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Study on the Influence Mechanism of Government Innovation Preference on the Development of Digital Economy

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Abstracts

In recent years, against the escalating global competition and the swift advancement of the digital economy, governments have increased their investment in innovation and adopted a series of policy measures to encourage and support the growth of the digital economy. As one of the key factors driving the development of the digital economy, government innovation preference has received widespread attention for its mechanism and impact effects. Based on the panel data of 270 cities in China from 2012 to 2022, the direct relationship between government innovation preference and the development of digital economy is firstly explored through the fixed effect model, and secondly, The study explores the indirect impact mechanism of government's innovation preference on the digital economy by employing a mediated effect model, with industrial structure upgrading and urban economic density serving as constraint variables. The research reveals that government's innovation preferences play a notable direct role in advancing the digital economy and can also indirectly foster its development through upgrading the industrial structure and enhancing urban economic density.

Keywords

Government innovation preferences, Digital economy, Intermediary effect

1. Introduction

As information technology rapidly advances, the digital economy has emerged as a pivotal driver for the transformation and modernization of the global economy. Digitized knowledge and information, lying at the heart of the digital economy, have emerged as crucial production factors, with modern information networks acting as the primary conduits. The effective application of ICT not only

enhances efficiency, but also optimizes the economic structure, and is profoundly changing the mode of production, lifestyle and governance of human society. Against this backdrop, the government's preference for innovation as a policy maker and market regulator has a profound impact on the development of the digital economy.

Government innovation preferences refer to the level of importance and support for innovation activities in the formulation and implementation of government policies. This preference is reflected in a number of aspects of the government's financial expenditure on science and technology, the formulation of innovation policies, and the creation of an innovative environment. The aim of this paper is to investigate the mechanism through which government innovation preference influences the development of the digital economy, and to offer both theoretical insights and practical recommendations for the government to devise more scientific and effective policies pertaining to the digital economy, by examining the pathways and evaluating the impact of government innovation preference on digital economy advancement. At the same time, this paper will also combine the actual experience of the development of the digital economy at home and abroad and put forward relevant policy recommendations, with a view to contributing to the sustained and healthy development of China's digital economy.

The structure of the subsequent parts of this article is as follows: The second part is a literature review, the third part elaborates on the theoretical analysis framework and proposes research hypotheses based on it; the fourth part introduces the research design, covering model construction, variable measurement, and descriptive statistical analysis; the fifth part presents the empirical research results and analysis, validates the research hypotheses, and discusses how government innovation preferences affect the development of the digital economy through specific mechanisms. Finally, this article summarizes the research conclusions and proposes corresponding policy recommendations.

2. Literature Review

2.1 Relevant Studies on Government Innovation Preferences

The government's innovation preference is formed based on a comprehensive consideration of its own objectives, resource situation, development needs and social expectations. For example, in regions where economic development is relatively backward, the government, in order to rapidly raise the level of economy, may prefer industrial projects or infrastructure construction innovations that can directly boost GDP growth in terms of innovation inputs, such as the introduction of new production technologies to improve the efficiency of traditional manufacturing industries. Government preferences can intuitively reflect the tendency of government behavior, driven by different preferences, the government's behavioral orientation shows significant differences (Zang & Zha, n.d.). Luo and Cheng considered that government innovation preference is the government's prioritized choice among many innovation opportunities based on its own goals, resources and perceptions, reflecting the government's

