Transactions on Computational and Scientific Methods | Vol. 4, No. 3, 2024
ISSN: 2998-8780
https://pspress.org/index.php/tcsm
Pinnacle Science Press

Internationalization and Social Responsibility: Their Impact on Financial Performance in the Manufacturing Sector

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Abstract: The extent of internationalization within the manufacturing sector influences the financial performance of companies. This study examines 774 listed manufacturing companies from 2016 to 2018, employing multiple regression analysis to explore the relationship between the degree of international operations and financial performance, as well as the impact of social responsibility on financial performance. The findings reveal a U-shaped relationship between the level of internationalization and the financial performance of these companies. Conversely, the relationship between social responsibility and financial performance is characterized by an inverted U-shape. Finally, the paper offers effective recommendations for enhancing the financial performance of listed manufacturing companies.

Keywords: Listed manufacturing companies; International operation; Social responsibility; Financial performance.

1. Introduction

Manufacturing industry occupies a very important share in the national economy of the developed countries in the world, and it is an important factor that directly distinguishes the level of productivity between developed countries and developing countries. China's manufacturing base is relatively complete. After entering the 21st century, the international and domestic environment facing China's manufacturing industry has undergone great changes.China's accession to the wto has brought its economic restructuring and opening-up to a broader and deeper stage. In the context of macro economy, resources are more rationally allocated globally, and Chinese listed manufacturing companies also actively participate in international operations. A large number of well-known Chinese companies, such as haier, lenovo and huawei, have gone abroad to participate in international competition. The development of globalization has put our economy on the track of sustained growth,China's manufacturing enterprises have entered the stage of rapid growth, but behind the rapid growth is a series of short-sighted behaviors. Excessive pursuit of economic interests has led to numerous social problems, such as environmental pollution, ecological imbalance, product safety problems and employee unemployment. From the outbreak of sanlu milk powder ", melamine major food safety accidents "to chrome overweight" poison capsule "event, and thento shenzhen foxconn employees committed suicide by jumping off a building and broke in the" sweatshop "event, and changchun longevity fake vaccine in 2018 events, this series of tragedy is due to the lack of Chinese corporate social responsibility. The lack of social responsibility consciousness and action will not only affect the company's financial performance, sustainable development and

core competitiveness, but also affect the smooth and orderly operation of the whole society and economy.

With the continuous improvement of market economy and the continuous development of economic globalization, the public pay more and more attention to the financial performance of companies. At the same time, with the continuous improvement of education level, consumers' awareness is also improving. More and more consumers begin to worry about whether enterprises actively assume social responsibility and pay attention to the quality of products produced by enterprises and whether the products are beneficial to the environment.The big question facing Chinese companies is how to balance financial performance with social responsibility. Every company should realize that actively taking social responsibility can establish a good corporate image in front of the public, attract more consumers, and bring aboutthe improvement of corporate financial performance..

2. Theoretical Analysis and Research Hypothesis

2.1. Degree of International Operation and Financial Performance

While most agree that entrepreneurs to make the enterprise to further development, the choice of internationalization is a kind of good way, but quite a lot of empirical research results show that for different enterprises, the role of the internationalization of enterprise performance is also each are not identical, different from that of developed economies, emerging markets manufacturing companies in the process of internationalization, international relations with financial performance, on the whole, tend to be negative after first is the trend of development, morphologically characterized by U S type or level. As a typical representative of emerging market countries, the relationship between internationalization degree and performance of Chinese enterprises is mainly u-shaped or negative linear. In enterprises in the initial stage of internationalization, as a new entrants and outsiders need to invest a lot of cost, and negative to the development of enterprise performance, and in the process of internationalization degree deepened through organizational learning and knowledge development, the internationalization of enterprises have more knowledge and market knowledge, greatly improving the quality of the products and services, beyond a certain point, when the enterpriseinternationalization degree competitive advantage accumulated to a certain degree, enterpriseinternationalization degree can be a positive impact on performance.

