

# Cross-Border Behavior, Team Trust and Corporate Innovation Performance

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**Abstract:** Team innovation is related to the long-term survival of the organization. In today's open innovation environment, the cross-border activities of the team and its members are increasingly frequent. The topic of cross-border behavior and team innovation performance has attracted the attention of scholars. The purpose of this paper is to explore the relationship between cross-border behavior, team trust, and corporate innovation performance. In this paper, a sample of 78 teams and their superiors are used as samples, and the hierarchical regression method is used for data analysis. This paper introduces team trust into the relationship between cross-border behavior and team innovation performance, constructs and demonstrates the relationship model between "cross-border behavior, team trust and team innovation performance", and finds the boundary conditions of this relationship model. The conclusion that cross-border behavior (coordination and detection) has a positive impact on team innovation performance is achieved through the intermediary role of team trust, the standardized regression coefficients were 0.253 ( $P < 0.05$ ), 0.345 ( $P < 0.01$ ) and 0.355 ( $P < 0.01$ ), respectively, Cross-border behavior enhances team trust and improves team innovation performance. Finding the risk factors in the process of team innovation from a new perspective has certain implications for risk aversion in enterprise innovation management.

**Keywords:** Cross-Border Behavior, Team Trust, Innovation Performance, Risk Avoidance

## 1. Introduction

Improving the performance of innovation is one of the focuses of modern enterprises. Especially after the special group of new generation employees becomes the main body of enterprise innovation, how can enterprises use targeted means to motivate such categories according to their pursuit of social identity and value matching? Employees' enthusiasm for innovation and improvement of corporate innovation performance are among the core issues of current corporate and academic attention [1-2]. At present, the discussion on the influencing factors of innovation performance has formed a research branch centered on external cluster innovation environment such as knowledge spillover, network power, technology cooperation and relationship embedding. As an increasingly popular market or industry organization form, the platform has become the core of enterprise engineering with enterprise platformization, product platformization, employee platformization and user platform as the core. It relies on Internet technology and relies on the platform to break through the industry. The operation of the boundary not only adopts different ways to obtain the rapid growth of connotation and cross-border, but also the enterprise value creation will gather the demand of fragmented market, and more prominently the effectiveness of cross-border behavior and team trust [3-4]. Therefore, the competitive environment and rules faced by enterprises under the platform operation have not only been changed, but also important changes in the important factors affecting the achievement of innovation performance. As a result, the decentralization of the industrial structure faced by enterprises today, the ubiquitous dataization of economic activities, and the Internet of things in the society, and the increasingly turbulent and open innovation environment indicate that the future competition between enterprises has been the original linear transformation into all-round, full-time, multi-dimensional, platform economy has presented new challenges to enterprises [5-6]. The most effective way to cope with this change is to implement cross-border behavior and team trust integration, that is, if an enterprise wants to be in an invincible position, it must not only play its own role in the established industrial structure, or rely on traditional organizations. Channels gain resources to carry out innovation activities, but to break through the barriers between industries, break the boundaries between disciplines, cross the boundaries of geographic tangible networks and cognitive intangible networks,

achieve cross-industry alliances, integrate multiple knowledge genres, and cross the business. Competing with cultural boundaries, and more trust in the team, in order to achieve better cooperative relations, thereby improving corporate innovation performance [7-8].

Under the Internet thinking, the platform as an increasingly common market or industry organization form not only changes the competitive environment and rules faced by enterprises, but also changes the series of influencing factors of enterprises to achieve innovation performance. The platformized operation mode has become the direction of enterprise reengineering. It mainly relies on Internet technology, relies on the platform to break through the industrial boundary, gathers fragmented market resources, gains connotative and leap-forward rapid growth, and more prominently demonstrates the effectiveness of enterprise cross-border behavior [9-10]. For enterprises to achieve innovation in a dynamic and open environment, we must not only do their own roles and resources to carry out innovation activities in the established industry structure, but also break through the barriers between industries, break the boundaries between disciplines, and leapfrog. The geographical tangible network and the cognitive intangible network are locked, and a variety of knowledge genres are integrated to achieve cross-border cooperation. Therefore, the intrinsic mechanism of cross-border behavior on innovation performance has important theoretical and practical significance. In addition, in a multi-team, everyone depends on the realization of the team's goals. The inter-team tasks are based on continuous needs and technical goals, and have strong interdependence. Team docking is critical. Each team needs to coordinate with each team frequently and communicate frequently. Knowledge sharing and mutual learning will occur between people with trust relationships. If members of the enterprise cannot trust each other, no matter how much technical support, the result can only be failure. Trust is the basis for sharing knowledge and cooperation. Both type trust and emotional trust have a significant impact on complex knowledge sharing, and the impact of cognitive trust is stronger than emotional trust [11-12]. Therefore, team trust is of great significance for improving corporate innovation performance.