emphasis on different innovation fields and modes (Luo & Cheng, 2022). Such preferences are not static and are influenced by a combination of internal and external factors. Existing literature mainly studies government innovation preferences in terms of green economy development level (Yang, Zhao, Zhang et al., 2022), innovation development level (Cai, 2022), innovation factor flow and manufacturing upgrading (Song & Li, 2022) provincial and regional innovation efficiency (Qin, Xie, & Guo, 2021) and regional innovation capacity (Zhang & Huang, 2020). Shi, Han et al. (2020) found that the influence of government innovation preference on green technology investment is nonlinear, and there exists not only a uni-threshold effect, which is thresholded by the government's innovation preference itself, but also a bi-threshold effect, which is thresholded by the accumulation of human capital (Shi, Han, & Li, 2024). Government innovation preferences have a favorable influence on the development of the digital economy, while institutional fragility has a neutral moderating influence in the effect of government innovation preferences on the digital economy (Ye & Zeng, 2023). The study found that the impact of government innovation preferences on ecological resilience varies by region and city size. Regionally, the impact of government innovation preferences on the eco-resilience of resource cities in the western area is more significant than that of resource cities in the middle area; and in terms of city size, the effect of government innovation preferences on the eco-resilience of mid-sized resource cities is more prominent than that of larger resource cities (Zhang, Yang, & Zhao, 2024). Li, Yang (2018) found that financial decentralization promotes regional innovation efficiency, but inhibits government innovation preference[11], while financial decentralization can influence regional innovation capacity positively by promoting local government innovation preference (Li & Sun, 2024).

2.2 Studies Related to the Digital Economy

The notion of the digital economy was first presented by Don Tapscott in 1996 in The Digital Economy: Hopes and Perils in the Age of Networked Intelligence, but no uniform definition has yet been developed. Research Report on the Development of China's Digital Economy (2024) conducts a comprehensive investigation of China's digital economy from multiple chapters, including overall, theoretical, thematic, and countermeasures, etc. The study finds that China has continued to make breakthroughs in technological innovations such as 5G and AI, the steady growth in the scope of the digital economy, and the consolidation of the improvement of total factor productivity since 2023; and it elaborates on the economic logic of promoting economic growth through the digital economy from the supply, market, and demand sides respectively. The study explains the economic logic of the digital economy to boost the economy from the supply, market and demand sides, and concludes that the digital economy is an important support for the development of new quality productivity. Existing studies have found that the digital economy has a remarkable forward effect on total factor productivity (Yang & Jiang, 2021), economic structure transformation (Tian & Zhang, 2022), regional innovation capacity (Wen, Yan, & Cheng, 2019), regional innovation performance (Li, Wu, & Zhu, 2021), advancement of industrial structure and rationalization of industrial structure (Liu & Chen, 2021),

enterprise productivity (Du & Zhang, 2021), urban green development (Wei & Hou, 2022), high-quality development, and technological innovation (Song, 2020). The growth of urban digital economy significantly reduces the probability of labor underemployment (Chen, Han, & Han, 2022), Chen, Xiong found that there are regional variations in the effect of the digital economy on the quality of employment, and the eastern region of the digital economy is more developed, the quality of employment is higher (Chen & Xiong, 2024). The initial development of the digital economy will reduce the rural-urban revenue gap, but the further progress of the digital economy will widen the rural-urban revenue gap, resulting in the problem of digital divide (Chen & Wu, 2021). Zhou, Chu found that digital economy reduces carbon intensity through favorable technological progress (Zhou & Chu, 2024). Jin et al. (2024) structured an assessment indicator system for the economic development of the digital economy in four aspects, namely, digital infrastructure, digital environment, digital industrialization, and industrial digitization, from the perspective of the innovation efficiency of microenterprises, and found that the digital economy has become a gas pedal that drives China's innovation development (Jin, Yu, & Xu, 2024).

3. Mechanistic Analysis and Research Hypothesis

3.1 Direct Impact Mechanisms and Research Hypotheses

The Digital Economy Index mean the same as the weighted calculation of a string of data related to the digital economy to arrive at a value that can represent extent of activity and progression potential of the digital economy. These relevant data embrace, without limitation, the level of progression of the Internet, the scale of e-commerce dealings, the innovation activity of digital technologies, and employment in digital industries. Government innovation preference refers to the degree of inclination and support shown by the government for innovative activities and innovative projects in terms of policy formulation, resource allocation and public service provision. This preference reflects not only the government's direct investing in and support for innovation maneuvers, but also the government's indirect favor and guarantee for innovation favors through the formulation of innovation policies, optimization of the innovation environment, and promotion of industry-university-research cooperation.

