Research Article
Promotion Path and Application of Enterprises Sustainable Competitive Advantage: Perspective of TMT Behavior Integration

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Received 3 August 2022; Accepted 30 August 2022; Published 21 September 2022

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The role of the sustainable competitive advantage of enterprises is becoming increasingly prominent. Taking TMT behavior integration, enterprise sustainable competitive advantage, absorptive capacity, and critical reflection as independent, dependent, intermediary, and regulatory variables, respectively, and 223 enterprises as an empirical research sample, through theoretical analysis and empirical research, this paper reveals the influence of TMT behavior integration on sustainable competitive advantage of enterprises and intermediary role of absorptive capacity and the regulatory role of critical reflection. The empirical results show that the behavior integration of top management team can promote the sustainable competitive advantage of enterprises. The potential absorptive capacity plays a partial intermediary role between TMT behavior integration and enterprise financial performance and a complete intermediary role between TMT behavior integration and enterprise strategic performance. Realistic absorptive capacity can partially mediate the behavioral integration of TMT and the sustainable competitive advantage of enterprises. Critical reflection plays a positive regulatory role between TMT behavior integration and enterprise strategic performance. The research shows that in order to improve enterprises sustainable competitive advantage, enterprises should take the following measures: ① Enterprise executives must attach importance to TMT behavior integration. ② Enterprise executives should focus on critical thinking. ③ Enterprise executives should take cultivation of absorptive capacity seriously and give full play to the intermediary effect of absorptive capacity. Research model provides a new path to build sustainable competitive advantage, and can be applied to enhance enterprises sustainable competitive advantage from the perspective of TMT behavioral integration.

1. Introduction
In recent years, the theory of enterprise sustainable competitive advantage has attracted extensive attention in academic circles. Sustainable competitive advantage is related to the survival of enterprises. Promoting the sustainable competitive advantage of enterprises has become an important issue for enterprise development. The top management team (TMT) is very important in the development of enterprises and is an important competitive resource of enterprises [1]. As an important variable in the field of TMT, TMT behavior integration is receiving increasing attention. Guo pointed out that the behavior integration of TMT can promote the innovation performance of enterprises [2]. Hu and others pointed out that the behavior integration of the TMT has a positive impact on the innovation of enterprise business model [3]. Wang and Feng [4] pointed out that the behavior integration of TMT is conducive to the balance between the two types of technological innovation. Research shows that the behavior integration of the TMT is conducive to promoting enterprise dual innovation and it can promote the innovation performance of enterprises. Peng and others pointed out that the breakthrough innovation is conducive to the improvement of enterprises’ sustainable competitive advantage [5].

However, there is still a lack of research on the relationship between the behavior integration of TMT and the sustainable competitive advantage of enterprises. The author believes that the behavior integration of the TMT can promote the improvement of the absorptive capacity of an enterprise, and absorptive capacity can promote the sustainable competitive advantage of enterprises. In view of this, this paper brings TMT behavior integration, absorptive capacity, and enterprise sustainable competitive advantage
into an overall framework, explores the relationship between TMT behavior integration and enterprise sustainable competitive advantage, and examines the intermediary role of absorptive capacity. In addition, since the role of TMT behavior integration is closely related to critical reflection, this paper includes critical reflection and examines the regulatory role of critical reflection between TMT behavioral integration and enterprise sustainable competitive advantage.

This paper constructs an overall research framework of TMT behavior integration, enterprise sustainable competitive advantage, absorptive capacity, and critical reflection, that is, the research focuses on the antecedent variables, intermediary variables, and regulatory variables of sustainable competitive advantage, so as to provide a new path to bring about sustainable competitive advantage of enterprises. The research clarifies the relationship between TMT behavior integration, absorptive capacity, critical reflection, and enterprises sustainable competitive advantage. The research conclusion provides a new idea for enterprises to establish competitive advantage, that is, to enhance the sustainable competitive advantage of enterprises from the perspective of TMT behavior integration. It provides a reference for enterprises to construct sustainable competitive advantage.

The remainder of the paper is organized as follows. Firstly, it introduces the theoretical basis and research assumptions, and constructs the research model of this paper. Then, 223 samples are used to do empirical research on the research hypothesis. Finally, research conclusions, applications, and future research prospects are discussed.

2. Theoretical Basis

2.1. TMT Behavioral Integration. Hambrick [6] first put forward the notion of TMT behavior integration in 1994. He believed that the TMT behavior integration has three dimensions: open communication, decision-making participation, and team cooperation. Open communication refers to the extent to which the resources are shared among TMT members. Decision participation is a process in which TMT members fully discuss and participate in organizational decision-making around decision-making objectives on the basis of fully understanding the problems they face. Teamwork refers to behavior whereby TMT members actively carry out mutual assistance, clarify responsibilities, and complete organizational tasks through cooperation. For the above three dimensions, teamwork is the social attribute required for a TMT to produce cohesion and trust, and open communication and decision-making participation are the task attributes needed for a TMT to achieve its goals [7]. Simsek, Veiga, and Lubatkin further proposed that the behavior integration of TMTs can promote better enterprise development [8].

