Sales Expenses, Stock Liquidity and Corporate Performance——Analysis on the Path of Mediating Effect on Some Industries of SME Board

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Abstract: the input of sales expenses has an impact on the company's operation and operating revenue. Therefore, sales expense is an important factor affecting the corporate performance. According to the path model of "sales expenses - stock liquidity - corporate performance", considering the impact of sales expenses on investors, this paper uses the data of SME board wholesale and retail, accommodation and catering, culture, sports and entertainment industries to analyze the impact of sales expenses on corporate performance and its mechanism. The results show that the input of sales expenses can improve corporate performance and increase the liquidity of stock. Stock liquidity plays a partial intermediary role between sales expenses and corporate performance.

1. Introduction

In the competition mode of listed companies, corporate performance has always been an important indicator for investors to evaluate the overall operation of the company, and it is also a key indicator for management to evaluate their own management ability. There are many factors affecting the corporate performance, and the input of sales expenses is an important factor affecting the corporate performance. The company carries out marketing and promotion to the market by setting up sales stores and increasing salesmen, so as to improve the sales volume of products. At the same time, marketing and promotion activities help to establish a good image of the company, increase the public recognition of the company, maintain the relationship with the customer and further improve the profitability of the company, thus increase the corporate performance. Therefore, it is of great practical significance to explore the impact mechanism of sales expenses on corporate performance.

The existing literature rarely studies the impact mechanism of sales expenses on corporate performance. Most literature studies show that sales expense has a significant correlation with corporate performance. This paper puts forward the research path of "sales expense - stock liquidity - corporate performance". Taking some listed companies on the SME board as an example, this paper takes stock liquidity as an intermediary variable to study the impact mechanism of sales expense on corporate performance. The results show that the input of sales expenses can improve the corporate performance and increase the liquidity of the stock. The increase of stock liquidity can improve the corporate performance. Stock liquidity plays a partial intermediary role between sales expenses and corporate performance.

The possible contribution of this paper is to enrich the impact mechanism of sales expenses on corporate performance. The existing studies pay more attention to the direct impact of sales expenses on corporate performance. This paper takes stock liquidity as the starting point and adds the factors of capital market, which has certain theoretical significance for further understanding the impact of sales expenses on corporate performance.

2. Literature review and research hypothesis

2.1 Sales expenses and corporate performance

The input of sales expenses can affect the corporate performance in many ways. First, attract consumers and increase product sales through marketing and promotion activities, so as to improve the corporate sales revenue and market share. Second, through a series of advertisement investment and activities, it will help the company establish a good corporate image, increase the influence of the enterprise, win the trust of consumers and increase the market competitiveness of products. Third, the input of sales expenses improves the corporate marketing ability to a certain extent, helps the company correctly understand the market, actively explores the market and ensures the smooth sales of the company. At the same time, marketing will also create irreplaceable resources and valuable products for the company, so as to improve the corporate performance.

In the existing literature, Morgan et al. [1] found that enterprises focusing on sales expense investment had better performance. Grullon, kanatas and Weston [2] found that companies with more advertising expenditure usually had more investors. Wang Zhaofeng and Qing Fangmei [3] found that there was a significant positive correlation between marketing ability and corporate performance. Li Jianqiang [4] found that long-term sales expense investment had a greater positive impact on brand equity and company performance than short-term sales expense investment.

To sum up, this paper puts forward the following assumption:

H1: the input of sales expenses can improve the corporate performance.

2.2 Sales expenses and stock liquidity

Usually, the input of sales expenses can increase the popularity of the company, let more investors know the company and then pay attention to the corporate stock, which can increase the liquidity of the corporate stock to a certain extent. Frieder and subrahmanyam [5] found that individual investors were more inclined to choose stocks of well-known brands. Increasing the expenditure of sales expenses can increase the corporate stock trading volume and the number of stock holders. Barber and Odean [6] also reached similar conclusions. They found that investors tended to buy stocks they are familiar with. Enterprises with more advertisement investment can increase the exposure of enterprises and products, so as to attract relatively many investors.

To sum up, this paper puts forward the following assumption:

H2: the input of sales expenses can increase the liquidity of the corporate stock.

