

# Corporate Performance on Science and Technology Innovation of Chinese High-Tech Listed Companies

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## Abstract

This research article aims to: 1) examine the factors impact on enterprise performance, 2) study the mediating role intermediate mechanism of science and technology innovation impact between management firm's ability and enterprise performance of high-tech enterprises. In order to achieve this objective. This research was quantitative research, collected data from Chinese high-tech listed companies' employees of 397 respondents. They were selected by simple random sampling, the instrument for collecting data was a questionnaire with a content validity (IOC) of .813 and a reliability value of Cronbach's alpha coefficient of .916. Analysis of data via SEM by AMOS.

The research result was found as follow: Capacities in managing positively impact on enterprise performance, scientific and technology innovation. Learning oriented approach to tax relief administration positively impact on scientific and technology innovation. Management support impact on scientific and technology innovation. And scientific and technology innovation impact on enterprise performance. 2) the mechanism of science and technology innovation Play mediating role impact between management firm's ability and enterprise performance of high-tech enterprises. These results of the study are having various theoretical, practical and policy making implications as discussed by the author

**Keywords:** Learning-Oriented Approach; Capability in Managing; Scientific and Technological Innovation; Management Support; Enterprise Performance

## Introduction

The Chinese government first introduced the term "structural tax reduction" as early as 2014, which means the implementation of tax relief for specific taxes and for specific purposes, with the goal of reducing the substantive tax burden of taxpayers. Since (2019), China has formally started to implement structural tax reduction, which mainly starts from optimizing the tax structure and serving the requirements of economic growth and transformation of the economic development mode, and its landing point is to reduce the tax burden of enterprises and individuals and play the role of expanding domestic demand and optimizing the economic structure. In recent years, the complex international economic environment and the emergence of the trend of counter-globalization have brought a lot of uncertainties to China's macroeconomic development, and at the micro level, enterprises are facing more unknowns and challenges, accumulating debts, increasing overall risks, increasing costs of all kinds, intensifying competition in the same industry, and difficulties in balancing income and expenditure, and taxes and fees have become a sensitive topic that touches the nerves of small, medium and micro enterprises. The State Administration of Taxation put forward a work notice on tax reduction and fee reduction, requiring tax relief as well as the abolition or suspension of administrative fees and charges, indicating China's determination to implement the policy of tax reduction and fee reduction, seeking to awaken the vitality of enterprises and the market at the expense of part of the fiscal revenues of the central and local governments, fundamentally improving the motivation of market players and maximizing support for the development of the real economy. Tax reduction is an inevitable move made by China to cope with the complex economic situation at home and abroad, an important response to the supply-side structural reform under the new normal of economic development, an effective tool to implement the active fiscal policy in China, and a necessary way to stimulate the economy towards high-quality development in the context of Chinese characteristics, and the ability to manage tax relief for enterprises is particularly important. Practice has proved that macro-control through the implementation of tax reduction and fee reduction, so that enterprises pay attention to the improvement of tax relief management ability and the strengthening of response ability, has an irreplaceable role in stimulating the vitality of enterprises, enhancing the endogenous power, improving the income of employees, stabilizing people's confidence, absorbing social employment and building a harmonious society.

## Research Objective

The purpose of this study is to investigate the impact of firms' ability to manage tax credits on firm performance and to test whether science and technology innovation in high-tech firms may play a mediating effect in the process, with a focus on the following specific objectives:

1. To examine the factors, impact on enterprise performance.
2. To study the mediating role intermediate mechanism of science and technology innovation impact between management firm's ability and enterprise performance of high-tech enterprises.

## Research Hypothesis

- H1: Capacities in managing positively impact on enterprise performance.
- H2: Capacities in managing of tax reduction positively impact on scientific and technology innovation.
- H3: Learning oriented approach to tax relief administration positively impact on scientific and technology innovation
- H4: Management support impact on scientific and technology innovation.
- H5: Scientific and technology innovation impact on enterprise performance.
- H6: Scientific and technology innovation mediating role impact between capacities in managing positively impact on enterprise performance.

