规划流程，以响应我们不断变化的业务需求	1	2	3	4	5
3) IT 主动姿态能力					
1.我们持续监控并采用与我们行业相关的最新 IT 创新	1	2	3	4	5
2.我们的组织积极尝试新兴的 IT 解决方案，以评估其业务价值。	1	2	3	4	5
3.利用新的 IT 技术是我们保持竞争优势战略的关键部分	1	2	3	4	5

第六部分：公司业绩

说明：请在最符合您意见的方框中打勾（✓）。

分数：1 = 强烈不同意，2 = 不同意，3 = 一般，4 = 同意，5 = 非常同意

公司业绩	符合等级

	1	2	3	4	5
1) 财务绩效					
1.上一财年我公司销售收入大幅增长。	1	2	3	4	5
2.我们的投资回报率（ROI）和资产回报率（ROA）在最近一个会计期间有所改善	1	2	3	4	5
3.大数据平台领域市场份额较上年扩大	1	2	3	4	5
2）市场表现					
1.现有客户的销售额增加，我们成功吸引了更多新客户	1	2	3	4	5
2.客户满意度和忠诚度显着提升	1	2	3	4	5
3.我们提供的服务质量有了很大的提高	1	2	3	4	5

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