How "Internet Plus" Improves Corporate Performance? — Based on the Perspective of Consumer Internet and Industrial Internet

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Abstract: With the gradual disappearance of the internet bonus and the deterioration of the external trade environment, the internet industry has entered a cold winter. At this moment, it is of great significance to strengthen the research on the "Internet Plus" strategy. Starting from the essential characteristics of the new generation of mobile Internet technology, this paper discusses the Influence Mechanism of "Internet Plus" on the traditional enterprise' performance and specific path to improving the traditional enterprise' performance based on the perspective of consumer Internet and industrial Internet, and using the related data from 2012-2017 China listed companies, empirically testes the theoretical hypothesis. The main contributions of this paper are as follows: First, it is clear that there are differences in the mechanisms and paths of consumer Internet and industrial Internet to promote enterprise performance. The consumer Internet mainly affects the sales ability, and the industrial Internet mainly affects the profitability (differentiation and refined management) and assets Operational efficiency, which in turn leads to improved performance; Second, the paper makes a theoretical discussion and an empirical test on whether "de-intermediation" is the path of "Internet Plus" to improve enterprise performance. It is argued that "de-intermediation" is not the essential feature of "Internet Plus". "De-intermediation" itself can not solve the problem of information asymmetry between supply and demand. Third, this paper uses Python keyword mining technology to build a more objective and reasonable enterprise "Internet Plus" level indicators; Finally, this paper uses multi-industry and large sample data in the real sense, which improves the universality of the study and the reliability of the empirical test.

Keywords: internet plus; enterprise performance; consumer internet; industrial internet; de-intermediation

1. Introduction

With the rapid development of the government's "Internet plus" strategy and the rapid development of mobile Internet, big data, cloud computing, Internet of things and AI technology, the industry has made significant progress in the Internet plus transformation and upgrading. Internet economy, sharing economy, intelligent manufacturing, flexible manufacturing and precise customization have greatly penetrated into all aspects of society and economy. New industries, new formats and new models emerge in endlessly, which have a significant impact on economy and society. In 2020, COVID-19 highlighted the great significance of the "Internet plus" strategy to the society and economy.

However, the development of any new thing will not happen overnight, and the same is true of the "Internet plus" strategy. The Internet plus hitherto unknown industry stride forward singing militant songs since 2018. The unprecedented setbacks have been encountered: after the explosive growth of the draught, sharing the bicycle, sharing the car rental and sharing the charge and treasure sharing finally left behind a feather; the tragic experience of the 21 year old airline stewardess and the Yueqing girl forced the dripping car to go offline indefinitely; P2P net loan platform centralized mine explosion; equity crowdfunding industry almost stagnated; players in new retail formats such as HEMA Xiansheng are closing stores; a large number of head Internet companies are reported to shrink the front line, reduce wages and lay off staff.

It can be seen that the transformation and upgrading of "Internet plus" is still in the groping stage.The development and utilization of Internet resources requires a high level of basic theory, technological innovation and business model innovation. The road of Internet resources development and utilization will not be the boundless plain, but it will be long and winding (Yang Shanlin et al., 2016). At present, China is in a critical period of economic transformation, bad external trade environment, the Internet industry in the winter and the global COVID-19 situation is still unclear. Further strengthening and deepening the research on the strategy of "Internet plus" is particularly urgent and important.

The Internet plus strategy Internet has been a major research focus in the academic circles, mainly around the

definition and connotation characteristics of Internet plus [1-4]; "Internet plus" helps the transformation and upgrading of traditional industries in the mode and path [5-6], and the impact of "Internet plus" on macroeconomic growth, industrial structure, factor productivity and innovation, etc. [7-10] have achieved a lot of effective results and gained a lot of common achievements. Knowledge has played a major role in promoting the implementation of the "Internet plus" strategy. However, there are still three aspects of the existing research in the following areas: first, the research object is mostly the macro economy and industry; the literature with micro enterprises as the research object is relatively rare; Second, the core macro-level explanatory variables generally or industry level The "Internet plus" level of China is relatively rare in the literature that uses the "Internet plus" transformation and upgrading level of micro-enterprises as the core explanatory variable; Third, most of them fail to consider the differences in the different stages of the "Internet plus" strategy.

The second half of the "Internet plus " strategy is being staged. The main battlefield of the "Internet plus " transformation and upgrading is shifting from the consumer Internet to the industrial Internet. This article takes traditional enterprises as the research object, and explores the mechanism of "Internet plus " influencing enterprise performance based on the perspective of consumer Internet and industrial Internet. Compared with the existing literature, the marginal contributions of this article are: first, this article discusses the impact of traditional enterprises' "Internet plus"transformation and upgrading level on performance; second, this article divides the implementation of the "Internet plus " strategy into consumer Internet and industrial Internet Two stages, to discuss the impact mechanism and path differences of traditional enterprises' "Internet plus " transformation and upgrading under different stages; third, it is generally believed that the Internet connects the supply and demand sides through "disintermediation" and solves the problem of information asymmetry, Is one of the important paths for "Internet plus " to improve corporate performance. This article has conducted theoretical analysis and empirical testing, and has drawn inconsistent conclusions.

