

Review of Research on the Negative Innovation Performance Feedback and Corporate Overinvestment

Qiaoyue Liu^{1,*}

¹Business School, Soochow university, 215006, Suzhou, Jiangsu, China

* Corresponding Author Email: yibosean950@163.com

Abstract

Insufficient innovation momentum and imbalanced investment efficiency both constrain socio-economic development. The key to addressing these two issues lies in activating the innovation potential of micro-enterprises and preventing irrational investment. While extensive research exists on performance feedback related to economic indicators, studies on those associated with other objectives remain scarce. Meanwhile, a research gap persists concerning the impact on corporate investment efficiency from the corporate behavior perspective. Against this backdrop, this paper analyzes the research contexts of innovation dilemmas and overinvestment, highlighting the necessity of studying their interrelationship. Additionally, following a brief review of the behavioral theory of the firm, threat-rigidity theory, and prospect theory, this paper synthesizes relevant literature on innovation performance feedback and overinvestment, and offers prospects for future research.

Keywords

Negative innovation performance feedback; corporate overinvestment; industry aspiration; historical aspiration.

1. Introduction

The world today faces the risk of insufficient innovation momentum due to impediments in economic globalization. Meanwhile, the issue of overheated investment not only undermines corporate value but also hinders sustainable economic. Therefore, it is essential to focus on innovation risks and inefficient investment at the micro-level of enterprises.

Enterprises typically set multiple goals encompassing economic, sales, and innovation targets. However, existing studies has mainly focused on strategic decision-making centered on economic indicators, overlooking the specific role of non-economic goals on subsequent behaviors. As primary actors in technological innovation, enterprises also pursue the goal of enhancing innovation capabilities. Concrete innovation objectives provide managers with clearer feedback signals; compared to economic targets, they have more direct and specific connections with corporate investment decisions.

Influenced by the external economic environment, the likelihood of innovation risks and failures has intensified. Additionally, the inherent risks in transforming enterprises' innovation achievements increase the probability that firms may experience innovation performance below aspirations. In contrast to existing studies that emphasize proactive strategic responses under innovation constraints, there remains insufficient exploration of irrational decision-making by boundedly rational managers. Similarly, while discussions on the drivers of corporate overinvestment often focus on external environments and investor characteristics, few studies address the impact on corporate investment efficiency from the behavioral perspective.

Against this backdrop, this paper argues for the necessity of explaining irrational investment decisions from the perspective of corporate behavior.

2. Theoretical Basis

According to the performance feedback model in the behavioral theory of the firm, when actual performance falls below aspirations, managers exhibit greater risk tolerance and engage in problemistic search behavior (Cyert & March, 1963).

Prospect Theory aims to describe how people in reality make decisions under conditions of risk and uncertainty. The theory points out that when faced with certain losses, people tend to exhibit risk-seeking behavior (Kahneman & Tversky, 1979).

Staw et al. (1981) first proposed the threat rigidity effect, arguing that threats will cause changes in a system's information processing and control processes. Due to these changes, the variability or flexibility of the system's behavior will decrease. Audia and Greve (2006) summarized two arguments—both grounded in threat-rigidity theory—for why performance below aspirations may be interpreted as an organizational threat, thereby leading to risk aversion. First, decision-makers shift their focus from the desired aspiration level to the fear of failing to meet performance benchmarks (Greve, 2003; Lopes, 1987), interpreting performance below aspirations as a threat to their personal interests. Second, most decision-makers possess a strong need for security and are motivated primarily by the desire to avoid unfavorable outcomes (Lopes, 1987).

3. Literature Review

3.1. Industry Aspiration and Historical Aspiration

Kotiloglu et al. (2021) note that historical and social aspirations can independently and distinctly influence organizational responses to performance feedback. Goyal et al. (2022) argue that firms can access more reliable and timely information when evaluating performance relative to historical aspirations, whereas interpreting performance below social aspirations involves greater subjectivity. Ye et al. (2021) found that performance falling below social aspirations leads to greater innovation search compared to performance below historical aspirations. Similarly, Su et al. (2023) observe that poor performance relative to peers requires firms to spend more time identifying problems and implementing responses than does poor performance relative to historical results. Berchicci and Tarakci (2022) suggest that organizations selectively allocate attention among different types of aspirations; their study shows that as environmental volatility increases, firms shift attention toward historical rather than social aspirations.