On the one hand, according to the theory of policy diffusion and the theory of innovation system, the government's innovation preference is embodied in its keen insight into emerging technologies and industries, and it provides a clear strategic orientation and strong policy assurance the progression of the digital economy by formulating forward-looking policies. For example, the government can recommend policy measures to encourage the progression of the digital economy, including tax incentives, banking support, and accelerated approval of innovation projects, so as to stimulate the innovation vitality and market enterprise competitiveness; the government can provide a good innovation ecosystem for enterprises and talents in the area of the digital economy by optimizing the

innovation environment, such as strengthening intellectual property protection, promoting cooperation between industry, academia and research institutions, and setting up an innovation service platform. These measures help to reduce costs of innovation for enterprises,increase productivity of innovation, and promote the study, progression and application of digital technologies.

another aspect, under technological innovation theory and the theory of institutional economics, governmental innovation preference stimulates the vigor of technological innovation in the field of digital economy.Under supervision and support of the government, enterprises have continuously increased their Investments in research and progression to popularize the iterative upgrading and industrialized the use of digital technology.This not only enhances the core competitiveness of the digital economy, also leads to the synergistic progression of the related industrial chain; the government's innovation preference also promotes the market demand and consumption upgrading of the digital economy. With the popularization and application of digital technologies, there is a growing consumer demand for Digital Products & Services, driving the rapid growth of the digital economy.

Based on the analysis above, this paper proposes research assumptions 1: government innovation preference have a positive influence to the progression of digital economy.

3.2 Indirect Impact Mechanisms and Research Hypotheses

3.2.1 Analysis of the Mediating Effect of Industrial Structure Upgrading

Industrial structure upgrading means the same as the fundamental transformation of the industrial structure of a country or area in the process of economic development due to the role of various factors such as technological advance, variations in market requirement, and policy guidance. This transformation is reflected in the type of industry, technological base, development mode, product value-added and other aspects, and is an important embodiment of the conversion of the mode of economic enhance and the transformation of the mode of economic progression .

Generally speaking, the main influencing mechanisms and theories include innovation system theory, industrial structure upgrading theory, technology diffusion theory, market demand theory, and the influence of government renewal in relation to the digital economy is not only limited to direct policy support and resource tilting, But meanwhile indirectly promotes the progression of the digital economy by facilitating the overall upgrading of industrial structure. Overall upgrading of the structure of the service industry like a mediating variable that establishes a strong link between government renewal preferences and the digital economy. Specifically, government innovation preferences promote the transformation and modernisation of the industrial structure by optimizing the policy environment, providing innovation resources and guiding market demand. In this process, traditional industries have been transformed and upgraded, and new industries have been developed rapidly, thus forming a more efficient, environmentally friendly and sustainable industrial structure. This optimization and upgrading of the industrial structure provides a broader space and a more solid foundation for the progression of the digital economy. The core of the digital economy lies in the collection, processing and application

of data, while the improvement of the industrial structure promotes the generation, flow and utilization efficiency of data. With the optimistion and modernisation of the industrial structure the demand for digital technology in various industries is increasing, which promotes the explores and appliances of digital technology, and in turn promotes the progression of digital economy.

This paper proposes the research assumptions II: the overall upgrading of industrial structure play an intermediary role in the impact of government innovation incentives on the digital economy.

3.2.2 Analysis of the Mediating Effect of Urban Economic Viscosity

City economic density is defined as level of economic efficiency unit surface area of land, specifically ratio of gross regional product domestic offerings (GDP) to regional area. It renders the productivity of economic activity and the intensity of soil use per unit surface area of the city, and is a key metric of regional economic benefit.

