

# The Influence of Transformational Leadership on Top Management's Behavioral Integration and Organizational Ambidexterity in Dynamic Environment—An Empirical Study based on E-commerce Enterprises in China

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## Abstract

*As market competition continuously intensifies, how to cope with existing and potential market challenges in complex, dynamic environments is a major problem haunting Chinese e-commerce enterprises in their strategic planning. In order to solve this problem, the theory of organizational ambidexterity is applied in this paper to the strategic practices of Chinese e-commerce enterprises, and starting from the view of corporate leadership, the mediated role of top management's behavioral integration (referred to as TMBI in the following content) in the relationship between transformational leadership behavior and organizational ambidexterity is discussed. In addition, against the practical background that Chinese e-commerce enterprises are facing highly competitive environments, further clarification is made herein by using environmental dynamics as the moderator variable for the mediated link. Through empirical tests on 198 samples of Chinese e-commerce enterprises, we find that: 1) transformational leadership has a positive influence on organizational ambidexterity, and TMBI plays a full mediated role in that influencing process; 2) environmental dynamics moderates the relationship between transformational leadership and TMBI, but don't have a moderated effect on the relationship between TMBI and organizational ambidexterity. According to the research conclusion in this paper, the mechanism of transformational leadership influencing organizational ambidexterity can be better explained when two important factors, TMBI and environmental dynamics, are taken into consideration. The research in this paper provides not only important revelations for the development of organizational ambidexterity research as well as the application of relevant research achievements, but also supports for Chinese e-commerce enterprises' effective strategic practices in theory.*

**Keywords:** *transformational leadership, top management's behavioral integration (TMBI); organizational ambidexterity, dynamic environment*

## 1. Introduction

In China, the optimization of network construction and the accumulation of social capital have contributed to the births of many e-commerce enterprises with certain capital strength. With the gradually fierce competitions and increasingly frequent technological changes in the business circles, these enterprises have to, on the basis of stabilizing their traditional businesses, expand and tap into other areas to engage themselves in innovation activities in different directions, with the purpose of maintaining their market shares and

competitive advantages. However, in their strategic planning, these e-commerce enterprises are faced with a major problem—that is, in the presence of resource constraint, how to well allocate resources to deal with current market challenges and seize new potential market opportunities. Research has shown that, in a competitive environment, enterprises with continuously good market performances are often those ambidextrous ones [1], which has organizational ambidexterity—proficiency in both exploration and exploitation—and therefore can both guarantee the efficiency of existing businesses and adapt to potential market challenges [2]. Based on this theory, which meets the current practical needs of Chinese e-commerce enterprises, the issue of “how e-commerce enterprises can form organizational ambidexterity” is discussed in this paper.

The organizational ambidexterity theory aims to offer an answer to the question of how enterprises can maintain competitive advantages in the uncertain, rapidly changing competitive environment. According to literature reviews, most of the existing researches on organizational ambidexterity target the relationship of exploration and exploitation in organizational ambidexterity [3, 4], and few target the factors influencing the formation of organizational ambidexterity. Furthermore, in the few researches on the influencing factors, most attention is paid to the levels of inter-organizations, organizations, etc., and little attention is paid to the level of senior management in the enterprise. However, different organizational cultures, systems and capacities are demanded in the activities of exploratory innovation and exploitative innovation [5], thus in the presence of resource constraint, conflicts and contradictions will inevitably arise within the organization about resource allocation between exploration and exploitation. How to resolve the contradictions is the key to the enterprise’ effective formation of organizational ambidexterity [6], and the enterprise’s top management plays a decisive role in this process [7]. Therefore, it is necessary to discuss the formation of organizational ambidexterity from the perspective of top management.

Transformational leadership can cultivate team members’ awareness of the significance and values of their tasks, inspire their high-level demands, and facilitate the establishment of an atmosphere of mutual trust, so that subordinates can develop a spirit of devotion to the organization and achieve results that are above the expected standard. Some studies conclude that transformational leadership has a positive effect on organizational ambidexterity [8], but the mechanism through which transformational leadership affects the formation of organizational ambidexterity has yet to be brought to light. In addition, studies have shown that transformational leadership can positively influence TMBI in enterprises [9], which facilitates the enhancement of organizational ambidexterity [6]. Therefore this paper focuses on the following two questions: first, what is the role of TMBI in the process of transformational leadership behavior influencing organizational ambidexterity? Second, whether the process and extent of this influence vary in dynamic environments? To research these two questions, this paper first makes literature review and theoretical deduction, and then on that basis, conducts empirical validation of the hypothesized relationships by using 198 samples of Chinese e-commerce enterprises, with the purpose of advancing the development of organizational ambidexterity research and providing strategic guidance for Chinese e-commerce enterprises.

## **2. Literature Review and Hypothesis Research**

### **2.1. Organizational Ambidexterity**

As a comprehensive extension of the organizational evolution theory, organizational learning theory, and organizational behavior theory, organizations ambidexterity widely permeates such research fields as strategic management, innovation management, business-starting management and organizational learning, generates various research

perspectives including structure, behavior, ability and organizational relationship, and might become a mainstream research paradigm in the field of management [10].

The concept of organizational ambidexterity was initially put forward by Duncan (1976) [11], who believed that companies should consider establishing dual structures, used to initiate innovation and execute innovation, in order to obtain long-term competitive advantages. Afterwards, based on the theory of organizational learning, March (1991) [12] put forward the concepts of exploitation and exploration: exploration is a learning behavior featuring search, variation, risk taking, experimentation, flexibility, discovery, innovation, *etc.*, and its essence is innovation activity for dealing with emerging markets and customers; exploitation is a learning behavior featuring refinement, choice, production, efficiency, selection, implementation, execution, *etc.*, and its essence is innovation behavior aimed at constantly improving the existing markets and satisfying customers. By using the research achievements of March (1991) as a reference, Tushman and O'Reilly (1996) [13] further defined ambidextrous organization through case analysis, which laid a foundation for follow-up studies [14]. According to Tushman and O'Reilly, an ambidextrous organization has dual abilities of utilizing existing resources in mature markets and developing new products and services in emerging markets, with the former ability leading to low-cost, efficient and incremental innovation, and the latter one ensuring experiment, speed and flexibility that revolutionary innovations require. Benner and Tushman (2003) [15] believed that, both organizational ambidexterity and dynamic capability underline exploration and exploitation, so organizational ambidexterity is a reflection of dynamic capability. At the same time, with such characteristics as complexity, fuzziness and path dependence, organizational ambidexterity is identical to dynamic capacity in resource integration, ability structure, formation process and other aspects [16]. Moreover, the essence of organizational ambidexterity includes not only the first-order ability of adapting to gradual market changes through exploration, but also the ability to form first-order ability—namely, the second-order ability acquired in the search, integration of heterogeneous knowledge and exploration [17]. Therefore organizational ambidexterity falls into the realm of the dynamic capability theory [2].