2.2. Sustainable Competitive Advantage of Enterprises. The sustainable competitive advantage of an enterprise refers to the ability accumulated by an organization to surpass its competitors in the process of long-term competition [9]. In terms of business conditions, enterprises with a good sustainable competitive advantage have good performance in financial performance, growth, and market value, which can reflect better cash flow creation abilities [9]. An enterprise’s sustainable competitive advantage includes both better financial returns and better strategic performance [10]. Therefore, financial and strategic performance are regarded as two important dimensions of enterprises’ sustainable competitive advantage [11]. This study explores the above two dimensions.

2.3. Absorptive Capacity. Cohen and Levinthal defined absorptive capacity as “the ability to absorb and identify the value of external new knowledge and apply it to commercial terminals” [12]. Zahra and George classified absorptive capacity as potential absorptive capacity and realistic absorptive capacity; potential absorptive capacity contains knowledge acquisition and absorptive capacity, while realistic absorptive capacity contains knowledge transformation and utilization capacity [13].

2.4. Critical Reflection. Critical reflection is a core concept in the field of philosophy. Since it was introduced to the field of management, the interpretation of its connotations has not been consistent [14]. Because critical reflection can effectively address loopholes in work, it has received more attention in the field of management [14]. At first, critical reflection was defined as the synthesis of a series of knowledge fields, attitudes, and skills [15]. Meyers regards critical reflection as the cognitive ability of individuals to ask questions and find solutions to problems [16].

3. Research Hypothesis and Conceptual Model

3.1. TMT Behavior Integration and Sustainable Competitive Advantage of Enterprises. According to the process theory of the TMT, when facing dynamic and complex decision-making problems, which are limited to the decision-making information, knowledge base, and cognitive ability obtained by individuals, group decision-making from a TMT helps improve decision-making quality and organizational performance [8, 17]. The behavior integration of TMT is a feasible means for enterprises to deal with complexity and dynamics and a key factor necessary to improving performance [18]. Some studies have pointed out that the behavioral integration refers to TMT members solving conflicts, reaching consensus, and implementing decisions through the open and free exchange of information to promote the better development of enterprises [8]. Good communication among TMT members can reduce team decision-making differences, promote the exchange of new organizational knowledge and ideas, improve decision-making quality, and promote organizational performance. Information sharing among TMT members can effectively alleviate the decision-making pressure caused by members’ differences of opinion [19], improve the transparency of the decision-making process and organizational decision-
making efficiency, and promote the improvement of enterprise financial performance and strategic performance. TMT cooperation is conducive to organization members’ mining and use of organizational innovation resources, improves the use efficiency of innovation resources, and promotes organizational dual innovation [6], which has a great influence on the sustainable development of enterprises [10]. Decision-making participation of TMT members facilitates the discussion organizational objectives and consensus on organizational objectives and helps an organization achieve better financial and strategic performance.

H1a: TMT behavior integration has a positive impact on financial performance.
H1b: TMT behavior integration has a positive impact on strategic performance.

3.2. Intermediary Role of Absorptive Capacity. Open communication among TMT members can enhance a team’s personal knowledge, broaden the vision of members, create a good knowledge exchange atmosphere for an organization [21], and promote the improvement of absorptive capacity. The participation of TMT members in decision-making can clarify organizational objectives, mobilize the enthusiasm of TMT members, and improve scientific decision-making. The decision-making participation of a TMT deepens the TMT’s understanding of decision-making needs and improves the TMT’s ability to obtain and absorb information [22]. High-level cooperation among the members of a TMT helps TMT members respect each other’s values and opinions; share resources and knowledge [18]; fully integrate the team’s knowledge, resources and creativity; accumulate organizational knowledge, and lay the foundation for the improvement of absorptive capacity.

H2a: TMT behavior integration has a positive impact on potential absorptive capacity.
H2b: TMT behavior integration has a positive impact on realistic absorptive capacity.

Potential absorptive capacity includes knowledge acquisition capacity and digestion capacity [13]. Potential absorptive capacity helps better grasp and meet customer needs [23], which is helpful to the enhancement of enterprise financial performance. In the meantime, potential absorptive capacity can help enterprises update their knowledge base in time, effectively avoid repetitive work, and promote the improvement of organizational innovation performance [24] to improve strategic performance.

Enterprises with strong absorptive capacity in reality can integrate knowledge more smoothly and realize the transformation of external knowledge to improve innovation ability to improve innovation output [25]. Khan et al. found that enterprises with high absorption capacity often have strong knowledge creation and application abilities, which are conducive to the timely launch of new products that can meet market demand [26]. Through the transformation and utilization of knowledge, realistic absorptive capacity can realize the improvement of existing products and promote the improvement of enterprise financial performance. Realistic absorptive capacity enhances enterprises innovation capacity, enables them to launch new products in time, and promotes the improvement of enterprise strategic performance.

H3a: Potential absorptive capacity has a positive impact on financial performance.
H3b: Potential absorptive capacity has a positive impact on strategic performance.
H3c: Realistic absorptive capacity has a positive impact on financial performance.
H3d: Realistic absorptive capacity has a positive impact on strategic performance.

Based on the above analysis, the author posits the following paths for the impact of TMT behavior integration on enterprises sustainable competitive advantage; that is, TMT behavior integration promotes the improvement of absorptive capacity (including potential and realistic absorptive capacity). The improvement of absorptive capacity helps enterprises obtain internal and external innovation knowledge resources and lays a good innovation knowledge foundation for the improvement of their sustainable competitive advantage to promote enterprise financial and strategic performance.