The rest of this paper is arranged as follows: The second part is the theoretical mechanism and research assumptions. Starting from the essential characteristics of the new generation Internet technology, based on the perspective of consumption Internet and industrial Internet, the paper analyzes the mechanism of "Internet plus" on enterprise performance and proposes research hypotheses; the third part is data and research design; the fourth part is empirical test; the fifth part is further analysis, and discusses "de intermediation". Whether it is one of the paths to enhance enterprise performance by "Internet plus"; the sixth part is endogenous discussion; finally, it is the conclusion and policy recommendations.

2. Research Hypothesis

Compared with traditional information and communication technologies, the new generation of Internet tech-nologies represented by mobile Internet, Internet of Things, cloud computing and artificial intelligence also em-phasizes networking, digitization and intelligence. Internet technology breaks through the constraints of time and space, and information can realize rapid flow in all time and space; with the help of data processing and collection technology, all kinds of information can be digitized and processed and stored well; through the Internet, big data is uploaded to the cloud and passed Artificial intelligence technology for processing and analysis, greatly improv-ing the efficiency of information utilization.

Due to the limitation of sales ability and sales boundary, new products often face the dilemma that the sales volume is too low, so that the income is difficult to cover the previous cost. This seriously hinders the enthusi-asm of enterprises to invest in innovation, and makes the enterprises appear too much when making innovative decisions. cautious. Through the "Internet plus" transformation and upgrading, the sales boundary of a company can be expanded indefinitely, as long as the product that meets the needs of customers is successfully launched It is possible to attract enough customers, and the unit cost can be reduced to a sufficiently low level, which will encourage enterprises to increase investment in innovation. At the same time, networking, digitization and intelligence are conducive to the collection and analysis of all kinds of information by enterprises. Enterprises are more aware of their competitive situation in the entire society and industry, prompting enterprises to continue to maintain a high degree of competitive enthusiasm and vigilance. In order to strengthen its competitive advantage, it will continue to increase its research and development efforts to strength-en its position in the competition.

As a result, this article proposes Hypothesis H1 : the transformation and upgrading of an enterprise's "Internet plus" can significantly improve enterprise performance.

The users of the Internet are individuals, and the application scenario is daily life. Its essence is personal virtu-alization to enhance personal life consumption experience. The specific performance is the comprehensive online of personal life scenarios such as clothing, food, housing, transportation and medicine. The Internet continues to meet the pursuit of personal high-quality life (BA Shusong, 2018). By continuously improving the convenience of consumers and digging out consumer demands, the impact of consumer Internetization on enterprises is mainly reflected in the improvement of sales capabilities.

this article proposes the hypothesis H2 : "Internet plus " through the con-sumption of the Internet, can significantly enhance the sales ability of the company, thereby improving the per-formance of the company.

The consumer Internet solves the problem of the convenience for humans to obtain products, but it does not change the quality and difference of products, nor does it involve the problem of product production efficiency. They send molded products to users in a more convenient (or multi-channel) way. Hands. The Industrial

Internet extends its tentacles until the product is finalized. Its goals are: high product quality, significant differences, im-proved production efficiency, and reduced production and operating costs. The impact of the Industrial Internet on enterprises is mainly reflected in the aspects of product quality and differentiation, production operation and man-agement level, and asset operation efficiency.

this article proposes the hypothesis H3a : "Internet plus " improves product quality and differ-entiation level, production and operation management level through industrial Internetization, and then promotes the increase of enterprise performance .

Hypothesis H3b : "Internet plus " improves the efficiency of asset operation through industrial Internetization, thereby promoting the increase of corporate performance.

3. Materials and Methods

3.1. Data and Research Design

Based on the concept of "Internet plus" and considering the availability of data in 2012, this paper selects all A-share listed companies from 2012 to 2017 as research samples. In the process of sample selection, we do the following screening work: firstly, we remove some samples with serious data missing; secondly, because of the special attributes of financial enterprises, we exclude financial enterprises; thirdly, generally speaking, the financial data of ST enterprises will be abnormal, so we exclude st enterprises; finally, because of the special connection between the information industry and Internet technology, we eliminate st enterprises, This paper eliminates the information enterprises. A six-year balanced panel data of 2121 listed companies in 16 industries is obtained, with a total of 12726 observations. Moreover, by reading the statistical report on the development of Internet in China issued by China Internet Network Information Center over the years, it is found that the number of mobile Internet users has stabilized since 2012. Therefore, this paper believes that the data robustness, sample size dimension, time dimension and industry type dimension are very consistent with the requirements of empirical test.