In the existing researches about the connotation of organizational ambidexterity, two issues are in dispute in academia: one is the definitions of organizational ambidexterity's two dimensions, namely, exploration and exploitation; the other is the relationship of the two dimensions. The fuzziness of connotation will directly lower the applicability and effectiveness of empirical results, thus these two issues in dispute should be discussed and clarified before the empirical analysis.

Currently, the major divergence in the definitions of exploration and exploitation lies in the criterion for separating these two dimensions: whether the criterion is the learning styles or the involvement of learning [18]. On the one hand, Benner & Tushman (2003) [15], He & Wong (2004) [19], *et al.*, believed that both exploration and exploitation involve the processes of organizational learning and innovation—Benner and Tushman (2003) [15] clarified and distinguished the connotations of these two types of innovation mainly using the degrees of their deviation from the knowledge and technological trajectories as well as from customers and market segmentation, while He and Wong (2004) [19] separated exploration and exploitation mainly from the perspective of products. On the other hand, other researchers argue that: exploitation is merely a utilization of the existing knowledge base and does not deviate from the learning and technological trajectories, so it does not involve learning behaviors, not to mention innovation behaviors; only the deviation from technological trajectory formed in the process of exploring and acquiring new knowledge can be regarded as learning and innovation [20]. It is worth mentioning that both views have been verified in empirical analysis. In this study, the logic of the definitions of exploration and exploitation from March (1991) [12]—that both exploration and exploitation involve the process of organizational learning and innovation—is followed for these two reasons: firstly, in the

existing social system, any exploitation process cannot be total reproduction, and will unavoidably involve some innovation based on existing technologies or products; secondly, on the individual level, repeated operations of existing business scarcely involve learning, but on the organizational level, mass exploitation will result in incremental innovation. In conclusion, it is believed in this research that both exploration and exploitation, two dimensions of organizational ambidexterity, involve learning and innovation, though the learning types and innovation levels are different in them. Furthermore, considering the situation of Chinese e-commerce enterprises, the definitions given by He and Wong (2004) [19] are used herein for reference, and it is therefore believed that exploitative innovation is intended for improving the performance of existing products in the market while exploratory innovation is intended for tapping into new product markets.

An organization which lays too much emphasis on the exploitation of existing business and cannot quickly adapt to environmental changes may be troubled by “core rigidities and “competency traps”, thus its innovation will be impeded; on the other hand, excess emphasis on the exploration of new business, though enabling the continuous renewal of the organization’s knowledge base, tends to make the enterprise fall into the “failure traps”, bringing “suboptimal equilibria” and “path dependence” [21]. Therefore, how to coordinate the two dimensions is the focus of many researchers [22]. According to existing researches, two types of relationship, balanced and combined [4, 18], between exploration and exploitation has gradually been recognized by domestic and foreign scholars. The former type is based on the premise from March (1991) [12], which is: exploration and exploitation are at both ends of a same innovation continuum, and this absolute separation results in the competition for the enterprise’s scarce technological resources between the two kinds of innovation; the enterprise must keep the two in a balanced and steady state via strategies such as organizational design and external search, so as to stably and continuously improve its technological innovation ability [23]. The latter type of relationship is based on the theoretical hypothesis from Gupta (2006) [18], which denies the absolute separation of exploration and exploitation activities and holds that: no absolute difference exists between the two kinds of innovation, which only differ in innovation degree or implementation means; the two should be in a combined and even complementary state; and the enterprise should simultaneously possess dual capacities and harmonize them [19].

The idea of balancing exploration and exploitation originates from the hypothesis that exploration and exploitation are mutually incompatible and contradictory. Due to resource scarcity, an organization’s internal resources—tangible and intangible resources—are invariable and limited in a certain period. If the organization invests most of its resources in exploitation, small quantity of resources will be available for exploration, and vice versa. If the organization simultaneously carries out exploration and exploitation, it has to rationally allocate resources between the two and find the optimal equilibrium; otherwise its growth may suffer. In addition, according to the cognitive structure theory, exploratory innovation and exploitative innovation require different mindsets of organization members and different organizational modes. And due to their vastly different requirements, simultaneously carrying out exploratory innovation and exploitative innovation becomes very difficult. Different from exploration, exploitation demands commitment, concentration and cohesion, rather than thinking, broadness and diffusion. In terms of organizational mode, exploratory innovation requires organizational units with small sizes, loose structure and flexible cultural atmosphere, whereas exploitative innovation requires organizational units with large sizes, compact structure, and rigid cultural atmosphere.

By comparison, the “combined” view is that, instead of being mutually incompatible, exploration and exploitation can even greatly improve each other and achieve common development [18]. For example, in terms of resources, although many resources are

limited for most organizations, some resources, such as information and knowledge, can be unlimited. The organization can not only use its own resources, but also take advantage of external resources, which may be some public goods or some resources brought by the strategic alliances with other stakeholders. Therefore, external resources can alleviate the scarcity of the organization's resources. In addition, exploration and exploitation tasks can be split and shared by different functional departments within the organization: exploratory innovation can be carried out by the research and development department, while exploitative innovation can be focused on in the corresponding production, sales and service sections. Thus limited technological resources can be allocated to different links of the value chain, and over-competition between the two behaviors for enterprise resources can be avoided, so that finally exploration and exploitation activities can coexist and the abilities for them can complement each other [24]. In general, within a same field or organizational unit, exploratory innovation and exploitative innovation tend to be two mutually contradictory endpoints of the continuum of organizational behaviors, due to resource scarcity; however, in different areas that loosely connect with each other or in large organizational units, it is more likely that the two are different dimensions that coexist and are mutually compatible—in other words, high-level exploration (or exploitation) in a particular field coexists with high-level exploitation (or exploration) in another area [18]. In conclusion, due to the imperfection in China's current capital market and the lack of the system for protecting intellectual properties, Chinese companies are mainly faced with two problems: one is path dependence resulting from the limitation of ability structure, and the other is the unbalance between companies' exploitation abilities and exploration abilities [25]. Given China's situation, the "balanced" view will be applied in this paper for the inner relationship between exploration and exploitation in organizational ambidexterity.

