

Market Attention and Corporate innovation

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Abstract: As innovation plays a more and more critical role in the development of firms, the influence of market attention on corporate innovation cannot be ignored. This paper reviews and combs the relationship between market attention and corporate innovation and analyzes the existing theories and research from different perspectives. Then this paper looks forward to the future development trend of the relevant research and summarizes the existing viewpoints to provide reference and enlightenment for subsequent research.

1. Introduction

The world is experiencing a significant change in this century. Innovation is not only the way to seek national prosperity but also the only approach for the sustainable development of enterprises. Only by adhering to innovation guidance can we grasp development opportunities, so the importance of corporate innovation is self-evident. Meanwhile, with the continuous improvement of the capital market, people have become increasingly interested in and concerned about investment products such as stocks and funds in recent years. The attention of individual investors, analysts, investment institutions, and the media to the market will have a specific economic effect, which dramatically affects the changes in the capital market. Maybe some enterprises will choose a more stable investment decision to cater to the future development expected by the subjects in the market. Thus, they will abandon the innovation decisions and chances at that time. On the contrary, enterprises may carry out some high-risk investments and innovations to show their abundant cash flow to convey a positive signal to the market. Therefore, studying the relationship and influence between market attention and corporate innovation is vital to the development of a company.

There have been many studies on the impact of individual investors, analysts, institutional investors, and media attention on corporate innovation. Few people systematically study the comprehensive impact of overall market attention on corporate innovation. Therefore, this paper mainly carries out the following work. Firstly, this paper sorts out the relevant research on the economic effect of market attention in the existing literature, mainly from the aspects of information disclosure and the stock market. Then, this review sorts out the related research of the factors which affect corporate innovation and divide it into internal and external factors. Based on the existing literature, combined with the above classification, this paper analyzes the influence factors of market attention on corporate innovation. The main body of market attention is individual investors, analysts, institutional investors, and media attention, including their promotion and inhibition and differences between China and foreign countries. Finally, on the basis of the above literature review and analysis, the existing research results are summarized to provide the overall direction and ideas for further research.

2. Economic consequences of market attention

There are various subjects in the market. These subjects pay different attention to diverse industries and enterprises. This is called market attention, which impacts the decision-making behavior of enterprises. The main parts of the market are individual investors, institutional investors, financial analysts, market regulators, etc. Also, media attention is a concrete expression of market attention. In

previous studies, the economic impact of market attention is mainly manifested in the economic behavior of information disclosure and firm performance.

2.1 The options for information disclosure

The efficient market hypothesis mentions that if the price in a securities market fully reflects all available information, this is the efficient market. However, untimely and incomplete information disclosure is prevalent in fundamental financial markets. In view of the market attention, the enterprise will choose the timing of information disclosure. For example, Li et al. [1] find that the managers of enterprises prefer to disclose good news early when the period is high investor attention and dispersion. On the contrary, they disclose lousy news later in the intensive and less investor attention period. This indicates that good news will cause a positive increase in market returns, while bad news will cause negative market returns. Using opportunity selection strategy to achieve expected goals of enterprises. Due to information asymmetry, it is difficult for individual investors to obtain all information about the company. Individual investors' access to information is minimal. They usually obtain the information by searching engines directly, searching media reports, and companies' publicly disclosed information. Institutional investors and analysts are professionals and information media compared with individual investors. Analysts' attention to enterprises promotes the more effective transmission of information in the capital market, making resource allocation more reasonable and adequate. Their concern and attention for enterprises will significantly impact the choice of information disclosure. Furthermore, they also play an essential role in improving the efficiency of market operation and the market information environment, as well as an essential part of the development process of China's capital market. Jing [2] also points out these findings.

2.2 The effect on the stock market

Significant concerns have arisen owing to the increasing development of the stock market. Many previous works on the market attention have indicated that the stock market is remarkably influenced by it. Da et al. [3] propose a new and direct scale of investor attention that the frequency of using Google, a search engine. (Search Volume Index (SVI)). Based on this perspective, more and more people study the impact of investor attention on the stock market. Ding and Hou [4] use the search volume index (SVI) to find that retail investor attention, reflected by the level and change in SVI, significantly enlarges the shareholder base and improves stock liquidity. If liquidity is increased, investors will be attracted to invest. These institutional or individual investors will pay more attention to short-term performance, prompting managers to make short-term investments and abandon long-term or high-risk investment strategies. However, the increase in stock liquidity does not significantly inhibit the sensitivity of corporate executives. Compensation. Similarly, Fan and Yuan's research [5] also show that abnormal local investor attention plays an essential role in the relationship between the stock returns, volatility, and abnormal trading volume. Besides, news media is the way and medium of information transmission between the stock market and investors. The influence of media attention on investors' psychology and behavior will be transmitted to the stock market's performance. To date, several studies have investigated media attention, for instance, Rao and Wang [6].

