Article

Role of Digital Inclusive Finance for High-Quality Business Development: A Study of China's "Five Development Concept" Policy

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Abstract: The "Five Development Concept" policy is the foundation of high-quality development in China, and enterprises should base their high-quality development on this new paradigm. Can digital inclusive finance play a vital role in the high-quality growth of those businesses? This paper examines the relationship between digital inclusive finance and high-quality corporate development and its mechanism of action. This study demonstrates that digital financial inclusion can facilitate high-quality business development. Heterogeneity analysis shows that the contribution of digital inclusion to high-quality businesses development is more evident among non-state, large growth capacity and small-scale enterprises. An investigation of the mechanism reveals three pathways through which high-quality enterprise development is facilitated via digital inclusive finance, namely improving innovation, easing financing constraints, and improving risk taking, and a triple internal drive mechanism of innovation, capital, and risk is extant. This paper enhances the research related to the micro-level of digital inclusive finance on the high-quality development of enterprises, which is conducive to the construction of a long-term mechanism of digital inclusive finance under the new development pattern, so as to effectively facilitate the high-quality development of enterprises in developing countries.

Keywords: digital inclusive finance; high-quality business development; "Five Development Concept"; mechanism

1. Introduction

Today, China has essentially completed a period of high-speed growth of its economy and is gradually moving towards an era of high-quality development. If a country's economic development is at an optimal level, we call it high-quality development. In the report of the 19th CPC National Congress, the terms "innovation", "coordination", "green", "openness", and "sharing" indicate high-quality development. This is known as China's "Five Development Concept" policy, which also represent the integration of new development ideas. Among these elements, the only path is openness, with the primary goal of sharing; "innovation" is the main force behind development, "synergy" is the internal quality, and "green" is the overall form [1]. High-quality growth is the most significant participant and driving force in the process of China's economic development [2], which is crucial to the development of the country's high-quality economy. The five concepts of high-quality development also apply to business growth.

In the past two years, with the rapid development of network technology, the application of digital technology to the financial field has become a new trend and form. Big data, artificial intelligence, cloud computing, and digital inclusive finance—supported by a series of digital technologies such as blockchain and 5G—achieve the goals of inclusiveness, precision, and individualization that traditional financial services cannot achieve; innovate

in terms of the sources and channels of corporate financing [3,4]; bridge the gap between supply and demand for capital; reduce the asymmetry of financing supply and demand [5]; improve the availability of funds needed by enterprises, which in turn improves financing scenarios and enterprise models; provide more possibilities for the development of enterprises, especially providing a broader and more efficient financial service model for private, small-scale, and other enterprises, while lowering the cost and financial challenges faced by small and medium-sized businesses [6]; promote the technological innovation of SMEs [7]; and achieve the long-term sustainable development of enterprises.

At the G20 Summit in 2016, the G20 Advanced Principles for Digital Inclusive Finance were suggested, which became the first international common platform for promoting digital inclusive finance [8]. Since the formal introduction of the principle in 2016, it has drawn numerous scholars to research on digital inclusion finance.

There have been two main areas of research on digital inclusion. First, some authors are concerned with the digital inclusion unfolding from the macro level; digital finance reducing the income gap between rural and urban areas [9]; the effects on poverty reduction [10]; the promotion of entrepreneurship and employment [11]; the promotion of industrial structure upgrading [12]; the improvement of regional innovation efficiency [4,13]; the promotion of high-quality regional economic development [14,15]; the reduction in ecological footprints [16]; the decrease in CO_2 emissions [17]; the control of industrial pollution [18]; and the achievement of sustainable development.

Second, from the point of view of micro-enterprises, via digital inclusive finance, financial restrictions can be successfully relieved [19,20], enterprise innovation can be improved [21], technological innovation in SMEs can be promoted [22], corporate financial performance can be improved [23], the value of listed companies can be enhanced [5], and corporate risk taking can be improved [24].

According to Huang et al. (2018), "high-quality enterprise development" is defined from two perspectives, namely the target state and the development paradigm, and seven core attributes of high-quality enterprise development have been identified, including social value-driven, outstanding resource capability; first-class products and services; transparent and open operation; effective management mechanism; excellent overall performance; and good social reputation [2]. High-quality development is characterized by innovation, coordination, "greenness", openness and sharing [1], and comprehensively covers the five dimensions of high-quality enterprise growth.

So far, research concerning the factors influencing the high-quality growth of firms has been conducted from both external and internal aspects. In the field of external factors, tax- and fee-reduction policies and state-owned asset regulatory systems help drive the high-quality growth of firms [25], resulting in a U-shaped curve of regional financial and the high-quality growth of enterprises [26]. In terms of internal factors, management innovation is a vital aspect required by enterprises to achieve high-quality development [27]. Entrepreneurs are some of the most important participants in social and economic activities, and promoting entrepreneurship is a significant tractive force for the high-quality growth of firms [28].

In addition, the acts of strengthening technological innovation, building superior-quality brands, integrating enterprises into global market development, as well as implementing digital transformation are required to achieve high-quality corporate development [29]. Digital inclusive finance, as a starting point for creating a modern financial system, can stimulate the growth of total factor productivity in the local and surrounding areas, and as an institutional arrangement, it is a crucial support for business innovation and high-quality development [30].

Currently, there is not much scholarly research concerning the relationship between high-quality business development and digital inclusive finance. Zhang et al. (2022) conducted a survey, using the data of Zhejiang Province, and found that in large, medium, and underdeveloped regions, digital finance can better facilitate the high-quality growth of the real economy [31]. To empirically investigate the relationship between the quality

development of manufacturing firms and digital finance, Song and Zhang (2022) created an enterprise quality development index from four parameters [32]. In addition, Li et al. (2022) discovered the moderating influence of the degree of digital finance and a favorable association between digital innovation and high-quality corporate development [33]. Li et al. (2021) highlighted that the inverted U-shaped relationship between financial development and high-quality firm development results in corporate diversification methods playing a negative mediation role [26].

In summary, in the context of the five development concepts, the overall and significant influence of digital inclusive finance on the high-quality growth of firms has received little attention. The research objective of this paper is mainly to explore the specific role of digital inclusive finance in the high-quality development of enterprises. Therefore, in order to clarify the specific effects and path of digital inclusive finance on the high-quality growth of firms, this paper selects Chinese A-share listed companies as the sample from the perspective of the five development concepts, uses the "Index of Digital Inclusive Finance from Peking University", focuses on the five concepts in order to deeply understand and comprehend the high-quality growth of firms, selects appropriate indicators in the light of the five aspects of "innovation, coordination, green, openness and sharing", and creates the high-quality enterprise growth evaluation index system by quantifying the five equal scores in order to objectively assess the boundary conditions of high-quality enterprise growth and the effects of digital inclusive finance. This topic has important scientific significance and application value, as the implementation of the "five development concepts" enables the construction of a long-term digital inclusive finance framework and supports the high-quality expansion of China's private economy.