H4a: Potential absorptive capacity plays an intermediary role between TMT behavioral integration and financial performance.
H4b: Potential absorptive capacity plays an intermediary role between TMT behavioral integration and strategic performance.
H4c: Realistic absorptive capacity plays an intermediary role between TMT behavior integration and financial performance.
H4d: Realistic absorptive capacity plays an intermediary role between TMT behavior integration and strategic performance.

3.3. The Moderating Role of Critical Reflection. A TMT with high critical reflection can break through the traditional thinking mode and cognitive framework and create conditions for organizational innovation [27]. Critical reflection can enrich organizational knowledge [28]; create excellent conditions for TMT members to communicate, collaborate, and make joint decisions; and promote the improvement of innovation efficiency. Critical reflection can cause TMT members to move away from a thinking framework and adopt a new and better, unique, and bold way of achieving organizational innovation goals, which is conducive to the development of organizational dual innovation activities and further promotes enterprise financial and strategic performance. Therefore, the higher the level of critical reflection is, the stronger the positive impact of TMT behavior integration on enterprise financial performance and enterprise strategic performance becomes.
H5a. Critical reflection positively regulates TMT behavior integration and financial performance.
H5b. Critical reflection positively regulates TMT behavior integration and strategic performance.

3.4. Research Conceptual Model. According to the above theories and research hypotheses, we constructed a research model on the relationship between TMT behavioral integration, critical reflection, absorptive capacity, and sustainable competitive advantage, as shown in Figure 1.

4. Research Methods

4.1. Research Samples and Data Collection. Taking enterprises in Jiangsu, Shanghai, Zhejiang, Shandong, and Anhui as research samples, the questionnaire was distributed on-site and online, and the research object was enterprise top managers. The questionnaire was distributed from early June 2021 to early January 2022 for nearly 7 months. The details are as follows: 280 sets were distributed on-site, with 201 sets recovered and 180 sets deemed effective; 338 sets were distributed online, with 50 sets recovered and 43 sets deemed effective. A total of 618 sets were distributed, and 251 sets were recovered. Of these, 223 were deemed effective, and the effective recovery rate was 36.08%. In terms of nonresponse bias, we tested the significance of the first 25% and last 25% of the questionnaires on the nature, growth scale, and industry attributes of the companies and found no significant differences at the 5% level.

4.2. Variable Measurement. To ensure that the scale of the four variables has high reliability and validity, the measurement of TMT behavior integration, enterprise sustainable competitive advantage, absorptive capacity, and critical reflection mainly referred to the maturity scale applied domestically and abroad. The measurement of the scale adopts a Likert 7 scale, where 1 means “very inconsistent” and 7 means “very consistent”. The measurement items of research variables are shown in Table 1.

4.2.1. TMT Behavior Integration. Referring to the measurement method [29] of Yao and Sun, the three dimensions of decision-making participation, open communication, and teamwork are used for measurement, and each dimension is measured by three items.

4.2.2. Enterprises Sustainable Competitive Advantage. The measurement of an enterprise’s sustainable competitive advantage is based on the research of Hill, Jones [10], Barney [30], etc., and with reference to [31], starting from the two dimensions of financial performance and strategic performance. The variable is measured by five items.

4.2.3. Absorptive Capacity. Absorptive capacity refers to the research of Zhao et al. [32] and is measured by two dimensions: potential absorptive capacity and realistic absorptive capacity; each dimension is measured by three items.

4.2.4. Critical Reflection. Using the measurement scale [33] developed by scholars Jiang and Yang for reference, five measurement items are used for critical reflection.

4.2.5. Control Variables. To ensure the robustness of the results and prevent reasoning deviation caused by the results being affected by some variables, as the age and size of an enterprise may affect the accumulation and acquisition of knowledge and then affect the absorptive capacity and enterprises sustainable competitive advantage, the age and size of an enterprise are used as control variables and the logarithm is used to convert the variable values.

4.3. Reliability and Validity Test. To test the reliability and validity of the questionnaire, we conducted a factor analysis of variables such as TMT behavior integration, enterprises sustainable competitive advantage, absorptive capacity, and critical reflection. The results are shown in Table 2. The KMO value of each variable is between 0.701 and 0.889, meeting the requirement of more than a critical value of 0.7. The Bartlett sphere test result is significantly different from 0, meeting the requirements of factor analysis. The reliability and validity analysis results of the variables show that the Cronbach’s α coefficient is between 0.796 and 0.917, and the combined reliability (CR) value is between 0.881 and 0.938, meeting the requirement of a critical value greater than 0.7, indicating that the scale is highly reliable. The factor load of each item is between 0.776 and 0.899, meeting the requirement of a value greater than 0.7, indicating that the research scale has good aggregate validity. The AVE value is between 0.660 and 0.754, which is higher than the critical value of 0.5, proving the discrimination validity of each research scale.

5. Analysis Methods and Results

For the test involving regulation, this study uses multiple linear regression with more reliable research conclusions to test the overall model and applies SPSS 23.0 for data processing.

