Does the Design of Investor Relations Section Affect Enterprise Performance?

An Example From Listed Logistics Companies in China

Tianxin Li, Art Institute of Chicago, USA*

 https://orcid.org/0000-0002-2386-3437

Hua Liu, Beijing Wuzi University

ABSTRACT

With the development of the major e-commerce platforms in recent years, China's logistics enterprises have entered a stage of rapid development. A large number of logistics enterprises have resorted to external capital to seek development. Related research about website investor relations management arises at the historic moment. Based on the analysis of website content of listed logistics enterprises, this paper constructed an evaluation index of the website investor relationship management. The index includes motivating information factor, health information factor, and information transmission channels factor. Then the authors analyze and test the value effect of the website investor relations management of the listed logistics companies. The results show that health information factor has a positive impact on the current performance of enterprises, and this effect presents inverted u-shaped characteristics. The influence of incentive information on performance is characterized by u font. Information transmission channel factors have no significant impact on company performance.

KEYWORDS

Company Performance, Design, Listed Logistics Company, Website Investor Relations Management

1. INTRODUCTION

With the rapid development of major e-commerce platforms in recent years, the demand for logistics services is strong, logistics enterprises are developing rapidly. A large number of logistics enterprises have resorted to domestic and foreign capital, hoping to get considerable development through listing and capital market operation. Statistics show that by the end of 2017, the number of domestic logistics listed companies has reached 102. It involves sea freight, air transportation, land transportation, warehousing, cold chain, logistics real estate, express delivery and so on.

With the intensification of competition in the capital market, attracting investors in the capital market through Investor Relationship Management (IRM) has become an unavoidable challenge

*Corresponding Author

for all listed companies, including listed logistics enterprises. The study shows that there are great differences in valuation between enterprises with different levels of investor relationship management. Enterprises with high levels of investor relationship management can be valued at 30 times profit, while those with poor levels can be valued at only 5 times profit. The wide use of the Internet has made corporate websites a platform for effective communication between enterprises and various participants in the capital market (Bollen et al., 2006). Website investor relationship management has become an important tool to attract investors at low cost. It can reduce the level of information asymmetry between enterprises and capital markets and enhance effective corporate image (Harold Hassink et al., 2007; Chandler, 2014).

The investor relations section on a company's website is one of the most important channels for investors to search for relevant information and make investment decisions. The content design of the section will have a certain impact on investment decisions (Xin Qingquan, Yang Deming, Chen Nian et al., 2006), but what content will affect investment decisions? What is the degree of impact of different content? There are still many research gaps in the selection of investment relationship webpage content among different industries.

Based on the above research background, this article selects listed companies in China's rapidly developing logistics industry as samples, and constructs an investor relations index using the investor relations column content of these companies as the research object. Based on the information of listed logistics companies' websites, this paper constructs an evaluation index of Website investor relations management. On this basis, the influence of investor relationship management level on enterprise performance is studied. It is hoped that this study can provide some help for the development of investor relations management in logistics listed companies.

2. THE STATUS QUO OF INVESTOR RELATIONS MANAGEMENT OF CHINA'S LISTED LOGISTICS COMPANIES

With the emergence and rapid development of network technology, network channel has become an effective channel for investors to know the operation, strategy and performance of the company at low cost and conveniently. Enterprise websites have become the main communication path between listed companies and investors (Dominic Jones, 2002). There for, we searched the website information of 88 logistics enterprises listed in Shanghai and Shenzhen Stock Exchanges at the end of 2015, and used it as the basis of investor relationship management analysis of Logistics Listed Companies in China.

2.1 Web Page Basic Situation

Among 88 listed companies, 23 enterprises have the situation that the webpage can not be opened or the webpage has no investor relationship related content, accounting for 26.14% of the sample size. The remaining 65 listed companies have made the following choices:

2.1.1 Communication Content

The contents of the websites disclosed by these listed logistics companies include the following aspects:

(1) Stock price information: current stock price, historical stock price;
(2) Various reports: annual report, semiannual report, quarterly report, notice of shareholders' meeting;
(3) Financial information: related financial indicators, financial highlights, dividends distribution;
(4) Corporate governance information: shareholder information and equity structure, articles of association, board of directors, board of supervisors, senior management members;
(5) Corporate Image Information: Performance Promotion, Corporate Culture Construction, Road show Video, Corporate Social Responsibility Performance;
(6) Investor relations management system construction: regulatory regime, investor protection;

2.1.2 Web Page Communication Channel

The main communication channels are telephone consultation, investor mailbox, online communication system, investor message, Online voting of shareholders' meeting and so on.