The following are the potential contributions of this paper. First, we investigate how digital inclusive finance affects businesses. However, this study concentrates the research viewpoint on the company level, which is of tremendous practical value. While the majority of current studies concentrate on the macro level of high-quality economic growth. Second, this study builds the "Five Development Concepts"-based indicators of high-quality company development from five perspectives: innovation, coordination, green, openness, and sharing, which enriches the indicator system and provides reference for subsequent studies. Third, by examining the triple internal driving mechanisms of the innovation level, financing constraints, and risk-taking level, this paper reviews the influence of digital inclusive finance on the high-quality growth of firms within the context of the "Five Development Concepts" and thus extends upon previous research. Fourth, the heterogeneity test examines the nature of property rights, enterprise size, and growth potential, and examines the effects of inclusive digital financing on the creation of high-quality businesses from three angles. It then discusses the specific impact on various aspects of the high-quality growth of enterprises under the "Five Development Concepts", which helps to provide new ideas for digital inclusive finance to better contribute to the high-quality growth of firms.

2. Theoretical Analysis and Research Hypothesis

(i)   The total effect of digital inclusive finance on the growth of high-quality businesses

Digital inclusive finance can effectively increase the potency of financial resource allocation, boost the efficiency and inclusiveness of economic development, and thus facilitate high-quality economic growth. Digital finance can help with high-quality development [14]. He and Cheng (2021) argued that China may achieve high-quality growth through fostering traditional economic power change, efficiency change, and quality change through the digital economy [34]. Financial inclusion, according to Yang et al. (2021), is more important for fostering high-quality economic development in places with lower levels of urbanization [35]. Fintech's quick development supports the financial sector's balanced development and leads to high-quality economic growth [36]. High-quality enterprise growth is ultimately necessary to achieve high-quality economic growth. So, more studies

are needed to determine how digital financial inclusion affects the qualitative growth of firms in China.

On the one hand, digital inclusive finance reduces information asymmetry. Digital inclusive finance, augmented by technologies such as artificial intelligence, is able to process massive amounts of data, improve data collection capabilities and the value of relevant information, reduce the cost of capital in the investment and financing process, and improve information transparency [5], which promotes the market-based allocation of financial resources [37]; the availability of sufficient capital for enterprises is conducive to promoting technological innovation and increasing productivity and profits [38], which further promotes high-quality enterprise development.

On the other hand, funding channels have expanded thanks to digital inclusive finance. It is known from the long-tail theory that long-tail groups have difficulties in obtaining efficient financial services and face problems such as difficulty in financing and expensive financing. The quick expansion of inclusive digital finance has increased company funding options and lowered financing costs [39], improved financing efficiency [31], and provided better financial support to long-tail enterprises such as non-state, small-scale, and financially underdeveloped regions [22], thus allowing these enterprises to develop in a more balanced and efficient way with high quality.

Meanwhile, digital inclusive finance provides digital payment services. Financial institutions can build digital platforms for inclusive finance through digital technology to promote online business processing, which can help customers carry out the screening, comparison, and transaction of financial services online, thus avoiding the time costs as well as transportation costs required to travel to the physical branch location. Digital inclusive finance provides an efficient and convenient payment method for enterprises [40], which lowers the cost of business transactions, boosts the effectiveness of business development, and supports the high-quality growth of businesses.

On the basis of the analysis above, Hypothesis 1 is suggested:

H1. *Digital inclusive finance encourages the growth of high-quality businesses.*

(ii)   Based on the decomposition effect of the "Five Development Concept"

The heart of quality development is innovation [41]. On the one hand, in order to continuously inject new vitality into an enterprise, businesses must strengthen their technological innovation in order to achieve continuous development momentum, but these innovation activities are often long-period, risky, high-investment, and easily subject to many restrictions [42]. The growth of inclusive digital finance has consistently dictated how money is utilized, etc., and the cost of transactions in the investment and financing processes has decreased because of the employment of digital technology and business finance restrictions have been made easier, effectively solving the financing needs of enterprise innovation and promoting technological innovation.

On the other hand, digital inclusive finance, augmented by digital technology, optimizes the distribution of elements in the capital market [43], improves the efficiency of enterprises' use of capital, stimulates their innovation activities, and in turn, promotes the high-quality development of enterprises. In addition, certain technological innovation subjects are affected by geographic and spatial locations, and one of the traits of digital inclusive finance is its broad coverage, which breaks infrastructural and geographic distance barriers, makes it easier to finance innovative initiatives, and boosts capital investment [44].

For a long time, due to a traditional financial system (among other reasons), China's industrial structure is extremely uncoordinated. Digital inclusive finance stands out from the traditional financial sector as a future trend of financial industry transformation and development. First, the "two-eight law" in the conventional financial system is improved through digital inclusive finance, which is more inclusive and precise and can reduce the income gap between urban and rural areas. Additionally, it introduces capital to underserved industries and supports the balanced development of industrial structure. Second, digital inclusive finance can lower the bar for accessing financial services and increase

the effectiveness of allocating credit resources [45]. Additionally, digital inclusive finance can reduce information asymmetry both inside and outside a sector, promote industrial growth through the "horizontal effect" and the "structural effect" [46], optimize industrial structure upgrading, and thus, encourage the high-quality development of enterprises.

Green development is one of the key strategies for achieving high-quality economic growth and advancing socialist modernization. For one thing, digital payment and other methods that can be realized through digital inclusive finance are environmentally friendly ways of financial services that can hasten the growth of green finance [47]. Financial institutions can build digital platforms for financial inclusion through digital technology, promote online business processing, and help customers complete the screening, comparison, and transaction of financial services online, which reduces transaction costs.

Moreover, through the digital finance platform, green financial resources can be applied to environmentally friendly enterprises and angled toward green production methods [14], thus directing funds toward environmentally friendly industries and green projects and promoting green transformation. Meanwhile, big data, blockchain, and other technologies can help digital inclusive finance tap into enterprise-specific information, prompting banks to be more concerned about the environmental benefits of enterprises [48] and then to choose to increase loan interest rates to absorb the environmental risks of businesses [49], forcing enterprises with negative environmental externalities to reduce pollution and industrial gas emissions, improve their environmental performance, and thus promote their green development.

Today's world is an economic development community, and enterprises must be accessible to the outside world and communicate with each other if they want to develop in the long term. Future cross-border M&A activity for Chinese enterprises will be significantly influenced by digital inclusive finance, which is vital to China's economic growth and the expansion of its global commerce [50]. According to Hausmann (2006), a nation's trade's technological makeup significantly affects the quality of its economic growth [51]. For businesses producing goods or services for export, digital inclusive finance can offer broader and less expensive financial support, reducing their capital costs and helping them expand production and capture external markets.

Furthermore, digital finance can transform the market orientation and underlying service model of the traditional financial industry and improve the rationing structure of credit resources by developing a successful credit evaluation system [52,53], improve the availability of trade finance for enterprises, and promote the growth of their export trade [54]. In addition, digital inclusive finance has given rise to new financial services, such as digital payment, which makes it easier for enterprises to conduct foreign trade, which is conducive to enterprises expanding abroad, attracting foreign investment, promoting open development, and thus, achieving high-quality growth.