All the financial data and annual reports of the company are from wind database. Enterprise "Internet plus" level evaluation index is based on the company's annual report, extracted keyword frequency through Python program, and then calculated. In order to reduce the interference of outliers to empirical test, all the continuous variables involved in this paper are treated with 1% tail reduction.

3.2. Research Design

In order to test hypothesis H1, this paper sets up model (1):

$$Perfo_{i,t} = \beta_0 + \beta_1 Inter_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t} \tag{1}$$

Among them, the subscript i is the company and t is the year. The explained variable is corporate performance (Perfo). Yang Deming and Liu Yongwen (2018) used two indicators, earnings per share and return on total assets, to measure corporate performance. However, this article believes that earnings per share is not suitable as a measure of corporate performance. First, it is difficult for the earnings per share to reflect the changes in the number of shares of the company. Second, because the value of each share contained in each company is different, it is difficult to make a horizontal comparison. The data structure of this article has the characteristics of "big N and small T ", which makes earnings per share not suitable for horizontal comparison. Therefore, this paper uses the return on total assets (ROA) to measure corporate performance, and at the same time uses the return on net assets (ROE) to test the robustness.

The explanatory variable is "Internet plus" level (Inter). In order to measure the level of enterprise "Internet plus ", firstly, establish the enterprise "Internet plus " keyword library (containing 96 keywords); secondly, according to the operating principle of the python program and the applicability of keywords, finally choose cloud computing and big data, Internet of Things, artificial intelligence, smart terminals, mobile Internet, new generation information technology, network collaboration, blockchain, Internet, online and offline, online marketing, e-commerce, online, digital platform, electronic platform, Internet platform, trading platform 17 key words; again, use python program of the company's annual report the text of the word frequency statistics should be keyword; Afterwards, add up the frequency of keywords. Taking into account the length of the annual report is not a, we will add keywords frequency divided by the total of the annual report the total number of words as the company "Internet plus " level indicators ; and finally, in order not to make the index number is too small, will get the value of a unified enlarge 10000 Considering that the calculated value is less than 1 and equal to zero, in order to take the logarithm and ensure that the value after the logarithm is greater than zero, we add 1 to the calculated value and then take the logarithm to form the final Enterprise "Internet plus " level indicator.

According to the relevant theories of the research topic and with reference to relevant research, the following control variables are selected: First, because the size of the enterprise will affect the financial indicators of the enterprise (such as operating income), this article controls the size of the enterprise (Size); Strategic changes usually require a lot of funds, and companies usually increase financial leverage, but the impact of financial leverage on corporate performance is not part of the content of Internet technology investment to improve corporate performance. Therefore, this article controls corporate financial leverage (Lever); third, Non-operating income does not belong to the content of corporate performance examined in this article. Moreover, it is a common practice for listed companies to use non-operating income to adjust corporate performance. Based on this, this article controls the company's main business ratio (Ratio); fourth, controls the company's listing life (Life). Listed life reflects the life cycle, newly listed companies are often more dynamic, better performance, listed a long

service life of the enterprise, restructuring difficult, its poor operating results and financial condition (Wangyue Tang, 2000); Fifth, control the nature of enterprise property rights (State) (Yang Deming and Liu Yongwen,

2018); sixth, control industry fixed effects and annual fixed effects. The definitions of related variables are shown in Table 1.

Table 1. Definitions of variables.

Variable name	Name	Symbol	Indicator name
Performance	Performance	Perfo	Total assets Net interest rate (ROA) / Return on Equity (ROE)
"Internet plus " level	Internet	Inter	The frequency of keywords is mined by the python program, and then calculated
sales ability	Sales	Sales	Logarithm of operating income
Profitability	R OS	ROS	Net sales rate
Asset operational efficiency	T urnover	Turno	The total asset turnover ratio
Enterprise size	Size	Size	The total assets of the enterprise for value
Financial leverage	Leverage	Lever	Assets and liabilities
Main business ratio	Ratio	Ratio	Main business ratio
Listing years	Lifetime of listing	Life	(Reporting period - listing year +1) Logarithm
Nature of property rights	State	State	Take 1 to indicate that the ultimate controller is a state-owned enterprise, and take 0 for other