2.2 Statistical Distribution of Survey Data

The information statistics related to the relationship between logistics websites and investor relations are shown in Table 1.

Table 1. information statistics on website and investor relationship management of logistics listed companies

Related Content in Web Site	Current Stock Price	Historical Stock Price	Annual Information	Notice of Shareholders' Meeting	Financial Indicators	Financial Highlights	Dividends Distribution	Introduction of Board of Directors, Board of Supervisors, and Senior Management	Capital Structure	Corporate Culture
Number of enterprises disclosing relevant information	42	22	62	33	16	12	31	30	24	32
Disclosure percentage (%)	64.62	33.85	95.38	50.77	24.62	18.46	47.69	46.15	36.92	49.23
Related content in Web site	Road show Video	Corporate Social Responsibility Performance	Performance Promotion	Investor relations management system	investor protection	Investor relations line	investor mailbox	online communication system	investor message	Online voting of shareholders' meeting
Number of enterprises disclosing relevant information	10	11	21	40	4	50	36	14	24	8
Disclosure percentage (%)	15.38	16.92	32.31	61.54	6.15	76.92	55.38	21.54	36.92	12.31

The survey shows that the highest proportion of information disclosed by Logistics Listed Companies in the website is information of annual report, the disclosure rate is 95.38%. The current share price is also the key content of disclosure, and the disclosure ratio is 64.62%. In terms of further access to information, the percentage of telephone disclosures was the highest, accounting for 76.92% of the sample, followed by investor mailboxes, accounting for 55.38%. The disclosure rate of the following information is relatively close, basically between 45%-50%. They are: Notice of shareholders' meeting, dividend distribution, equity structure and corporate culture. The above disclosure content is mandatory disclosure content of capital market, and the listed logistics enterprises have a higher degree of implementation. The survey shows that the disclosure degree of some voluntary disclosure information, such as financial information, road show, performance promotion, investor protection, online exchange of good shareholder meeting online voting information is low. To a certain extent, the above information indicates that the motivation for enterprises to initiate investor relations management is not strong.

3. SELECTION AND CONSTRUCTION OF NETWORK INVESTOR RELATIONSHIP EVALUATION METHOD FOR LOGISTICS LISTED COMPANIES

3.1 Construction Method of Evaluation Index for Investor Relations Management

Early studies on the evaluation of foreign investor relationship management (IRM) mostly used IRM expenditure or related policies as a measure of information disclosure. Later, some professional institutions, such as the National Institute of Investor Relations (NIRI), Reuters and the Journal of Investor Relations, carried out relevant research. At the same time, Lang and Lundholm (1993), Hedlin (1999), Kelly (2000) and other scholars also carried out relevant research. The methods used in the study include the following:(1) questionnaire survey. Some of the more influential investor relationship management institutions, through analysts and fund managers questionnaires to evaluate and rank the management of investor relationship in listed companies;(2)content analysis. Some professional evaluation organizations and scholars mainly through the company's annual reports, announcements and website information content screening, build the corresponding evaluation index to evaluate the level of enterprise investor relationship management.

When domestic scholars construct the evaluation index of investor relationship management, they often draw lessons from foreign related research ideas, and then try to cut in from a certain perspective. For example, Lin Bin et al. (2005) constructed the evaluation index of investor relationship management based on the content and channel of information disclosure of domestic listed companies websites; Li Xindan et al. (2006) constructed the evaluation index system of investor relationship management level of Listed Companies in China, including three variables, namely, state level, quality and management; The index system of Ma Lianfu et al. (2007) is based on website and annual report information, emphasizing the content of non-financial information disclosure. Ma Lianfu et al. (2011) constructed a comprehensive evaluation index of investor relationship management, based on the relevant data of 1 036 listed companies listed in 2007, and tested the relationship between the level of investor relationship management and enterprise performance.