High-quality economic growth prioritizes people [55], and one of the more significant criteria to test the quality of development is whether the fruits of development can be shared. Digital inclusive finance is "inclusive" in nature and covers a variety of areas, which is conducive to sharing the fruits of financial development among the general public and plays a role in ensuring social equity. Listed enterprises are public in nature, and if the public can enjoy the development dividends of the enterprise, this indicates that the enterprise is developing well and has certain development prospects [56], which in turn will be favored by more investors, creditors, and other stakeholders. The confidence of stakeholders, such as investors, in the enterprise is based on its revenue maximization, i.e., their investment can get a desirable return. By making annual profit distributions, enterprises can, on the one hand, imply to the public that their business performance is good, thus attracting more investors to invest in them and expanding their financing channels, and on the other hand, give investors in the enterprise a sense of ownership [57]. In the long run, the stable development of the business is facilitated by the formation of a positive cycle of mutual benefit.

On the basis of the analysis above, research Hypothesis 2 is suggested:

H2. *Digital inclusive finance can promote the innovative, coordinated, "greenness", open, and shared development of enterprises.*

(iii) Channels for influencing the high-quality growth of enterprises through digital inclusive finance

In addition to altering the external institutional and resource conditions for enterprise development, the development of digital inclusive finance also has a bigger effect on how internal financial resources are allocated within businesses. Its significance in encouraging high-quality business development is primarily evident in three areas: encouraging business innovation, alleviating financing constraints, and increasing risk-taking levels.

Innovation is a powerful strategy for boosting businesses' ability to compete, but it requires large and stable cash flow to support its large investment, long cycle, and high risk. When enterprises are constrained by financing, they tend to invest in "short and quick" projects, and the level of innovation is affected. Digital inclusive finance, supported by digital technology, optimizes capital market allocation factors, and improves the availability of funds for enterprises. Enterprises' own cash holdings are an important guarantee for R&D investment, and they have a funding supply role for R&D investment. The innovation activities of enterprises require both large initial investment and continuous follow-up investment. Once the follow-up investment in new technology stops, the initial investment becomes a sunk cost that cannot be recovered. Cash is the "blood" of an enterprise, and holding more cash can enhance the investment capacity and sustainability of R&D activities [58]. Increased R&D spending has a significant impact on how well businesses are doing [59], as it can boost their capacity for innovation, increase total factor productivity, and foster high-quality growth [60].

In the real financial market, the external financing behavior of enterprises is more constrained [61–63]. For one thing, digital finance, through a variety of advanced technologies, accomplishes rapid information matching between various subjects [64], which can improve the matching degree by lowering information asymmetry, enhance the trust between supply and demand of funds to each other [22], and is helpful for easing financing constraints.

Moreover, digital inclusive finance may help SMEs with their financial challenges in a variety of ways. Digital inclusive finance can rise above the many limitations of conventional financial services by utilizing digital technology for innovation. It can also significantly lower the costs of external financing for businesses, increase the accessibility of corporate funds, and offer security for the various activities of enterprises, thus further promoting high-quality development.

Risk taking contributes to a company's core competence and success [65]. According to agency theory, factors such as management's risk-averse tendencies and self-interested behavior due to information asymmetry can weaken their incentives to take risks and reduce their risk-taking capacity [66,67]. For one thing, increasing corporate risk taking requires proper resource support [68] and digital inclusive finance enables the expansion of the reach of financial services by overcoming the constraints of physical outlets [4], alleviate corporate financing constraints, and ensuring abundant corporate capital, which in turn can effectively reduce management's risk-averse tendencies to choose riskier but more rewarding projects [69], thus enhancing corporate risk taking.

For another, digital inclusive finance can increase information transparency by processing massive amounts of data through network technology [52], reducing information asymmetry, and enhancing the effective supervision of management by external investors [67,70], thus mobilizing managers' motivation, reducing the conservatism of managers' investment decisions, and thus increasing the level of risk taking, which encourages high-quality corporate development and strengthens long-term competitive advantages.

On the basis of the analysis above, Hypothesis 3 is suggested:

H3a. *Digital inclusive finance accelerates innovation, which helps high-quality business development.*

H3b. *Digital inclusive finance alleviates financing constraints, which helps high-quality business development.*

H3c. *Digital inclusive finance accelerates risk taking, which helps high-quality business development.*

Combined with the above analysis, the framework diagram is shown in Figure 1:
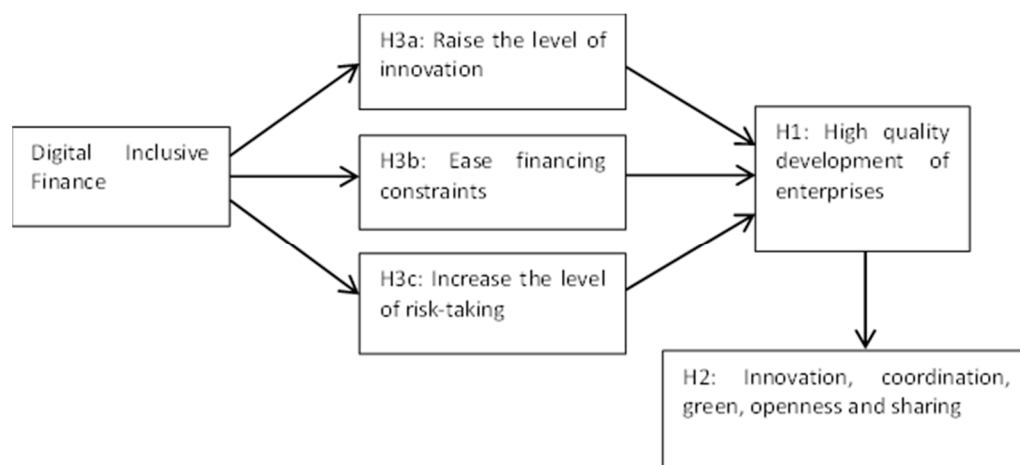
Figure 1. Theoretical framework diagram.

3. Research Design

(i)   Sample and data

(1) By creating a composite measure of discrete variables and using data from the CSMAR database, indicators related to the innovation activities, social responsibility, corporate governance, and dynamic corporate capabilities of Chinese A-share listed enterprises from 2011 to 2018 were used to estimate the level of high-quality corporate growth. The selection of the 2011–2018 period as the study interval was mainly due to the fact that all aspects of China's A-share listed enterprises were greatly affected by the epidemic starting in 2019, resulting in a significant decline in data indicators and anomalies that do not effectively illustrate the relationship between the two investigated factors in this research.

(2) The Peking University's Index of Digital Inclusive Finance was also used. In addition to the three dimensions of digital financial coverage, usage depth, and the digitalization of inclusive finance, the index primarily includes the Digital Inclusive Finance Index. The usage depth index also includes business classification indices for payment, credit, insurance, credit, investment, and money funds.