Based on the above analysis, the first hypothesis in this study is obtained:

H1: there is a u-shaped correlation between the degree of internationalization of Chinese manufacturing enterprises and the financial performance of enterprises. In other words, there is a negative correlation when the degree of internationalization is low, and a positive correlation when the degree of internationalization is high.

2.2. Corporate Social Responsibility and Financial Performance

This paper believes that the specific reasons why enterprises can improve their financial performance by taking social responsibility are as follows: first, enterprises that take more social responsibility will have more cost input. Although enterprises are at a disadvantage, taking on more social responsibilities can enhance their competitive advantage if they are considered from the strategic perspective. From a higher level, these competitive advantages are conducive to improving the financial performance of enterprises. Secondly, based on the perspective of social influence, the better and more active the fulfillment of corporate social responsibility, the better the corporate image of citizenship will be quickly established. Therefore, the more external favorable influence the enterprise is subject to, the better the corporate performance will be improved. Finally, on the basis of relevant stakeholder theory, enterprises actively assume social responsibility will improve the satisfaction of all stakeholders, thus improving the financial performance of enterprises.

However, the cost of CSR will also reduce the level of financial performance. Enterprises that fulfill their social responsibilities will spend a certain amount of human, material and financial resources, which will consume the company's resources to a certain extent, and the cost will greatly increase, thus reducing the company's financial performance. In order to undertake social responsibility, enterprises inevitably have to pay certain expenses. In this case, the cost of social responsibility will put enterprises in an unfavorable financial situation when they compete with other enterprises that

do not bear such social responsibility. In addition, too many public welfare activities will have a negative impact on the improvement of financial performance. The main reason is that there are many irrational factors in the real market, and it is difficult for investors and stakeholders to grasp the fulfillment of corporate social responsibility in a timely and comprehensive manner. Based on the above analysis, the secondhypothesis in this paper is obtained:

H2: there is an inverted u-shaped correlation between corporate social responsibility and corporate financial performance in China's manufacturing industry, that is, they are positively correlated when the social responsibility score is low, and negatively correlated when the socialresponsibility score is high.

3. Study Design

3.1. Sample Selection and Data Sources

This paper took the data of China's listed manufacturing companies from 2016 to 2018 as the research sample, and a total of 774 sample companies were obtained through screening, and 2,322 sets of sample data of these 774 listed manufacturing companies from 2016 to 2018 were analyzed. The three years' Data of 774 companies were made into Panel Data for analysis.

The data in this paper came from the national tai 'an financial database, HeXun and Wind information financial terminals. EXCEL was used to sort out the data, and software SPSS23.0 was used for regression analysis of the model.

3.2. Variable Selection

Enterprises are both social and profitable, and enterprise financial performance is an important indicator to measure the operating results of each enterprise in a year or a certain period, so enterprise financial performance is often used to test the effectiveness of various theories, it is the most common dependent variable in enterprise management research. Most of the relevant studies have selected the return on total assets (ROA) and return on equity (ROE) as measures. ROA can fully reflect the operating capacity and profitability of all assets of an enterprise. Therefore, this paper selects return on total assets (ROA) as the measurement index of enterprise financial performance.

In this paper, the degree of enterprise internationalization is taken as the explanatory variable. Due to the low level of internationalization of Chinese enterprises, transnational operations mainly rely on overseas sales of products. Considering the reliability and applicability, this paper finally chose to study at home and abroad enterprises the most internationalized enterprises overseas revenues accounted for the proportion of total revenue (FSTS) to measure the internationalization level of the enterprise, and DOI (development of the internationalization), which is more common a representative symbol, at the same time with DOI2 namely FSTS * FSTS to reflect degree of internationalization and the cross. Therefore, this paper selects the proportion of overseas sales revenue in main business revenue as an index to measure the degree of internationalization of enterprises.In recent years, the corporate social responsibility score of HeXun has been widely used by domestic scholars. HeXun was founded in 1996, standing out from China's early financial securities information service and establishing the first vertical financial information website. Therefore, we take this as the data source, and use HeXun's professional score on social responsibility of listed manufacturing companies as the indicator of social responsibility, which is represented by CSP.