## **2.2. Transformational Leadership and Organizational Ambidexterity**

The existing researches of the antecedent variables of ambidexterity are carried out mainly from the inter-organization level, organization level and top management level. The strategic alliance theory and social network theory are mainly employed in the inter-organization-level research of organizational ambidexterity. Researches reveal that enterprises can improve their organizational ambidexterity by forming various strategic alliances according to their own situations [26], and other researches also show that the centrality of an enterprise's social network and the diversity of its external contacts will affect the development of its organizational ambidexterity [27]. On the organization level, the antecedent variables are mainly divided into structural antecedents and situational antecedents, and the researches of structural antecedents are mainly conducted based on the idea of Duncan (1972) [11] about the construction of ambidextrous organization. According to Duncan, an ambidextrous structure must be designed in the formation of organizational ambidexterity, and in the specific operations the organization must adjust its structure depending on the phase of its innovation process, with the organic structure used for exploration, and the mechanical structure used for exploitation. Clearly, the idea of Duncan (1976) suggests a kind of "temporal separation". The later scholars generally disagree that the temporal separation proposal belongs to the ambidexterity strategy. Tushman and O'Reilly (1996) [13] proposed the "spatial separation" dual structures, that is, mutually different structural mechanisms set up in different spaces to handle the competitive requirements raised by opposite components. Many scholars have elaborated the specific types of structural mechanisms, including quasi-structure and complex structure. Structural ambidexterity enables the organization to quickly obtain the learning effect, and its disadvantages include the substructures' strong consciousness of self-interests and the high costs for coordination among organizations. Different from structural antecedents, situational antecedents are researched mainly based on the situational ambidexterity theory put forward by Gibson and Birkinshaw (2004) [16].

Established on the premise that all employees, including front-line workers, are of ambidexterity, this theory holds that the organization can realize the improvement of organizational ambidexterity by designing situational factors (performance management, social support and trust, *etc.*), rather than by reshaping the organizational structure. Situational ambidexterity can inspire the initiative and creativity of all members, encourage them to put forward suggestions about organizational development, and therefore objectively improve the organization's capacity of discovering and seizing new opportunities; however, it is also accompanied with such problems as large human capital investment and long cycle of situation construction.

On the top management level, scholars emphasize senior management's guidance role in the formation of structured ambidexterity and situational ambidexterity [2]. They argue that top management can advance the formation of organizational ambidexterity through internal process, can apply the integration mechanism to manage the conflicts among substructures [28] caused by structural separation and to develop training and incentive systems, and can conceive common organizational visions to enhance the staff's exploration and exploitation abilities. In the existing researches on the top management level, most attention is paid to the characteristics of team members, the contribution of their past experiences and learning behaviors to organizational ambidexterity, *etc.*, and little attention is paid to the impact of the team leaders' leadership style on organizational ambidexterity.

In 1978, Burns first put forward the theory of transformational leadership, which was subsequently further developed by Bass and Avolio. According to Bass, a transformational leader can motivate subordinates to transcend their own short-term interests, to become more mature and aspiring, to desire achievement and self-realization, and to care about the interests of others, the organization and the whole society [29]. The presence of transformational leadership is conducive to the settlement of such problems as path dependence and organizational inertia, so as to improve the enterprise's performance in the market [30]. Meanwhile, transformational leadership can exert their charisma to inspire worship, respect and loyalty in subordinates and emphasize the importance of possessing a sense of overall mission. Through acting as the role model, transformational leadership motivate subordinates to put forward new ideas and question the flaws of existing rules; transformational leadership can provide employees with individualized sympathy, care and support, which can help team members overcome their fears for challenging the status quo and accordingly gain creativity [31]. Other study results also indicate that, transformational leadership behavior is conducive to the reduction of professional barriers within the team, to the knowledge sharing among team members, and to the enhancement of goal congruence among team members [32]. Moreover, transformational leadership has a positive impact on the improvement of the learning atmosphere within the team and the resolution of contradictions among members [33]. Considering that the congruence of strategic goals among top management, the strategic consensus of regarding organizational benefit as the goal, and the mechanism of dissolving conflicts within the team play a positive role in the formation of organizational ambidexterity in the enterprise [2], the authors are convinced that in e-commerce enterprises, transformational leadership behavior and organizational ambidexterity are positively correlated with each other. Thus the following hypothesis is put forward:

***Hypothesis 1: In e-commerce enterprises, transformational leadership behavior has a positive influence on organizational ambidexterity.***

### 2.3. The Mediated Role of TMBI

The behavioral integration theory is derived from the upper echelons theory put forward by Hambrick and Mason. According to the upper echelons theory, the demographic characteristics of top management can be a good alternative to the cognitive and psychological attributes of top management, and in the hypothesis of bounded rationality, their connections with corporate strategy and corporate performance are predictable. However, many top management teams virtually lack team attribute: team members often make single-line communications with CEO, focus only on business within the scope of their functions and powers, and scarcely interact with each other. When a team lacks team attribute, its demographic characteristics loses its significance for predication, thus the effectiveness of the upper echelons theory's impact on corporate performance is questioned. In order to make up for this critical theoretical defect, Hambrick (1994) extracted the concept of behavioral integration, defined as the degree of collective interaction among senior management in the enterprise[34], from the factors of social and task processes that decide the presence or absence of team attribute in top management.

It is believed in this paper that the mediated role of TMBI is mainly reflected in two aspects. Firstly, studies have demonstrated that transformational leadership can influence TMBI in social and task processes [35]: in the social process, transformational leadership behavior can, through motivating and inspiring team members' social identity, enhance team members' satisfaction with the team, elevate the collective efficacy, and accordingly improve the extent of TMBI; in the task process, transformational leadership can greatly stimulate the potentials of team members, improve their senses of mission and responsibility, promote the sharing of information and opinions as well as mutual communications, facilitate the formation of strategic consensus and weaken the members' consciousness of self-interest, thereby enhancing the extent of TMBI. Secondly, TMBI can facilitate the formation of positive collective responses within the team in the face of crises or opportunities, and effectively dissolve and convert task conflicts among members, thus promoting the improvement of organizational ambidexterity [6]; furthermore, the team operation processes of sharing information, behaviors and decision-making in TMBI are essentially a kind of collective learning behavior, and the nature of organizational ambidexterity is a decision-making capacity existing in top management of the enterprise; as a kind of dynamic capability, organizational ambidexterity is also a capacity of changing organizational customary rules through certain time of organizational learning, and features the process of capacity forming, so TMBI also has a positive impact on organizational ambidexterity, especially in e-commerce enterprises. Based on the above theoretical analysis, the following hypothesis is put forward:

***Hypothesis 2: In e-commerce enterprises, TMBI plays a mediated role in the relationship between transformational leadership and organizational ambidexterity.***

### 2.4. The Moderated Role of Dynamic Environments

The extent of TMBI is usually related to the environmental condition the organization is facing. The so-called "environmental dynamics" means the rate of environmental change and the degree of environmental uncertainty. The extent and uncertainty of environmental changes are two indicators of environmental dynamics [36]. Environmental changes may be reflected in changes of technology, customer demand, product demand or raw material supply, and the larger the changes in these areas are, the greater the environmental dynamics are. In highly dynamic environments, organizations are often faced with greater threats and even dangers or crises [37]. In such external environments, organizations which have made some bad decisions may find themselves in trouble that might even threaten their survivals. Therefore when an organization carries out technological innovation activities in a highly dynamic environment—for one thing,