Through the theory of economic agglomeration, cities with high economic density tend to have more concentrated economic activities and efficient land use, which furnishes a good infrastructure and market environment for the progression of the digital economy. The development of the digital economy requires high-density flows of information, capital and talent, which are easier to realize in areas with high urban economic density. In this process, urban economic density serves as a mediating variable that connects government innovation preferences and the digital economy, allowing government innovation policies to indirectly contribute to the progression.

Based on the analysis above, this paper proposes research assumptions III: urban economic density mediates the influence of government innovation preferences.

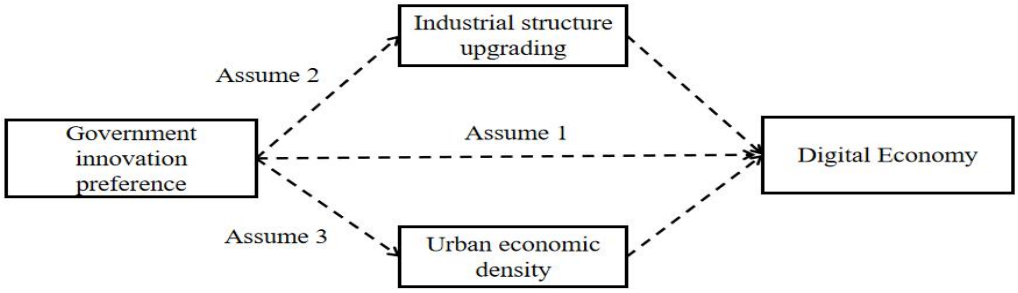

Figure 1. Theoretical Framework Diagram

4. Research Design

4.1 Model Development

4.1.1 Benchmark Regression Mould

The regression to the base line mould is a fundamental statistical analysis tool that quantifies the influence of independent variables on dependent variables by establishing a mathematical model. This model reveals the intrinsic relationships between variables, helping researchers understand the patterns

behind the data.With the statistical regression model, we can evaluate the accuracy of the model and provide strong empirical support and basis for scientific research, policy-making, or corporate decision-making.

$$Digital_{it} = \alpha_0 + \alpha_1 Gov_{it} + \alpha_n X_{it} + \lambda_i + \varepsilon_{it} \quad (1)$$

Among them, $Digital_{it}$ is the explained variable, which indicates level of progression of the digital economy of urban period of time t, is the crux explanatory variable, demonstrating the government's innovation preference, and represents the control variable in the model, including four types of variables: industrial structure, marketization level, financial decentralization and informal environment regulation. Furthermore, represents the intercept term, represents unobservable individual fixed influence, and is the randomized error term

4.1.2 Mediation Effect Mould

To test Hypothesis 2, the main body of the paper further builds a mediation effect mould to explore the intermediary role of overall upgrading of industrial structure and cities economic density in the impact of digital platforms on innovation quality.

$$mid_{it} = \beta_0 + \beta_1 Gov_{it} + \beta_n X_{it} + \lambda_i + \varepsilon_{it} \quad (2)$$

$$Digital_{it} = \omega_0 + \omega_1 Gov_{it} + \omega_2 mid_{it} + \omega_n X_{it} + \lambda_i + \varepsilon_{it} \quad (3)$$

Among them, β_0 and ω_0 are the intercept terms, $\omega_1, \omega_2, \omega_n$ and β_1, β_n are the parameters to be estimated, mid_{it} represents the mediating variable, that is, the overall upgrading of industrial structure and urban economic density, and other variables are the same as above.

4.2 Variable Measurement

4.2.1 Core explanatory variable: Government Innovation Preference

Since local governments generally support the innovation field through fiscal expenditure, fiscal expenditure on science and technology can demonstrating government support for innovation. Referencing the research of existing scholars, this paper uses science expenditures as a percentage of financial expenditures and technology and education in total financial expenditure to examine the local government's innovation preference.