5.1. Correlation Analysis. The mean value and correlation analysis of the research variables are carried out to preliminarily verify the research hypothesis. According to Table 3, the average values of TMT behavior integration, potential absorptive capacity, realistic absorptive capacity, financial performance, strategic performance, and critical reflection are between 4.34 and 4.68; that is, the average value of the survey sample is better than expected and meets the requirements of this study. From the correlation coefficient between the main research variables, there is a significant positive correlation between the variables, which preliminarily verifies some of the research hypotheses proposed in this paper.
5.2. A Test of the Relationship between TMT Behavior Integration, Critical Reflection, and Enterprise Sustainable Competitive Advantage. The two models in Table 4 involve three steps. Step 1 measures the impact of age and scale on enterprises sustainable competitive advantage. Step 2 measures the impact of TMT behavior integration on sustainable competitive advantage. Step 3 adds the interaction terms of TMT behavior integration, critical reflection, and TMT behavior integration to the research model at the same time to test the regulation effect. The D-W values of all models in Tables 4–6 are close to 2, and the VIF values are less than 3, indicating no autocorrelation or multicollinearity between the variables. The coefficients of the control variables are not significant, indicating that the enterprise size and age do not affect the results. Step 2 in Table 4 shows that the regression coefficients of TMT behavior integration on enterprise financial performance and enterprise strategic performance are (β = 0.409, P < 0.001) and (β = 0.379, P < 0.001), the coefficients are significant, and H1a and H1b thus are assumed to be valid.

The moderating effect test of critical reflection is shown in step 3 in Table 4. The interaction term coefficient of step 3 of Model 1 is (β = 0.093, P > 0.05), and the coefficient is not significant; thus, H5a is not confirmed. The interaction term coefficient of step 3 of Model 2 is (β = 0.092, P < 0.01), and the coefficient is significant; thus, H5b is proven. To clearly show the regulatory effect of critical reflection, a regulatory effect diagram is drawn according to the procedure proposed by Aiken and West [34]. As shown in Figure 2, under highly critical reflection, there is a strong relationship between TMT behavior integration and strategic performance (β = 0.135, P < 0.01), while under little critical reflection, the relationship between behavioral integration and the strategic performance of a TMT is relatively weak (β = 0.109, P < 0.01) but reaches a significant level, consistent with our expectations.

5.3. Regression Analysis of TMT Behavior Integration, Absorptive Capacity, and Enterprises Sustainable Competitive Advantage

5.3.1. Test of the Relationship between TMT Behavior Integration and Absorptive Capacity. The impact of TMT behavior integration on potential absorptive capacity and realistic absorptive capacity is shown in Table 5. The coefficients of TMT behavior integration (independent variable), potential absorptive capacity (dependent variable), and realistic absorptive capacity (dependent variable) are (β = 0.604, P < 0.001) and (β = 0.301, P < 0.001); H2a and H2b thus are confirmed.

5.3.2. Testing the Relationship between the Absorptive Capacity and the Sustainable Competitive Advantage of Enterprises. The relationship between the absorptive capacity and the sustainable competitive advantage of enterprises is shown in Models 3–6 in Table 6. The impact of potential absorptive capacity on financial performance and strategic performance is shown in Model 3 and Model 5, and the regression coefficients are (β = 0.402, P < 0.001) and (β = 0.524, P < 0.001), respectively. Hypotheses H3a and H3b are thus confirmed. The impact of realistic absorptive capacity on financial performance and strategic performance is shown in Model 4 and Model 6, and the regression coefficients are (β = 0.336, P < 0.01) and (β = 0.310, P < 0.001); thus, H3c and H3d are confirmed.

5.3.3. Intermediary Effect Test of Absorptive Capacity. Regression analysis requires that the samples conform to a normal distribution. In this paper, a process program and bootstrapping method are used to test the intermediary effect of absorption capacity, which cannot be limited by the normal distribution of samples. The sample size is set to 5000, and the confidence level is set to 95%. The results are shown in Table 7.

The indirect effect of TMT behavior integration—potential absorptive capacity—enterprise financial performance is 0.1973, P < 0.001, and the confidence interval is [0.0652, 0.3543]. The indirect effect of TMT behavior integration—potential absorptive capacity—enterprise strategic performance is 0.4900, P < 0.001, and the confidence interval is [0.3296, 0.6867]. The indirect effect of TMT behavior integration—realistic absorptive capacity—enterprise financial performance is 0.0946, P < 0.001, and the confidence interval is [0.0343, 0.1829]. The indirect effect of TMT behavior integration—realistic absorptive capacity—enterprise’s strategic performance is 0.1146, P < 0.001, and the confidence interval is [0.0460, 0.2198]. The above
| Variables | Item | Measurement |
|-----------|------|-------------|
| Financial performance | FP11 | In the past two years, the return on assets of enterprises has increased rapidly |
| | FP12 | In the past two years, the market share of enterprises has increased rapidly |
| | FP13 | In the past two years, the net profit of the enterprise has increased rapidly |
| | FP14 | In the past two years, the rate of return on sales of enterprises has increased rapidly |
| Enterprises sustainable competitive advantage | FP15 | In the past two years, the sales of enterprises have increased rapidly |
| Strategic performance | SP11 | In the past two years, the consumer satisfaction of enterprises has increased rapidly |
| | SP12 | In the past two years, the long-term competitiveness of enterprises has increased rapidly |
| | SP13 | In the past two years, the product quality of enterprises has increased rapidly |
| | SP14 | In the past two years, the products or services of enterprises have increased rapidly |
| | SP15 | In the past two years, the company's comprehensive performance has increased significantly |
| Critical reflection | CR11 | Carefully consider the background of the problem and make a careful judgment |
| | CR12 | Take targeted strategies according to the problems |
| | CR13 | Seek alternative solutions to the problem |
| | CR14 | Dare to challenge difficulties affecting the job performance |
| | CR15 | Willing to adopt possible solutions beyond the existing procedures or rules and regulations |
| Potential absorptive capacity | PA11 | The knowledge types of enterprise and cooperative network spillovers are in the same or close field |
| | PA12 | Enterprises have a keen ability to identify, acquire, utilize, and develop new knowledge |
| | PA13 | Enterprises have the ability to analyze and explain the changes of knowledge needs of cooperative networks |
| Absorptive capability | RA11 | Enterprises take the initiative to consider the impact of cooperative network knowledge needs on their products, and can store relevant knowledge for future use |
| Realistic absorptive capacity | RA12 | Enterprises often share the practical experience of knowledge acquisition and knowledge creation |
| Decision participation | DP11 | The team encourages everyone to put forward their different opinions |
| | DP12 | The different opinions of the team members can be taken seriously |
| | DP13 | Team members can argue when they have different opinions |
| TMT behavioral integration | OC11 | Team members can fully share relevant information when making decisions |
| Open communication | OC12 | Team members often have informal exchanges |
| | OC13 | Team members often discuss each other's expectations and requirements |
| Team work | TW11 | When a member is busy, other members will help him share his work tasks |
| | TW12 | Team members often support each other in their work |
| | TW13 | When there are problems in the cooperation between members in charge of fields, they often inform each other |
Table 2: Test results of variable reliability and validity.