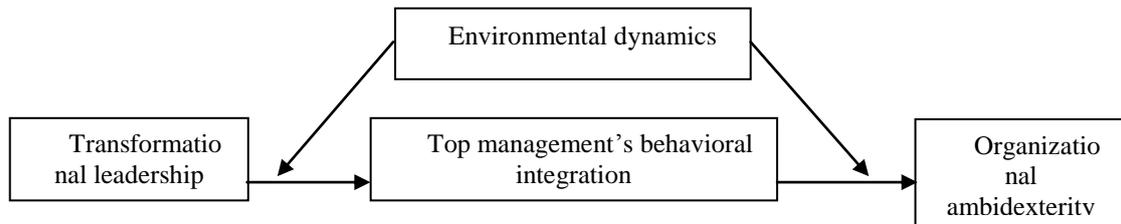
the CEO will be more frequently confronted with various problems and pressures in decision making; for another, in the exploration activities, employees will get worried about the prospects of themselves and the organization, thus developing a stronger demand of guidance and encouragement. Research shows that in the presence of crisis, stress and uncertainty, transformational leadership has a greater influence on employees' psychologies, because in uncertain environments leaders of this kind can better unite team members and give play to collective efficacy, thus effectively making positive responses to external crises or opportunities. At the same time, through showing staff the ways of converting pressures and crises into opportunities, transformational leaders can also coordinate the targets of team members in dynamic environments, thus elevating the extent of TMBI. Based on the above theoretical analysis, the following hypothesis is put forward:

***Hypothesis 3: In dynamic Environments, Transformational Leadership Behavior has Larger Influence on TMBI in e-commerce Enterprises.***

In a highly dynamic environment, the environmental basis for the enterprise's previous strategic decisions has changed, posing greater challenges to the further execution of the strategies, thus the enterprise's top management needs to quickly respond to external threats or opportunities. When forming organizational ambidexterity in a lowly dynamic environment, the enterprise's top management has to tackle the following three major barriers: the first one is the barrier of cognitive structure, that is, the senior management's possible ignorance of positive information amid the execution of previous strategies due to their inertia or overconfidence; the second one is action barrier, that is, the management's resistance to strategic alteration due to their lack of accurate judgment of the sensed environmental uncertainty; the third one is assessment barrier, that is, policy makers' inclination to self-interested assessment or desperate adherence to original strategic decisions in spite of possible losses, due to the lack of corresponding effective supervision. Studies have revealed that when external environments are highly dynamic, top managements in enterprises are more likely to achieve behavioral integration, thereby overcoming organizational inertia [38]; then, they will gain more information advantages from internal and external key stakeholders, and obtain diverse information and knowledge, thus they are more likely to go beyond the existing inertial thinking and make timely detection and comprehensive assessment of negative information; meanwhile, they can acquire more information regarding external management environments and therefore deeper understanding of external environments, eventually improving the ability of and confidence in forming organizational ambidexterity. Based on the above analysis, the following hypothesis is put forward:

***Hypothesis 4: In Dynamic Environments, TMBI has Larger Influence on the Formation of Organizational Ambidexterity in e-commerce Enterprises.***

Through combining the inter-variable relations expressed in the above four hypotheses, a conceptual model is developed, as shown in Figure 1.



**Figure 1. The Conceptual Model in this Paper**

### **3. Research Methods**

#### **3.1. Research Design**

The measurement items on the questionnaire are designed based on the Likert scale: the question items are composed of statements of attitudes or opinions concerning certain thing, and the method of 6-level grading is applied for measurement criteria. The samples collected are mostly non-listed companies, regarding which data of considerable amount can hardly be obtained, and a high correlation exists between objective data and subjective data [39], so subjective assessment is performed herein.

Given that the research of transformational leadership and TMBI belongs to the organization level rather than the individual level, the approach of multi-source data collection is employed in order to maximize the reliability of the data and avoid homologous errors. The effect of homologous errors can be eliminated by collecting the measurement data of independent and dependent variables from different sources. The specific practice is: in the large-sample test, the questionnaires are divided into four types of sub-questionnaires, filled in by different research objects—the questionnaires for transformational leadership behavior and TMBI are finished by three non-CEO members of each top management, and the one for exploitation and exploration as well as environmental dynamics is finished by CEO of each enterprise. In addition, the anonymity of the questionnaire survey is promised for the fillers in the investigation, and measures such as random adjustment of the sequence of question items are taken to further weaken the effect of homologous errors, in order to guarantee the maximum reliability and objectivity of the data obtained.

In the data collection based on questionnaire survey, in order to ensure the reliability of all question items on the questionnaire as well as the credibility and validity of the measurement tools, scales that have been used in existing literatures at home and abroad are given priority to. And these scales are properly modified and adjusted according to the goal of this survey as well as the feedbacks from the research objects. Specifically, the questionnaire design involves the following four steps: Step 1: four postgraduates of enterprise management translate the English version of the scales into Chinese version in a parallel and double-blind way before determining the most appropriate Chinese translation through discussion, and then, another batch of four postgraduates of enterprise management translates the Chinese translation into English in a parallel and double-blind way before making detailed discussion of the translated sentences that are largely different from the original English sentences and accordingly revising the Chinese translation. Finally, two experts in the field of strategic management are requested to evaluate and revise the original English version, the Chinese translation, and the English translation, and determine the appropriate Chinese translation through discussion. Step 2: after working out the preliminary questionnaire, in-depth structured interviews with CEOs of five e-commerce enterprises are conducted so as to ensure that the setting of the question items on the questionnaire is in line with the actual situations of the enterprises, and then according to the feedbacks from the senior managements, part of the expressions and content in the original questionnaire are discussed, reviewed and revised one by one. Step 3: pilot survey is conducted in the EMBA group, in order to further judge the

credibility and validity of the content of the variables used. Step 4: the problems discovered in the above pilot survey are corrected and solved according to the results of the pilot survey, and a formal questionnaire for this study accordingly takes shape.