4.2.2 Explained Variable: Digital Economy Index

according to the connotation of the digital economy, this paper constructs a regional digital economy index from three volumes: the standard of regional information progression, the level of internet

progression, and the standard of digital transaction progression, and uses it as the explained variable. On the basis of defining the implication of the digital economy and combining given the supply situation of numbers, this paper disaggregates the Digitised Economy Indexin three dimensions: messages progression, internet progression, and digital trading progression. Each dimension measures its standard of progression in terms of foundation and impact, leading to the design of the digital economy index metrology system demonstrated in Table 1, to comprehensive measurement of the digital economy in various provinces of China.

Table 1. Digital Economy Index Evaluation Indicator System

Main Indicator	Primary Indicator	Main Indicator	Secondary indicators	Main Indicator	Measurement indicators	Main Indicator
Digital Economy Index	Information Development Indicators	0.3333	Information infrastructure	0.1667	Optical fiber density	0.0556
					Density of cellular telephone base stations	0.0556
			Impact of informatization	0.1667	Percentage of Information Technology Professionals	0.0556
					Total volume of telecommunications services	0.0834
					Software business revenue	0.0834
	Internet Development Indicators	0.3333	Fixed Internet Infrastructure	0.0834	Density of Internet access ports	0.0834
			Mobile Internet Basics	0.0834	Mobile phone penetration rate	0.0834
			Fixed-line Impact of the Internet	0.0834	Percentage of broadband Internet subscribers	0.0834

		Impact of mobile internet	0.0834	Percentage of mobile internet users	0.0834
	Digital Trading Development Indicators 0.3333	Digital Trading Basics	0.1667	Percentage of corporate network station	0.0556
				Percentage of enterprises using calculators	0.0556
				E-commerce share	0.0556
		Impact of digital transactions	0.1667	E-commerce sales revenue	0.0834
				Online retail	0.0834

4.2.3 Intermediate Variables:

Overall industrial structure upgrading: Proportion of value added of primary sector to GDP * 1 + Proportion of value added of secondary sector to GDP * 2 + The percentage of tertiary sector value added to GDP * 3

Urban economic density: Regional gross domestic product / administrative area land area

4.2.4 Control Variables:

Informal environmental regulation: When discussing the impact of government innovation preferences for the digital economy, informal environmental regulation is an important background factor or moderating variable that cannot be ignored. This article measures the level of informal environmental regulation through the following variables.See Table 2 for details.

Table 2. Informal Environmental Regulation Measurement Table

Informal environmental regulation	Population density	population density	Persons per square kilometer
	Age structure	Percentage of population under 15 years of age/%	/
	Income level	Per capital disposable income of urban residents	unit of money

Industrial structure: Measure by the proportions of the output value of the tertiary sector to the secondary sector.

Marketization level: Proportion of urban private and self-employed workers to aggregate number of urban workers end of a fixed term

Fiscal decentralization: proportion of general local public budget revenues to local general public budget expenditures.

Table 3. Qualitative Description of Variables

Variable genre	Variable Name	Variable measurement	Variable Symbol
Explained Variable	Digital Economy	Calculated based on the total amount across three dimensions.	*Digital*
Core Explanatory Variable	Government Innovation Preferences	Fiscal science funding, technology and education as a percentage of total fiscal expenditure	*Gov*
Mediating Variable	Comprehensive upgrading of industrial structure	Value added of primary sector as a share of GDP*1+Value added of secondary sector as a share of GDP*2+Value added of tertiary sector as a share of GDP*3	*IS*
	Urban economic density	Gross regional product/land area of the administrative regions	*Urban*
Control Variable	Non-environmental regulation	Based on comprehensive calculations from multiple dimensions.	*NER*
	industrial framework	Value added of tertiary industry sector/GDP	*Industry*
	Level of marketization	Private and self-employed urban workers/urban workers at the end of the period	*ML*
	financial decentralization	Local general public budget revenue/local general public budget expenditure	*FD*

4.3 Data Source and Descriptive Statistics

To ensure the continuity and usability of sample numbers, taking into account administrative divisions adjustments and data missing, this paper alternatives 270 Chinese cities from 2012 to 2022 as scientific research brochures. The number comes from resources such as the "Statistical Yearbook of China," "National Bureau of Statistics," and the statistical yearbooks of various cities. To avoid

heteroscedasticity and multicollinearity, logarithmic processing is applied to the relevant variables. Missing figures for some cities and years are descriptive statistics of the variables are presented in Table 4 .