Based on the pursuit of social identity and value fit, Jun M A has further studied the use of non-material incentives to build team trust cognition and improve the possibility of innovation performance of new generation employees. Team trust strengthens the connection between the knowledge sharing innovation team composed of a new generation of employees. Jun MA has used the relevant means to guide the establishment of trust among the new generation of employees and improve the innovation of the enterprise. Performance has a certain reference value for the enterprise. Because of the characteristics of cross-functional teams, trust is critical to improving performance across teams. However, trust as an important factor has been overlooked in previous team performance models [13-14]. Zhang L used to propose a predictive model to study whether trust can be used as a predictor of cross-functional team performance. The input of the model is the team structure and situational factors, as well as the project process factors, which are the two main sources of team trust. The output of the model is different levels of team performance, including internal and external performance. Zhang L used the support vector machine technology to establish the model. Through the model Zhang L researched, the prediction accuracy is higher (84.95%) with the SC factor and PP factor as input, and the prediction accuracy of the PP factor in team performance and internal performance. Better than SC factor team trust can be a good predictor of cross-functional team performance [15-16]. To clarify the complex relationship between trust and performance in the context of a cross-functional project team, Buvik MP has proposed a moderate mediation model that examines the impact of team trust on team performance, which is intermediated with project commitments and climate intensity. (Team members' consensus on the level of trust). Buvik M P has surveyed 31 construction project team members in Norway. Buvik M P researched found that the project commitment fully mediates the relationship between propensity, credibility and team performance, and partially mediates the relationship between cooperation and team performance. For monitoring, the results showed no mediation. The results of the study did not support the modest impact of climate intensity, suggesting that the average level of trust research at the team level is still important [17-18]. De Jong BA has conducted a pooled analysis of 112 independent studies (7,763 teams), De Jong BA's basic question of whether team trust is positively related to team performance, and under what conditions trust is particularly important for team performance. Meta analysis. De Jong BA and his team assessed the robustness of this relationship by analyzing the overall trust-performance relationship by controlling other relevant predictors and covariates, and examining how the strength of this relationship can be resolved with several regulatory factors. Problem Our findings confirm that trust within the team is positively correlated with team performance and has an above-average impact. Covariate analysis shows that this relationship is established after controlling the team's trust in the leader and past team performance, as well as the multiple dimensions of trust (ie, cognition and emotion). Analysis shows

that the team's trust-performance relationship depends on the team's mission dependence, power differentiation, and skill differentiation. In addition, De Jong B A also conducted a preliminary analysis of several new issues in the literature on the conceptualization and measurement of trust and team performance [19].

In this paper, the hierarchical regression method is used for data analysis, and a research model is established by taking 510 employees of 78 teams and their superiors as samples. This paper introduces team trust into the relationship between cross-border behavior and team innovation performance, constructs and demonstrates the relationship model between "cross-border behavior, team trust and team innovation performance", and finds the boundary conditions of this relationship model. The conclusion that cross-border behavior has a positive impact on team innovation performance is achieved through the intermediary role of team trust.

## 2. Proposed Method

### 2.1. Hierarchical Regression Method

#### (1) Hierarchical regression method steps

Hierarchical regression method is a kind of thinking process, which decomposes complex multi-factor problems into various factor levels, and then ranks the classes according to the logical order among the factors, and quantifies the subjective judgments of people, avoiding the decision makers. The prediction error caused by the lack of communication between the two places improves the decision-making ability and the accuracy of decision-making. The main steps of the hierarchical regression method are as follows: 1) Conduct a sufficient factor analysis on the problem of decision making, find out the logical relationship between the influencing factors, and construct a hierarchical progressive structure among the factors. 2) Perform a pairwise comparison of factors at the same level to construct a judgment matrix. 3) Calculate the relative weight of the factor according to the judgment matrix. 4) Calculate the combined weights of each factor and rank the influencing factors according to the weights.

#### (2) Determination of factor weights in hierarchical regression method

##### 1) Constructing a judgment matrix

The judgment matrix is a comparison of the relative importance of the elements of the previous level to the elements of the previous level and the related elements. The comparison judgment is represented by numerical values, and the judgment matrix is written as shown in Table 1.