### 3.2. Data Collection

In this survey, the convenience sampling method and snowball sampling method are mainly applied for the distribution of the questionnaires in the alumni network of the business school, the surveyed e-commerce enterprises in the main target regions—Beijing, Tianjin, Shanghai, Jiangsu, Zhejiang and Guangdong—account for 83.7% of all samples; in terms of research means, the research purpose, object and method are first explained to the enterprises via phone or email, and after the consent of enterprises is obtained, personnel are scheduled for contacts and the survey time and locations are determined. The questionnaires are distributed mainly in two ways. One way is distributing the questionnaires in person on the spot: first of all, the main content and significance of the survey, the merely academic use of all the information and the information confidentiality are emphasized to the survey objects; then, detailed introductions and explanations are given to some technical terms, the way of filling, and the matters needing attention, and meanwhile enterprises' faithful filling is encouraged; finally, the questionnaires are retrieved by the contacts. The other way is electronic approach: communication via phone is first made, and then electronic questionnaires are distributed and retrieved.

In this survey, 450 copies of questionnaires are distributed, 323 are retrieved. After 78 copies that are not completely finished or cannot match and 47 invalid copies that have clearly been filled in without caution are removed, 198 valid copies of questionnaires are ultimately obtained, with an effective retrieval rate of 44%. Through non-response error analysis on enterprises from which distributed questionnaires are retrieved and enterprises from which distributed questionnaires are not retrieved, it is discovered that no significant differences exist between the two, indicating the minor non-response errors among the surveyed enterprises. In these sample enterprises, CEOs are predominated by males (81.82%), basically with bachelor's degree or above (99.49%), most aged 36~45 (50.51%) and most with a tenure of 4~9 years; most of the top managements are composed of 6~10 members (48.99%), and the team terms are mostly 4~9 years (64.65%); most with an organization size of 101-500 personnel (48.48%), and most organizations are aged 6-10 (53.19%).

### 3.3. Variable Measurement

Prior to the test of scale credibility and validity, the consistency of three evaluation results for the two scales, separately for transformational leadership and TMBI, is examined; in other words, the analysis of data aggregation is conducted—specifically, whether the evaluation result from each member of a team of three can represent the mean of the team's results is examined. ICC (1) and ICC (2) are two commonly used indicators. Through corresponding calculations, the ICC (1) coefficient for transformational leadership behavior in this research is found to be 0.32, which is greater than 0.05, suggesting that transformational leadership behavior is of adequate internal homogeneity in the 198 sample enterprises; the ICC (2) coefficient is 0.58, which is larger than 0.50 and accordingly acceptable [40], suggesting that the averaging of data provided by the three questionnaire respondents is acceptable. Meanwhile, for TMBI, the ICC (1) coefficient is 0.29 and the ICC (2) coefficient is 0.52, suggesting that the combination of data, obtained from the three respondents, regarding all question items for transformational leadership behavior and TMBI is reasonable, and that the effect of homologous errors can be eliminated.

In this paper, the 8-item scale which was developed by Bass and Avolio (2003) [41] and has been repeatedly validated in Chinese situations is applied to the measurement of transformational leadership behavior. Measurement reveals that Cronbach's alpha coefficient for this scale is 0.87, indicating a good credibility. In addition, the KMO value of the question items for transformational leadership behavior is 0.852, and the  $\chi^2$  value in Bartlett's test is 1149.48 (df = 28, P<0.001), satisfying the requirement of factor analysis. According to principal component analysis (PCA), a total of one factor with eigenvalue greater than 1 is selected, the cumulative variance contribution rate is 68.56%, and the results of exploratory factor analysis are shown in Table 1. On this basis, confirmatory factor analysis in the structural equation model is performed for verifying the construct validity of transformational leadership behavior, and the results demonstrate that the single-factor structure of transformational leadership can well fit the sample data ( $\chi^2=89.45$ , df=19, RMSEA=0.064, NFI=0.98, TLI=0.91, CFI=0.92).

In the measurement of the variable TMBI, the 9-item scale which was developed by Ling *et al.*, (2008) [35] and has been repeatedly validated in Chinese situations is applied in this paper. Measurement reveals that the Cronbach's alpha coefficient for the scale is 0.92, indicating a good credibility. Furthermore, the KMO value of question items in the scale for TMBI is 0.882, and the  $\chi^2$  value in Bartlett's test is 1469.49 (df=36, P<0.001), satisfying the requirement of factor analysis. According to PCA, a total of one factor with eigenvalue greater than 1 is selected, the cumulative variance contribution rate is 61.73%, and the results of exploratory factor analysis are shown in Table 2. On this basis, confirmatory factor analysis in the structural equation model is performed to verify the construct validity of TMBI, and the results demonstrate that this single-factor structure can well fit the sample data ( $\chi^2=49.96$ , df=26, RMSEA=0.049, NFI=0.97, TLI=0.91, CFI=0.99).

**Table 1. Results of Exploratory Factor Analysis for Transformational Leadership**

	Factor
	1
Show determination in the process of achieving goals	.547
Let his/her top team members feel happy	.452
Ignore personal gain or loss for the sake of the enterprise (or group)	.547
Show capacity, energy, and confidence	.511
Convey the expectation of good performance to senior team members	.418
Passionately talk about the tasks that need to be completed	.556
Describe an inspiring prospect to everyone	.600
Convey a sense of mission to everyone	.641

**Table 2. Results of Exploratory Factor Analysis for TMBI**

	Factor
	1
Let each other know when their actions affect another team member's work	.806
Have a clear understanding of the job problems and needs of other team members	.823
Discuss their expectations of each other	.725
Volunteer to help some team members, who are busy, to manage their workload	.789
Are flexible about switching responsibilities to make things easier for each other	.815
Are willing to help each other complete jobs and meet deadlines	.847
Are effective in developing high-quality ideas	.653
Are effective in generating high-quality solutions	.574
Are effective in making decisions that require high levels of creativity and innovativeness	.638

In the measurement of two variables exploration and exploitation, the 14-item scale that was developed by Jansen *et al.*, (2006) [36] and has been repeatedly validated in Chinese situations is applied. According to the measurement, the Cronbach's alpha coefficients for the exploration and exploitation scales are respectively 0.87 and 0.91, and the overall Cronbach's alpha coefficient is 0.92, indicating a good credibility. Moreover, the KMO value of items in the exploration and exploitation scales is 0.855, and the  $\chi^2$  value in Bartlett's test is 2465.47 (df=76, P<0.001), satisfying the requirement of factor analysis. Exploration and exploitation are combined to form a dual-factor model; according to PCA, a total of two factors with eigenvalue greater than 1 are selected, the cumulative variance contribution rate is 63.83%, and the results of the exploratory factor analysis are shown in Table 3. On this basis, confirmatory factor analysis in the structural equation model is performed to examine the construct validity of the dual-factor model, and the results demonstrate that the exploration and exploitation dual-factor model can well fit the sample data ( $\chi^2=128.36$ , df=48, RMSEA=0.075, NFI=0.94, TLI=0.96, CFI=0.97).