3. Analysis of influencing factors of corporate innovation

Corporate innovation is an integral part of corporate governance, which determines the future direction, scale, and development speed. Many factors are restricting corporate innovation, including internal and external effects. The lack of internal conditions such as technology R&D investment, talent introduction, etc. Also, the backward organizational structure of enterprises and the lack of educational background, innovation consciousness, and decision-making ability of enterprise managers are the internal influences of implementing corporate innovation decision-making. Economic policy uncertainty and market competition can also lead to external constraints on enterprise development. In addition, internal and external financing constraints are also important factors affecting corporate innovation.

3.1 Internal factors influencing corporate innovation

In the increasingly fierce market competition environment, the improvement of technology level is undoubtedly crucial to the future development of an enterprise. To achieve independent innovation through their R&D activities is also the primary way for enterprises to achieve technological progress. Chai et al. [7] find that R&D expenditures affect innovation performance, while R&D expenditures are associated with capital structure. For internal enterprise governance and organizational structure innovation, Kuratko et al. [8] point out that enterprises with an internal ecological structure need to be improved by organizational creation through four key implementation points. In addition to organizational structure innovation, internal financing is also closely related to corporate innovation. As a way of internal financing, shareholders provide funds to enterprises. To make full use of funds, they will supervise the management performance of managers in the form of a supervisory board. Shareholders' coordination and supervision of managers will stimulate corporate innovation. Mathers et al. [9] find that consistent with the notion that greater shareholder coordination enables diffuse shareholders to monitor managers more effectively and enhances corporate innovation.

3.2 External factors influencing corporate innovation

The introduction of relevant economic policies will support and promote some key industries. Financial subsidies, policy support, and tax incentives for different companies ease financing constraints. However, the uncertainty of economic policy increases, which causes enterprises to postpone R&D investment decisions, thus inhibiting corporate innovation. Uncertainty will lead business operators to rely on speculation about policy and delay their innovative decisions. Hao et al. [10] also find similar results. Fu and others [11] use the financial data and enterprise patent data in the annual report of Chinese A-share listed companies and the Chinese government work report from 2010 to 2019 to empirically test the impact and transmission mechanism of enterprise policy attention on innovation. In addition, in terms of external market competition, the overall competitive environment and internationalization promote corporate innovation. Based on the analysis of the actual situation of American firms, Huse et al. [12] prove the above view.

4. Influence of market attention on corporate innovation

Based on the analysis of the economic consequences of market attention and the factors affecting corporate innovation, it is not difficult to find that the impression of market attention on corporate innovation is diversified and comprehensive. In the previous research, most of the subjects in the market have the characteristics that the attention to enterprises can transmit the positive and negative effects. Under certain conditions, it can either positively affect or inhibit corporate innovation. Therefore, we will systematically analyze the influence of market attention on corporate innovation from two aspects.

4.1 Promotion of market attention on corporate innovation

The promotion of market attention to corporate innovation is mainly reflected in individual investors, institutional investors, analysts, media, and policies.

As mentioned above, one way to measure investors' attention is the search frequency. Compared with institutional investors and analysts, the way for individual investors to obtain information is relatively simple. Therefore, the primary sources are searching keywords, reading news media reports, and information released by enterprises. Based on this, individual investors make investment decisions using information they can collect. Usually, the more they focus on some companies, the more they are willing to invest in their shares. This will enhance the company's stock price, broaden the company's financing constraints, and promote innovative investment.

Analysts' attention is an integral part of market attention, which has a positive effect on the investment scale of listed companies and a significant positive impact on the capital expenditure and R&D expenditure scale of enterprises. They can act as external supervisors to effectively monitor management and reduce information asymmetry. Analysts also have a broader source of information

and a more vital ability of information mining, which can reveal the information of enterprises more comprehensively and reduce the information asymmetry between information users and enterprises. At the same time, their attention to enterprises has promoted the circulation of information in the capital market, made the allocation of resources more effective, and improved the efficiency of resource allocation. Corporate innovation is negatively correlated with information asymmetry, so reducing information asymmetry helps corporate innovation. Their professional analysis and extensive in-depth information channels make analysts' attention have an essential impact on the quality of innovation of enterprises. Their attention will also promote enterprises to disclose the information and improve the quality of innovation. This point also supports the information effect hypothesis.

With the continuous development of the China's capital market, institutional investors have gradually become the core force in the market. Several studies have shown a significant positive relationship between institutional investor attention and the innovation performance of listed companies. In listed companies with higher agency costs and a lower level of internal control, the positive relationship between the two will be more obvious.

From the perspective of media attention, the enthusiasm of media for the news report of the enterprise will affect the innovation-decision of the enterprise. Especially, the positive reports of the enterprise will significantly stimulate the improvement of the innovation level of the enterprise. News media enthusiasm will induce overconfidence in enterprise managers, and overconfidence will stimulate managers to challenge some high-risk innovation strategies. At the same time, managers will also strengthen the introduction of talents, focus on R&D investment, promote enterprise science and technology innovation, organizational structure innovation.