Hypothesis H2 and Hypothesis H3 are tested through the mediation effect model. The "Internet plus " consumer Internet has an impact on corporate performance by improving corporate sales capabilities. Generally speaking, the sales ability of a company will eventually be reflected in the sales of the company's products, and financial indicators will be reflected in the company's operating income. Therefore, this article chooses the logarithm of operating income (Sales) as the proxy indicator of sales ability. Construct models (2) and (3) to test hypothesis H2 . If sales ability is an effective intermediary variable, Inter should significantly affect Sales, and Sales will also significantly affect corporate performance; at the same time, the Inter coefficient in model (3) should be significantly smaller than model (1).

$$Sales_{i,t} = b_0 + b_1 Inter_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(2)

$$Perfo_{i,t} = c_0 + c_1 Inter_{i,t} + c_2 Sales_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(3)

Yang Deming and Liu Yongwen (2018) believe that "Internet plus " promotes the improvement of corporate performance through differentiated intermediary variables, and uses sales gross profit margin to quantify differentiation. Indeed, the gross profit margin of sales can best reflect the quality and level of differentiation of a company's products. However, we believe that in addition to product quality and level of differentiation, the industrial Internet of "Internet plus " will also have an important impact on production, operation and management, enabling companies to achieve refined management and reduce production, operation and management costs. The gross profit margin of sales does not reflect this, and the net profit margin of sales reflects not only the gross profit level caused by the product quality and the level of differentiation, but also the reduction in costs and expenses caused by the fine management. Based on this, we use net sales margin (ROS) as a proxy variable for product quality, differentiation level, and refined management level. Construct models (4) and (5) to test hypothesis H3a . If

profitability is an effective intermediary variable, Inter should significantly affect ROS, and ROS will also significantly affect corporate performance; at the same time, the Inter coefficient in model (5) should be significantly smaller than model (1).

$$ROS_{i,t} = d_0 + d_1 Inter_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(4)

$$Perfo_{i,t} = e_0 + e_1 Inter_{i,t} + e_2 ROS_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(5)

In the previous article, we discussed that the "Internet plus " industrial Internet will enhance the predictive ability and flexibility of enterprises. The improvement of the two will help enterprises make scientific decisions on the layout of capacity investment, make full use of production resources, increase capacity utilization, and thus improve corporate performance. Asset operating efficiency indicators such as total asset turnover rate, current asset turnover rate, and fixed asset turnover rate reflect the level of enterprise capacity utilization. Taking into account the scope of the indicators, this article chooses the total asset turnover rate (Turno) as the proxy indicator of the corporate asset operation efficiency . Construct models (6) and (7) to test hypothesis H3b . If asset operation efficiency is an effective intermediary variable, Inter should significantly affect Turno, and Turno will also significantly affect corporate performance; at the same time, the Inter coefficient in model (7) should be significantly smaller than model (1).

$$Turno_{i,t} = f_0 + f_1 Inter_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(6)

$$Perfo_{i,t} = g_0 + g_1 Inter_{i,t} + g_2 Turno_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(7)

3.3. Descriptive Statistics

Table 2 provide the "Internet plus " transformation and upgrading level scores of enterprises in various industries in each year . Table 3 provides descriptive statistical indicators such as the mean, standard deviation, minimum and maximum values of each main variable.

In general, the level of "Internet plus " in various industries has shown an upward trend over time . And, 2015 Nian compared to 2014 Nian there are leaps and bounds improved. This may be because the 2015 Nian 7 Yue 1 State Council issued the "State Council on actively promoting the" Internet plus "guidance action" (Guo Fa [2015] 40 number) for the enterprise "Internet plus " strategy implementation has played a catalytic role. From the industry point of view, based on 2017 Nian data,

mining and electricity, heat, gas and water production and supply industry is "Internet plus " level of the lowest of three sectors, followed by that of agriculture, forestry, animal husbandry and fishery, "Internet plus " the level of the most high in turn is cultural, sports and entertainment, comprehensive, leasing and business services, scientific research and technical services. Thus be seen, the tertiary industry "Internet plus " level high, and the second industry and primary industry is relatively low.

Table 2. Annual scores of "Internet plus " transformation and upgrading of traditional enterprises in various industries