2.3 Sales expenses, stock liquidity and corporate performance

Han Shunping and Wang Yonggui [7] found that the corporate marketing ability may have different effectiveness in different situations. It needs to indirectly affect the corporate performance through intermediary or the interaction between intermediary and environment.

The input of sales expenses can improve the popularity of the company, improve the quality and service of the corporate products, increase the brand value of the company, get more attention from investors and increase the liquidity of the corporate stock to a certain extent. Through the corporate marketing activities, investors can better understand the company and understand the value of the company, which will help to improve the corporate stock price and then increase the corporate performance.

At present, there are few literature to study the impact of sales expenses on corporate performance by adding intermediary variables. This paper introduces stock liquidity as an intermediary variable to study the impact mechanism of sales expenses on corporate performance. Considering the impact of sales expenses on investors, this paper selects industries closely related to the life of investors in the empirical research in the next section, mainly including wholesale and retail, accommodation and catering, culture, sports and entertainment.

To sum up, this paper puts forward the following assumption:

H3: stock liquidity plays an intermediary role between sales expenses and corporate performance.

3. Research design

3.1 Sample selection and data source

This paper selects the listed companies in the wholesale and retail industry, accommodation and catering industry, culture, sports and entertainment industry of SME board from 2015 to 2020 as the research data source, and screens the data according to the following criteria. (1) Eliminate the samples with missing financial data. (2) Eliminate the samples with missing stock data. (3) In order to reduce the influence of extreme values, the control variables are winsorized at the 1% level. Finally, the research sample of this paper contains 398 observations. The data in this paper are from the Resset database. The measurement software used in data processing and empirical research is stata16.0.

3.2 Variables setting

(1) Explained variable

This paper takes corporate performance (perf) as the explained variable. Tobin's Q and ROE are generally used to measure corporate performance at home and abroad. This paper introduces stock liquidity as an intermediary variable and focuses on the performance of the company in the capital market. Therefore, Tobin's Q (market value / total assets) is used as the measurement index of corporate performance.

(2) Explanatory variable

Sales expense ratio = sales expense / operating revenue. This paper uses the sales expense ratio (Sales) to measure the input of sales expense, and takes the sales expense ratio as the explanatory variable.

(3) Intermediary variable

This paper uses stock liquidity as an intermediary variable, draws lessons from the research of Fang et al. [8], and uses Illiquidity index to measure stock illiquidity:

$$Illiquidity_{i,t} = \frac{1}{Days_{i,t}} \sum_{d=1}^{Days_{i,t}} \frac{|R_{i,t,d}|}{Volume_{i,t,d}}$$

In the above formula, $|R_{i,t,d}|$ represents the absolute value of the return rate of stock i on the d trading day of year t, $Volume_{i,t,d}$ represents the trading amount of stock i on the d trading day of year t, and $Days_{i,t}$ represents the trading days of stock I in year t. Illiquidity reflects the fluctuation of stock price under the unit turnover. The larger the value, the lower the stock liquidity. In view of the high skewness and kurtosis of Illiquidity index, the calculation method of stock liquidity index in this paper is as follows:

$$Iiquidity = -\ln(Illiqudity)$$

(4) Control variables

This paper adopts company size (Size), asset liability ratio (Lev), operating revenue growth rate (Growth), board of directors (Board), board of supervisors (Jsize), nature of equity (Nature, if the final controller of the company is the state, it is 1, otherwise it is 0), CEO duality (Dual, whether the chairman and general manager are the same person, it is 1, otherwise it is 0), and year (Year) as the control variable.

3.3 Model building

In order to test the impact of sales expenses on corporate performance and the intermediary role of stock liquidity between sales expenses and corporate performance, this paper designs model 1-3 based on the intermediary effect test procedure proposed by Wen Zhonglin et al. [9].