| Variable                              | Item                  | Loading | KMO | Cronbach’s α | AVE   | CR     |
|---------------------------------------|-----------------------|---------|-----|---------------|-------|--------|
| TMT behavioral integration            | Decision participation| DP11    | 0.883 |               |       |        |
|                                       |                       | DP12    | 0.814 |               |       |        |
|                                       |                       | DP13    | 0.876 |               |       |        |
|                                       | DP11                  | 0.883   |       |               |       |        |
|                                       | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       |TW13                  | 0.881   |       |               |       |        |
| Open communication                    | DP11                  | 0.883   |       |               |       |        |
|                                       | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       | TW13                  | 0.881   |       |               |       |        |
| Financial performance (FP)            | DP11                  | 0.883   |       |               |       |        |
|                                       | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       | TW13                  | 0.881   |       |               |       |        |
| Sustainable competitive advantage of  | DP11                  | 0.883   |       |               |       |        |
| enterprises                           | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       | TW13                  | 0.881   |       |               |       |        |
| Strategic performance (SP)            | DP11                  | 0.883   |       |               |       |        |
|                                       | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       | TW13                  | 0.881   |       |               |       |        |
| Critical reflection                   | DP11                  | 0.883   |       |               |       |        |
|                                       | DP12                  | 0.814   |       |               |       |        |
|                                       | DP13                  | 0.876   |       |               |       |        |
|                                       | OC11                  | 0.835   |       |               |       |        |
|                                       | OC12                  | 0.863   |       |               |       |        |
|                                       | OC13                  | 0.889   |       |               |       |        |
|                                       | TW11                  | 0.899   |       |               |       |        |
|                                       | TW12                  | 0.824   |       |               |       |        |
|                                       | TW13                  | 0.881   |       |               |       |        |
| Model 3: Regression results of TMT behavior integration, critical reflection, and enterprises sustainable competitive advantage.

Table 3: Correlation coefficients of variables.

|                    | Avg | S.D. |   1   |   2   |   3   |   4   |   5   |   6   |   7   |
|--------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|
| 1                  | 2.48| 0.54 | 1.00  |       |       |       |       |       |       |
| 2                  | 5.41| 1.02 | 0.527**| 1.00  |       |       |       |       |       |
| 3                  | 4.68| 0.71 | 0.054 | 0.003 | 1.00  |       |       |       |       |
| 4                  | 4.38| 0.93 | 0.024 | 0.015 | 0.350**| 1.00  |       |       |       |
| 5                  | 5.00| 0.53 | 0.069 | 0.019 | 0.441**| 0.377**| 1.00  |       |       |
| 6                  | 4.44| 0.71 | 0.039 | 0.017 | 0.399**| 0.524**| 0.599**| 1.00  |       |
| 7                  | 4.40| 0.56 | 0.029 | 0.035 | 0.335**| 0.310**| 0.301**| 0.390**| 1.00  |
| 8                  | 4.34| 0.84 | 0.039 | 0.005 | 0.153**| 0.770**| 0.219**| 0.206**|       |

Note: 1. age, 2. scale, 3. TMT behavioral integration, 4. potential absorptive capacity, 5. realistic absorptive capacity, 6. financial performance, 7. strategic performance, 8. critical reflection; **P < 0.05, ***P < 0.01, **P < 0.001, the same below.