3.2 Design of Evaluation Index for Website Investor Relationship Management of Logistics Listed Companies

3.2.1 Selection of Construction Methods and Processing of Related Data

In terms of index construction, this study is based on content analysis and factor analysis, drawing on the basic ideas of relevant research at home and abroad, and then taking 65 domestic listed logistics enterprises as research samples. It is found that these 20 elements are important for the management of investor relations. Considering that regular disclosure items such as annual report and quarterly report belong to permanent projects of all companies, we delete them and do not study them as feature vectors. The items such as online voting of shareholders' meeting and investor's message have little influence on the result of factor analysis, so they are excluded. Finally, the correlation matrix analysis of this study finally summarizes the specific content of the evaluation index of investor relationship management into 10 feature vectors, which are:

$X1$= Current stock price
$X2$= Historical stock price
$X3$= related financial indicators
$X4$= capital structure
$X5$= Financial Highlights
$X6$= dividend distribution
$X7$= board members, board members and executives
$X8$= road show video
$X9$= private telephone for investors
$X10$= investor mailbox

3.2.2 Correlation Matrix Analysis

By analyzing the normalized correlation matrix (see Table 2), it is found that there is no large number of zero correlation matrix, and there is a strong correlation between the indicators. The results of KMO and Bartlett tests showed that Kaiser-Meyer-Olkin measurements were 0.76 and Bartlett spherecity test was significant ($p < 0.01$). The above conditions met the application requirements of factor analysis.

Table 2. Correlation matrix

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
X1	1.000	.529	.124	.362	.269	.449	.099	.316	.169	.166
X2	.529	1.000	.346	.381	.498	.359	.194	.506	-.010	.126
X3	.124	.346	1.000	.402	.741	.527	.525	.548	.187	.155
X4	.362	.381	.402	1.000	.434	.475	.379	.461	.071	.123
X5	.269	.498	.741	.434	1.000	.419	.622	.786	.116	.211
X6	.449	.359	.527	.475	.419	1.000	.227	.361	.352	.227
X7	.099	.194	.525	.379	.622	.227	1.000	.557	.187	.273
X8	.316	.506	.548	.461	.786	.361	.557	1.000	.118	.204
X9	.169	-.010	.187	.071	.116	.352	.187	.118	1.000	.698
X10	.166	.126	.155	.123	.211	.227	.273	.204	.698	1.000

Further analysis of the eigenvalues and cumulative contribution rate of the correlation matrix (see Table 3) shows that the cumulative contribution rate of the first three factors is 71.206%, and the final eigenvalues can be reduced to three principal factors.

The factor load matrix after rotation is shown in Table 4. The main factor F1 includes four major load items: X3 (related financial indicators), X5 (financial summary), X7 (introduction of board members, board members, executives), X8 (road show video). The principal factor F2 includes four major loads: X1 (current stock price), X2 (historical stock price), X4 (capital structure), X6 (dividend distribution). Factor F3 includes X9 (private phone for investors) and X10 (investor mailbox).

Table 3. Eigenvalues of correlation matrices

Components	Initial Eigenvalue			Extracting sum of Squares			Rotation Squared Sum Loading		
	Total	Variance%	Cumulative Variance%	Total	Variance%	Cumulative Variance%	Total	Variance%	Cumulative Variance%
1	4.223	42.234	42.234	4.223	42.234	42.234	3.057	30.571	30.571
2	1.606	16.064	58.298	1.606	16.064	58.298	2.258	22.581	53.153
3	1.291	12.908	71.206	1.291	12.908	71.206	1.805	18.053	71.206
4	.785	7.852	79.058						
5	.632	6.320	85.378						
6	.451	4.509	89.887						
7	.353	3.533	93.420						
8	.268	2.685	96.105						
9	.245	2.452	98.557						
10	.144	1.443	100.000						

Extraction method: principal component analysis

Table 4. Factor load matrix after rotation [a]

	Components		
	1	**2**	**3**
X5	.869	.299	.043
X7	.813	-.033	.187
X3	.803	.193	.110
X8	.768	.361	.030
X1	-.030	.869	.130
X2	.299	.746	-.096
X6	.303	.618	.320
X4	.445	.542	.013
X9	.058	.072	.929
X10	.146	.076	.873

Extraction method: principal component.
Rotation method: orthogonal rotation method with Kaiser standardization.

a. Rotation converges after 4 iterations.