Table 1: Judgment matrix

	B1	B2	...	Bn
B1	b11	b12	...	B1n
B2	b21	b22	...	b2n
...	...	...	...	...
Bn	bn1	bn2	...	bnn

##### 2) Calculate weights

The weight is calculated by the eigenvalue method. The formula is  $AW = \lambda \max W$ : where  $A$  is the judgment matrix,  $\lambda \max$  is the largest eigenvalue of  $A$ , and  $W$  is the corresponding feature vector. The resulting  $W$  is then normalized, and the normalized result is the weight vector of each factor. This method is called the feature root method.

##### 3) Consistency test

When making judgments on actual problems, the judgment matrix constructed by decision makers is often not completely consistent. The reason is that people are subjective evaluation of things because of the limited and uncertain factors in information, knowledge, ability, etc. There is a certain deviation between the objects themselves; due to the selection of the scale, the discontinuity of the scale, etc., the decision makers can not make a more detailed distinction when making comparative judgments, so the final judgment can only be a subjective feeling. An approximation of the priority. The analytic hierarchy process uses the judgment matrix as the basis for the calculation of multiple vectors, and then the constructed judgment matrix needs to be tested for consistency. The specific steps of the

consistency test are as follows:  $CR$  is the consistency ratio: firstly, the maximum eigenvalue of the judgment matrix is calculated, then  $CI$  is the consistency index, and the average random consistency index is established, and  $\lambda_{\max}$  is the largest eigenvalue of the judgment matrix, which is paired. And  $n$  is the number of comparison factors, where  $R$  is shown in Table 2.

Table 2: Average random consistency indicator

Order number	1	2	3	4	5	6	7	8	9	10	11	12
$RI$	0	0	0.58	0.94	1.12	1.24	1.32	1.42	1.45	1.49	1.51	1.5

## 2.2. Cross-Border Behavior

Cross-border refers to the behavior of an organization or individual that establishes contact with an external entity and continuously interacts with it to achieve the desired goal. The emergence of cross-border behavior is based on the concept of team boundaries. Some scholars believe that the main characteristics of team boundaries are the intrinsic and exogenous perspectives under the introverted perspective. The relative strength of the nature and the permeability determine relaxation and contraction of team boundaries. Team cross-border behavior can be summarized into three dimensions: envoy behavior, coordination behavior, and detection behavior. The team's cross-border behavior is divided into three dimensions for research, and the escaping behavior, coordination behavior and detection behavior are called the three-dimensional behavior of the executive team's cross-border. The ambassador behavior refers to the relationship between the team and the higher-level leaders of the external organization. And seek resource support, coordination behavior refers to the team to coordinate the relationship between external horizontal stakeholders, detection behavior refers to the information resources needed to search the team outside the organization. Cross-border behavior is aimed at managing and optimizing the internal and external environment of the organization. The escrow behavior refers to the establishment of external friendly relations. The coordination behavior is to coordinate the internal and external relations of the organization. The detection behavior is to apply the established and coordinated external relations, that is, to the interests. Relevant people search for unique knowledge technology or market information. The executive team manages the external environment through cross-border behavior, which not only helps other teams in the organization to obtain resource support, but also helps improve the master team's mastery of the organization's external environment, thus laying the foundation for making correct strategic decisions.

## 2.3. Team Trust

The team is a common form of innovation organization, and the relationship between team members has become the basis and focus of research teamwork. In recent years, scholars have found that team atmosphere is an important variable to explain the difference between team input and team performance. Many scholars believe that it is very important to establish a team trust atmosphere that allows team members to have a positive attitude towards knowledge sharing, rather than exclusion. Team trust and teamwork are important factors influencing knowledge sharing. As a result, research on the atmosphere of the team has gradually increased. By combing the domestic and foreign literature, the team atmosphere refers to the shared perception of the team members' working environment. The research focus of team atmosphere is different. Foreign scholars focus on the team itself, while domestic scholars prefer team members. Team trust and team support are the common concerns of scholars at home and abroad. Some foreign scholars have pointed out that trust includes not only expectations of other people's motives and intentions, but also attitudes toward actions and risks. It can be seen that trust can be transformed into a kind of motivation and influence the behavior and decision-making of the new generation of employees. At the team level, the new generation of employees with strong team trust and trust can easily have a strong sense of identity and responsibility for the work of the team's interests, and motivate them to carry out more activities that are conducive to teamwork and knowledge sharing, and between employees and teams. The relationship of trust includes both rationality and emotional components. In this regard, some scholars at home and abroad divide it into cognitive team trust and emotional team trust. Cognitive team trust is based on its own knowledge structure, which is the cognition of the ability and reliability of others. Emotional team trust is driven by emotions, is the perception of the past, it depends on the familiarity and dependence among team members.