It can be found out about the average value of the digital economy is 0.540, with a standard deviation of 0.831, and the maximum and minimum values are -1.472 and 4.224, separately, demonstrating a extremely important gap in the digital economy between different cities; the average value of government innovation preference is 0.166, with a standard deviation of 1.961, and the maximum and minimum values are 0.000158 and 38.91, demonstrating a considerable difference in government innovation preferences among different cities. Overall, the level of government preference for innovationand the progression of the digital economy vary among cities, and the government needs to actively guide the progression of it to adapt to the progress of the times.

Table 4. Descriptive Statistics of Variables

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
Gov	2,970	0.540	0.831	-1.472	4.224
IS	2,970	0.166	1.961	0.000158	38.91
NER	2,970	0.187	0.221	-2.150	1.178
Industry	2,970	0.435	0.100	0.115	0.839
ML	2,970	0.637	0.361	-0.0438	1.224
FD	2,970	0.828	0.0466	0.771	0.900
IS	2,970	2.321	0.139	1.890	2.836
Urban	2,970	0.385	0.899	0.00281	16.86

5. Empirical Findings and Analysis

5.1 Benchmark Regression

Table 5 presents the results of regressions with controls for city and year. The first column of Table 5 presents the regression results without control variables, indicating the direct impact of government innovation preferences on the digital economy. The coefficient of government innovation preference is 0.020. It indicates that government innovation preference can significantly promote the development of digital economy. The second column indicates the regression results with the addition of four control variables, and the coefficient of government innovation preference becomes 0.012, and the coefficient of 0.012 with the addition of control variables is smaller than the coefficient of 0.020 with the non-addition of control variables. This indicates that the control variables chosen for this paper are valid, thus confirming Hypothesis I of the study.

Table 5. Baseline Regression Results

	(1)	(2)
	Gov	*Gov*
IS	0.020***	0.012***
	(0.004)	(0.003)
NER		-0.000
		(0.061)
Industry		1.912***
		(0.112)
ML		-0.273***
		(0.015)
FD		-1.529***
		(0.131)
_cons	0.537***	1.145***
	(0.046)	(0.153)
N	2970.000	2970.000

Note. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, and * denotes significance at the 0.1 level; standard errors, adjusted for robustness, are shown in parentheses.

5.2 Intermediary Effects

Table 6 tests the relationship between government innovation preference, industrial structure upgrading and digital economy. Based on the influence coefficients and significance levels of the core and mediating variables in the model, it can be obtained that under the influence of industrial structure upgrading and testing economic density, government innovation preference has indirectly influenced the digital economy to a certain extent, which provides sufficient evidence for hypotheses II and III of this paper. Specifically, Model 3 and Model 4 are the results of stepwise regression based on Model 2 with industrial structure upgrading as the mediating variable. The government's preference for innovation exerts a significantly positive influence on the upgrading of the industrial structure, with an impact coefficient of 0.002, and a direct impact coefficient of 0.023 specifically for the digital economy. Models 5 and 6 are the results of model estimation with city economic density as the mediating variable, and it can be found that there is a mediating effect of governmental innovation preference on the digital economy under the influence of city economic density. Each 1% change in the Government Innovation Preference Index will contribute to a 0.039% increase in the economic density of the city, which in turn exerts an indirect effect on the digital economy.