3.2.3 Explanation of Factor Analysis

Referring to the two-factor theory in management, we define and explain the related principal factors, as shown in Table 5.

The first principal factor (F1) contains four elements, which belong to resource information, reflecting the situation of enterprise people, financial, material and corporate image. This kind of information is the key to support investors to maintain long-term confidence in enterprise value, so it is defined as a health information factor. The second principal factor(F2) contains four elements which are the basis of determining the current investment behavior of investors, and belong to the incentive information that directly affects the current stock trading behavior. The third principal factor (F3) contains X9 and X10, which are the channel guarantee for listed companies to effectively transmit all kinds of information to the capital market, so they are defined as the channel factor of information transmission.

Table 5. Three factor explanation form

	F1	**F2**	**F3**
information content	X3 X5 X7 X8	X1 X2 X4 X6	X9 X10
Factor name	Health information	Incentive information	Information transmission channel

3.2.4 Evaluation Index of Website Investor Relationship Management of Logistics Listed Companies

According to the coefficient given by the factor score coefficient matrix and the standardized value of the original variable, the scores of three main factors of each enterprise can be calculated. The calculation formula is as follows:

FAC1=0.510×X1+0.632×X2+0.761×X3+0.658×X4+0.854×X5+0.676×X6+0.661×X7+0.809×X8+0.342×X9+0.398×X10

FAC2=0.008×X1-0.270×X2-0.112×X3-0.170×X4-0.207×X5+0.147×X6-0.009×X7-0.205×X8+0.869×X9+0.794×X10

FAC3=0.716×X1+0.429×X2-0.320×X3+0.175×X4-0.272X5+0.313×X6-0.511×X7-0.162×X8+0.001×X9-0.046×X10

FAC1, FAC2 and FAC3 are the scores of factor 1, factor 2 and factor 3. On this basis, the comprehensive evaluation index S is constructed with the contribution rate as the weight in the eigenvalue of the correlation matrix. The calculation formula is as follows:

S=(30.571×FAC1+22.581×FAC2+18.053×FAC3)/71.206

4. ANALYSIS AND TEST OF WEBSITE INVESTOR RELATIONSHIP VALUE OF LOGISTICS LISTED COMPANIES

4.1 Analysis of Website Investor Relations Management Level of Logistics Listed Companies

The research shows that the evaluation index system of website investor relationship management of Logistics Listed Enterprises is composed of comprehensive evaluation index (S) and three main factors, which are health information (F1), incentive information (F2) and information transmission channel (F3). From the weight of each item, the weight of health information (0.43) and the weight of incentive information (0.32) are not significantly different, and the weight of information transmission channel (0.25) is smaller. It shows that investors not only pay attention to the incentive factors such as stock price and dividend, but also pay close attention to the resource information (such as financial indicators, financial information, management information, etc.) that affect the long-term value of enterprises. Although the overall contribution of information transmission channel factors to comprehensive indicators is small, it can not be ignored.

In order to explore the situation of website investor relationship management in different listing sites, the sample is divided into two groups (Shenzhen stock exchange and Shanghai stock exchange, SZ and SH) according to different listing sites, as shown in Table 6.

Table 6. independent sample T test on websites investor relations management

	Group	Mean Value	Standard Deviation	T Value	Sig.
Comprehensive evaluation index	SZ	0.256	0.758	2.413	.019
	SH	-0.114	0.466	2.019	.054
Health information	SZ	0.497	1.283	2.810	.007
	SH	-0.221	0.763	2.325	.028
Incentive information	SZ	0.407	0.873	2.257	.028
	SH	-0.181	1.008	2.386	.022
Information transmission channel	SZ	-0.351	0.927	-1.926	.059
	SH	0.156	1.001	-1.985	.054

The results show that there are significant differences in comprehensive evaluation index (S) among logistics enterprises listed in different markets. Health information factor (p = 0.007), incentive information factor (p = 0.028) and information transfer factor (p = 0.059) were also significantly different. In terms of comprehensive evaluation index, health information and incentive information, the average value of Shenzhen stock market is obviously higher than that of Shanghai stock market, while in terms of information transmission channels, the score of Shanghai stock market is higher than that of Shenzhen stock market.