#### ***2.4. Employee Cross-Border Behavior and Team Innovation Performance***

Cross-border behavior is the continuous interaction between an organization or a team to establish, maintain, and manage its relationships with other teams or external parties in the organization in order to achieve performance and mission objectives. These activities do not comply with internal team norms. In the process of interacting with the outside world, the team will consciously introduce and apply some novel ideas, products or programs, namely team innovation. The quality and efficiency of team innovation is often measured by team innovation performance, which reflects the extent to which the team achieves its innovation goals. There are differences in the dimensions of cross-border behavioral constructs. This article breaks down team cross-border behavior into envoy behavior, coordination behavior, and detection behavior. Interdiction behavior refers to cross-border activities in which team members interact with important external stakeholders, such as persuading others to accept team decisions, protecting teams, acquiring external resources, etc., in order to obtain resources and higher level of support and commitment. By actively influencing or changing the attention and attention of important external stakeholders, we will strive for more resources and promote the efficient use of innovative resources by the team. Coordination behavior refers to the coordination and communication of team members in interdependent departments or teams and the acquisition of external feedback. The purpose is to achieve the task objectives that require external actors to complete or jointly accomplish tasks, and then optimize the team workflow structure. The team conducts cross-border activities with relevant organizations, such as holding temporary meetings to share information, discussing plans, activity progress and forecast results, and commenting and optimizing relevant strategies to promote effective integration of diverse knowledge and resources, thereby significantly enhancing team innovation performance. Detective behavior is a cross-border activity in which team members interact with relevant parties with specific knowledge to understand the external environment and promote team learning. This type of behavior can motivate teams to search for expertise related to new product development, gain insight into trends, identify opportunities and threats. Detection behavior can improve team learning efficiency and innovation performance. A large number of studies have shown that cross-border behavior has a significant positive impact on team innovation performance. Cross-border activities can effectively promote the internal and external information transmission of the organization, improve the information processing process, and bring more solutions to the organization. Cross-border individuals promote the search for innovative opportunities, identify and develop, and promote management change through exchange of opinions. At the same time, cross-border interaction can enhance team cohesion and promote team performance and innovation.

#### ***2.5. Employee Cross-Border Behavior and Team Trust***

Team trust is a shared mental state in which team members have full confidence and positive expectation for other members of the team. It is the trust of team members in the team as a whole. Previous studies have pointed out that there is a positive relationship between cross-border behavior and trust. According to the theory of social exchange, individuals in the workplace establish interpersonal relationships through mutual exchange of ideas. Individuals respond to their own experiences and repay the beneficiaries. Individuals in the frequent cross-border activities, seeking common ground while reserving differences, are more likely to form a unified value. At the same time, a competent cross-border individual is often the founder of the relationship, and he will drive the group or organization members to pursue common interests. From a motivational perspective, trust is an important driving force for promoting cooperation between individuals. Following this logic, there may be an intrinsic logical relationship between cross-border behavior and team trust, that is, cross-border and trust promote each other. Cross-border behavior strengthens team members' relationships and enhances mutual trust by promoting effective information delivery and frequent communication.

#### ***2.6. Team Trust Mediates the Interaction Between Employee Cross-Border Behavior and Team Innovation Performance***

Previous studies have found that trust can significantly improve team performance, and team trust level is significantly positively correlated with team performance. Team trust is one of the key factors for team success and can impact the overall performance of the team. On the one hand, a good trust relationship between members can give birth to a sense of team identity and belonging. Team members have a higher sense of psychological security, which in turn promotes resource sharing among members and enables them to accomplish tasks more efficiently. It is the source of team innovation

performance improvement. On the other hand, the higher the team's trust, the stronger the team cohesion, the more it helps to reduce the cost of supervision, control and execution, and thus improve team performance.