The data were handled in this study in the following ways: (1) excluding publicly traded financial companies; (2) excluding missing values of core variable data; and (3) excluding B-share listed companies. Additionally, the sample's continuous variables' data below 1% and above 99% were submitted to the tailing method in in order to remove the impact of extreme values, and the panel data comprising 20,115 observations were finally obtained.

(ii)   Empirical model

This research builds a multiple regression model, as given in (1), to examine the effect of digital financial inclusion on the high-quality development of firms:

$$\text{Qua}_{ijt} = \beta_0 + \beta_1 Index_{jt} + \beta_2 Control_{ijt} + \theta_i + \lambda_j + \eta_t + \varepsilon \tag{1}$$

where the variables' subscripts *i*, *j*, and *t* denote enterprises, cities, and years, respectively. The stated parameter, i.e., the explanatory variable $Index_{jt}$, is the digital financial inclusion index, while Qua_{ijt} represents the enterprise high-quality growth index. $Control_{ijt}$ is the control variables, θ_i denotes the industry fixed effect, λ_j denotes the city fixed effect, η_t denotes the year fixed effect, and ε is a random disturbance term.

This paper builds a multiple regression model using the five dimensions of "innovation, coordination, green, openness, and sharing", as shown in Model (2), to test the specific mechanism of digital inclusive finance influencing the high-quality growth of firms in light of the "Five Development Concept":

$$HQ_{ijt} = \beta_0 + \beta_1 Index_{jt} + \beta_2 Control_{ijt} + \theta_i + \lambda_j + \eta_t + \varepsilon \tag{2}$$

where HQ_{ijt} denotes the level of innovation, coordination, greenness, openness, and shared development of firm i in year t in region j, respectively, and other variables are the same as in Model (1).

(iii) Variable description

(1) Measurements of enterprise quality development indicators on account of the "Five Development Concept"

The five features of "innovation, coordination, green, openness, and sharing" are included as indicators of the high-quality growth of firms in this article. Firstly, this paper chooses to measure the innovation dimension using the ratio of enterprise R&D investment to operating income for the most recent year. Secondly, in terms of coordination and green dimensions, listed companies with more social responsibility are able to better coordinate conflicts between stakeholders and make greater contributions to economic coordination and green development. We used the CSMAR database to identify the ten dimensions of indicators of listed companies, such as "whether to make public the safeguards for the rights and interests of shareholders" and "whether to reveal public relations and social welfare", with 1 representing disclosure and 2 representing non-disclosure, and to obtain the discriminatory indicators of listed companies' social responsibility by summing up the values of the ten dimensions. Again, in the openness dimension, companies need to have a strong ability to adapt, and this paper uses "R&D expenditure" to measure a company's ability to adapt to changes. Finally, in the sharing dimension, companies with good governance structure can allow stakeholders to enjoy better development dividends, and this paper measures corporate governance using the shareholding ratio of the second to tenth largest shareholders [56]. The indicators of these four dimensions are quantified uniformly via quintile assignment and summed to obtain the enterprise quality development index.

(2) Digital Inclusive Finance Indicator Metrics

This paper measures the degree of digital financial inclusion using the Index of Digital Financial Inclusion of Peking University [40]. As a variable for explanation, we utilize the city-level digital financial inclusion index for the period of 2011 to 2018. Indicators with three different segmentation dimensions, namely breadth of coverage, depth of use, and digitalization, are used to investigate their specific impacts on the quality of business development.

(3) Tool variables

We measured each region's internet development using the rate of internet penetration in each province and city as well as the degree of internet development (Int) as an instrumental variable [35]. The data of this variable were obtained from CNNIC's 2011–2018 Statistical Report on the Development Status of the Internet in China.

(4) Control variables

Referring to the existing related literature in combination with the specific problem studied in this paper, this work selects firm size (size), gearing ratio (lev), operating income growth rate (growth), asset turnover ratio (ast), return on net assets (roe), return on assets (roa), board size (bod), Tobin's q value (tobinq), and firm age (age) as control variables. Table 1 contains definitions and calculations for the specific variables.

(iv) Descriptive statistics

The outcomes of descriptive statistics are shown in Table 2. The disparity in the digital inclusive finance index is more apparent between different cities, as shown by the table, where the maximum value of the index is 291.4 and the smallest value is 48.38. The three aspects of digital inclusive finance have maximum values of 290.3, 320.5, and 324.7 and

minimum values of 44.26, 50.93, and 19.20, respectively. These large disparities between the highest and minimum values suggest that there are also vital differences between the three different aspects. Qua can reach a number as high as 19 and a value as low as 5, and the variances are also more noticeable.

Table 1. List of variable definitions.

Variable Category	Variable Name	Variables Symbol	Variable Definition
Explained variables	High-quality development of enterprises	Qua	Quantification and summation of the enterprise quality development index through a five-point scale
	Ratio of R&D investment to enterprise's operating revenue for the year	g_RD	Innovation dimension
	Social Responsibility	g_SR	Coordination, green dimension
	R&D Expenditure	g_RDS	Open dimension
	Shareholdings of the second to tenth largest shareholders	g_CG	Shared dimension
Explanatory variables	Digital Inclusive Finance	Index	"Peking University Digital Inclusive Finance Index"
	Breadth of coverage	coverage	
	Depth of use	usage	
	Degree of digitization	digiti	
Tool Variables	Internet development level	Int	"Statistical Report on the Development Status of the Internet in China"
Control variables	Enterprise size	size	Total assets are taken as logarithm
	Gearing ratio	lev	Total liabilities/total assets
	Operating income growth rate	growth	(Operating income for the current year—operating income for the same period of the previous year)/operating income for the same period of the previous year
	Asset turnover ratio	asst	Operating income/total assets ending balance
	Return on Net Assets	roe	Net income/shareholders' equity balance
	Return on Assets	roa	Total profit/total assets
	Board Size	bod	Number of directors (including chairman)
	Tobin's q-value	tobinq	Enterprise market value/replacement cost
	Business Age	age	2022—date of company establishment
	Nature of company ownership	soe	Divided by whether a company is a state-owned enterprise—state-owned enterprise is 1, non-state-owned enterprise is 0
	Year	year	2011–2018
	Industry	ind	Translated into category variables, the classification criteria follow the industry classification codes issued by the SEC
	City	city	Translated to category variables, mainland China cities above prefecture level

Table 2. Descriptive statistics.