4.2 Relationship Between Website Investor Relationship Management Level and Enterprise Value of Logistics Listed Companies

This study chooses the annual return on capital of listed logistics enterprises in 2015 as the variables of enterprise performance, and takes the total assets and asset-liability ratio as the control variables. The variables are listed in Table 7.

Table 7. Variable description

Variable Type	Variable Name	Variable Code	Explanation of Variables
dependent variable	Annual capital yield	Yraret	Net profit after tax / owner's equity
independent variable	Health information	F1	Based on factor analysis
	Incentive information	F2	Based on factor analysis
	Information transmission channel	F3	Based on factor analysis
	total assets	SIZE	Natural logarithm of total assets
	Asset liability ratio	LEV	(total debt /total assets)*100%

The purpose of this study is to examine the impact of health care information, incentive information and information transmission channel on the performance of listed logistics enterprises. The following test models were established:

Simple linear model(1)

$$\text{Yraret} = \alpha_0 + \alpha_1 F1 + \alpha_2 F2 + \alpha_3 F3 + \alpha_4 SIZE + \alpha_5 LEV + u$$

Quadratic function models(2)

$$\text{Yraret} = \beta_0 + \beta_1 F1 + \beta_2 F2 + \beta_3 F3 + \beta_4 F1^2 + \beta_5 F2^2 + \beta_6 F3^2 + \beta_7 SIZE + \beta_8 LEV + u$$

Through regression analysis of model (1) and model (2), we get the regression results as shown in Table 8.

The results show that the health information in the evaluation index system of investor relationship has a positive and significant relationship with the regression coefficient of enterprise performance in the simple linear model, indicating that the health information level has a significant positive effect on enterprise performance. The higher the level of health information, the better the performance of enterprises. In the quadratic function test, health information has a negative significant relationship with enterprise performance, indicating that there is an inverted U-shaped curve relationship between health information level and enterprise performance. The impact of such information on enterprise performance is characterized by first rising and then falling. It shows that this kind of information

Table 8. Regression model of relationship between level of Website investor relationship and enterprise performance

	Simple Linear Model			Quadratic Function Models			
Variable	Standard Coefficient	t	Sig.	Variable	Standard Coefficient	t	Sig.
intercept		3.330	.002	intercept		2.294	.026
F1	.297	2.649	.010	F1	-.218	-1.008	.318
				$F1^2$	-.294	-1.898	.063
F2	-.022	-.182	.856	F2	-.051	-.422	.675
				$F2^2$	.671	2.745	.008
F3	-.022	-.195	.846	F3	.026	.231	.818
				$F3^2$	-.058	-.474	.637
SIZE	-.379	-3.194	.002	-.302		-2.567	.013
LEV	.286	2.329	.023	.275		2.315	.024
Adj.R2	0.201			0.259			

has an increasing marginal effect in reducing the information asymmetry of enterprises and investors. The effect is significant at first, but at a certain level, the role of this kind of information in reducing information asymmetry begins to decline. The coefficients of excitation information are not significant in simple linear function test, but they are significant in quadratic function test. This shows that there is a U curve relationship between information level and firm performance. The impact of this kind of information on enterprise performance is characterized by first decline and then rise. Incentive information is an important factor to stimulate and determine short-term investment behavior. When the stock market is depressed and corporate performance is poor, the higher the level of such information disclosure, the more significant the negative impact on corporate performance. In 2015, the domestic stock market was in a bear market, and the stock price and dividend performance were poor, which directly led to the negative correlation between incentive information level and corporate performance. From the perspective of capital market regulation, incentive information belongs to voluntary disclosure information. Only those companies with outstanding stock price and dividend performance are willing to disclose such information on their own initiative. In the simple linear regression and quadratic function model test, the coefficient of information transmission channel factor is not significant, which indicates that the factor has poor explanatory power to corporate performance. This may be attributed to many investors access to information is not limited to the official website of enterprises, some investors are not through the official website of enterprises to obtain information.

5. CONCLUSION AND ENLIGHTENMENT

The survey shows that at present, the overall level of investor relations management of China's logistics listed companies is low. 26.14% of enterprises have no web pages or no information disclosure for investors. The information disclosed by enterprises is mainly divided into three parts: enterprise operation and capital market performance, channels and links for further understanding of enterprise information, investor relationship management and protection.