Industry	year 2012	year 2013	Year 2014	year 2015	year 2016	year 2017
mining industry	0.5208	0.4809	0.5274	0.6145	0.6550	0.7239
Electricity, heat, gas and water production and supply	0.4425	0.4950	0.5380	0.6174	0.7136	0.7306
Real estate	0.3895	0.5083	0.6389	0.8267	0.7834	0.8166
Construction industry	0.5461	0.6129	0.7519	0.8825	0.9205	1.0124
Transportation, storage and postal industry	0.6923	0.7754	0.7981	0.9508	1.2275	1.2479
Education	1.6667	1.5356	1.4695	1.5765	1.6659	1.5706
Scientific research and technical service industry	1.0693	1.0428	1.1873	1.3297	1.3820	1.4682
Agriculture, forestry, animal husbandry and fishery	0.5899	0.6626	0.8257	0.8785	0.9887	0.9866
Wholesale and retail	0.9273	1.1002	1.2141	1.4303	1.4437	1.5068
Water conservancy, environment and public facilities management industry	0.5557	0.6049	0.7343	0.8477	0.8658	1.0494
Health and social work	0.9903	1.0491	1.1911	1.3607	1.3702	1.3928
Culture, sports and entertainment industry	1.7714	1.9096	2.1362	2.5131	2.5135	2.4555
manufacturing	0.8288	0.8911	1.0170	1.2112	1.2964	1.3709
Accommodation and Catering Industry	0.6523	0.7645	0.9596	1.2567	1.2507	1.1213
Comprehensive industry	0.8229	0.9226	1.0239	1.1559	1.3724	1.3818
Leasing and business services	0.9905	1.1932	1.4471	1.9759	1.9293	1.9807

Note : The values in the table are the average of each industry year, rounded to four decimal places.

Table 3. Summary statistics of main variables

Variable	Mean	Sd	Min	Max
Perfo (ROA)	3.874939	5.310909	-15.3537	21.0117
Perfo (ROE)	6.598893	10.77874	-45.2325	37.49
Inter	1.053565	0.7129329	0	3.254552
Sales	21.51203	1.482063	17.7918	25.51843
ROS	7.287777	14.54317	-65.4297	56.4018
Turno	0.6499896	0.4674614	0.0591	2.7287
Size	22.23659	1.294856	19.53967	26.06219
Leverage	44.74255	21.45576	5.1769	93.2442
Ratio	72.20466	91.08816	-573.2411	194.1948
Life	2.28855	0.7017654	0	3.332205

Note : This is the descriptive statistics of the data after tailing processing .

3.4. Research Design Empirical Test

In order to ensure the robustness of the empirical results, this paper uses both the return on total assets (ROA) and the return on net assets (ROE) as performance indicators (explained variables). In addition, in addition to the "Internet plus" level continuous variable index (Inter) constructed above, we also constructed the "Internet plus" level dichotomous variable index (In_level): first, arrange the continuous variable index (Inter) in order of magnitude; secondly, Divide the sample data into two groups based on the mean value. The value of less than the average value is 0, which is defined as a low "Internet plus" level, and the value of greater than the average value is 1, which is defined as a high "Internet plus" level. The new "Internet plus" level indicator (In_level) replaces the original indicator (Inter) for robustness testing. Table 4 provides the test results of hypothesis H1 . Table 4 can be seen, the

"Internet plus " regression coefficient is positive, and in 1% of significant horizontal . Description "Internet plus " significantly improve the business performance, false set H1 confirmed. It is logical to assume that H1 is established: through networking, digitization and intelligence, the transformation and upgrading of "Internet plus " makes the collection, processing and circulation of corporate information more efficient and multi-frequency, which will greatly promote corporate innovation and accompanying changes. Ultimately, the company's performance is significantly improve.

Table 5 provides the empirical test results of hypothesis H2 . The empirical models all contain intercepts and control the control variables, year fixed effects, and industry fixed effects. Due to space limitations, Table 5 and subsequent tables do not list the corresponding empirical results. Table 5 shows that the transformation and upgrading of "Internet plus " has improved the company's sales ability, which has a

positive impact on performance. Hypothesis H2 has been verified. This is reflected in: First, it was found from ① column and ② column, "Internet plus" level continuously variable volume index (Inter) and dichotomous variables indicators (In_level) regression coefficients at 1% and 5% confidence level is significantly positive, explained "Internet plus " significantly improved sales capabilities; secondly, from ③ column to ⑥ column shows that sales

capabilities on firm performance regression coefficient is positive, and in 1% of the level significantly, indicating that sales capabilities significantly enhance the business performance ; and finally, control sales capabilities, the "Internet plus " on the business performance of the regression coefficient is less than the model (1) of the regression coefficients.

Table 4. The overall impact of "Internet plus" on corporate performance

	ROA		ROE	
	①	②	③	④
I nter	0.6320*** (0 .1161)	——	1.1984*** (0 .2673)	——
In_level	——	0.4557*** (0 .1178)	——	0.8943*** (0 .2711)
Size	1.2298*** (0 .1016)	1.2988*** (0 .1008)	2.9404*** (0 .2340)	3.0470*** (0 .2321)
Lever	-0.0522*** (0 .0029)	-0.0527*** (0 .0029)	-0.0921*** (0 .0066)	-0.0929*** (0 .0066)
Ratio	-0.0041*** (0 .0004)	-0.0041*** (0 .0004)	-0.0143*** (0 .0010)	-0.0143*** (0 .0010)
Life	-2.2728*** (0 .2247)	-2.2418*** (0 .2247)	-2.4867*** (0 .5173)	-2.4292*** (0 .5171)
intercept	-16.0078*** (2 .2107)	-16.9076*** (2.2017)	-48.0121*** (4 .1988)	-49.6919*** (5.0678)
years	control	control	control	control
industry	control	control	control	control
Ownership	control	control	control	control
R^2	0.0607	0.0739	0.0607	0.0599
Hausman test p- value	0.0000	0.0000	0.0000	0.0000

Note : The numbers in parentheses are standard errors; ***, **, * indicate significant levels of 1%, 5%, and 10%, respectively . The following table is the same.