**Table 3. Results of Exploratory Factor Analysis for Exploration and Exploitation**

	Factor	
	1	2
Our unit accepts demands that go beyond existing products and services	.78	.32
We invent new products and services	.83	.04
We experiment with new products and services in our local market	.75	.27
We commercialize products and services that are completely new to our unit	.80	.17
We frequently utilize new opportunities in new markets	.76	.10
Our unit regularly uses new distribution channels	.78	.08
We regularly search for and approach new clients in new markets	.81	.33
We frequently refine the provision of existing products and services	.05	.76
We regularly implement small adaptations to existing products and services	.16	.80
We introduce improved, but existing products and services for our local market	.27	.76
We improve our provision's efficiency of products and services	.08	.82
We increase economies of scales in existing markets	.13	.67
Our unit expands services for existing clients	.15	.68
Lowering costs of internal processes is an important objective	.24	.74

In the measurement of the variable dynamic environment, the 4-item scale which was developed by Jansen *et al.*, (2006) [36] and has been repeatedly validated in Chinese situations is applied. According to the measurement, the Cronbach's alpha coefficient for this scale is 0.787, indicating a good credibility. In addition, the KMO value of items in the dynamic environment scale is 0.727, and the  $\chi^2$  value in Bartlett's test is 91.117 (df=6, P<0.001), satisfying the requirement of factor analysis. According to PCA, a total of 1 factor with eigenvalue greater than 1 is selected, the cumulative variance contribution rate

is 53.78%, and the results of exploratory factor analysis are shown in Table 4. On this basis, confirmatory factor analysis in the structural equation model is performed to examine the construct validity of the single-factor model, and the results demonstrate that the dynamic environment model can well fit the sample data ( $\chi^2=14.36$ ,  $df=4$ ,  $RMSEA=0.085$ ,  $NFI=0.97$ ,  $TLI=0.96$ ,  $CFI=0.98$ ).

**Table 4. Results of Exploratory Factor Analysis for Dynamic Environments**

	Factor
	1
Environmental changes in our local market are intense	.705
Our clients regularly ask for new products and services	.712
In our local market, changes are taking place continuously	.762
In our market, the volumes of products and services to be delivered change fast and often	.654

The ambidexterity structure and data processing process developed by He and Wong (2004) [19] are employed in this paper. The absolute values of differences among the measured items for exploration and exploitation abilities are calculated, revealing that the figures range from 0 to 5; then the absolute value of the difference of each item is subtracted from 5, so as to reflect the balance situation in each sample's ambidexterity, with high value indicating well balanced exploration and exploitation abilities inside the enterprise, and vice versa. Through consulting the researches by Jansen and other scholars [14], organizational age, organizational size, CEO age, CEO tenure, team size and team term are chosen as the control variables.

#### 4. Testing of the Hypotheses

##### 4.1. Descriptive Statistics about Research Variables

The means, standard deviations and relevant coefficients of the main variables are shown in Table 5. According to the table, there is a significant positive correlation between transformational leadership and organizational ambidexterity ( $r=0.21$ ,  $p<0.01$ ), a strong positive correlation between transformational leadership and TMBI ( $r= 0.44$ ,  $p< 0.001$ ), and a strong positive correlation between TMBI and organizational ambidexterity ( $r=0.33$ ,  $p< 0.001$ ). Therefore in general Hypothesis 1 in this paper is preliminarily verified. At the same time, Table 5 also shows that environment dynamics are strongly correlated with transformational leadership and TMBI, with the correlation coefficients separately being 0.45 and 0.57 and both significance levels being below 0.001. The influences of other factors are not controlled in the above single-variable analysis, so multivariate regression analysis is conducted below in order to obtain more robust empirical evidence.

**Table 5. The Matrix for the Means, Standard Deviations and Relevant Coefficients of the Main Variables in this Research**

Variable	Mean	Standard deviation	TL	TMBI	O A	D E
TL	5.04	0.44	<b>0.90</b>			
TMBI	5.01	0.55	0.44***	<b>0.86</b>		
OA	5.39	0.76	0.21**	0.33***	<b>0.9</b> 3	
DE	5.56	0.98	0.45***	0.57***	0.1 5	<b>0.7</b> 6

Note:1.\*\*\* means  $p < 0.001$ , \*\* means  $p < 0.01$ , \* means  $p < 0.05$ , two-tailed test; 2. “TL” represents the variable “transformational leadership”, “TMBI” represents the variable “top management’s behavioral integration”, “OA” represents the variable “organizational ambidexterity” and “DE” represents the variable “dynamic environment”.

#### 4.2. Testing of TMBI’s Mediated Effect

Whether TMBI has an mediated role in the relationship between transformational leadership and organization ambidexterity is tested based on the four regression equations for examining mediated variables put forward by Baron and Kenny (1986) [42]. The specific content of the testing is: 1) whether transformational leadership has significant influence on TMBI; 2) whether transformational leadership has significant influence on organizational ambidexterity; 3) whether TMBI has significant influence on organizational ambidexterity; 4) (if the first three equations are true) whether transformational leadership and TMBI have significant influence on organizational ambidexterity—if the effect of transformational leadership on organizational ambidexterity weakens or even becomes no longer significant at this point, the mediated role of TMBI is verified. The results of the empirical test are listed in Table 6.

Model 1 in Table 6 indicates that the selected control variables do not significantly impact organizational ambidexterity. And Model 2 shows that transformational leadership has significant positive influence on organizational ambidexterity ( $\beta = 0.41$ ,  $p < 0.001$ ). And the regression results of Model 4 show, based on Model 3, that transformational leadership has significant positive influence on organizational ambidexterity ( $\beta = 0.19$ ,  $p < 0.001$ ), so Hypothesis 1 in this paper is verified. Meanwhile, Model 5 demonstrates that transformational leadership has significant positive influence on organizational ambidexterity ( $\beta = 0.31$ ,  $p < 0.001$ ). Finally, the joint effect of transformational leadership and TMBI on organizational ambidexterity is investigated. As shown in Model 6, TMBI has significant positive influence on it ( $\beta = 0.28$ ,  $p < 0.001$ ), while the influence of transformational leadership is no longer significant. Through using the judgment method put forward by Baron and Kenny (1986) [42], it can be concluded from the above empirical results that in the relationship between transformational leadership and organizational ambidexterity, TMBI plays a role of mediated—complete mediated, to be exact—thus Hypothesis 2 is verified. This means that transformational leadership’s exertion of positive impact on organizational ambidexterity must be based on good TMBI.