The power of government innovation preferences for the digital economy can be enhanced by promoting industrial structure upgrading, possibly because industrial structure upgrading involves not

only technological innovations, but also accompanies the optimal allocation of resources, which puts higher demands on the government's governance capacity. Through policy guidance, the Government promotes the flow of resources to highly efficient, environmentally friendly and innovative industrial sectors, which helps to form a more rational industrial structure. This optimization of resource allocation provides a more favorable market environment and resource conditions for the development of the digital economy. The increase in the economic density of the city enhances the effectiveness of policy implementation. In a high-density environment, policy transmission is smoother, and innovation policies can be quickly communicated to enterprises, universities and other innovation subjects and effectively implemented. At the same time, policy information sharing and exchange has been accelerated, so that innovative subjects can grasp the policy dynamics in a timely manner and seize the development opportunities, offering a robust policy support for the advancement of the digital economy.

Table 6. Test Results of the Mechanism by which Government Innovation Preferences Influence the Digital Economy

	(3)	(4)	(5)	(6)
	IS	*Gov*	*Urban*	*Gov*
IS	0.002***	0.023***	0.039***	0.012*
	(0.001)	(0.007)	(0.008)	(0.007)
NER	0.098***	-0.581***	0.282***	-0.655***
	(0.006)	(0.068)	(0.073)	(0.062)
Industry	1.162***	3.082***	2.879***	2.330***
	(0.014)	(0.291)	(0.178)	(0.159)
ML	0.008**	-0.185***	0.043	-0.196***
	(0.004)	(0.040)	(0.045)	(0.038)
FD	0.049*	-0.692**	1.388***	-1.063***
	(0.028)	(0.320)	(0.358)	(0.306)
IS		0.017		
		(0.210)		
Urban				0.268***
				(0.016)
cons	1.751***	-0.045	-2.104***	0.549*
	(0.026)	(0.474)	(0.335)	(0.287)
N	2970	2970	2970	2970
R^2	0.774	0.175	0.115	0.249

6. Research Findings and Policy Implications

6.1 Conclusions of the Study

This paper addresses how government innovation preference promotes the improvement of digital economy index and helps the national high-quality development strategy. Based on the 2012-2022 prefecture-level city chapter data, fixed panel and mediation effect models are used to explore the immediate and mediation results of government innovation preferences on the digital economy index. The main findings are as followed: (1) government innovation preference is significant positively associated with the digital economy index; (2) government innovation preference contributes to the overall industrial structure upgrading, which in turn promotes the improvement of the digital economy index; and (3) government innovation preference is able to further enhance the digital economy index by promoting the increase of urban economic density.

6.2 Policy Implications

On the basis of the full study, the following insights are summarized:

a: The Government should further increase its inclination towards innovation and take innovation as the central driving force for the promotion of the development of the digital economy. It should establish a sound innovation policy framework, clarify the strategic position of innovation in the growth of the digital economy, and furnish strong policy backup and safeguards for innovation activities. The government should strengthen its investment in R&D in the area of digital economy, encourage and support enterprises, institutions of higher learning and scientific research organizations to carry out digital technology innovation and application research, and promote the continuous upgrading and iteration of digital technology. The Government should also strengthen exchanges and cooperation with advanced countries and regions, introduce and absorb international advanced digital technology and management experience, and enhance the international competitiveness of China's digital economy.

b: The government should proactively promote the overall upgrading of the industry structure in view of enhancing the city's economic density and creating more favorable conditions for the development of the digital economy. On the one side, the government should strengthen the restructuring and modernization of traditional industries, promote the in-depth integration of traditional industries with digital technologies, and enhance the digitization and intellectualization of traditional enterprises. On the other side, the government should vigorously cultivate and develop emerging industries in the digital economy, such as artificial intelligence, big data, cloud computing, etc., to create an internationally competitive digital economy industrial cluster. In addition, the government should strengthen urban planning and architectural design, optimize the spatial layout of cities, and increase the economic density of cities, so as to provide sufficient space and resources for the expansion of the digital economy.

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