Variables	N	Mean	sd	Min	p50	Max
Qua	20,115	12.03	3.160	5	12	19
g_RD	20,115	3.020	1.420	1	3	5
g_SR	20,115	3.010	1.410	1	3	5
g_RDS	20,115	3.020	1.410	1	3	5
g_CG	20,115	2.990	1.410	1	3	5
Index	20,115	192.1	64.80	48.38	200.0	291.4
coverage	20,115	191.4	61.03	44.26	201.8	290.3
usage	20,115	189.8	70.19	50.93	186.6	320.5
digiti	20,115	199.0	81.95	19.20	230.4	324.7
size	20,115	22.06	1.310	19.49	21.89	26.06
lev	20,115	0.420	0.220	0.0500	0.410	0.950
growth	20,089	0.200	0.480	−0.580	0.110	3.330
asst	20,105	0.620	0.440	0.0600	0.520	2.600
roa	20,115	0.0600	0.0600	−0.240	0.0500	0.240
roe	19,997	0.0600	0.130	−0.720	0.0700	0.330
bod	20,114	8.620	1.700	5	9	15
tobinq	19,276	2.080	1.400	0.890	1.620	9.380
age	20,112	23.82	5.170	13	24	37

4. Analysis of the Empirical Results

(i)   Baseline regression results and the impact of three main facets of digital finance

Table 3 presents the findings of the baseline regressions and the results of the tests for the three different aspects of digital finance. Column (1) does not include any control variables, and at the 1% level, the index coefficient is strongly positive. While controlling for year, city, and industry fixed effects, a number of control variables were included in column (2) to produce more reliable results. The results are similar to what was stated previously. The aforementioned findings imply that digital financial inclusion has a favorable effect on the high-quality development of firms, supporting the research hypothesis H1.

The breadth of coverage (coverage), depth of use (usage), and level of digitalization (digiti) make up the digital inclusion index. The results of the examination of the three aspects are displayed in columns (3) through (5) of Table 3. The regression coefficients for coverage and depth of use are 0.016 and 0.006, respectively, and are significantly positive at the 1% and 5% levels. This indicates that both variables contribute to the high-quality growth of firms, with coverage making up the largest contribution and depth of use making the second largest contribution. Column (5) reveals that the regression coefficient of the degree of digitization is positive but not statistically significant, which may be because China's level of digital finance is not yet sufficiently advanced to have a significant impact on the high-quality growth of firms.

(ii)   The impact of digital inclusive finance on the high-quality growth of firms under the "Five Development Concept"

Based on the "Five Development Concept" qualities of innovation, coordination, greenness, openness, and sharing, this study develops an index system for high-quality corporate growth. The R&D investment to revenue ratio (g_RD) is used to quantify innovation; the coordination and green dimensions are measured via corporate social responsibility (CSR), which is the sum of the indicators of ten dimensions, including "disclosure of shareholders' rights and interests" (g_SR); the openness dimension is measured via R&D expenditure (g_RDS); and the sharing dimension is estimated via the shareholding ratio of the second to tenth largest shareholders (g_CG). These four indicators are used as explanatory variables in the empirical analysis to test which mechanism of digital financial inclusion promotes the high-quality growth of firms in the context of the "Five Development Concept" and to further explore the decomposition effect of the "Five Development Concept". Table 4 lists the findings of the analysis.

Table 3. Baseline regression results and test results of three aspects of digital inclusion finance.

	(1) Qua	(2) Qua	(3) Qua	(4) Qua	(5) Qua
Index	0.0194 ***	0.0187 ***			
	(4.3680)	(4.1916)			
coverage			0.0160 ***		
			(4.0756)		
usage				0.0060 **	
				(2.2056)	
digiti					0.0017
					(1.1627)
size		−0.1606 ***	−0.1618 ***	−0.1610 ***	−0.1614 ***
		(−6.9237)	(−6.9766)	(−6.9381)	(−6.9559)
lev		−0.3167 **	−0.3160 **	−0.3109 **	−0.3071 **
		(−2.3597)	(−2.3545)	(−2.3161)	(−2.2875)
growth		0.4640 ***	0.4622 ***	0.4664 ***	0.4660 ***
		(10.8460)	(10.8008)	(10.8989)	(10.8898)
asst		−0.6247 ***	−0.6273 ***	−0.6240 ***	−0.6246 ***
		(−10.6056)	(−10.6487)	(−10.5892)	(−10.5981)
roa		1.8101 ***	1.7781 **	1.8349 ***	1.8395 ***
		(2.5997)	(2.5533)	(2.6345)	(2.6406)
roe		−0.4630	−0.4557	−0.4749	−0.4717
		(−1.4337)	(−1.4110)	(−1.4701)	(−1.4602)
bod		0.0356 ***	0.0359 ***	0.0357 ***	0.0356 ***
		(2.7265)	(2.7550)	(2.7370)	(2.7292)
tobinq		0.0351 *	0.0342 *	0.0358 *	0.0358 *
		(1.9063)	(1.8537)	(1.9384)	(1.9416)
age		0.0026	0.0024	0.0025	0.0024
		(0.5961)	(0.5403)	(0.5750)	(0.5552)
Year FE	YES	YES	YES	YES	YES
City FE	YES	YES	YES	YES	YES
Ind FE	YES	YES	YES	YES	YES
adjust.R^2	0.2485	0.2635	0.2635	0.2630	0.2629
F	19.0795 ***	40.4856 ***	40.3877 ***	39.1890 ***	38.8304 ***
N	20,113	19,159	19,159	19,159	19,159

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 4 demonstrates that the effect of digital inclusive finance on innovation and open development is highly positive at the 1% level, demonstrating that hypothesis H2 is proven and that digital inclusive finance encourages innovation and open development. Internet-based technology provides a more relaxed innovation environment and open platform facilities for digital inclusive finance, which encourages the growth of high-quality businesses. The coefficients of coordination and green development are positive but insignificant, probably because the transmission chain between digital finance and these dimensions is too long, which leads to a non-significant causal relationship between them. The coefficient of shared development is also positive but insignificant, which may be due to the existence of omitted variables, and needs further testing.

(iii) Heterogeneity analysis

(1) Different property rights enterprises

Due to their unique characteristics, state-owned businesses have better access to bank credit resources in conventional financial markets. Digital inclusive finance, through a series of digital technologies, breaks the financing barriers in the conventional financial market, widens the financing channels, and facilitates non-state enterprises' access to credit.

Table 4. Test results of different dimensions of enterprise quality development.

	(1) Innovation	(2) Coordinated, Greenness	(3) Openness	(4) Share
Index	0.0102 ***	0.0010	0.0072 ***	0.0003
	(5.3081)	(0.5153)	(3.7216)	(0.1343)
size	−0.1103 ***	−0.3622 ***	0.3572 ***	−0.0463 ***
	(−11.0089)	(−34.2333)	(35.3511)	(−4.2200)
lev	−0.0234	0.2383 ***	0.3457 ***	−0.8855 ***
	(−0.4037)	(3.8932)	(5.9147)	(−13.9531)
growth	0.0126	0.1444 ***	0.0477 **	0.2654 ***
	(0.6842)	(7.3990)	(2.5600)	(13.1192)
asst	−0.5139 ***	−0.1233 ***	0.1888 ***	−0.1817 ***
	(−20.2021)	(−4.5887)	(7.3601)	(−6.5235)
roa	−0.6408 **	−0.0788	0.6803 **	1.8501 ***
	(−2.1309)	(−0.2482)	(2.2432)	(5.6192)
roe	0.2447 *	−0.2741 *	−0.1044	−0.3359 **
	(1.7547)	(−1.8611)	(−0.7425)	(−2.1999)
bod	−0.0062	−0.0050	−0.0051	0.0527 ***
	(−1.1030)	(−0.8442)	(−0.8979)	(8.5380)
tobinq	0.0880 ***	−0.0618 ***	0.0996 ***	−0.0909 ***
	(11.0559)	(−7.3534)	(12.3990)	(−10.4311)
age	0.0117 ***	−0.0013	0.0214 ***	−0.0293 ***
	(6.1738)	(−0.6585)	(11.2525)	(−14.1642)
Year FE	YES	YES	YES	YES
City FE	YES	YES	YES	YES
Ind FE	YES	YES	YES	YES
adjust.R^2	0.3231	0.2427	0.3030	0.1846
F	109.0781 ***	169.2017 ***	246.0786 ***	114.0710 ***
N	19159	19159	19159	19159