In the empirical analysis, we should not only pay attention to the selection of explanatory variables and explained variables. The selection of control variables is also very important to the results of empirical research. The research shows that not only the degree of internationalization and social responsibility will affect the financial performance of enterprises, but also some other factors will have a significant impact on the financial performance of enterprises. If the influence of these control variables on the company's financial performance is not paid attention to, and only the influence of explanatory variables on the explained variables is considered, the regression result is likely to be biased. Therefore, in order to more accurately explore the relationship between internationalization degree, social responsibility and financial performance of listed manufacturing

companies in China, six indicators including enterprise size, capital structure, liquidity ratio, cash flow capacity, returnon equity and time to market were selected as control variables.

To sum up, the explained variables, explanatory variables and control variables are specifically defined and illustrated in the following table:

Table 1. Definition and description of variables

	The variable name	Symbol	Define
Explained variable	Net interest on total assets	ROA	Net profit/average total assets *100%
Explanatory variables	Degree of internationalization	DOI	Overseas sales/total sales *100%
	The social responsibility	CSP	HeXun professional rating
	The company size	SIZE	The natural log of total assets
	The capital structure	DAR	Total liabilities/total assets *100%
	Current ratio	CR	Current assets/current liabilities
Control variables	Cash flow capacity	CASH	Cash flow from operating activities/total liabilities
	Return on equity	ROE	After-tax profit/owners' equity *100%
	Fixed number of year of the listed	AGE	The natural logarithm of the number of years from the date of listing to thedate of the year

3.3. Model building

This paper studies the relationship between internationalization degree and financial performance, between social responsibility and financial performance. In order to verify the above two hypotheses, the following models are constructed.

In order to study the relationship between enterprise internationalization and financial performance, hypothesis H1 was verified and model 1 was constructed:

$$ROA_{it} = \beta_0 + \beta_1 DOI_{it} + \beta_2 DOI_{it}^2 + \beta_3 SIZE_{it} + \beta_4 DAR_{it} + \beta_5 CR_{it} + \beta_6 CASH_{it} + \beta_7 ROE_{it} + \beta_8 AGE_{it} + \varepsilon_{it} \quad (1)$$

Where, DOI_{it}, DOI_{it}^2 is the explanatory variable, ROA_{it} is the explained variable, $SIZE_{it}$, DAR_{it}, CR_{it}, $CASH_{it}$, ROE_{it}, AGE_{it} is the control variable, and $\beta 0$ is the constant term, and βi (i=1…8) is the coefficient term to be estimated, ε_it is the random interference term, I is the ith company, it is the year.

In order to study the relationship between social responsibility and financial performance, verify hypothesis H2 and construct model 2:

$$ROA_{it} = \beta 0 + \beta 1 CSP_{it} + \beta 2 CSP_{it}^2 + \beta 3 SIZE_{it} + \beta 4 DAR_{it} + \beta 5 CR_{it} + \beta 6 CASH_{it} + \beta 7 ROE_{it} + \beta 8 AGE_{it} + \varepsilon_{it} \quad (2)$$

Where, CSP_{it}, $CSP_{it}^2$is the explanatory variable, ROA_{it} is the explained variable, $SIZE_{it}$, DAR_{it}, CR_{it}, $CASH_{it}$, ROE_{it}, AGE_{it} is the control variable, and $\beta 0$ is the constant term, and βi (i=1…8) is the coefficient term to be estimated, ε_{it} is the random interference term, I is the ith company, it is the year.

