

Research on the Evolution and Innovation of Guangdong Province's Business Environment from a Digital Perspective

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ABSTRACT

This study, conducted against the backdrop of current digital development, systematically analyzes and discusses the status quo, problems, and countermeasures of the business environment in Guangdong Province. It reviews and critiques both domestic and international research on the definition of the business environment, the relationship between digitalization and the business environment, and the factors influencing the digitalization of the business environment. A comprehensive analysis of the internationalized business environment of Guangdong Province is presented, showcasing its advantages and characteristics in terms of digital infrastructure, digital technology innovation, and data element circulation, while also pointing out existing deficiencies and challenges. These serve as a reference for further optimization of the business environment. The article concludes by exploring and suggesting innovative pathways for Guangdong Province's internationalized business environment, proposing a series of specific measures and plans to enhance digital innovation leadership capabilities and create a digitally empowered business environment. The aim is to promote the digital transformation and upgrading of Guangdong Province's business environment, thereby improving its level of digital development and international competitiveness.

KEYWORDS

Business Environment of Guangdong Province; Digitalization

1. INTRODUCTION

This paper analyzes the evolution, current assessment, and innovative pathways of the business environment in Guangdong Province from a digital perspective, providing references for promoting the digital transformation and development of Guangdong Province.

1.1. Research Background and Significance

Digitalization is an important characteristic of the current era, profoundly impacting economic and social development. It has transformed production methods, economic structures, lifestyles, and governance models, and has also presented new requirements and challenges for the business environment. As a pioneering region in China's reform and opening-up, Guangdong Province possesses strong digital economic strength and innovation capabilities. However, it also faces challenges such as unbalanced digital development, incomplete digital infrastructure, inefficient data element circulation, and insufficient digital governance capabilities. How to optimize the business environment from a digital perspective and enhance the level of digital development is a significant issue for Guangdong Province to achieve high-quality development. This study takes Guangdong Province as the research subject and analyzes the changes and innovations in its business environment from a digital perspective. It aims to explore the impact mechanisms of digitalization on the business

environment, evaluate the digital development level of Guangdong Province's business environment, summarize the digital innovation practices in Guangdong Province's business environment, and propose suggestions for digital improvements. This research holds significant theoretical and practical value for promoting the digital transformation and development of Guangdong Province, constructing a digital Guangdong, and creating an internationally advanced model of a digital business environment.

1.2. Status of Domestic and International Research

The existing research status is quite robust.

1.2.1. Definition of Business Environment

The business environment encompasses the external factors and conditions affecting the economic activities of market entities, including governance, market, legal, and cultural aspects. There are two perspectives on its concept: one is based on the World Bank's business environment report, which involves ten aspects of market entities in the processes of entry, operation, and exit, viewing the business environment as an ecosystem [1-2]. The other is based on the theory of institutional transaction costs, emphasizing the reduction of various costs throughout the lifecycle of market entities through reform, optimizing the regional business environment, and enhancing economic development vitality [3]. The business environment is a public product with institutional characteristics provided jointly by the government, market, and society [4], related to the operational efficiency, productivity, competitiveness, innovative capabilities, and high-quality economic development of different industries and enterprises.

1.2.2. The Relationship Between Digitalization and the Business Environment

Digitalization is a crucial pathway for optimizing the business environment, meeting the demands of the digital economy while empowering the traditional business milieu to enhance its efficiency and quality [4]. Digitalization can create new commercial opportunities and models [5], such as e-commerce, cloud computing, big data, etc., all of which can improve the operational efficiency and competitiveness of enterprises, establishing a unified global standard for commercial activities. Digitalization also requires the government to undertake digital governance and transformation into a digital government, unleashing the digital dividends of online administrative services [6], elevating the level of marketization and enterprise satisfaction, while guarding against technological and commercial risks, and strengthening policy guidance and legal regulation construction. The digital business environment is the product of the integration of digital elements and business environment construction, indicating an adaptive transformation in government governance, and is a significant focal point for stimulating societal developmental vitality and creativity.