Further statistical analysis shows that the level of website investor relationship management of listed logistics enterprises includes three factors: health information (financial indicators, financial summary, board of directors, supervisory board, senior management members, road show video), incentive information (current stock price, historical stock price, equity structure, dividend

distribution).) and information transmission channels (investors' special telephone, investor mailbox). Some disclosure items are not included in the rating index system. In the simple linear model, the regression coefficient of health information is positively significant. In the quadratic function, the regression coefficient of health information is negatively significant. It shows that the level of health information has a more significant positive impact on enterprise performance. The positive impact shows the characteristics of first rising and then falling. In the simple linear function test, the coefficient of incentive information is not significant, but in the quadratic function test, there is a U-shaped curve relationship between incentive information level and enterprise performance indicators. Information transmission channel factor has poor explanatory power for enterprise performance.

To sum up, in the practice of investor relationship management of enterprise websites, it is of great significance for investors to accurately disclose the information of financial status, human resources and superior resources in management. According to the two-factor theory of management, these information about the financial situation, human resources and management of enterprises belong to the health factor, which is the basis for the operation and development of enterprises, the key for investors to build confidence, and the basis for investors to make long-term investment decisions. Incentive information such as stock price and cash flow is the trigger point of investors' behavior. Health information helps investors to pay attention to the enterprise, promote investors to have interest in the enterprise, and then generate a desire to buy the stock. The key to trigger investors' behavior is the incentive information. High-level channel construction is the basis for effective information transmission to investors and the guarantee factor for the realization of enterprise value. However, the effect of channel construction in enterprise practice has not been fully reflected. In a word, efficient website investor relationship management can help investors get all kinds of information in time, reduce the cost of information search and agency, reduce the degree of information asymmetry inside and outside the enterprise, and ultimately have a positive impact on the short-term and long-term performance of the enterprise.

REFERENCES

Bollen, L., Hassink, H., & And Bozic, G. (2006). Measuring And Explaining The Quality Of Internet Investor Relations Activities:A Multinational Empirical Analysis. *International Journal of Accounting Information Systems*, *7*(7), 273–298. doi:10.1016/j.accinf.2006.04.005

Brennan, N., & Kelly, S. (2000). Use of the Internet by Irish Companies for Investor Relations Purposes. *Accountancy Ireland*, (August), 23–25.

Bushee, B., & Miller, G. (2012). Investor Relations,Firm Visibility,and Investor Following. *The Accounting Review*, *87*(3), 867–897. doi:10.2308/accr-10211

Chandler, C. S. (2014). Investor Relations from the Perspective of CEOs. *International Journal of Strategic Communication*, *8*(3), 160–176. doi:10.1080/1553118X.2014.908296

Garay, U., González, M., Guzmán, A., & Trujillo, M. A. (2013). Internet- based Corporate Disclosure and Market Value:Evidence from Latin America. *Emerging Markets Review*, *17*, 150–168. doi:10.1016/j.ememar.2013.09.002

Hedlin, P. (1999). The Internet as a vehicle for investor relations: The Swedish case. *European Accounting Review*, (8), 373–381.

Lang, M., & Lundholm, R. (1993). Cross-sectional determinants of analysts ratings of corporate disclosures. *Journal of Accounting Research*, *31*(2), 246–271. doi:10.2307/2491273

Li X. (2006). Evaluation Index and Application of Investor Relationship Management in Chinese Listed Companies. *Management World*, (9).

Lianfu, M. A., Na, B., & Liu, L. (2011). Empirical Study on Investor Relationship Level and Its Impact on Corporate Performance of Listed Companies in China. *Management Review*, (10), 19–24, 35.

Ma, L., & Ying, Z. (2006). *Literature Review and Research Prospects of Investor Relations Based on Corporate Governance*. Nankai Management Review.

Quan, X., Xiao, B., & Wu, S. (2016). Can Investor Relations Management Stabilize the Market? A Comprehensive Survey of Investor Relations Management of A-share Listed Companies. *Management World*, (1), 139–152.

Tianxin Li, Master of Design from the School of the Art Institute of Chicago, artist, has won many awards in the design field. Research areas are product design, interaction design, and human-computer interaction.

Hua Liu, Doctor of Management, professor, director of marketing major. Research areas include corporate governance and corporate marketing.