### 3. Experiments

#### 3.1. Research Objects and Research Implementation

This article takes the knowledge-based service industry team as the research object, and the sample is mainly selected from Jiangsu, Zhejiang and Shanghai. Specifically, using the interpersonal relationship of MBA students in the school, inviting direct supervisors, and using the acquaintance relationship to find a team, through the field research and mailing two forms of questionnaires issued 150. In order to avoid the influence of homologous deviation, this study uses a paired questionnaire to sample, that is, to collect sample data from employees and their superiors. Each set of questionnaires includes the team leader questionnaire A and the employee questionnaire B. The leader fills in the team innovation performance questionnaire A, and the cross-border behavior and team trust data questionnaire B is provided by the employee. After deleting the invalid questionnaire, 490 questionnaires from 75 teams were finally obtained. The basic information involved in the formal research object mainly includes four aspects: industry, team development stage, team size and enterprise size.

This paper makes the following assumptions about the relationship between cross-border behavior and corporate innovation performance:

H1: Employee cross-border behavior has a positive impact on team innovation performance.

H1a: Envoy behavior has a positive impact on team innovation performance; H1b: Coordination behavior has a positive impact on team innovation performance; H1c: Detection behavior has a positive impact on team innovation performance.

The following assumptions about team trust and corporate innovation are as follows:

H2: Employee cross-border behavior has a positive impact on team trust.

H2a: Envoy behavior has a positive impact on team trust; H2b: Coordination behavior has a positive impact on team trust; H2c: Reconnaissance behavior has a positive impact on team trust.

Combining H1 and H2, and the relationship between team trust and team innovation performance, make the following assumptions:

H3: Team trust mediates between employee cross-border behavior and team innovation performance.

H3a: Team trust mediates employee engagement behavior and team innovation performance; H3b: Team trust mediates employee coordination behavior and team innovation performance; H3c: Team trust in employee detection behavior and team innovation performs intermediary role.

Establish a research model on the assumptions made.

#### 3.2. Variable Measurement

All the variables in this paper are based on the foreign maturity scale, and are appropriately revised and adjusted to form a questionnaire that is consistent with China's national conditions and research situation. All variable measurement scales, such as cross-border behavior, team trust and team innovation performance, use the 5-point method, with 1 indicating "very disagree" and 5 indicating "very agree". (1) Cross-border behavior. Drawing on the team's cross-border behavior scale, in order to facilitate the understanding of the respondent, the reference point of the measurement item is changed from "team" to "me", which is stated by the team members. The Cronbach coefficients for the three dimensions are 0.795, 0.774, and 0.767, respectively. (2) Team trust. Based on the trust scale, the revision is based on the actual research situation. The item is answered by the team members, and the Cronbach coefficient is 0.795. (3) Team innovation performance. Referring to the scale, the item was evaluated by the team leader and the Cronbach coefficient was 0.876. (4) Control variables. This article takes the average age of the team, the stage of the team, the size of the team, and the size of the company as the control variables. In the sampling process of this paper, cross-border behavior and team

trust measurement are from the individual level, while empirical analysis is based on the team level, so the individual-level variables need to be aggregated to the team level. However, before this, it is necessary to check whether the internal consistency coefficient RWG of the team meets the acceptable standard ( $>0.70$ ). Finally, the calculations show that the RWG coefficients for cross-border behavior (impedance, coordination, and detection behavior), team trust, and resource loss are 0.72, 0.73, and 0.70, respectively, all meeting the 0.70 standard, indicating that in the same team, different members for the cross judgment of bounded behavior, team trust, and resource loss is highly heterogeneous and can be aggregated to the team level for analysis. The specific method is to use the averaged value of the individual data of the same team member as the team level variable data of the team.

### 3.3. Reliability and Validity Test

We know that the Cronbach coefficient heterogeneity coefficient above 0.6 indicates acceptable, and above 0.7 indicates higher reliability. The Cronbach coefficient values of all variables selected in this paper are all greater than 0.7, and the cumulative explanatory quantities are all greater than 50%; the average extracted variation (AVE) value is 0.535~0.652, which is greater than 0.5, indicating that the polymerization validity is higher. All item factor loads are higher than the standard value of 0.6, indicating good convergence validity. Overall, the model fit index met CFI (with a cutoff of 0.9), TLI (with a cutoff of 0.9), and RMSEA (with a cutoff of 0.08), and found that the behavior of the knot, coordination behavior, detection behavior, team trust, team innovation performance 5 factor model and data fit optimally. Based on this, a research model is established to perform hypothesis testing analysis.

## 4. Discussion

### 4.1. Variable Relationship Analysis Discussion

The regression analysis results of the three dimensions of cross-border behavior (envoyment, coordination and detection behavior) on team innovation performance are shown in Figure 1.