Table 5. The mediating effect of sales ability

	Sales		ROA		ROE	
	①	②	③	④	⑤	⑥
Inter	0.0373*** (0 .0090)	——	0.4838*** (0.1120)	——	0.8640*** (0 .2590)	——
In_level	——	0.0206** (0 .0092)	——	0.3714*** (0.1135)	——	0.6969*** (0 .2624)
S ales	——	——	3.3415*** (0. 1203)	3.3538*** (0. 1203)	7.1446*** (0 .2783)	7.1657*** (0 .2782)
R^2	0.6460	0.6456	0.1364	0.1357	0.1141	0.1138
Hausman test p- value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Suppose the empirical results of H3a are listed in Table 6 . Table 6 ① is column and ② column understood, "Internet plus" for sales margin (of ROS regression) the coefficient is positive, and in 1% of significant horizontal, described "Internet plus" significantly improve the profitability. Columns ③ to ⑥ show that when the net sales interest rate (ROS) and the corporate "Internet plus " transformation and upgrading level (Inter or In_level) are put into the model at the same time, the regression coefficient of the net sales interest rate is positive, and in 1% of the level significantly, indicating profitability significantly improved business performance . Meanwhile, compared to the model (1), "Internet plus" decreased level of regression coefficients (ROA as the dependent variable: Inter coefficient is 0.6320 down to .2831, In_level coefficient is 0.4557 down to .1751 ; ROE is a dependent variable: Inter coefficient of 1.1984

down to 0.5088,In_level coefficient of 0.8943 down to 0.3397), explained profitability is the "Internet plus" to enhance the business performance of the important path. Assume that H3a is proven.

Table 7 provides the empirical test results of Hypothesis H3b . Table 7 can be seen, the "Internet plus" of total turnover (Turno) regression coefficient is positive, and in 1% of significant horizontal . It shows that the transformation and upgrading of "Internet plus" has had a significant positive impact on the turnover rate of the company's total assets. The total turnover on corporate performance regression coefficient is positive, and in 1% of the significant on the level . It shows that the improvement of total asset turnover rate has significantly improved corporate performance . At the same time, control the total asset turnover, "Internet plus" on the business performance of the regression coefficient is less

than the model (1) of the regression coefficients . It shows that asset operation efficiency is an important path for "Internet plus" to improve corporate performance . Assume that H3 b is proven.

Table 6. Intermediary effects of profitability (product quality and differentiation, refined management)

	ROS		ROA		ROE	
	①	②	③	④	⑤	⑥
I nter	1.3232*** (0. 3425)	——	0.2831*** (0.0730)	——	0.5088** (0.1991)	——
In_level	——	1.0635*** (0 .3473)	——	0.1751** (0.0740)	——	0.3397* (0.2019)
ROS	——	——	0.2637*** (0. 0021)	0.2639*** (0. 0021)	0.5212*** (0. 0056,)	0.5214*** (0. 0056,)
R^2	0.0639	0.0634	0.6349	0.6345	0.4796	0.4794
Hausman test p- value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 7. The mediating effect of asset operation efficiency

	Turno		ROA		ROE	
	①	②	③	④	⑤	⑥
I nter	0.0264 *** (0. 0057)	——	0.4689*** (0.1110)	——	0.8426*** (0.2568)	——
In_level	——	0.0119** (0 .0058)	——	0.3800*** (0.1125)	——	0.7276*** (0.2603)
Turno	——	——	6.0268*** (0. 1877)	6.0496*** (0. 1876)	13.0112*** (0. 4342)	13.0507*** (0. 4340)
R^2	0.0582	0.0567	0.1577	0.1572	0.1347	0.1345
Hausman test p- value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.5. Further Discussion : "Disintermediation" You Can Improve Corporate Performance

Many researchers believe that the Internet can connect the supply and demand sides, solve the problem of information asymmetry, eliminate the participation of intermediaries, save time, manpower, and material resources, and benefit both parties (Xiao Jinghua et al., 2015 ; Graham et al., 2004). So, is "disintermediation" also one of the paths for "Internet plus " to improve corporate performance? Considering that "disintermediation" mainly occurs on the sales side, and the cost savings are mainly reflected in sales expenses (Cost), we use the following model to test whether "Internet plus" can improve corporate performance through "disintermediation".