Table 4: Regression results of TMT behavior integration, critical reflection, and enterprises sustainable competitive advantage.

| Model 1 financial performance | Model 2 strategic performance |
|-------------------------------|-------------------------------|
|                               | Step 1 | Step 2 | Step 3 | Step 1 | Step 2 | Step 3 |
| 1. Age                        | -0.077 | -0.083 | -0.089 | 0.022  | 0.016  | -0.026 |
| 2. Scale                      | 0.043  | 0.002  | 0.095  | 0.000  | -0.003 | -0.013 |
| 3. TMT behavioral integration | 0.409***| 0.438***| 0.379***| 0.438***| 0.797***| 0.092***|
| 4. Critical reflection        | 0.061**| 0.093  |        |        |        |        |
| 5. Critical reflection *      |        |        |        |        |        |        |
| TMT behavioral integration    |        |        |        |        |        |        |
| R²                            | 0.004  | 0.170  | 0.209  | 0.001  | 0.143  | 0.775  |
| Adjusted R²                   | -0.005 | 0.158  | 0.191  | -0.008 | 0.131  | 0.770  |
| F                              | 0.469  | 14.901***| 11.464***| 0.066  | 12.166***| 149.426***|
indirect effect confidence intervals do not contain 0; that is, potential absorptive capacity mediates the relationship between TMT behavior integration and financial performance and strategic performance, and realistic absorptive capacity plays an intermediary role between TMT behavior integration and financial performance and strategic performance. In addition, after controlling the potential absorptive capacity of intermediary variables, the confidence interval of the direct effect of TMT behavior integration on enterprise strategic performance includes 0; that is, a direct effect does not exist, and potential absorptive capacity completely mediates the relationship between TMT behavior integration and enterprise strategic performance. It is assumed that H4b passes the test. The direct effect of TMT behavior integration on enterprise financial performance does not include 0; that is, a direct effect exists, and potential absorptive capacity plays a partial intermediary role between TMT behavior integration and enterprise financial performance. It is assumed that H4a passes the test. After controlling the realistic absorptive capacity of the intermediary variable, the confidence interval of the direct effect of TMT behavior integration on an enterprise’s sustainable competitive advantage does not contain 0, and it is significant; that is, a direct effect exists. The realistic absorptive capacity

Table 5: Regression analysis of the impact of TMT behavior integration on absorptive capacity.

| Variable                    | Potential absorptive capacity | Realistic absorptive capacity |
|-----------------------------|------------------------------|-----------------------------|
| TMT behavioral integration | 0.604 * * *                  | 0.301 * * *                 |
| R²                          | 0.362                        | 0.091                       |
| Adjusted R²                 | 0.353                        | 0.078                       |
| F                            | 41.451 * * *                 | 3.132 *                     |

Table 6: Relationship test between absorptive capacity and enterprises sustainable competitive advantage.

| Control variable | Age | Scale | Independent variable | Potential absorptive capacity | Realistic absorptive capacity | R² | Adjusted R² | F              |
|------------------|-----|-------|----------------------|-------------------------------|-----------------------------|-----|-------------|----------------|
| Model3           | -0.093 | 0.045 | Potential absorptive capacity | 0.402 * * * | 0.524 * * * | 0.166 | 0.154 | 14.512 * * * |
| Model4           | -0.081 | 0.034 | Realistic absorptive capacity | 0.336 * * | 0.310 * * * | 0.117 | 0.105 | 9.675 * * * |
| Model5           | 0.000 | 0.006 | F                     | 27.600 * * * | 7.798 * * * | 0.274 | 0.264 |                |
| Model6           | 0.018 | -0.005|                      |                               |                             | 0.097 | 0.084 |                |

Table 7: Bootstrapping analysis results of mediating effect.

| Path                  | Effect value | Bootstr  | BOOT LLCI | BOOT ULCI |
|-----------------------|--------------|----------|-----------|-----------|
| TMTBI PAC FP          | 0.1973       | 0.0728 * | 0.0652    | 0.3543    |
| TMTBI PAC SP          | 0.4900       | 0.0900 * | 0.3296    | 0.6867    |
| TMTBI RAC FP          | 0.0946       | 0.0370 * | 0.0343    | 0.1829    |
| TMTBI RAC SP          | 0.1146       | 0.0428 * | 0.0460    | 0.2198    |

Note: TMTBI, PAC, RAC, FP, and SP, respectively, refer to TMT behavioral integration, potential absorptive capacity, realistic absorptive capacity, financial performance, and strategic performance.
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partially mediates the relationship between the behavioral integration of TMT and the sustainable competitive advantage of enterprises; thus, H4c and H4d are supported.

6. Research Conclusions, Application, And Prospects

6.1. Research Conclusions. This paper reveals the impact of TMT behavior integration on the sustainable competitive advantage of enterprises, the intermediary role of absorptive capacity (including potential and realistic absorptive capacity), and the regulatory role of critical reflection. Except for H5a, our research hypotheses are confirmed. The regulatory effect of critical reflection on TMT behavior integration and enterprise financial performance failed to pass our test. It may be that the critical reflection helps senior managers think thoroughly about the future of their enterprises, contributes to longer-term strategic planning, and tends to promote strategic performance but has no significant effect on financial performance.

The research shows that TMT behavior integration has a significant positive impact on financial and strategic performance; that is, the improvement of TMT behavior integration, as an important antecedent variable of enterprises sustainable competitive advantage, is conducive to promoting financial performance and strategic performance, which fully reflects the important role of TMT behavior integration in improving enterprises sustainable competitive advantage. Critical reflection has a significant positive regulatory effect between TMT behavior integration and strategic performance, which means that improving the critical reflection (level) will enhance the positive effect of TMT behavior integration on strategic performance.