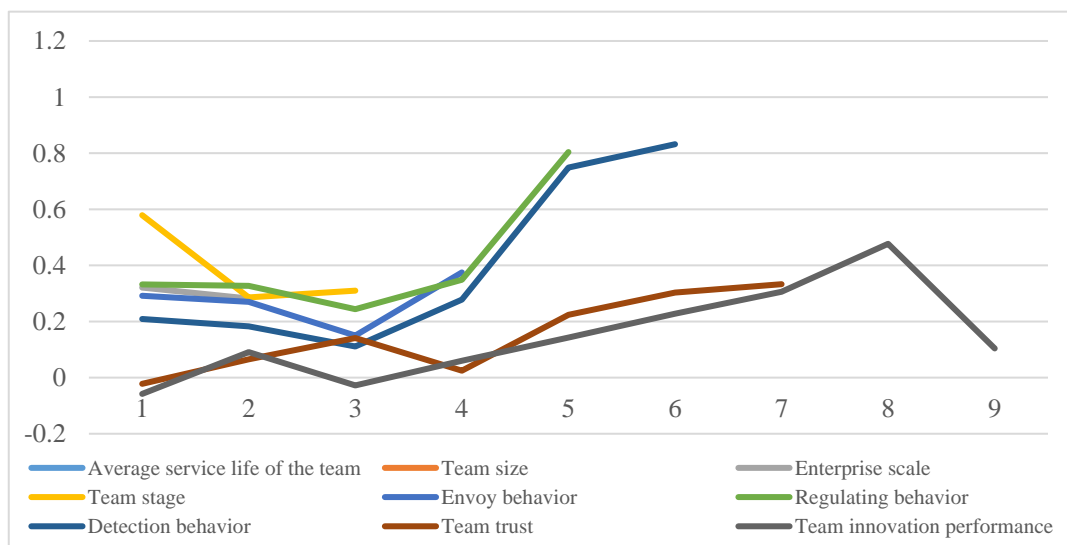


Figure 1: Variable correlation coefficient map

It can be seen from Figure 1 that the correlation coefficient of each research variable, that is, the three dimensions of cross-border behavior (impedance, coordination, and detection behavior) is significantly positively correlated with team innovation performance (0.143,  $p < 0.1$ ; 0.228,  $p < 0.05$ ; 0.303,  $p < 0.01$ ), significantly positively correlated with team trust (0.224,  $p < 0.05$ ; 0.303,  $p < 0.01$ ; 0.333,  $p < 0.01$ ), each the correlation coefficient between the variables is basically consistent with the research hypothesis.

### 4.2. Cross-Border Behavior and Team Innovation Performance

The regression analysis results of the three dimensions of cross-border behavior (envoyment,

coordination and detection behavior) on team innovation performance are shown in Figure 2.

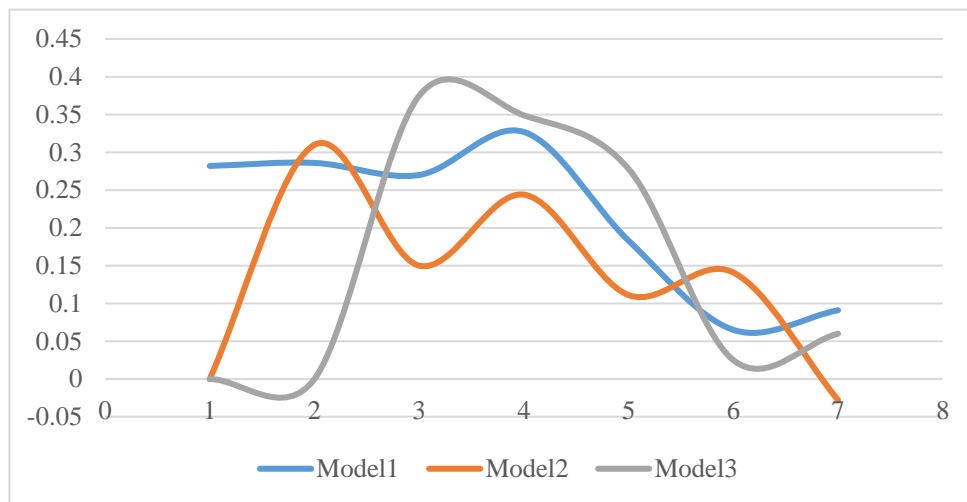


Figure 2: Cross-border behavior and regression analysis of team innovation performance

As can be seen from Figure 2, Model 1, Model 2, and Model 3 show that the knot behavior, coordination behavior, and detection behavior significantly positively affect the team's innovation performance. The standardized regression coefficients are 0.139 ( $p < 0.1$ ) and 0.260 ( $p < 0.001$ , respectively).), 0.314 ( $p < 0.01$ ), H1a, H1b, H1c are supported.