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

According to the type of property rights, this article is divided into state-owned and non-state-owned categories, and different empirical tests are carried out for each. The regression coefficient of digital inclusive finance on the high-quality development of non-state-owned firms is positive at the 1% level, which suggests that digital inclusive finance plays a greater role in facilitating non-state-owned enterprises, as can be seen through the comparison of columns (1) and (2) in Table 5. This is because of the higher information asymmetry and more severe credit discrimination between non-SOEs and the financial market, while digital finance can reduce information asymmetry and lower financing constraints; therefore, it is vital to facilitate the high-quality growth of non-SOEs.

(2) Different growth capacity enterprises

Digital inclusive finance can enhance businesses' capacity to obtain funds and provide them with sufficient funds for innovative activities, such as R&D investment. Enterprises with greater growth capacity have stronger overall development capabilities and can effectively use these funds for activities such as technological innovation, which favors their sustainable high-quality development.

In this paper, empirical tests are conducted according to the median grouping of growth capacity. Comparing columns (3) and (4) of Table 5 reveals that the regression coefficient for enterprises with considerable growth capacity is positive at the 1% level, demonstrating that digital inclusive finance has a stronger promotion effect among these firms. This may be due to the fact that enterprises with large growth capacity are more capable of innovation, etc., and grow faster and are able to make better use of their resources, so they are better able to facilitate high-quality development.

Table 5. Results of the examination of heterogeneity.

	(1) State-Owned Enterprises Qua	(2) Non-State Enterprises Qua	(3) Big Growth Qua	(4) Small Growth Qua	(5) Large Scale Qua	(6) Small Scale Qua
Index	0.0122 *	0.0218 ***	0.0294 ***	0.0095	0.0183 ***	0.0216 ***
	(1.7208)	(3.9735)	(4.5461)	(1.4719)	(2.9590)	(3.4275)
lev	0.3514	−0.7583 ***	−0.2904	−0.1435	−0.5157 ***	−0.3393 *
	(1.5363)	(−4.5399)	(−1.4145)	(−0.7703)	(−2.6717)	(−1.8844)
asst	−0.8373 ***	−0.2315 ***	−0.5281 ***	−0.4753 ***	−0.4507 ***	−0.6976 ***
	(−8.8161)	(−3.0455)	(−6.3484)	(−5.4890)	(−5.4984)	(−7.7873)
roe	0.8838 *	−1.2763 ***	0.0083	−0.1764	0.5986	−1.5003 ***
	(1.9207)	(−2.8033)	(0.0141)	(−0.4307)	(1.3017)	(−3.2457)
roa	−0.4418	2.1976 **	1.1867	0.9254	−2.2117 **	3.9712 ***
	(−0.3757)	(2.4331)	(1.0114)	(0.9983)	(−2.0130)	(4.1578)
bod	0.0253	0.0600 ***	0.0371 *	0.0562 ***	0.0055	0.0986 ***
	(1.2217)	(3.4948)	(1.9494)	(3.0140)	(0.3220)	(4.7899)
tobinq	0.0137	0.0545 ***	0.0457 *	0.0396	0.0290	0.0703 ***
	(0.3626)	(2.6332)	(1.6466)	(1.5302)	(0.7488)	(3.3665)
age	−0.0007	−0.0024	0.0170 ***	0.0073	−0.0014	0.0073
	(−0.0787)	(−0.4659)	(2.6776)	(1.1370)	(−0.2318)	(1.1098)
size	−0.2311 ***	0.0628 **	−0.1124 ***	−0.0956 ***		
	(−6.0681)	(2.0038)	(−3.3508)	(−2.7924)		
growth	0.3669 ***	0.3738 ***			0.4191 ***	0.3311 ***
	(4.9662)	(7.4444)			(7.3293)	(5.2038)
soe			−0.6753 ***	−0.6515 ***	−0.6978 ***	−0.7792 ***
			(−8.4700)	(−8.6703)	(−9.6296)	(−9.4318)
adjust.R^2	0.3686	0.2712	0.2413	0.2931	0.3020	0.2985
F	15.4332 ***	12.9770 ***	23.6515 ***	19.0586 ***	25.6032 ***	25.6239 ***
N	7278	11,872	9489	9360	9606	9222

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

(3) Different size firms

In the traditional financial market, formal financial institutions prefer large-scale enterprises with sound accounting systems and good risk control management; therefore, small-scale enterprises are subject to many constraints, but small, medium, and micro-enterprises remain a significant part of China's economic growth. Because of its "inclusive" and "accurate" characteristics, digital finance can increase the availability of financing for small-scale businesses by expanding the available financing channels.

In this paper, empirical tests are carried out using the median enterprise size grouping. The coefficient of small-scale enterprises in columns (5) and (6) in Table 5 is 0.0216, which is at the 1% level and shows that digital financial inclusion has a more substantial role in encouraging the high-quality growth of small-scale firms.

(iv) Robustness test

Drawing on the studies of Li et al. (2021) and Yu et al. (2017), this paper uses total factor productivity to replace the explanatory variable enterprise quality development, generates dummy variables to replace the explanatory variable digital financial inclusion through smartphone usage in 2015, and lagged one-period explanatory variable are used for further robustness tests, respectively [26,71].

First, there are currently fewer measurement systems for high-quality corporate development. We used total factor productivity to replace the explanatory variables. The coefficients of digital inclusion finance and its three dimensions are positive at the 1% level, as shown in columns (1) through (4) in Table 6, demonstrating the robustness of the beneficial effect of digital inclusion on high-quality business growth.

Table 6. Results of robustness tests.