1.2.3. Factors Influencing the Digitalization of the Business Environment

The factors influencing the digitalization of the business environment can be divided into three levels: market, government, and institutional. Firstly, the market-level factors mainly include: digital technology, digital infrastructure, digital economy, innovation capability, human capital, and financial services [8]. These factors reflect the demands, capabilities, and vitality of market entities in the digital age, as well as the market's adaptability and support for the digital economy. Secondly, the government-level factors mainly include: administrative services, government regulation, and government efficiency [9]. These factors reflect the functions, roles, and levels of government in the digital age, as well as the government's guidance, promotion, and safeguarding of the digital economy.

Thirdly, the institutional-level factors mainly include: legal environment, social environment, and policies and regulations. These factors reflect the rules, values, and trust in the digital age, as well as the institutional constraints, incentives, and protection for the digital economy [10].

2. ANALYSIS OF THE CURRENT STATUS OF GUANGDONG PROVINCE'S INTERNATIONAL BUSINESS ENVIRONMENT FROM A DIGITAL PERSPECTIVE

2.1. Overall Level of the Business Environment in Guangdong Province

The overall level of Guangdong Province's international business environment is leading nationally and continues to improve. According to the World Bank's "Global Business Environment Report 2023," China's business environment ranking rose from 78th to 31st, with Guangdong Province and Beijing representing the highest level of China's business environment. According to the "China Business Environment Report 2023" released by the National Development and Reform Commission, Guangdong Province's comprehensive business environment index is 86.2, ranking third nationally, only behind Beijing and Shanghai. According to the "Guangdong Province Business Environment Report 2023" released by Guangdong Province's Development and Reform Commission, Guangdong Province's comprehensive business environment index is 86.4, an increase of 1.2 percentage points from the previous year, with the business environment indices of Shenzhen, Guangzhou, Zhuhai, Huizhou, Dongguan, and other places exceeding the provincial average, showing the favorable trend and regional differences of Guangdong Province's business environment.

2.2. Digital Infrastructure Construction Enhances, Providing a Solid Foundation for an International Business Environment

Guangdong Province has accelerated the construction of new infrastructure, solidifying the foundational capabilities for digital development, and providing various market entities with efficient, convenient, secure, and reliable digital services and facilities. The province has established a ubiquitous intelligent data perception and integrated transmission network, achieving seamless cross-regional, cross-terminal, and cross-application connectivity, forming a ubiquitous interconnected "Internet of Everything" network. Guangdong has constructed a high-quality 5G network, advanced the development of an all-optical network province, promoted the construction of F5G (fifth-generation fixed network), and created a benchmark province with dual gigabit network capabilities, exploring and testing the capacity for ten-gigabit access. The province has driven the construction of industry-specific networks in key areas such as the industrial internet, government affairs network, and vehicular network, actively advanced the commercial deployment of IPv6, and proactively laid out future network constructions like quantum secure communication, quantum internet, and satellite internet. Guangdong has built advanced computing infrastructure oriented towards the future, maintaining a leading position with "dual supercomputing" capabilities, constructing intelligent computing centers and other new high-performance computing platforms, promoting the scientific and rational layout of data centers, intensive green development, and constructing national integrated big data center hubs and clusters, increasing the use of low-carbon and zero-carbon energy sources. The province has advanced the "smart+" transformation and upgrade of infrastructure, developing intelligent transportation, smart logistics, an intelligent energy internet, and an intelligent green ecological and environmental emergency facility system, providing intelligent public services for economic and social development.

2.3. Digital Technology Innovation Capability Stands Out, Providing Strong Momentum for an International Business Environment

Guangdong Province has actively promoted the research and innovation of key core digital technologies, concentrating efforts on the research and innovation of basic general technologies, cutting-edge disruptive technologies, and asymmetric technologies, achieving a number of significant breakthroughs and innovative results. In new technology fields such as big data, cloud computing, artificial intelligence, and blockchain, Guangdong boasts a group of leading enterprises and platforms