Regarding policy attention and government attention, studies have found that official visits have significantly improved the level of corporate innovation. The innovation incentives for enterprises without political attention are more substantial, and the innovation incentives for non-state-owned enterprises are more robust than those for state-owned enterprises.

4.2 Inhibition of market attention on corporate innovation

Securities analysts distort the investment preference of enterprises. Referring to the Inhibitory effect of analysts' attention on corporate innovation, it has to be said that analysts' attention will bring short-term performance improvement pressure to enterprises. Nevertheless, innovation investment is long-term, risky, and uncertain. When the overall investment scale is fixed, analysts exert pressure on the management of enterprises, similar to the effect of supervision, which reduces the proportion of R&D investment with long duration and high risks.

Institutional investors invest in enterprises through the capital market, characterized by more considerable capital, more professional investment, and higher return requirements. Therefore, they will put forward higher requirements for the management of invested enterprises, affecting the innovation investment decision of enterprises. There may also be an inhibitory effect on policy and government attention uncertainty caused by official turnover reduces the positive incentive of official inspections to corporate innovation, and political uncertainty directly reduces the level of corporate innovation.

As mentioned in the above promotion effect, if the media reports are biased towards the negative, it is evident that there will be no significant increase or even inhibit the innovation of enterprises. In addition, it cannot be ignored that the media attention will bring certain pressure to enterprises and make managers more short-sighted. Previous studies have shown that after distinguishing the different contents, sources, severity, and depth of media reports, it is found that the number of adverse reports related to accounting is more likely to be negatively correlated with the level of corporate innovation. It reflects the short-term financial pressure that financing constraints are the main reason to inhibit innovation. Negative reports from authoritative media with serious nature are more likely to inhibit corporate innovation, indicating that the greater the negative impact of reports is, the stronger the inhibitory effect on corporate innovation is. In-depth negative reports are more likely to inhibit corporate innovation. However, the negative reports made by financial journals that can restore the

whole event have promoted corporate innovation, highlighting the importance of responsible, objective, and detailed reports.

4.3 Differences and reflections on Chinese and foreign studies

Stock liquidity is the lifeblood of the capital market. There have been a large number of studies on the impact of stock liquidity on corporate innovation. However, by integrating various academic research results, it is found that the impact is different. Media focus on positive or negative reports for enterprises will promote or inhibit the impact of stock liquidity on corporate innovation is also uncertain.

Domestic and foreign scholars hold different views on the impact of stock liquidity on corporate innovation. Studies have shown that stock liquidity inhibits innovation, according to research by listed companies in the US market. However, some research conclusions of Chinese scholars are different. Taking A-share listed companies as the research object, some studies show that stock liquidity can promote corporate innovation by alleviating corporate financing constraints and strengthening corporate governance structure. At the same time, other studies have shown that stock liquidity can promote innovation in large and traditional industries and inhibit small and medium-sized enterprises and high-tech industries. The emergence of this diverse situation may be mainly due to the decision-making of enterprise managers. Many factors affect the decision-making process, such as managers' experience, psychology, knowledge background, and so on.

Under the synergy of stock liquidity and media attention, enterprises of different nature and sizes have a heterogeneous investment in corporate innovation. The actual impact on corporate innovation needs to integrate the actual situation of specific issues specific analysis.

5. Conclusions

In recent years, more and more studies have been conducted on the economic effect of market attention, the influencing factors of corporate innovation, or the influence of different market participants' attention on corporate innovation. The fruitful research results provide many ideas and perspectives to understand and study corporate innovation and market attention. However, there are still some problems to be improved: First, there are few studies on the transmission between market attention behaviors of various subjects and the potential correlation of interaction, and most studies only conduct quantitative analysis on one aspect alone. Second, there are relatively few studies on the influence of invisible factors. Third, due to the economic and cultural backgrounds at home and abroad being quite different, many studies are based on foreign theory assumptions, so the results do not have universality.

According to the study of different market subjects' attention to corporate innovation, it can be seen that most of the subjects' attention to the market has two sides, which may promote or inhibit. The different effects they produce need to be determined by specific situations, on a large scale, such as a country's national conditions and national policies, and on a small scale, such as enterprise managers' personality and work style. These will change or distort the impact of market attention on corporate innovation, but the promotion effect is generally more prominent. At the same time, the market environment in China and abroad is different, and the logic and mode of corporate innovation are also different. We cannot blindly follow it, and we should take its essence, discard its dross, and learn from the advanced experience in China and abroad. Of course, market attention is one aspect that affects corporate innovation. The most important thing is to have subjective initiative, willingness, and motivation to carry out self-innovation because only innovation is the way to survive.

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