4. Empirical Result Analysis

4.1. Descriptive Statistical Analysis

In order to preliminarily understand the internationalization degree, social responsibility, financial performance and other control variables of sample companies, descriptive statistics were used to

analyze relevant data. The specific analysis results are as follows:

Table 2. Describes the statistics

	N	Min	Max	Mean	SD
ROA	2322	-.1139	.2070	.0471	.0388
DOI	2322	0	.9979	.2262	.2250
CSP	2322	-8.8400	87.2500	22.6825	11.6403
SIZE	2322	8.6302	11.0238	9.6375	.4754
DAR	2322	.1739	.9560	.3920	.1780
CR	2322	.1688	50.1371	2.4663	2.5923
CASH	2322	-1.8253	2.9870	.1825	.2864
ROE	2322	-1.2250	.6656	.0761	.0739
AGE	2322	1.0986	3.2958	2.2299	.6434
N	2322				

From the statistical results in the above table, we can get the following information:

The average value of net profit margin on total assets in the financial performance index of enterprises is 0.0471, significantly lower than the standard profitability index value (0.07), and the standard deviation is 0.038, indicating that the performance level of listed manufacturing companies in China is less discrete and the overall operating level is poor.

Internationalization degree index averages of 0.2262, it can be seen that China's manufacturing listed companies internationalization degree is generally low, the minimum value is 0, show that manufacturing listed companies in China are not entirely for export sales company, the maximum value is 0.9979, basic manufacturing listed companies in China are only the supply of export sales company, the basic status of manufacturing listed companies in our country.

Average social responsibility index was 22.6825, indicating our country manufacturing industry listed company social responsibility scores are generally lower, the maximum value of 87.2500, shows that China's manufacturing listed companies exist positive social responsibility of company, the minimum value is 8.8400 illustrate manufacturing listed companies in our country also has poor social responsibility even couldn't bear the social responsibility of the company.

The average level of the asset-liability ratio of the capital structure indicator is 0.3920, which is relatively low overall. However, from the maximum value of 0.9560, it can be seen that the asset-liability ratio of some companies is obviously high and may face severe financial crisis.

The average current ratio is 2.4663, and it is generally believed that it is reasonable for enterprises to keep the current ratio around 2.0. Therefore, it can be seen that China's listed manufacturing companies have strong liquidity of assets and strong short-term solvency, which is in line with the characteristics of high growth of listed manufacturing companies.

4.2. Descriptive Statistical Analysis

Correlation analysis refers to the analysis of two or more correlated variable elements to measure the correlation degree of two variables and lay a foundation for regression analysis. In order to better test the correlation between the selected index and the dependent variable, software SPSS23.0 was used to conduct Pearson correlation analysis on the data. The results are as follows:

Table 3. Pearson correlation test

		ROA	DOI	CSP	SIZE	DAR	CR	CASH	ROE	AGE
ROA	Pearson	1								
	Significance									
DOI	Pearson	.049*	1							
	Significance	.018								

CSP	Pearson	.406**	.016	1						
	Significance	.000	.439							
SIZE	Pearson	-.118**	-.118**	.118**	1					
	Significance	.000	.000	.000						
DAR	Pearson	-.374**	-.076**	-.113**	.576**	1				
	Significance	.000	.000	.000	.000					
CR	Pearson	.210**	.020	.055**	-.356**	-.587**	1			
	Significance	.000	.330	.008	.000	.000				
CASH	Pearson	.474**	.119**	.190**	-.211**	-.464**	.390**	1		
	Significance	.000	.000	.000	.000	.000	.890			
ROE	Pearson	.823**	.018	.376**	.059**	-.064**	.018	.237**	1	
	Significance	.000	.392	.000	.005	.002	.391	.000		
AGE N	Pearson	-.268**	-.110**	.002	.524**	.355**	-.227**	-.187**	-.126**	1
	Significance	.000	.000	.909	.000	.000	.000	.000	.000	

Note: **. Significant correlation at 0.01 level; *. Significantly correlated at the 0.05 level

The following conclusions can be drawn from Pearson's correlation test in the above table: there is a significant correlation between internationalization degree and financial performance, social responsibility and financial performance, which preliminarily verifies the hypothesis H1 and H2 above. Control variable company scale, capital structure, liquidity ratio, cash flow and return on net assets and fixed number of year of the listed companies are there exists a significant relationship between financial performance, it is given to illustrate the effectiveness of the selection of control variable, can impact on corporate financial performance to some extent, can improve the goodness-of-fit of the model.