Model 1:

$$\text{Perf} = \alpha_0 + \alpha_1\text{Sales} + \alpha\sum\text{Control} + \sum\text{Year} + \varepsilon \quad (1)$$

Model 2:

$$\text{Liquidity} = \beta_0 + \beta_1\text{Sales} + \beta\sum\text{Control} + \sum\text{Year} + \varepsilon \quad (2)$$

Model 3:

$$Perf = \gamma_0 + \gamma_1 Sales + \gamma_2 Liquidity + \gamma \sum Control + \sum Year + \varepsilon \quad (3)$$

4. Empirical analysis

4.1 Descriptive statistics

Table.1. Descriptive statistics

Variable	N	Mean	Standard Deviations	Minimum	Maximum
Perf	398	2.924	5.925	0.207	57.335
Sales	398	0.123	0.115	0.003	0.685
Liquidity	398	21.776	1.635	14.270	25.512
Size	398	22.318	1.305	18.049	25.201
Lev	398	0.482	0.221	0.036	1.282
Growth	398	0.151	0.682	-0.77	5.066
Board	398	9.99	2.517	4	18
Jsize	398	4.161	1.694	1	12
Nature	398	0.329	0.47	0	1
Dual	398	0.388	0.488	0	1

Table 1 shows the descriptive statistical analysis of the samples. From the results, the average value of corporate performance (Tobin's Q) is 2.924, the standard deviation is 5.925, the degree of dispersion is high, and the difference between the minimum value and the maximum value is large. The maximum value of stock liquidity is 25.512 and the minimum value is 14.270, indicating that there are great differences in stock liquidity among listed companies. The average value of sales expense ratio is 12.3%, the minimum value is 0.3%, and the maximum value is 68.5%, indicating that the difference of sales expense investment of listed companies is also significant. In addition, the average growth rate of operating revenue is 15.1%. On the whole, the development of listed companies shows an upward trend and has a large development space. The study of corporate performance may be helpful to the future development of listed companies.

4.2 Correlation analysis

Table.2. Correlation coefficient

Variables	Perf	Sales	Liquidity	Size	Lev	Growth	Board	Jsize	Nature	Dual
Perf	1.000									
Sales	0.317*	1.000								
	(0.000)									
Liquidity	-0.131*	0.027	1.000							
	(0.009)	(0.589)								
Size	-0.607*	-0.263*	0.353*	1.000						
	(0.000)	(0.000)	(0.000)							
Lev	0.097*	0.051	0.048	0.149*	1.000					
	(0.052)	(0.313)	(0.341)	(0.003)						
Growth	-0.007	-0.066	0.016	0.018	-0.037	1.000				
	(0.888)	(0.186)	(0.755)	(0.727)	(0.460)					
Board	0.038	0.124*	-0.033	-0.095*	-0.022	-0.050	1.000			
	(0.452)	(0.013)	(0.521)	(0.057)	(0.657)	(0.321)				
Jsize	-0.169*	-0.170*	0.036	0.088*	0.041	0.008	0.338*	1.000		
	(0.001)	(0.001)	(0.479)	(0.079)	(0.413)	(0.872)	(0.000)			
Nature	-0.103*	0.144*	-0.019	-0.044	-0.074	0.063	0.088*	0.319*	1.000	
	(0.039)	(0.004)	(0.712)	(0.379)	(0.142)	(0.212)	(0.080)	(0.000)		
Dual	0.216*	0.192*	-0.039	-0.343*	0.075	0.064	-0.069	-0.306*	-0.119*	1.000
	(0.000)	(0.000)	(0.437)	(0.000)	(0.136)	(0.203)	(0.172)	(0.000)	(0.018)	

*** p<0.01, ** p<0.05, * p<0.1

The correlation coefficients are reported in table 2. There is no high correlation between explanatory variables in the regression model, indicating that multicollinearity has little impact on the regression results. It can be seen from the table that the input of sales expenses has a positive correlation with the corporate performance. The correlation coefficient between company size and stock liquidity is 0.353, indicating that the larger the company size, the higher the stock liquidity. The input of sales expenses is positively correlated with the size of the board of directors, but negatively correlated with the size of the board of supervisors.