Potential absorptive capacity completely mediates the relationship between TMT behavior integration and strategic performance, while it plays a partial mediation role between TMT behavior integration and financial performance, and realistic absorptive capacity plays a partial intermediary role between TMT behavior integration and the sustainable competitive advantage of an enterprise (including financial and strategic performance), indicating that the intermediary roles of potential and realistic absorptive capacity should be brought into full play to promote enterprises sustainable competitive advantage.

6.2. Application of the Model. Based on theories of TMT behavior integration, absorptive capacity, enterprise sustainable competitive advantage, and critical reflection, this paper presents a theoretical analysis and empirical research on the relationships between TMT behavior integration (independent variable), enterprise sustainable competitive advantage (dependent variable), absorptive capacity (intermediary variable), and critical reflection (regulatory variable). The empirical results show that there are two ways for TMT behavior integration to affect enterprises sustainable competitive advantage: First, TMT behavior integration directly affects the enterprises sustainable competitive advantage. Second, TMT behavior integration affects enterprises sustainable competitive advantage through absorptive capacity. In addition, critical reflection can positively regulate the relationship between TMT behavior integration and enterprises strategic performance. The research conclusion can be used to enhance enterprises sustainable competitive advantage from the perspective of TMT behavior integration. Specific measures are as follows:

First, we must attach importance to the TMT behavior integration. The measures are as follows: (1) Strengthen the internal knowledge exchange of TMT, reduce decision-making differences, and improve decision-making efficiency. (2) Pay attention to information sharing and improve the utilization and efficiency of decision-making information. (3) TMT members should strengthen cooperation, work as a team, and improve their decision-making ability.

Second, enterprise executives should focus on critical thinking. Enterprise executives should be fully aware of the important role of critical reflection in enterprise strategic performance, strengthen their critical reflection, and promote the improvement of enterprise strategic performance. Specific measures can involve: (1) Creating a positive organizational atmosphere and conditions for critical reflection. (2) Encouraging the critical reflection of TMT members and give better play to the positive role of critical reflection. (3) Introduce critical reflection into the work assessment of TMT members and strengthen the investigation, training, and reuse of members with high critical reflection abilities.

Third, enterprise executives should take the cultivation of absorptive capacity seriously and give full play to the intermediary role of absorptive capacity to promote the continuous improvement of enterprise competitive advantage. Specific measures to improve absorptive capacity can involve: (1) Building a learning organization, as the construction of learning organizations creates a strong organizational learning atmosphere and promotes the improvement of organizational absorptive capacity, and (2) paying attention to collective rewards and encouraging organization members to carry out high-level knowledge sharing, improve organizational knowledge accumulation and application abilities, and promote the improvement of absorption ability by adopting collective rewards.

6.3. Research Limitations and Future Directions. The limitations of the paper are as follows: (1) The selection of samples is limited to enterprises in Jiangsu, Shanghai, Zhejiang, Shandong, and Anhui. Therefore, whether the research conclusions drawn are suitable for enterprises in other regions and industries needs further empirical testing. (2) This research only examines the intermediary effect of absorptive capacity and the regulatory effect of critical reflection. Future research can examine the impacts of other intermediary (e.g., learning ability, dual innovation) and regulatory variables (e.g., environmental uncertainty, environmental turbulence).
Data Availability
The data used to support the findings of the study are included within the article.

Conflicts of Interest
The authors declare that there are no conflicts of interest regarding the publication of this paper.

Acknowledgments
This work was supported by the doctoral stable talent project of Anhui University of Science and Technology (Grant no. BSWD202101).