both domestically and internationally, such as Huawei, Tencent, Alibaba, Baidu, and Guangzhou Cloud Computing Center, providing strong technical support for the development of the digital economy. In cutting-edge technology fields like 5G, 6G, terahertz, 8K, quantum information, neuromorphic computing, neural chips, and DNA storage, Guangdong has accelerated its layout, creating a number of high-level innovation platforms and infrastructures, such as Pengcheng Laboratory, Future Network Test Facilities (Shenzhen), Terahertz Science Center, and Industrial Internet Innovation Infrastructure, providing a high-quality research environment for original innovation in the field of digital technology. In key areas of the digital economy such as integrated circuits, microelectronics, communication and networking, and advanced computing, Guangdong has constructed a number of high-level research institutes and innovation centers, such as Guangdong Microelectronics Research Institute, Guangdong Communication and Network Technology Research Institute, Guangdong Integrated Circuit Industry Innovation Center, and Guangdong Advanced Computing Technology Innovation Center, providing high-end talent and technology for the development of the digital industry. The digital technology innovation capability of Guangdong Province not only provides strong momentum for the economic and social development of the region but also offers beneficial references and demonstrations for digital technology innovation nationally and globally.

3. INNOVATIVE PATHWAYS FOR GUANGDONG PROVINCE'S INTERNATIONAL BUSINESS ENVIRONMENT FROM A DIGITAL PERSPECTIVE

3.1. Enhancing Digital Innovation Leadership Capabilities to Create a Source of New Technologies, New Industries, and New Models

Guangdong Province should increase investment and support for the research and development of key core digital technologies, break through bottlenecks in basic general technologies, cutting-edge disruptive technologies, and asymmetric technologies, and enhance the autonomous innovation capability and international competitiveness of digital technology. Guangdong should lead with national laboratories, construct a number of high-level innovation platforms and infrastructures, gather high-end talent and resources, and form a high ground for original innovation. Guangdong should promote the development of a digital technology innovation ecosystem, support the construction of international open-source projects and communities, encourage leading enterprises to build open, integrated, and development-leading innovation ecosystems, support the development of cross-border new technologies, new products, new industries, and new models, expand the application scenarios of new technologies, new products, new industries, and new models, and promote the deep integration of digital technology with the real economy.

3.2. Creating a Business Environment Empowered by Digitalization to Enhance the International Competitiveness of Digital Development

Guangdong should build a digital Greater Bay Area with smooth data element circulation, deeply promote the application of digital technology in the rule alignment and mechanism docking among Guangdong, Hong Kong, and Macao, and accelerate the construction of a smart city cluster in the Greater Bay Area. Guangdong should establish a national digital service export base, strengthen the cultivation of digital trade enterprises, and promote the cross-border flow of data elements. Guangdong should build an international digital innovation center, strengthen cooperation and exchanges with the international digital innovation field, introduce international high-end talent and technology, participate in the formulation of international digital standards, and enhance international discourse power and influence. Guangdong should construct an international digital governance demonstration zone, strengthen the application of digital technology in social governance, public

services, risk prevention and control, and other fields, improve the level and efficiency of digital governance, and build a more open, inclusive, transparent, and convenient international business environment.

4. SUMMARY

From a digital perspective, the business environment in Guangdong Province has undergone significant changes and innovations. This study has drawn the following conclusions through an in-depth analysis of policy adjustments, corporate responses, and market activities in Guangdong Province amidst the wave of digitalization:

Firstly, the government of Guangdong Province has adopted proactive policy measures to promote digital transformation, which have effectively facilitated the widespread application of information technology and the construction of digital infrastructure. Secondly, enterprises in Guangdong Province, especially small and medium-sized enterprises, have continuously optimized management processes and business models under the impetus of digitalization, enhancing operational efficiency and market competitiveness. Additionally, digitalization has brought new opportunities for innovation activities in Guangdong Province, particularly in the fields of big data, cloud computing, and artificial intelligence, leading to the emergence of a number of innovative enterprises and projects.

However, the study also found that during the digitalization process, Guangdong Province faces challenges such as the digital divide, information security, and privacy protection. Therefore, as Guangdong Province further promotes the digital reform of its business environment, there is a need to balance technological innovation with risk management to ensure sustainable development.

In summary, the transformation and innovation of the business environment in Guangdong Province from a digital perspective not only demonstrate the province's vitality and potential in the era of the digital economy but also provide valuable experiences and insights for other regions. With the continuous deepening of digital transformation, it is expected that Guangdong Province will achieve more results in optimizing and innovating its business environment.

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