3.2. The Outcome Elements of Negative Innovation Performance Feedback

The earliest discussion of negative innovation performance feedback can be traced to Gaba and Bhattacharya (2012), who examined how deviation from innovation aspirations influences firms' adoption of corporate venture capital units for R&D externalization. In addition, some studies have focused on other investment areas. For instance, Meng et al. (2024) found that any deviation from innovation aspirations leads to a reduction in outward foreign direct investment. Firms experiencing negative innovation performance feedback also engage in targeted search activities. Tian et al. (2024), using a sample of high-tech firms in China, explored the impact of innovation shortfalls on the breadth and depth of interorganizational knowledge search. Martínez-Noya and García-Canal (2021) found that firms deviating from innovation aspirations tend to reconfigure their alliance portfolios. Further extending this line of inquiry, Martínez-Noya and García-Canal (2024) introduced innovation aspiration–performance discrepancy as

a moderating variable, revealing that it negatively affects the relationship between public R&D funding and the breadth of technological collaboration.

Based on data from firms in China's technology-intensive industries, Sun et al. (2025) found that persistent innovation performance expectation gaps would prompt firms to further increase their innovation input. Similarly, Zhong et al. (2022), analyzing listed manufacturing firms in China, found that sustained innovation shortfalls have a positive effect on overseas R&D activities among firms from emerging economies.

3.3. Influencing Factors of Overinvestment

García-Gómez et al. (2023) and Akron et al. (2022), both examining the issue from a uncertainty perspective, find that uncertainty exacerbates corporate overinvestment. Zhang and Kong (2022) demonstrate that the implementation of renewable energy policies can lead to overinvestment by firms. From the perspective of external connections, Yu et al. (2020), using a sample of energy companies, find that political connections positively influence overinvestment.

Mu et al. (2020) show that agents with limited information processing capacity are more likely to overinvest. Evdokimov et al. (2022) find that in firms characterized by cronyism, CEOs with extensive general management experience tend to engage in overinvestment.

Regarding motivational factors at the corporate governance level, Beladi et al. (2022) reveal that dual-class share structures aggravate corporate overinvestment behavior.

4. The Impact of Negative Innovation Performance Feedback on Corporate Overinvestment

Negative innovation performance feedback relative to industry aspirations—based on horizontal social comparison—reflects the deviation of a firm's actual innovation performance from the industry average. Practices of peer firms serve as guiding cues for strategic search within the external environment, with performance data from comparable companies offering critical references for decision-making.

Such horizontal comparisons often elicit perceptions of relative disadvantage, activating competitive logic and triggering pressure and anxiety that may impair corporate investment efficiency. Moreover, the shortfall signals misalignment in current strategy implementation and a mismatch between resource allocation mechanisms and market dynamics. A widening gap may further threaten the firm's external legitimacy and reputation. Compared with historical performance feedback, industry-based feedback is more likely to persist (Ye et al., 2021), making the perception of competitive disadvantage more likely to trigger risk-taking motivation and result in overinvestment.

In contrast, historical aspirations are rooted in the firm's own capabilities and internal trajectory. This internal focus mitigates noise from industry-wide information and affords firms greater control over adjustments (Ye et al., 2021). Firms tend to attribute historical shortfalls to internal decline rather than external factors, leading them to prioritize learning from past mistakes over pursuing new investments. Furthermore, since the loss has already materialized, managers' attention narrows, favoring familiar information and pre-existing successful patterns (Meng et al., 2024), thereby promoting risk aversion. Finally, reduced tolerance for failure under historical shortfalls inclines firms toward short-term corrective actions rather than long-term risky ventures, further suppressing overinvestment.

5. Conclusion

Overall, research on negative innovation performance feedback remains relatively limited. Most existing studies focus on its outcomes in terms of search behavior and R&D activities, with only a few addressing various types of investment behavior. Therefore, it is necessary to further explore the impact of negative innovation performance feedback on other organizational factors, thereby expanding the application of the performance feedback model within the behavioral theory of the firm. Moreover, current studies on innovation feedback often fail to distinctly differentiate between different types of aspirations. A growing body of literature emphasizes the need to investigate the divergent effects of performance feedback under different aspiration levels. Accordingly, future research could examine the heterogeneous effects of innovation performance feedback based both on historical and social aspirations on the same outcome variables.

Secondly, while existing research on overinvestment is extensive, most studies concentrate on external factors, executive characteristics, and certain corporate governance mechanisms. There remains a noticeable gap in understanding from a behavioral perspective. Integrating other theoretical frameworks may help identify additional factors influencing investment efficiency.

In conclusion, the current literature on negative innovation performance feedback is still underdeveloped, and its mechanism of influence on investment efficiency requires further clarification. Future studies should adopt a behavioral lens to investigate how performance feedback under different aspiration levels differentially affects overinvestment, based on core innovation performance indicators. It would also be valuable to explore underlying mechanisms and boundary conditions, such as corporate risk-taking, managerial overconfidence, and organizational slack.