References
[1] J. Zu, J. Wang, and J. Ma, “Ambidexterity in a rapidly changing environment of China: top management team decision making and sustained performance,” Sustainability, vol. 14, no. 7, pp. 3894–3920, 2022.
[2] T. J. Guo, Research on the mechanism of TMT behavioral integration on firm innovation performance, Doctoral Dissertation of Jilin University, China, 2021.
[3] B. L. Hu, T. Y. Zhao, and S. Yan, “TMT behavioral integration boundary-panning search and business model innovation,” Scientific Research Management, vol. 39, no. 12, pp. 37–44, 2018.
[4] J. Wang and H. Feng, “TMT behavioral integration strategic flexibility and ambidexterity: the moderating role of environmental uncertainty,” Journal of SWUPU, vol. 20, no. 2, pp. 112–123, 2018.
[5] C. Peng, L. Xi, and X. W. Zhang, “Breakthrough innovation to the enterprise continuous competitive advantage on high turbulence and competitive environment,” Science and Technology Management Research, vol. 38, no. 24, pp. 10–17, 2018.
[6] D. C. Hambrick, “Top management groups: a conceptual integration and reconsideration of the team label,” Research in Organizational Behavior, vol. 16, pp. 171–214, 1991.
[7] M. H. Lubatkin, Z. Simsek, Y. Ling, and J. F. Veiga, “Ambidexterity and performance in small-to medium-sized firms: the pivotal role of top management team behavioral integration,” Journal of Management, vol. 32, no. 5, pp. 646–672, 2006.
[8] Z. Simsek, J. F. Veiga, M. H. Lubatkin, and R. N. Dino, “Modeling the multilevel determinants of top management team behavioral integration,” Academy of Management Journal, vol. 48, no. 1, pp. 69–84, 2005.
[9] D. Q. Zhu, C. Y. Zhou, and Z. Y. Luo, “Continuing competitiveness, dividend distribution and financing liability adjustment,” Journal of Soochow University Philosophy & Social Science Edition, vol. 7, no. 4, pp. 100–109, 2017.
[10] C. W. L. Hill and G. Jones, Theory of Strategic Management with Cases, South-Western College Publishing, Ohio, OH, U.S.A, 2012.
[11] J. A. Black and K. B. Boal, “Strategic resources: traits configurations and paths to sustainable competitive advantage,” Strategic Management Journal, vol. 15, no. S2, pp. 131–148, 2007.
[12] W. M. Cohen and D. A. Levinthal, “Absorptive capacity: a new perspective on learning and innovation,” Administrative Science Quarterly, vol. 35, no. 1, pp. 128–152, 1990.
[13] S. A. Zahra and G. George, “Absorptive capacity: a review, reconceptualization, and extension,” Academy of Management Review, vol. 27, no. 2, pp. 185–203, 2002.
[14] X. Y. Tu, “The mechanism of proactive personality on employee innovation behavior based on the view of critical thinking,” Journal of Social Sciences, vol. 10, pp. 66–77, 2016.
[15] R. H. Ennis, “Critical thinking and subject specificity: clarification and needed research,” Educational Researcher, vol. 18, no. 3, pp. 4–10, 1989.
[16] C. Meyers, Teaching Students to Think Critically, Jossey-Bass Press, San Francisco, CA, U.S.A, 1986.
[17] D. C. Hambrick, “Corporate coherence and the TOP management team,” Strategy & Leadership, vol. 25, no. 5, pp. 24–29, 1997.
[18] A. Cameli, J. Schaubroeck, and A. Tishler, “How CEO empowering leadership shapes TMT processes: implications for firm performance,” The Leadership Quarterly, vol. 22, no. 2, pp. 399–411, 2011.
[19] Y. Yi, H. A. Ndofor, X. He, and Z. Wei, “Top management team tenure diversity and performance: the moderating role of behavioral integration,” IEEE Transactions on Engineering Management, vol. 65, no. 1, pp. 21–33, 2018.
[20] C. Peng, R. X. Li, H. Yang, and P. Yu, “Research on the relationship between dual innovation and sustainable development of enterprises under dynamic and competitive environment,” Science & Technology Progress and Policy, vol. 37, no. 15, pp. 70–79, 2020.
[21] B. L. Hu, T. Y. Zhao, and S. Yan, “Influence of behavioural integration of TMT on business model innovation,” Journal of Technology Economics, vol. 36, no. 7, pp. 9–13, 2017.
[22] D. C. Hambrick, “Upper echelons theory: an update,” Academy of Management Review, vol. 32, no. 2, pp. 334–343, 2007.
[23] G. N. Stock, N. P. Greis, and W. A. Fischer, “Absorptive capacity, and new product development,” The Journal of High Technology Management Research, vol. 12, no. 1, pp. 77–91, 2001.
[24] U. Lichtenthaler, “Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes,” Academy of Management Journal, vol. 52, no. 4, pp. 822–846, 2009.
[25] M. S. Cheung, M. B. Myers, and J. T. Mentzer, “Does relationship learning lead to relationship value? A cross-national supply chain investigation,” Journal of Operations Management, vol. 28, no. 6, pp. 472–487, 2010.
[26] Z. Khan, Y. K. Lew, and S. Marinova, “Exploitative and exploratory innovations in emerging economies: the role of realized absorptive capacity and learning intent,” International Business Review, vol. 28, no. 3, pp. 499–512, 2019.
[27] X. Y. Tu and J. M. Guo, “Effect of critical thinking on employee innovation behavior: the mediating role of knowledge sharing and the moderating role of self-efficacy,” Forecasting, vol. 35, no. 2, pp. 9–16, 2016.
[28] F. Clementi, M. Gallegati, L. Giammona, S. Landini, and J. E. Stiglitz, “Mis-measurement of inequality: a critical reflection and new insights,” Journal of Economic Interaction and Coordination, vol. 14, no. 4, pp. 891–921, 2019.
[29] Z. H. Yao and H. F. Sun, “The construction and measurement of TMT behavioural integration,” Journal of Business Economics and Management, vol. 218, no. 12, pp. 28–36, 2009.
[30] J. B. Barney, *Gaining and Sustaining Competitive Advantage*, Pearson Education, New York, NY, U.S.A, 2001.

[31] H. Shen, E. Xie, and D. H. Wang, "How environmental uncertainties drive strategic choices and sustainable competitive advantage of new product development," *Research on Economics and Management*, vol. 9, no. 9, pp. 117–126, 2017.

[32] J. Y. Zhao, Z. Y. Ren, and X. Xi, "Influence of knowledge embeddedness on knowledge synergistic effect in collaborative network: absorptive capacity as a moderator," *Journal of Industrial Engineering and Engineering Management*, vol. 33, no. 4, pp. 49–60, 2019.

[33] J. Jiang and B. Y. Yang, "Critical thinking, creative self-efficacy and employee creativity: weakening effect of leader-member exchange in Chinese context," *NanKai Business Review*, vol. 17, no. 2, pp. 117–128, 2014.

[34] L. S. Aiken and S. G. West, *Multiple Regression: Testing and Interpreting Interaction*, Sage, Newbury Park, CA, U.S.A, 1991.