**Table 6. Testing of the Mediated Role of TMBI**

Variable	TMBI			OA		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Organizational size	-0.16	0.31	0.49	0.62	0.52	0.75
Organizational age	2.54	3.06	2.03	2.37	1.26	1.47
CEO tenure	1.32	1.46	2.15	2.28	1.59	1.69
CEO age	1.43	1.31	3.14**	3.16**	2.75*	3.12**
Team term	3.09	2.46	6.76**	6.18**	5.91*	5.33*
Team size	0.12	0.57	1.19***	1.41***	1.18***	1.31***
TL		0.41***		0.19***		0.11
TMBI					0.31***	0.28***
R2	0.02	0.21***	0.11	0.16	0.20	0.21***
ΔR2	0.02	0.20***	0.10**	0.05***	0.09***	0.06***
F value	0.88	9.96***	4.05**	5.51***	7.32***	6.49***

Note:1.\*\*\* means  $p < 0.001$ , \*\* means  $p < 0.01$ , \* means  $p < 0.05$ , two-tailed test; 2. the regression coefficients in the table are all non-standardized coefficients; 3. “TL” represents the variable “transformational leadership”, “TMBI” represents the variable “top management’s behavioral integration” and “OA” represents the variable “organizational ambidexterity”.

### 4.3. Testing of the Moderated Effect of Dynamic Environments

Hypothesis 3 in this paper is that environmental dynamics will make transformational leadership’s influence on TMBI increase. The three steps of hierarchical moderated regression (HMR) analysis are followed and the interactions of the variables are used to test the moderated effect: if  $\Delta R^2$  is significant when interaction is added, the moderated effect exists. In the empirical test, the following specific steps are followed: first of all, the influence of transformational leadership on TMBI is tested; then, the joint effect of transformational leadership and environmental dynamics on TMBI is tested; finally, transformational leadership, environmental dynamics and the interaction of the two are added to the equation, so as to test the influence of these variables on TMBI. If the empirical results of the first two steps above are significant and the interaction coefficient of the third step is significant, the moderated effect of environmental uncertainty is verified. The empirical results are listed in Table 7.

According to the empirical results of Model 2 in Table 6, transformational leadership has significant positive influence on TMBI. And Table 7 indicates that both transformational leadership and dynamic environments have significant positive influence on TMBI (see Model 7), with regression coefficients separately being  $\beta = 0.24$  ( $p < 0.001$ ) and  $\beta = 0.38$  ( $p < 0.001$ ). In Model 8, following the addition of interaction, the interaction coefficient is significant ( $\beta = 0.49$ ,  $p < 0.05$ ), and  $\Delta R = 0.02$  ( $p < 0.05$ ). Therefore the moderated effect of environmental dynamics on the relationship between transformational leadership and organizational ambidexterity is verified, that is, Hypothesis 3 in this paper is supported.

Hypothesis 4 is that the higher the environmental uncertainty is, the larger TMBI’s influence on organizational ambidexterity will be. Because the moderated effect occurs after the mediated effect, the moderated mediation model is employed. The specific procedure is as follows: first, the regression of organizational ambidexterity against

transformational leadership and dynamic environments is made, and as shown in Model 9, transformational leadership has significant positive influence on organizational ambidexterity ( $\beta = 0.22, p < 0.01$ ); then, the regression of organizational ambidexterity against transformational leadership and dynamic environments is made (see Model 7), and empirical results reveal a significant positive correlation ( $\beta = 0.24, p < 0.001$ ) between transformational leadership and TMBI; and then, the regression of organizational ambidexterity against transformational leadership, dynamic environment and TMBI is made (see Model 10), and empirical results show that TMBI has significant positive influence on organizational ambidexterity ( $\beta = 0.29, p < 0.001$ )—the above steps can verify TMBI’s significant mediated effect; finally, the regression of organizational ambidexterity against transformational leadership, dynamic environments, TMBI, and the interaction between TMBI and dynamic environments is made, and as shown in Model 11, the interaction between TMBI and dynamic environment doesn’t have significant influence on organizational ambidexterity ( $\beta = 0.31, p > 0.05$ ). Thus in the original hypothesis model, environment dynamics do not have a moderated effect on the relationship between TMBI and organizational ambidexterity, that is, Hypothesis 4 in the research is not valid.

On the basis of the validity of Hypothesis 2 and Hypothesis 3, whether environmental dynamics are the mediator variable in the presence of mediated—that is, whether the interaction between transformational leadership and environment dynamics will influence organizational ambidexterity through TMBI—is tested. The regression of organizational ambidexterity against transformational leadership, environmental dynamics, and the interaction between the two is first made, and the results are as shown in Model 12. It can be seen that the interaction’s influence on organization ambidexterity is not significant, which means environmental dynamics’ moderated effect on the relationship between transformational leadership and organizational ambidexterity is not significant. Therefore, further test of TMBI’s mediated role in the relationship between the interaction and organizational ambidexterity is not needed. So it can be concluded that environment dynamics are just the meditation variable for transformational leadership and organizational ambidexterity, and the condition for it being the moderated variable in the presence of mediated is not sufficient.

**Table 7. Testing of the Moderated Effect of Dynamic Environments**

Variable	TMBI			OA		
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Organizational size	1.76	1.47	1.08	0.41	0.25	1.14
Organizational age	3.63**	2.91**	2.42	1.23	1.13	2.48
CEO tenure	2.39*	3.19*	2.90	1.41	0.99	2.19
CEO age	1.82*	2.12*	2.33**	2.87*	2.63*	3.25**
Team term	3.78*	3.43*	5.47**	4.91*	4.89*	5.81**
Team size	0.27	0.29	2.09***	1.36***	1.31***	1.42***
TL	0.24**	0.25**	0.22**	0.15	0.09	0.19**
DE	0.38**	0.37**	0.01	0.08	-0.13	0.04
TL×DE		0.49*				-0.11
TMBI				0.29***	0.40***	

TMBI×DE					0.31	
R <sup>2</sup>	0.41	0.42	0.16	0.20	0.22	0.16
ΔR <sup>2</sup>	0.38**	0.02*	0.15***	0.07***	0.01	0
F value	19.15*	18.67*	4.43***	6.29***	5.76***	4.19***

Note: 1.\*\*\* means  $p < 0.001$ , \*\* means  $p < 0.01$ , \* means  $p < 0.05$ , two-tailed test; 2. the regression coefficients in the table are all non-standardized coefficients; 3. “TL” represents the variable “transformational leadership”, “TMBI” represents the variable “top management’s behavioral integration”, “OA” represents the variable “organizational ambidexterity” and “DE” represents the variable “dynamic environment”.