4.3 Regression analysis

Table.3. Regression results

	(1)	(2)	(3)
VARIABLES	Perf	Liquidity	Perf
Sales	8.311***	1.810**	7.392***
	(4.07)	(2.57)	(3.64)
Liquidity			0.508***
			(3.46)
Size	-2.951***	0.569***	-3.240***
	(-15.9)	(8.88)	(-16.11)
Lev	7.998***	-0.725**	8.367***
	(7.79)	(-2.04)	(8.22)
Growth	0.0715	-0.100	0.123
	(0.22)	(-0.89)	(0.38)
Board	0.0429	-0.0274	0.0569
	(0.46)	(-0.86)	(0.62)
Jsize	-0.312**	0.0198	-0.322**
	(-2.06)	(0.38)	(-2.15)
Nature	-1.629***	-0.180	-1.538***
	(-3.34)	(-1.07)	(-3.2)
Dual	-1.715***	0.165	-1.798***
	(-3.44)	(0.95)	(-3.65)
Year	Yes	Yes	Yes
Constant	67.37***	10.16***	62.21***
	(15.48)	(6.75)	(13.69)
Observations	398	398	398
R-squared	0.527	0.218	0.542

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.3 shows the regression results of model 1-3. In model 1, the coefficient between the input of sales expenses and the corporate performance is positive at the significance level of 1%, indicating that the input of sales expenses helps to increase the corporate performance. This result verifies hypothesis 1. In model 2, the coefficient between the input of sales expenses and stock liquidity is positive at the significance level of 5%, indicating that the input of sales expenses can make the company attract more attention from investors and increase the corporate stock liquidity. This result verifies hypothesis 2. According to the intermediary effect test steps, the coefficients above-mentioned are significantly positive, and in model 3, the coefficients of corporate performance and sales expenses investment or stock liquidity are significantly positive, indicating that stock liquidity plays a partial intermediary role between sales expenses investment and corporate performance. This result verifies hypothesis 3.

In addition, it can be seen from the table that the scale of listed companies has a negative relationship with corporate performance. The increase of the corporate debt ratio will increase the corporate performance, but the corporate stock liquidity will be reduced, possibly because the corporate financial risk is high and investors are more cautious in investment. The size of the board of directors has no significant impact on the corporate performance and stock liquidity, but the larger the size of the board of supervisors, it may have a negative impact on the corporate performance.

5. Conclusion

The results show that the input of sales expenses can play a favorable role in improving corporate performance and corporate stock liquidity to a certain extent, and the liquidity of corporate stock plays an intermediary role between sales expenses and corporate performance. This paper puts forward the following suggestions: first, the company can pay attention to the input of sales expenses. Within a certain range, the increase of sales expenses will help to improve the corporate performance and the performance of the corporate shares in the capital market. Second, the input of sales expenses will have a certain impact on the decision-making of investors. While spending sales expenses, the company should ensure the honest operation of the company and establish a good image.

References

[1] Neil A. Morgan, Shaoming Zou, Douglas W.Vorhies et al. Experiential and informational Knowledge, Architectural Marketing Capabilities, and the Adaptive Performance of Export Ventures: A Cross-National Study. Decision Science, 2003, 34 (2) 287-321.

[2] Gustavo Grullon, George Kanatas, James P.Weston. Advertising, Breadth of Ownership, and Liquidity. Social Science Electronic Publishing, 2004, 17 (2) 439-461.

[3] Wang Zhaofeng, Qing Fangmei. An empirical study on the correlation between enterprise marketing ability and marketing performance [J]. Business Research, 2009 (09): 62-65.

[4] Li Jianqiang. An empirical study on the relationship between marketing investment, brand equity and enterprise performance [D]. Jinan University, 2011.

[5] Laura Frieder, Avanidhar Subrahmanyam. Brand Perceptions and the Market for Common Stock [J]. Journal of Financial and Quantitative Analysis, 2005, 40 (1): 57-85.

[6] Brad M. Barber, Terrance Odean. All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors [J]. The Review of Financial Studies, 2008, 21 (2): 785-818.

[7] Han Shunping, Wang Yonggui. Research on marketing ability and its impact on Performance [J]. Management World, 2006 (06): 153-154.

[8] Fang Vivian W., Tian Xuan, Tice Sheri. Does Stock Liquidity Enhance or Impede Firm Innovation? [J]. Journal of Finance, 2014, 69 (5): 2085-2125.

[9] Wen Zhonglin, Zhang Lei, Hou jietai, Liu Hongyun. Mediation effect test program and its application [J]. Psychological Bulletin, 2004 (05): 614-620.