## Theoretical and Literature Review

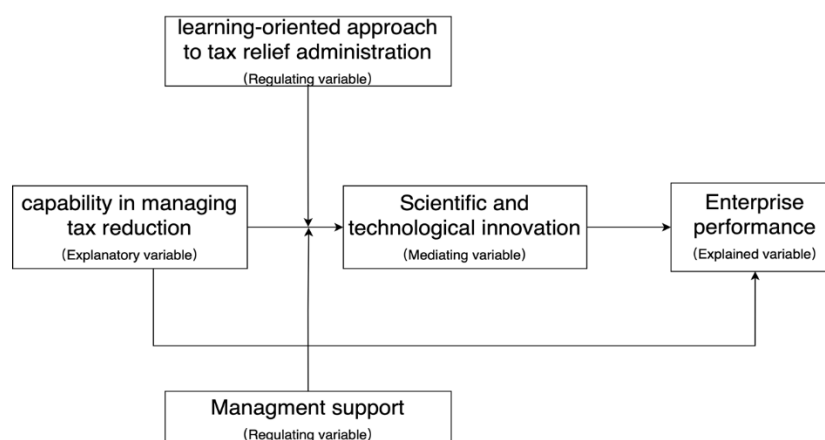
As an important tool to alleviate income distribution conflicts as well as production difficulties of enterprises, tax relief policy is an inevitable requirement for moving forward in the economic development stage. Based on the theoretical framework of including deductions in the standard optimal tax model and using data on tax reform in Germany, Derenberger et al. show that taxable income elasticity is not a sufficient statistic for the cost of tax benefits due to factors such as tax base shifting, and provides an additional argument for its insufficiency, namely tax deductions. The study shows that changes in the elasticity of taxable income are closely related to the tax deduction provision, and that considering the impact of the tax deduction provision in tax policy decisions allows for more accurate prediction and understanding of people's responses to tax policy. In addition, the study highlights the

importance of considering income group heterogeneity and the equity of tax policies when designing tax policies (Caniëls & Romijn, 2018)

Corporate performance reflects the effect of a firm's operation under specific economic structure and market behavior conditions, and scholars have conducted systematic research on the factors influencing corporate performance. The existing factors affecting corporate performance can be broadly categorized as the following: R&D investment, environmental accounting disclosure, political affiliation, corporate risk-taking, market competition, cash holdings, business model, financial management, technological innovation, etc. Pinkowitz et al. and Liu & Mauer authors used a regression model to analyze the effects of corporate governance, cash holdings and dividends on corporate value, and the study The sample consisted of 6467 companies from 24 countries, and by analyzing the financial data and corporate governance structure of these companies, it was concluded that the contribution of cash holdings and dividends to firm value differed significantly and that this contribution was also influenced by the corporate governance structure.

Concept and components of management support: The researcher defined the concept of management support and proposed several dimensions of management support, such as resource support, policy support, communication and coordination, and incentives and rewards. Relationship between management support and employee performance: The study found that management support has a significant impact on employee performance. Management's resource support, incentives, and effective communication and coordination with employees can enhance employees' job satisfaction, motivation, and innovative behavior, thus positively affecting organizational performance. li, Zhang, and Aumeboonsuke, (2022) explored the effect of management support on employees' work engagement and performance through questionnaires and statistical analysis methods. The results of the study showed that management resource support, communication and coordination, and incentives had a significant positive effect on employees' job satisfaction, motivation, and performance, and that this effect was mediated through the positive psychological capital of employees. ( Zhang and Aumeboonsuke, 2022)

## Conceptual Framework



## Research Methodology

According to the research objectives, research questions and ideas, the main research methods was quantitative research, collected data from executives of the Chinese high-tech listed companies' sample of 370 respondents. They were selected by simple random sampling, the instrument for collecting data was a questionnaire with a content validity (IOC) of .910 and a reliability value of Cronbach's alpha coefficient of .825. Analysis of data via SEM by AMOS. In order to analyze the collected data, SEM by Amos 26 have been used by the researcher. Different tests and techniques have been employed through this software and the analysis results have been obtained by the researcher. Factor analysis have been obtained from SPSS. In the similar way, confirmatory factor analysis and structure equation modeling have been obtained by using AMOS.

## Research Results

Result objective 1 To examine the factors impact on enterprise performance by test hypothesis direct effect.

Test direct effect of H1 – H 5

**Table 1** the Path Coefficients of Structural Equation Models Test

Path hypothesis	Estimate	S.E.	C.R.	P value
H1: Capacities in managing positively impact on enterprise performance	0.186	0.072	6.144	0.003*

Path hypothesis	Estimate	S.E.	C.R.	P value
H2: Capacities in managing of tax reduction positively impact on scientific and technology innovation.	0.265	0.071	6.918	0.011*
H3: Learning oriented approach to tax relief administration positively impact on scientific and technology innovation	0.221	0.045	5.834	0.007*
H4: Management support impact on scientific and technology innovation.	0.231	0.061	6.411	0.023*
H5: Scientific and technology innovation impact on enterprise performance.	0.335	0.051	5.488	0.006*

Note: \*  $P < 0.05$

From table 1 the Path Coefficients of Structural Equation Models Test found that P value of H1 – H5  $< 0.05$  the hypothesis was significant accepted than mean.