The empirical results are shown in Table 8 .

$$Cost_{i,t} = h_0 + h_1 Inter_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(8)

$$Perfo_{i,t} = j_0 + j_1 Inter_{i,t} + j_2 Cost_{i,t} + \sum Controls + \varepsilon_i + \varepsilon_t + \varepsilon_{i,t}$$
(9)

According to Table 8, the regression coefficient of "Internet plus" on sales expenses is positive, but not significant. According to Baron and Kenny (1986), Wen Zhonglin, etc. (2004, 2014 study), in which case the end of the mediating effect inspection, cost of sales is not "Internet plus " to enhance corporate performance mediating variable. Look equation (9 regression results) can be found, control the cost of sales, the "Internet plus" level of business performance of the regression coefficient with equation (1) regression coefficient and

Table 8. "Deintermediation" mediation effect

significance level or less. It is particularly noteworthy that the regression coefficient of the "Internet plus " level in equation (9) is greater than that in equation (1), which shows once again that "disintermediation" is not a path for "Internet plus" to improve corporate performance . On the contrary, due to "disintermediation" "Globalization" involves investment in online platform construction and traffic acquisition costs, and sales expenses may rise instead of falling, which in turn affects the improvement of corporate performance by "Internet plus" .

We believe that "Internet plus" is not simply moving offline customers and offline information online, and "disintermediation" is not the essential feature of "Internet plus". Alvintovler pointed out in "The Third Wave" long ago that the use of the Internet in transactions will indeed impact traditional intermediaries (wholesalers, retailers, and real estate intermediaries), and even die; but the new intermediary forms (A large number of online shopping platforms such as Taobao and JD.com, as well as Taobao sellers and Wechat merchants of all sizes, are also constantly emerging. The use of Internet technology has indeed allowed the generation and collection of information to transcend time and space constraints, but this has created two new problems. One is the Internet era, where the excess of information or flooding of information makes it impossible for consumers to start, and the other is consumers' time. In other words, attention has boundaries. The marginal cost of online display of a company's products or services is indeed close to zero, but it is not easy to get consumers' attention.

	Cost		ROA		ROE	
	①	②	③	④	⑤	⑥

I nter	0.0979 (0.0 825)	———	0.6468*** (0.1155)	———	1.2218*** (0.2662)	———
In_level	———	0.0731 (0 .0837)	———	0.4633*** (0.1172)	———	0.9032*** (0.2701)
Cost	———	———	-0.1685*** (0. 0136)	-0.1681*** (0. 0136)	-0.3613*** (0. 0314)	-0.3605*** (0. 0314)
R^2	0.0121	0.0121	0.0895	0.0881	0.0732	0.0723
Hausman test p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

There may be an endogenous problem between the level of "Internet plus " and performance of enterprises . This article uses the logarithm of the number of websites in each province as an instrumental variable. In theory, the number of sites in the Internet technology -related, it is difficult to imagine without the Internet of a large number of sites supported, from the perspective of statistical tests to see, provincial number of sites and companies "Internet plus " level (Inter) significant correlation, correlation coefficient (0.2283) . Therefore, there is no weak instrumental variable problem. The instrumental variable 2SLS method was used for endogeneity test, and the test results are shown in Table 9.

From Table 9 it can be seen, the model (1) to the model (7) (i.e., assuming 1 to assumption 3) Endogenous junction with the original test results coincided.What is worth discussing is the endogenous test result of model (8) (the "disintermediation" path test in further analysis). From Table 9, we find that the coefficient of "Internet plus " level (Inter) on sales expenses (Cost) has become negative and significant, and the coefficient of Cost on performance (ROA, ROE) has become positive (ROA

regression is significant, ROE The regression is not significant).

Therefore,it is generally believed that "disintermediation" may also be one of the ways for "Internet plus " to improve performance, which seems to be inconsistent with the aforementioned research conclusions. However, further analysis will reveal two points. First, when the "disintermediation" variable sales cost (Cost) is controlled, the direct effect of "Internet plus " level (Inter) on corporate performance (2.0150 and 4.8412) is very close to the total The effect (1.8969 and 4.8765), which shows that even if the mediating effect of "disintermediation" exists, it is very limited; second, the indirect effect (the product of -4.5328 and 0.0370) is negative, which is opposite to the direct effect. According to the research of Wen Zhonglin et al. (2014), MacKinnon (2008), etc., this situation is called " Suppressing Effects ", that is, the total effect is covered up, in other words, "disintermediation" Not only is it not an effective way for "Internet plus " to improve corporate performance, it also has a counterproductive effect. This is consistent with our previous theoretical analysis