4.3. Multiple Regression Analysis

4.3.1. Regression analysis of the degree of international operation on financial performance

The table below shows the regression results of the relationship between internationalization degree and financial performance of listed manufacturing companies in China.

Table 4. Regression results of model I

	Variable	Model I
Explanatory variables	DOI	-.010**(-2.151)
	DOI2	.012**(1.997)
	SIZE	.005***(5.030)
	DAR	-.057***(-19.466)
Control variables	CR	.000**(-2.302)
	CASH	.025***(16.874)
	ROE	.393***(78.525)
	AGE	-.005***(-8.005)
Adjusted R-squared		.810
F-statistic		1241.797***
Durbin-Watson		1.730

Note: *** is the P test, indicating significant at the level of 0.01, ** means significant at the level of 0.05, and * means significant at the level of 0.1.

As can be seen from the above table, the DW (durbin-watson) value of model 1 is 1.730, which is within the reasonable range, indicating that there is no autocorrelation between random error terms. Adjusted r-squared is a comprehensive measure of the fitting degree of the regression model. The larger the Adjusted R squared is, the more the model interprets the dependent variable and the better the fitting degree of the model is. The Adjusted r-squared value of the model was 0.810, that is, the explanatory power of the model to the dependent variable was 80.0%, and the goodness of fit was good. Moreover, at the significance level of 1%, it passed the F test, and the test results were

considerable, so the model was available. At the same time, the model of a regression results show that the degree of internationalization and the net interest rate of the total assets of the correlation coefficient is 0.010, the square of internationalization and the net interest rate of the total assets of the correlation coefficient is 0.012, and P values are less than 0.05, both international and corporate financial performance was significant and a u-shaped relationship, with the increasing proportion of internationalization of business performance levels will rise after falling first, which is consistent with the hypothesis H1. The critical point of internationalization degree is 0.4166, that is, when the internationalization degree of an enterprise is lower than 41.66%, it will have a negative impact on the enterprise performance; when the asset-liability ratio is higher than 41.66%, it will have a positive impact on the enterprise performance.

4.3.2. The regression analysis of social responsibility to financial performance

Table 5. Regression results of model ii

	Variable	Model II
Explanatory variables	CSP	.001***(11.105)
	CSP2	-.000***(-9.458)
	SIZE	.003***(2.883)
	DAR	-.049***(-16.644)
Control variables	CR	.000**(-2.339)
	CASH	.024***(16.983)
	ROE	.357***(61.202)
	AGE	-.005***(-7.044)
Adjusted R-squared		.821
F-statistic		1329.047***
Durbin-Watson		1.709

The table below shows the regression results of the relationship between social responsibility and financial performance of listed manufacturing companies in China.

Note: *** is the P test, indicating significant at the level of 0.01, ** means significant at the level of 0.05, and * means significant at the level of 0.1.

As can be seen from the above table, the DW (durbin-watson) value of model 2 is 1.709, which is within the reasonable range, indicating that there is no autocorrelation between random error terms. The Adjusted r-squared value was 0.821, that is, the explanatory power of the model to the dependent variable was 82.1%, and the goodness of fit was good. Moreover, at the significance level of 1%, it passed the F test, and the test results were considerable, so the model was available. Meanwhile, the regression results of model 2 show that the correlation coefficient between the social responsibility score and the net interest rate of total assets is 0.001185, and the correlation coefficient between the square of social responsibility score and the net interest rate of total assets is -0.00001286, and both P values are less than 0.01, indicating that the relationship between executive ownership and corporate performance is significant and shows an inverted u-shaped relationship, consistent with hypothesis H2. The critical point of social responsibility score is 46.0731, that is, when the social responsibility score is lower than 46.0731, social responsibility has a positive impact on corporate financial performance; when the social responsibility score is higher than 46.0731, social responsibility score has a negative impact on corporate financial performance. Listed manufacturing companies have an inverted u-shaped relationship between social responsibility and financial performance, that is, when the input resources of corporate social responsibility are kept within a certain range, the financial performance will increase with the improvement of the input level of social responsibility. As the level of social responsibility investment increases beyond this range, financial performance will decline.