H1: Capacities in managing positively impact on enterprise performance

H2: Capacities in managing of tax reduction positively impact on scientific and technology innovation.

H3: Learning oriented approach to tax relief administration positively impact on scientific and technology innovation

H4: Management support impact on scientific and technology innovation.

H5: Scientific and technology innovation impact on enterprise performance.

Result objective 2 To study the mediating role mechanism of science and technology innovation impact between management firm's ability and enterprise performance of high-tech enterprises.

By Boos Trapping test mediating roll

**Table 2** Test mediating role by Boos Trapping

Parameter	Estimate	Lower	Upper	P value
H6: Scientific and technology innovation mediating role impact between capacities in managing positively impact on enterprise performance.	0.068	0.018	0.124	0.006*

H6: Scientific and technology innovation mediating role impact between capacities in managing positively impact on enterprise performance.

The role of Relational Identity in mediating scientific and technology innovation plays the mediating role between capacities in managing positively impact on enterprise performance. The mediating scientific and technology innovation play effect between capacities in managing positively impact on enterprise performance is 0.006 corresponding to a 95% confidence interval of 0.018, 0.124, and the upper and lower interval values do not contain 0, indicating that the mediating effect of scientific and technology innovation between capacities in managing and enterprise performance. so the hypothesis is established.

## Discussion

Through an in–depth investigation of the relationship between tax relief management capacity, scientific and technological innovation and enterprise performance, this study is expected to provide important empirical evidence and guidance for governmental decision–making, and provide decision–making references for the formulation of more precise and effective tax policies and strategies to promote innovation–driven development. At the same time, the research results can also provide theoretical support for the sustainable development path of high–tech enterprises and make positive contributions to promote the development of high–tech industries and enhance the national economic development. Through the use of empirical analysis methods, this study is empirical and practical, and can provide academics and government departments with an in–depth understanding of tax relief, science and technology innovation and enterprise performance, as well as provide valuable references for future research and policy formulation.

Hypothesis tested

1) Direct effect

**Table 3** the Path Coefficients of Structural Equation Models Test

Path hypothesis	P value	Result
H1: Capacities in managing positively impact on enterprise performance	0.003*	Support
H2: Capacities in managing of tax reduction positively impact on scientific and technology innovation.	0.011*	Support

Path hypothesis	P value	Result
H3: Learning oriented approach to tax relief administration positively impact on scientific and technology innovation	0.007*	Support
H4: Management support impact on scientific and technology innovation.	0.023*	Support
H5: Scientific and technology innovation impact on enterprise performance.	0.006*	Support

Note: \*  $P < 0.05$

## 2) Indirect effect

Found that: the mediating effect of scientific and technology innovation between capacities in managing and enterprise performance. so the hypothesis is established.

## Conclusion

From the quantitative analyst found that: 1) Capacities in managing positively impact on enterprise performance, scientific and technology innovation. Learning oriented approach to tax relief administration positively impact on scientific and technology innovation. Management support impact on scientific and technology innovation. And scientific and technology innovation impact on enterprise performance. 2) the mechanism of science and technology innovation Play mediating role impact between management firm's ability and enterprise performance of high-tech enterprises.

## Research Benefit

Existing studies on tax relief focus on the impact of tax relief policy on enterprise labor productivity, enterprise industrial upgrading and enterprise financing cost, or only explore the possible impact of tax relief policy on enterprise business performance, but few studies include enterprise innovation as a micro variable in the impact of tax relief on enterprise performance for comprehensive consideration, let alone combining with China's " The study has not taken into account the innovation-driven strategy proposed in the 14th Five-Year Plan of China, and explored the impact of tax relief on the performance of listed companies in high-tech industries with listed companies in high-tech industries as the research object. This study adopts spss software and process plug-in, based on the effective collection of questionnaire survey data from high-tech listed companies, this paper empirically examines



the impact of tax relief on enterprise performance in China, verifies the mechanism between tax relief, scientific and technological innovation and enterprise performance, and examines the impact of learning orientation and management support on tax relief management ability and enterprise performance. The moderating effects of tax credit management and management support on tax credit management capability and firm performance are investigated in depth.

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