### 4.3. Mediating Role of Team Trust

The results of the mediation analysis of team trust are shown in Figure 3.

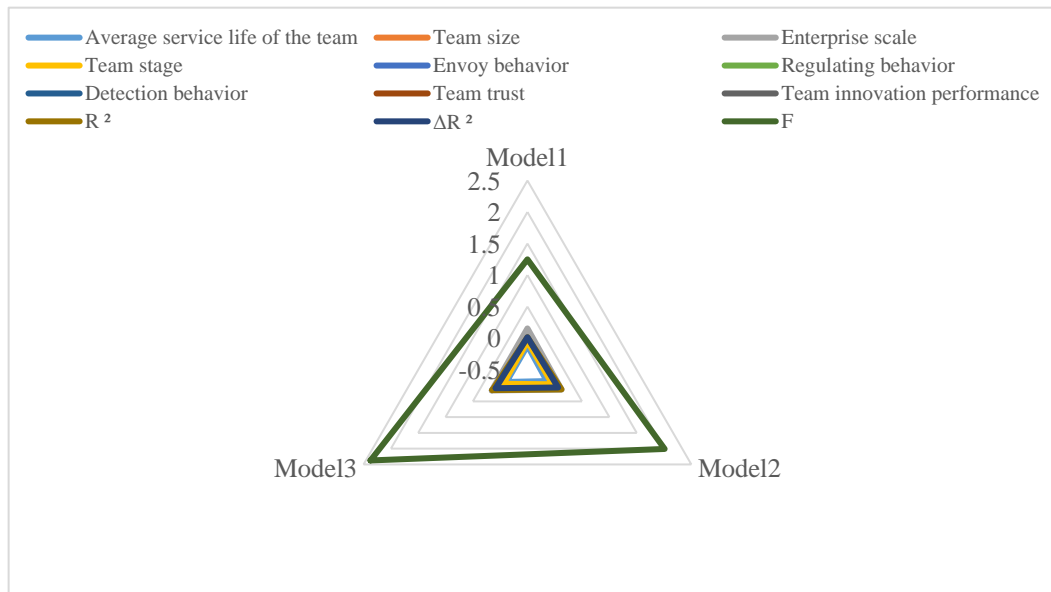


Figure 3: Team trust relationship mediation role analysis

The results of the mediation analysis of team trust are shown in Figure 3. As has been said in this paper, the three dimensions of cross-border behavior (encryption, coordination, and detection behavior) are significantly positively correlated with team innovation performance. According to the model 1-3, there is a significant positive relationship between the three dimensions of cross-border behavior and team trust. The standardized regression coefficients are 0.253 ( $p < 0.05$ ), 0.345 ( $p < 0.01$ ) and 0.355 ( $p < 0.01$ ), respectively. H2a, H2b, and H2c are supported, and cross-border behavior is significantly positively correlated with team innovation performance.

The result of introducing team trust into the regression equation of team innovation performance is shown in Figure 4.