	(1) tfp	(2) tfp	(3) tfp	(4) tfp	(5) Qua	(6) Qua
Index	0.0006 *** (16.0964)					
coverage		0.0006 *** (15.6066)				
usage			0.0005 *** (14.9881)			
digiti				0.0005 *** (15.7555)		
dum					0.4246 *** (9.4366)	
L.Index						0.0083 *** (22.1650)
size	0.0057 ** (1.9912)	0.0062 ** (2.1791)	0.0080 *** (2.8112)	0.0054 * (1.8793)	−0.2652 *** (−11.9492)	−0.3013 *** (−13.1115)
lev	−0.1098 *** (−6.5565)	−0.1129 *** (−6.7523)	−0.1079 *** (−6.4288)	−0.1122 *** (−6.6922)	0.3687 *** (2.6634)	0.3635 ** (2.4804)
growth	0.0540 *** (7.7488)	0.0543 *** (7.7848)	0.0539 *** (7.7146)	0.0551 *** (7.8986)	0.5349 *** (12.0733)	0.5158 *** (10.9419)
asst	0.3335 *** (48.3671)	0.3340 *** (48.5225)	0.3311 *** (47.9680)	0.3340 *** (48.1214)	−0.5679 *** (−9.6894)	−0.6404 *** (−10.1460)
roe	−0.4110 *** (−9.2419)	−0.4196 *** (−9.4184)	−0.4050 *** (−9.1159)	−0.3969 *** (−8.9257)	−0.0062 (−0.0193)	−0.1192 (−0.3552)
roa	2.0376 *** (20.7608)	2.0486 *** (20.8096)	2.0073 *** (20.5142)	2.0213 *** (20.6094)	1.0273 (1.4340)	1.0866 (1.4535)
bod	0.0080 *** (4.9689)	0.0078 *** (4.8561)	0.0075 *** (4.6927)	0.0076 *** (4.7562)	−0.0265 ** (−1.9819)	−0.0243 * (−1.7200)
tobinq	0.0055 *** (2.6188)	0.0052 ** (2.4272)	0.0081 *** (3.8442)	0.0046 ** (2.1435)	−0.1372 *** (−7.3543)	−0.1206 *** (−6.4908)
age	0.0008 (1.5845)	0.0008 * (1.6663)	0.0008 (1.5023)	0.0005 (0.8967)	0.0088 ** (2.0950)	0.0077 * (1.7571)
adjust.R²	0.3199	0.3191	0.3182	0.3194	0.0286	0.0568
F	446.1827 ***	447.0367 ***	440.9788 ***	441.1898 ***	51.7304 ***	97.1343 ***
N	11,564	11,564	11,564	11,564	17,772	16,021

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Second, the wide use of smartphones is a reflection of the growth of digital finance, and in China, there is a significant turnaround in smartphone usage, with 2015 as the boundary. Therefore, in this paper, dummy variables are generated to replace the explanatory variables using the 2015 smartphone usage as the boundary. The regression findings with this dummy variable as the explanatory variable are shown in column (5) of Table 6, and the outcomes are still statistically at the 1% level.

Finally, to exclude endogeneity issues, the lagged one-period explanatory variable L. Index was tested for robustness. The regression findings are shown in column 6 of Table 6, and at the 1% level, the coefficient of the digital inclusion amount index with a one-period lag is significantly positive. This indicates, to some extent, that digital inclusion promotes high-quality business development.

(v)   Endogenous problems

This paper further uses the least squares regression of instrumental variables to weaken the endogeneity problem that may arise due to omitted variables or reverse causality, building on the concepts of Tang et al. (2020) and Ma et al. (2021) [4,24]. The level of internet development (Int) is used as the instrumental variable to regress the data. The one-stage regression of internet development level on digital inclusion finance results in an F-statistic of 942, which exceeds 10 and thus disproves the initial hypothesis. At the 1% level, the internet development level coefficient is 2.4315, which is noticeably positive,

indicating that the internet development level is a reasonably valid instrumental variable. The outcomes of the two-stage regression are displayed in Table 7.

Table 7. Regression results of instrumental variables.

	(1) Phase I	(2) Phase II
	Index	Qua
Int	2.4315 ***	
	(0.029)	
Index		0.0016 **
		(0.001)
size	10.0561 ***	−0.2824 ***
	(0.400)	(0.025)
lev	−17.6110 ***	0.6168 ***
	(2.382)	(0.141)
growth	1.4046 *	0.6167 ***
	(0.832)	(0.048)
asst	−5.0019 ***	−0.7079 ***
	(0.926)	(0.054)
roe	−13.6144 **	1.5898 ***
	(6.118)	(0.356)
roa	−56.8884 ***	−0.5156
	(13.043)	(0.762)
bod	−3.7191 ***	0.0586 ***
	(0.240)	(0.014)
tobinq	4.6016 ***	−0.0164
	(0.315)	(0.019)
age	−0.8334 ***	0.0375 ***
	(0.077)	(0.005)
Constant	−113.2443 ***	16.5545 ***
	(8.524)	(0.496)
N	19,090	19,090
adjust.R^2	0.331	0.021

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Int is positive at the 1% level, as shown in column (1), and after taking into account potential endogeneity problems, as shown in column (2), the index coefficient is still strongly positive at the 5%. This shows that digital financial inclusion encourages the establishment of high-quality businesses, which agrees with the outcomes of the earlier benchmark tests.

5. Mechanism Analysis

In this study, we make use of the intermediary effect test procedure developed by Wen and Ye (2014) to examine how digital finance affects high-quality corporate development along three different trajectories: raising the bar for innovation, easing financial restrictions, and enhancing risk taking [72]. The ratio of a company's R&D expenditures to operating revenue in the most recent fiscal year was used to calculate the innovation level (RD). The SA index was used to measure financing restrictions (Hadlock and Pierce, 2010) [73], which were determined using the formula SA = −0.737 × Size + 0.043 × Size2 − 0.04 × Age, and this measurement is now widely used in domestic academia [74,75]. The volatility of corporate earnings was used to gauge the degree of risk taking (Risk) [76,77]. The analysis' findings are presented in Table 8.

Table 8. Findings from the mechanism analysis.

	(1)	(2)	(3)	(4)	(5)	(6)
	RD	Qua	SA	Qua	Risk	Qua
Index	0.0019	0.0033	0.0000	0.0187 ***	−0.0028	0.0190 ***
	(0.2736)	(0.7801)	(0.1034)	(4.1939)	(−0.0730)	(4.2501)
RD		0.2614 ***				
		(51.0975)				
SA				−0.4925 **		
				(−2.3450)		
Risk						−0.0006
						(−0.7017)
controls	YES	YES	YES	YES	YES	YES
adjust.R^2	0.4620	0.4536	0.9964	0.2637	0.4595	0.2641
F	229.1684 ***	316.7057 ***	368,384.4473 ***	37.3138 ***	125.9624 ***	37.0011 ***
N	14,479	14,479	19,159	19,159	19,131	19,131
Sobel		13.13 ***		−4.270 ***		3.248 ***
Goodman-1		13.13 ***		−4.251 ***		3.223 ***
Goodman-2		13.14 ***		−4.290 ***		3.273 ***

Note: *** and ** indicate significance at the 1% and 5% levels, respectively.

Columns (1) and (2) prove that the relationship between innovation level and high quality development is significant at the 1% and passes the Sobel test, supporting Hypothesis H3a that increased innovation levels can help businesses develop in a high-quality manner. Innovation is a crucial component of firm development and its driving force. Digital finance may help businesses become more innovative, which encourages the high-quality growth of their businesses.

The Sobel test is considerably negative, as shown in columns (3) and (4), and the coefficients of financial limitations on high quality development are similarly significant negatives at the 1% level. This confirms hypothesis H3b that digital finance enables the facilitation of the high quality growth of firms by easing financing constraints. Digital finance reduces information asymmetry, broadens enterprise financing channels, and can effectively alleviate financing constraints, resulting in higher capital accessibility and higher transaction efficiency, which encourages the growth of high-quality businesses.