References

- [1] Akron,S., Demir,E., Díez-Esteban, J.M., García-Gómez,C.D. How does uncertainty affect corporate investment inefficiency? Evidence from Europe [J].*Research in International Business and Finance*, 2022, 62.
- [2] Audia,P.G., Greve,H.R. Organizational learning from performance feedback: A behavioral perspective on multiple goals: A multiple goals perspective [J]. Cambridge University Press,2021.
- [3] Beladi,H., Hu,M., Yang,J., Zhu,R. Dual-class stock structure and firm investment [J].*Finance Research Letters*,2022, 47.
- [4] Berchicci,L., Tarakci,M. Aspiration formation and attention rules [J].*Strategic Management Journal*,2022,43(8):1575-1601.
- [5] Cyert,R. and March,J. *A Behavioral Theory of the Firm* [M]. Prentice-Hall, Englewood Cliffs,1963.
- [6] Evdokimov,E., Hanlon,D. , Lim,E.K. Do Generalist CEOs Magnify Boardroom Backscratching? [J]. *Journal of Business Ethics*, 2022,181:221-247.
- [7] Gaba,V.,Bhattacharya,S. Aspirations,Innovation,and Corporate Venture Capital:A Behavioral Perspective [J].*Strategic Entrepreneurship Journal*, 2012,6(2):178-199.
- [8] García-Gómez,C.D., Demir,E., Díez-Esteban,J.M. Popesko,B.,Investment inefficiency in the hospitality industry: The role of economic policy uncertainty [J]. *Journal of Hospitality and Tourism Management*,2023, 54:383-391.
- [9] Goyal, L.,Goyal, V. Performance Shortfall, Feedback Interpretation and R&D Search: The Differential Effects of Peers' Performance Below Historical and Social Aspirations [J]. *British Journal of Management*, 2022,33: 1584-1608.
- [10] Greve, H.R. *Organizational Learning from Performance Feedback: A Behavioral Perspective on Innovation and Change* [M]. Cambridge University Press: Cambridge, 2003.

- [11] Kahneman, D., Tversky, A. Prospect Theory: An Analysis of Decision under Risk [J]. *Econometrica*, 1979, 47(2):263–291.
- [12] Kotiloglu, S., Chen, Y., Lechler, T. Organizational responses to performance feedback: A meta-analytic review [J]. *Strategic Organization*, 2021, 19(2):285–311.
- [13] Lopes, L. L. Between hope and fear: The psychology of risk. In L. Berkowitz (Ed.) [J]. *Advances in experimental social psychology*, 1987, 20:255–295.
- [14] Martínez-Noya, A., García-Canal, E. Innovation performance feedback and technological alliance portfolio diversity: The moderating role of firms' R&D intensity [J]. *Research Policy*, 2021, 50(9):104321.
- [15] Martínez-Noya, A., García-Canal, E. Direct and moderating effects of public R&D support on external knowledge acquisition: the interaction with performance feedback [J]. *Industry and Innovation*, 2024, 31(9):1169–1202.
- [16] Meng, C., Sousa, C.M.P., Chen, J. Unraveling the relationship between innovation performance feedback and outward FDI: Moderating influence of inward FDI spillovers [J]. *Journal of Business Research*, 2024, 181.
- [17] Mu, C., Yang, J., Zhang, Y. Investment timing with information-processing constraints [J]. *Finance Research Letters*, 2020, 32.
- [18] Staw, B.M., Sandelands, L.E., Dutton, J.E. Threat rigidity effects in organizational behavior: a multilevel analysis [J]. *Administrative Science Quarterly*, 1981, 26(4):501–524.
- [19] Su, T.Y., Yu, Y.Z., Chen, Y.H., Hou, W.R. On or off: The triggering effect of underperformance duration on cooperative innovation [J]. *Technovation*, 2023, 126.
- [20] Sun, B., Zhang, Y., Zhao, Y., Mao, H., Kang, M., Liang, T. Does continuous innovation failure lead firm innovation to hesitate to press forward?: Evidence from Chinese-listed technology-intensive industries firms [J]. *Journal of Business Research*, 2025, 186.
- [21] Tian, M., Yao, J., Xie, J., Hu, C. Innovation performance feedback and inter-organization knowledge search in high-tech firms: The moderating role of technical knowledge complexity [J]. *Journal of Business Research*, 2024, 182.
- [22] Ye, Y., Yu, W., Nason, R. Performance Feedback Persistence: Comparative Effects of Historical Versus Peer Performance Feedback on Innovative Search [J]. *Journal of Management*, 2021, 47(4): 1053~1081.
- [23] Yu, X., Yao, Y., Zheng, H., Zhang, L. The role of political connection on overinvestment of Chinese energy firms [J]. *Energy Economics*, 2020, 85.
- [24] Zhang, D., Kong, Q. Do energy policies bring about corporate overinvestment? Empirical evidence from Chinese listed companies [J]. *Energy Economics*, 2022, 105.
- [25] Zhong, X., Chen, W., Ren, G. Continuous innovation failure, top management team relational capital and the overseas R&D activities of companies in emerging economies [J]. *Industry and Innovation*, 2022, 29(5):623–648.