5. Conclusions and Recommendations

5.1. The Conclusion

(1) there is a u-shaped curve relationship between internationalization degree and financial

performance of listed manufacturing companies.

When manufacturing companies start selling overseas, their financial performance declines. When the inflection point is reached, the company's financial performance will increase as the degree of internationalization of the company increases. When an enterprise just enters a new country, it will need to adapt to the environment due to the huge gap between the culture and system between the home country and the host country. In the early stage of internationalization, the high learning cost, the failure to reach effective scale, the failure to adapt to the market conditions and local culture of the host country and other reasons will leadto the decline in the financial performance of enterprises. After that, operating costs fell as the company restructured internally and adapted to local cultures and systems. At the same time, the enterprise will also acquire international knowledge and market knowledge, which will enable the enterprise to produce competitive advantages and extraordinary performance.

(2) there is an inverted u-shaped curve relationship between the social responsibility and financial performance of listed manufacturing companies.

Corporate social responsibility can improve the satisfaction of all stakeholders (including shareholders, creditors, suppliers, customers, employees, the public, etc.), contribute to the formation of intangible assets such as corporate innovation ability, human resources, reputation and culture, and thereby improve corporate financial performance. However, enterprises' input in social responsibility cannot keep the linear growth of financial performance. Therefore, in a certain range, with the increase of CSR investment, the financial=performance will show an increasing trend, but once the degree of corporate social responsibility exceeds a certain range, the financial performance will show a downward trend.

5.2. The Advice

(1) enterprise managers should view the process of enterprise internationalization from a more long-term perspective.

The internationalization of enterprises does not mean that positive internationalization performance can be achieved at the beginning, but that with the continuous learning and development of enterprises, they will change from negative influence to positive influence after acquiring more international knowledge and market indexes and accumulating enough international experience. The results of empirical studies have shown that the relationship between internationalization degree and enterprise performance is u-shaped. Therefore, enterprise managers should take a longer view of the process of enterprise internationalization. In the initial stage of internationalization, we should withstand the pain of the disadvantage of outsiders and view the decline of enterprise performance objectively. At the same time, managers need to make arduous efforts to improve and overcome the disadvantages of outsiders, cross the "threshold effect" of enterprise internationalization as soon as possible, turn the internationalization performance of enterprises from negative to positive as soon as possible, and truly enjoy the broad development space and possibility brought by enterprise internationalization.

(2) improve the evaluation system and reward and punishment mechanism for enterprises. Due to the absence of evaluation mechanism and evaluation results, the opportunity cost of CSR fulfillment and non-fulfillment is equivalent. Recommendations to the social benefit maximization as evaluation target, based on the respect of enterprise autonomy, on the basis of the traditional financial performance evaluation index, gradually building covers the benefit

evaluation index system of the parties involved, introducing the professional on behalf of the public interest, justice, objective third party, such as industry association, to the enterprise to conduct a comprehensive, scientific and reasonable evaluation. Published corporate social responsibility at the same time, timely and effective performance, and corporate social responsibility to fulfill and enterprises of all kinds of ratings, liuzhou limit carrier, for the performance of good corporate social responsibility, in respect of matters relating to administrative examination and approval authorities such as merger, acquisition and reorganization launched "green channel", help enterprise gain reputation premium, and manifest the demonstration effect, strengthen the improvement of corporate social responsibility fulfillment of goodwill, and improve the annual financial performance in the future.

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