The Sobel test is positive at the 1%, as shown in columns (5) and (6), but the coefficients of digital finance and risk-taking levels are not significant. This indicates that enterprises enable increase their levels of risk taking by using digital finance, which supports Hypothesis H3c. Digital inclusive finance is a vital advancement in the financial service concept, which can improve external corporate governance and optimize strategic decisions, alleviate problems such as managements' risk-averse tendencies, and thus improve corporate risk-taking levels, further promoting high-quality corporate development.

Table 9 compares the existing research on the relationship between digital inclusive finance and high-quality development of enterprises. The measurement of the high-quality development of enterprises mainly includes total factor productivity [26,33], labor productivity [31], and the entropy weight method [32]. This article adopts a different measurement method from existing research, focusing on the five dimensions of "innovation, coordination, green, openness, and sharing" in the "Five Development Concept", selecting appropriate measurement indicators, and quantifying the high-quality development levels of enterprises through five equal parts. This study also found that digital inclusive finance is positively related to the high-quality development of enterprises, but the difference is that it confirmed the three channels of action of the innovation levels, financing constraints, and risk bearing levels, which has contributed to the previous studies that either did not conduct mechanism testing [31] or mostly focused on a single mechanism of action, such as diversification strategy [26], cost [33], etc. In addition to emphasizing the differences in the

role of risk channels, this paper focuses on the size and growth of heterogeneity analysis, which can better reflect the sources of differences in the role of digital inclusive finance [32].

Table 9. The main results compared with previous studies.

Explained Variables	Research Scholar	Research Conclusion	Mechanism Test	Heterogeneity Analysis
Total factor productivity	Li et al. (2021) [34]	U shaped	Yes Diversification strategy	Yes Scale; Property right; Investment efficient; R&D intensity; Innovation ability
	Li et al. (2022) [33]	Positive	Yes Cost	Yes Property right; Survival span; Scale
Labor productivity	Zhang et al. (2022) [31]	Positive	No	Yes Structure; Scale; Region
Entropy weight method	Song and Zhang (2022) [32]	Positive	Yes Financing constraints; Technological innovation; Maturity mismatch of investment and financing	Yes Region; Digital dimension; Property right
Uniform quantization and sum by quintile	This paper	Positive	Yes Innovation level; Financing constraint; Risk bearing level	Yes Property right; Growth; Scale

6. Conclusions, Implications, and Limitations

(i) Research conclusions

Can digital inclusive finance become an effective channel to enhance the high-quality development of real enterprises? Starting with financial services for the real economy, this paper carried out mechanism analyses and empirical estimations on how digital finance affects the high-quality development of real enterprises. This paper addressed and examined the connections between enterprise quality development and digital inclusive finance from a number of angles, and further explored the mechanism and paths of impact, taking Chinese A-share listed enterprises as samples and constructing an enterprise quality development index based on the context of the "Five Development Concept".

According to the basic regression model, the digital financial inclusion can significantly promote the high-quality development of enterprises. The depth of use of digital inclusive finance as well as its breadth of coverage have a favorable effect on the high-quality growth of businesses. Furthermore, the "Five Development Concept" impact on innovation and open development is more pronounced, in the light of results of the decomposition effect test model. The outcomes of the heterogeneity study demonstrate that there is a more pronounced impact on the high-quality growth of non-state, small-scale, and high-growth firms. In addition, the above findings still hold after replacing the core variables as well as robustness tests, such as lagging the variables by one period and considering endogeneity issues. The further mediating effect model finds that digital inclusive finance facilitates high-quality corporate growth by increasing the level of innovation, alleviating financing constraints and improving risk taking, and digital inclusive finance enhances exceptional corporate development with a triple endogenous mechanism of innovation, capital, and risk.

(ii) Policy implications

The following policy implications are presented in this paper based on the aforementioned findings. First, the regulatory environment for financial inclusion can be enhanced,

the digital transformation of corporate finance can be expedited, and the digital finance for non-state, small-scale, and other firms can be promoted, so that these relatively disadvantaged organizations and groups can receive better financial services, be provided with more financing guarantees, and be guaranteed the balanced development of all types of enterprises. For example, the government can increase the proportion and quota of loans and fiscal subsidies to non-state-owned and small-scale enterprises; set up a special financial service zone for them from the mobile terminal to achieve one-stop financing, coordinate financial institutions, tax authorities, and other financing guarantee institutions to meet their financing needs; and rely on digital technology to establish a normal financial service mechanism to ensure the fairness and sustainability of the high-quality development of enterprises with different property rights and enterprises of different scales.

Second, to provide fundamental guarantees for the development of digital inclusive finance, which is advantageous to enterprises enjoying more efficient financial services and thereby facilitating high-quality enterprise growth, the government should step up efforts to develop digital inclusive finance. This should be achieved by accelerating the construction of digital infrastructure, namely 5G base stations, big data centers, and digital financial sharing platforms. Governments can also use technologies such as blockchain to establish decentralized digital supply chain finance, enhance credit trust, and increase the size of loans.

Third, the innovation capability and openness of enterprises should be enhanced and new dynamic energy for high-quality development should be cultivated. Firms should take advantage of the chance to increase innovation awareness, investment, and total factor productivity. The strategy of going out and bringing in should be practiced, maintaining an open and inclusive mindset, and thus, competitive advantages can be achieved. The industry structures and corporate governance structures should be continuously optimized, the low-carbon and green development orientation of businesses should be strengthened, and the public should be allowed to truly enjoy the development dividends, ultimately accomplishing a harmonious coexistence of high-quality growth of businesses under the "Five Development Concept".

Fourth, it is necessary to strengthen the understanding and grasp of digital finance to promote the high-quality development of enterprises, accelerate the digital transformation of finance, enhance the application of digital technology, and ensure the association of digital financial services with financial institutions; these include, for example, the introduction of big data, cloud computing, artificial intelligence, and other digital technologies and digital talents, as well as the self-construction or outsourcing of customized intelligent financial products. In addition, enterprises should strictly follow enterprise accounting standards, strengthen internal controls, implement digital internal audits, cultivate high-quality financial talents, etc., and establish a long-term mechanism for high-quality accounting information disclosure.

(iii)　Research limitations

In this paper, there are still some shortcomings. First, as the research object for analysis, Chinese A-share listed companies were chosen in order to obtain more targeted conclusions; however, future research samples could be selected from a specific industry, such as the manufacturing industry, high-tech industry, etc., which would be conducive to putting forward corresponding policy recommendations for these specific industries. Second, there is still the potential for improvement in the selection and measurement of the indicator system of high-quality growth. Third, this work tested three avenues for how digital financial inclusion may affect the high-quality growth of businesses, but the question of whether there are other channels should be further explored.

Informed Consent Statement: Not applicable.

Data Availability Statement: Publicly available datasets were analyzed in this study. This data can be found here: [https://cn.gtadata.com/] accessed on 1 June 2023.

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