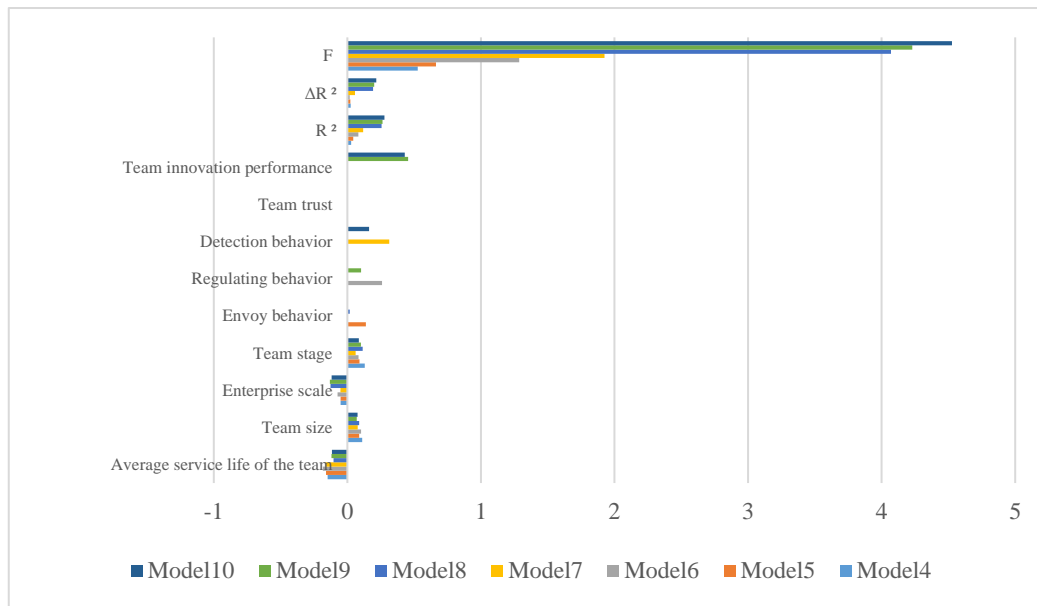


Figure 4: Team trust regression analysis of team innovation performance

From Model 8, Model 9, and Model 10 in Figure 4, it is known that team trust is introduced into the regression equation of team innovation performance. Team trust has a significant positive impact on team innovation performance, and the standardized regression coefficient is 0.480 ( $p < 0.001$ ), 0.455 ( $p < 0.01$ ) and 0.430 ( $p < 0.01$ ), at the same time, the standardized regression coefficient of the knot behavior to the team's innovation performance decreased from  $\beta = 0.139$  ( $p < 0.01$ ) to  $\beta = 0.018$ , ie as model 8 as shown; the standardized regression coefficient of coordinated behavior on team innovation performance is reduced from  $\beta = 0.260$  ( $p < 0.001$ ) to  $\beta = 0.103$  (n.s.), as shown in model 9; the standardized regression coefficient of detection behavior for team innovation performance is  $\beta = 0.314$  ( $p < 0.01$ ) is reduced to  $\beta = 0.162$ , as shown in model 10. It can be seen that team trust plays a mediating role between envoy behavior, coordination behavior, detection behavior and team innovation performance, and H3a, H3b and H3c are supported.

## 5. Conclusions

Team trust has a direct positive effect on information refinement and team innovation performance. Team innovation significantly benefits from team trust. The higher the level of trust, the higher the level of information refinement, the better the team's innovation performance; the information refinement captures the team. Key processes in innovation, team trust can converge members with different knowledge and perspectives, promote sharing, discussion and integration of information, and drive team innovation; team reflection positively regulates the impact of team trust on information refinement, but if team reflection depth not enough, high levels of trust may hinder the extent of information refinement and have a negative impact on team innovation. To play the positive role of team trust, team managers should understand and value the impact of team trust on team innovation performance, establish team trust mechanism, assess team trust level in real time, analyze the causes of insufficient trust, and continuously optimize trust relationship among team members. At the same time, team managers need to carefully manage teams with high levels of trust, encourage members to reflect positively, and avoid team-centered and group thinking at high levels of trust.

With regard to cross-border behavior, previous studies have mainly examined the impact mechanism of cross-border behavior from the perspective of knowledge management and work stress. Knowledge management theory emphasizes the transfer of knowledge and information across organizations, teams or employees, and improves performance. The perspective of work stress believes that cross-border behavior causes individuals to face multiple tasks, leading to role conflicts, which in turn leads to work stress and job burnout, hinders employee creativity, and is not conducive to job performance improvement. In fact, these theories cannot fully explain the mechanism of the influence of cross-border behavior on innovation performance, and this study has greatly expanded the research perspective of the mechanism of transboundary behavior. This paper finds a positive path for cross-border behavior to team innovation performance. This suggests that team managers should

actively encourage and cultivate cross-border awareness of employees, build channels for employees to communicate with the outside world, form a long-term promotion mechanism, and eliminate tangible and intangible barriers in the process of cross-border.

This paper introduces team trust into the relationship between cross-border behavior and team innovation performance, constructs and demonstrates the relationship model between “cross-border behavior, team trust and team innovation performance”, and finds the boundary conditions of this relationship model and identifies the loss of self-control resources incurred by cross-border activities is a major risk factor in the process of improving team performance. This study supplements the study of the relationship between cross-border and trust, effectively compensates for the lack of empirical research between cross-border and trust, enriching and deepening the theory of social exchange. Different from the previous studies, the social exchange theory is understood as the process of the change of attitude caused by the exchange relationship between individuals and promote the formation of trust. This paper demonstrates the inherent logical relationship between cross-border behavior and trust in the cross-border situation and deepens the team trust. Research has shifted the focus of research from individual pre-factors that focus on trust mechanisms to contextual pre-factors.

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