## 5. Conclusions and Discussion

The research discusses “how can e-commerce enterprises establish organizational ambidexterity” and also discusses the mechanism of transformational leadership behavior influencing the establishment of organization ambidexterity from the perspective of top management in Chinese e-commerce enterprises. Furthermore, in combination with the fact that Chinese e-commerce enterprises are involved in complicated competition environment, the research checks whether the process and extent of transformational leadership behavior’s influence on TMBI as well as the process and extent of TMBI’s influence on organizational ambidexterity vary in dynamic environments. According to existing references, we put forward a relatively complicated moderating effect model which contains a mediated link. Through further empirical test of the model, the paper finds that: firstly, under a dynamic environment, transformational leadership behaviors bring significant positive influences to organizational ambidexterity. Research findings of the paper supplement research conclusions of Jansen *et al.*, (2008) [14]. They took 244 branches of a Dutch-based transnational financial organization as the samples and managed to verify that transformational leadership behaviors can mediate the relationship between TMBI and organizational ambidexterity. In addition, research conclusions in the paper support the current opinion highlighted by the organizational behavior circle that the leadership manner selected by an enterprise CEO plays an important role in organizational strategic development.

Secondly, TMBI plays a complete mediated role in the relationship between transformational leadership behavior and organizational ambidexterity. Such research result defines the action mechanism of transformational leadership behaviors in establishment of organizational ambidexterity in e-commerce enterprises. Specifically speaking, by encouraging and stimulating group members and making interactions with them, all the members in a senior management group can be united together. In this way, the organizational ambidexterity can be strengthened. Such manner plays an important role in group practice of Chinese e-commerce enterprises. In Oriental collectivism culture, group members are mainly requested to obey leaders and show strong executive ability, while group leaders shall keep a sense of mystery and try to keep distance with group members. The manner is advantageous in that it can increase execution efficiency, but may not always increase the execution efficiency. It is shown in the research result that group leaders can integrate team members better in a more friendly and communicative manner. In this way, the group can give play to collective efficacy; members can perform their own functions; organizational ambidexterity can be further strengthened; and the group can cope with constantly changing market environment better.

Thirdly, TMBI exerts positive influences on organizational ambidexterity. The empirical results show that TMBI lays a solid foundation for obtaining organizational ambidexterity. Such conclusion conforms with previous research conclusions [2, 28]. Furthermore, we also examine the moderated effect of environmental dynamics between

both of them. It is found in our results that environmental dynamics do not have significant moderated effect between TMBI and organizational ambidexterity, indicating that TMBI exerts certain rigid influences on organizational ambidexterity. Influence relationship and influence strength between them will not be affected by external environment changes. Such phenomenon may be caused by that a lot of Chinese e-commerce enterprises have grown up and developed during the recent dozen years, while Chinese economic society has changed a lot during this period. Hence, many enterprises must conduct group integration in order to obtain rapid development and growth. In the meantime, the Western idea of “behavioral integration” has been diffused and developed in China only for several recent years. The idea dissemination in Chinese enterprises may not be so deep-rooted like that in Western enterprises. Hence, different from foreign situations, the relationship between TMBI and organizational ambidexterity may not be influenced by environmental dynamics. Nevertheless, we find in research that environmental dynamics indeed promotes TMBI significantly. In the meantime, research conclusions in the paper support the current opinion highlighted by the strategic human resource management circle that it is important to develop and research the human resource system of a senior management group.

Theoretical significance of the research lies in that: firstly, the research reveals the mechanism of transformational leadership behavior influencing organizational ambidexterity and further verifies the important role of TMBI and environmental dynamics in that process, bringing important enlightenments for e-commerce enterprises to establish organizational ambidexterity and maintain competitive advantages under the dynamic environment. Existing researches about the influence mechanism of organizational ambidexterity always focus on the organization level. In other words, the establishment mechanism of organizational ambidexterity is taken into account on the basis of organizational structure and situation design. Such theoretical logic can hardly explain primary reasons why an enterprise can obtain organizational ambidexterity in a dynamic environment. Based on the perspective of senior management, the paper provides empirical support for leadership-oriented ambidextrous theories, providing important supplementations to the “black box” of the existing theoretical establishment mechanism of organizational ambidexterity. In addition, the research enlightens Chinese e-commerce enterprises to find a way to obtain ambidexterity in the competitive environment and obtain sustainable development. Former strategic management researches mainly focused on resource obtaining and establishment of dynamic enterprise ability. Rare researches combined ability to maintain existing market performances and adaptability of potential challenges during establishment of dynamic ability. However, such problem is exactly the key for enterprises to maintain growth under dynamic environments. The paper focuses on researching how to promote establishment of organizational ambidexterity through transformational leadership behavior and also verifies the effectiveness of such concept in cross-culture application, improving theoretical and applicable values of transformational leadership behavior, TMBI and organizational ambidexterity; and providing important reference for Chinese e-commerce enterprises to conduct strategic practice under the dynamic environment.

As for practical significance of this research, in order to strengthen organizational ambidexterity, leaders of an e-commerce enterprise shall firstly cultivate and exercise their transformational leadership ability, learn to set visions for the organization and conduct intellectual stimulation and caring to subordinates and employees. All these measures make for TMBI, thus promoting organizational ambidexterity. In the meantime, when members in an enterprise’s senior management group show low behavioral integration degree, the leaders can consciously spread information about dynamic changes of external environment in the organization and create certain crisis awareness among group members. In this way, environmental dynamics can become a positive influence factor to promote group’s behavioral integration and organizational ambidexterity.

Limitations of the paper lie in: firstly, in the research, different objects are asked to fill out (sub-) questionnaires. In this way, effects of homogenous errors in data are avoided. Nevertheless, the obtained data is still cross-section data and thus cannot well reveal cause-and-effect relations among different variables. In the future research, if questionnaires about mediator variables and dependent variables can be issued to an investigated enterprise sample again 2 or over 2 years after the collection of data about leadership behaviors (independent variables), such longitudinal research will better reflect cause-and-effect relations among variables. Secondly, mainly Chinese e-commerce enterprises are selected as investigation samples in the paper because this industry has highly complicated competition and shows more obvious ambidexterity characteristic which makes for obtaining mediator variable data with sufficient variation. However, in view of characteristics of samples in the single industry, it is necessary to conduct such research in other industries in the future in order to further improve the universality of conclusions. Thirdly, mean values about exploration and exploitation obtained during data collection of the research are relatively high. As for reasons of this result, on one side, e-commerce enterprises show higher level of exploration and exploitation in comparison with the whole economic average level. On the other side, it is likely that subjective problems are mainly adopted in questionnaires of the research. As a result, the evaluation is inevitably influenced by “self-service preference” of respondents, namely that the respondents tend to overrate the technological innovation level of their enterprises. We suggest that future researches can further select listed companies as samples and collect data by combining subjective evaluation and objective data in order to obtain more accurate research conclusions. At last, as mentioned in the paper, the research fails to collect objective data about organizational performances, and thus adopts subjectively evaluated data instead. In the future, if the research takes listed companies as samples, objective data can be combined with subjective data in order to make research conclusions more convictive.

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