Table 9. Endogenous test

Model	Explained variable	*Inter*	*Sales*	*ROS*	*Turno*	*Cost*
Model (1)	*ROA*	1.8969 * ** (0 .4862)	———	———	———	———
	ROE	4.8765 * ** (1.0397)	———	———	———	———
Model (2)	*S ales*	0 . 6726 *** (0 .0730)	———	———	———	———
Model (3)	*ROA*	0.7353 (0 .4795)	1.7007 * ** (0 .0703)	———	———	———
	ROE	2.4823** (1.0193)	3.4657 * ** (0 .1496)	———	———	———
Model (4)	*R OS*	3.2192* * (1.3307)	———	———	———	———
Model (5)	*ROA*	1.0358*** (0 .3256)	———	0.2675 * ** (0 .0022)	———	———
	ROE	3.2693*** (0.7832)	———	0.4993 * ** (0 .0054)	———	———
Model (6)	*Turno*	0.3451*** (0 .0454)	———	———	———	———
Model (7)	*ROA*	0.9406** (0 .4771)	———	———	2.6501 * ** (0 .1056)	———
	ROE	2.9131* * * (1.0145)	———	———	5.5481 * ** (0 .2245)	———
Model (8)	*Cost*	-4.5328 * ** (0 .8013)	———	———	———	———
Model (9)	*RO A*	2.0150 * ** (0 .4617)	———	———	———	0.0370*** (0 .0080)
	ROE	4.8412 * ** (0.9859)	———	———	———	0.0039 (0 .0172)

4. Conclusion

Finally, "Internet plus " transformation and upgrading

will firstly cause traditional enterprises to produce technological changes with the essential characteristics of networking, data and intelligence. All things Internet, everything is into data, data on real-time transmission cloud, big data processing through artificial intelligence and timely decision-making and feedback. These technological changes will have a direct impact on enterprise innovation, product supply and sales. Innovation includes not only product research and development, but also product supply and sales phase innovation. Innovation should be said to be integrated in the three phases of product development, supply and sales. The value of innovation will ultimately be reflected in the two phases of product supply and sales, such as product supply and sales. Difference, stability of quality, improvement of supply and sales efficiency, and effectiveness of after-sales service. In addition to the direct impact, the technological changes caused by "Internet plus " will produce concomitant management changes, which in turn will lead to concomitant organizational changes, conceptual changes, and cultural changes. These concomitant changes in turn promote further technological innovation and concomitant changes, supplemented by the multiplier effect of the Internet, and ultimately promote the rise of corporate performance.

There are significant differences in the ways in which the consumer Internet and the industrial Internet affect corporate performance. The consumer Internet mainly affects corporate performance by improving corporate sales capabilities. There are two ways in which the Industrial Internet affects corporate performance. One is to improve the company's profitability by improving product quality, differentiation, and refined management; the second is to improve the efficiency of corporate asset operations. The Internet "disintermediation" generally recognized by the industry, theorists and the public is not an effective way for "Internet plus" to affect corporate performance. "Disintermediation" is not an essential feature of the Internet. Old-style intermediaries will die out, but new-style intermediaries will emerge. Simply moving offline operations to online "de-intermediation" is not the essence of "Internet plus", nor can it eliminate information asymmetry. Because information will be surplus, and the public's attention is bounded, a new type of information asymmetry will arise.

It can be seen from the research conclusions that "Internet plus" has a significant effect on the improvement of traditional corporate performance. "Internet+" improves corporate performance through three paths, namely, improving the company's sales ability, profitability (product quality and differentiation, refined management), and asset operation efficiency. These three paths are in line with the promotion of consumption and the supply side of my country's economic transformation. The government and enterprises should pay attention to major economic policies such as reform and low-carbon production, and continue to adhere to and strengthen the promotion of the "Internet plus" strategy. In the process of advancing and implementing the "Internet plus" strategy, in addition to continuing to improve the content related to consumer Internet, the focus of the next phase of the "Internet plus " strategy should be the industrial Internet. It is necessary to use the new generation of Internet technology to transform the process and system of product research and development and supply, and to improve the efficiency of research and development and supply. It is necessary to prevent the formal "Internet plus " from simply moving product sales from offline to online . The fundamental goal of "Internet plus " is to enable traditional enterprises to form networked, digitalized and intelligent technological changes, and technological changes lead to concomitant management changes, and then concomitant organizational changes, conceptual changes and cultural changes. Only in this way, Only in this way can we truly play the role of the "Internet plus " strategy and promote the transformation and upgrading of traditional Chinese enterprises.

Acknowledgements

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